DC2

DRY CARGO international

WWW.DRYCARGOMAG.COM

ISSUE NO. 220 JANUARY 2019

FEATURES

- Bulk Trades Outlook
- German Engineering
- Bulk Carrier Market
- Dutch Ports Focus
- Continuous Ship Unloaders & Technologies

The world's leading and only monthly magazine for the dry bulk industry

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.

www.associatedterminals.com

ASSOCIATED TERMINALS

PUBLISHERS
Jason Chinnock
jason@dc-int.com
Andrew Hucker-Brown
andrew@dc-int.com

EDITORIAL
Louise Dodds-Ely Editor
louise@dc-int.com
Jay Venter Deputy Editor
editorial@dc-int.com
Samantha Smith Directories
directories@dc-int.com
Stephanie Hodgkins Office Manager
accounts@dc-int.com

SALES
Matthew Currin Senior Sales Executive
sales2@dc-int.com
Zack Venter Advertisement Sales Executive
sales@dc-int.com

CORRESPONDENTS
Brazil **Patrick Knight**
India **Kunal Bose**
Asia **David Hayes**
Europe **Barry Cross**
Malaysia **Wira Sulaiman**
Philippines **Fred Pundol**
South Africa **Iain McIntosh**
UK **Maria Cappuccio**
UK **Michael King**
UK **Richard Scott**
USA **Colby Haines**
USA **Walter Mitchell**

ADMINISTRATIVE OFFICE
Business Publishing International
Corporate Park, 11 Sinembe Crescent
La Lucia Ridge, South Africa, 4051
Tel: +27 31 583 4360
Fax: +27 31 566 4502
Email: info@dc-int.com
Twitter: twitter.com/drycargomag

HEAD OFFICE
Trade Publishing International Limited
Clover House, 24 Drury Road,
Colchester, Essex CO2 7UX, UK
Tel: +44 (0)1206 562552
Email: info@dc-int.com
Website: www.drycargomag.com
Twitter: twitter.com/drycargomag
ISSN 1466-3643
Insta: www.instagram.com/drycargointernational

WWW.DRYCARGOMAG.COM **JANUARY 2019 issue**

featuring...

DCi DRY CARGO international

Grain trade growth fading

As 2019 begins, there are intensifying doubts about how positive commodity imports into many countries around the world will prove during the twelve months ahead. Global seaborne dry bulk trade still seems likely to increase, but perhaps only very modestly, with downside risks becoming larger.

According to numerous economists prospects for global economic activity this year are deteriorating, with a slowing trend set to unfold. In the most influential countries — USA, China, Japan and European Union — economic growth is seen as unlikely to match last year's momentum. However, support for growth may improve if reduced international trade tensions can be achieved.

Grain & soya

The latest International Grains Council estimates suggest that world trade in wheat plus corn and other coarse grains will be flat, in the current 2018/19 crop year ending June 2019. A total of just over 368mt (million tonnes) is calculated, as shown in table 1, almost unchanged from the previous year's volume. Changes among individual areas and countries are not prominent.

In the soya segment a similar result is predicted by the US Dept of Agriculture. World soyabeans and meal trade in marketing year 2018/19 ending September is forecast to increase by under 1% to reach 215mt. Lower imports by China, comprising two-fifths of global imports, are expected amid the trade dispute with the USA. China's imports could fall by 4% to 90mt, but rises among other buyers in Asia, Europe and elsewhere could offset this downturn.

Iron ore

Steel industry raw materials import requirements during 2019 are likely to be affected by fading momentum in economic activity in a number of countries, causing slacker demand for the products of steel-consuming industries. In China, iron ore imports may be restrained also by other influences such as rising use of scrap as a substitute, and further port ore stocks reductions.

Among other iron ore importers signs pointing to higher volumes this year are not prominent. The outlook for the EU, Japan, South Korea and Taiwan seems subdued. One exception to this pattern is India, mostly self-sufficient in iron ore, but now needing additional quantities of foreign ore to support rapidly rising steel production.

Coal

A cautious overview of future global seaborne coal trade suggests little or no realistic prospects for growth and a downwards longer-term trend. Is this the outlook for the twelve months ahead? While underlying negative pressures are still clearly visible, specific influences affecting 2019 could actually result in another increase to follow resumed growth in the past two years.

However, for several principal coal importers annual volumes are especially difficult to predict because government policy decisions, surrounded by great uncertainty, are likely to have a large impact on the outcome. In particular in China and India, importing an estimated 230mt and 220mt respectively last year (jointly comprising over one-third of world coal trade), the current year's imports could be up or down and estimates are heavily based on guesswork.

Minor bulks

Fertilizers form a sizeable part of the minor bulks category, comprising both raw materials and semi-finished products. Support for movements of phosphates, sulphur, potash and urea may have resulted in a moderate increase to about 175mt last year according to some estimates, and further growth is seen as a possibility in the next twelve months.

Bulk carrier fleet

The Handysize (10-39,999 deadweight tonnes) bulk carrier fleet is estimated to have grown by about 2% in 2018, reaching 98 million dwt, as shown by table 2. Newbuilding deliveries were lower last year, but scrapping declined sharply. Tentative signs indicate that this group, representing about 12% of the entire world bulk carrier fleet, may continue to expand slowly during the next twelve months.

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

	2013/14	2014/15	2015/16	2016/17	2017/18*	2018/19*
Asia (excluding Japan)	73.6	89.0	95.0	99.6	99.1	97.9
Japan	23.4	21.9	22.1	23.1	23.6	23.8
Middle East	54.0	56.7	55.8	54.0	61.1	60.6
Africa	65.3	67.1	76.2	75.8	76.5	74.8
Others	94.1	87.4	96.6	100.7	107.7	111.3
World total	**310.4**	**322.1**	**345.7**	**353.2**	**368.0**	**368.4**

*source: International Grains Council, 22 November 2018 *forecast July/June crop years*

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

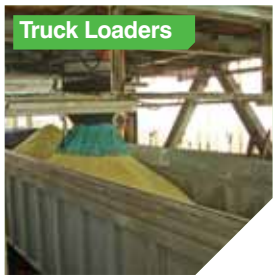
	2013	2014	2015	2016	2017	2018*
Newbuilding deliveries	6.3	5.4	6.5	4.6	3.4	2.8
Scrapping (sales)	6.7	4.2	5.2	3.2	1.7	0.5
Losses	0.2	0.0	0.0	0.0	0.0	0.0
Plus/minus adjustments		0.1	-0.1	0.0	0.0	0.0
World fleet at end of year	**90.4**	**91.7**	**92.9**	**94.3**	**96.0**	**98.3**
% change from previous year-end	–0.7	+1.3	+1.3	+1.4	+1.9	+2.4

*source: Clarksons (historical data) & Bulk Shipping Analysis December 2018 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

Cleveland Cascades Ltd

Global leader in bespoke dry bulk loading chutes



Cleveland Cascades are Specialists in the design and manufacture of bespoke dry bulk loading chutes.

Our bespoke solutions are designed to meet each customer's specific requirements from a tool kit of proven components, utilising the expertise of a team of specialist in house design engineers.

We lead the loading chute industry & set the standard for dust emissions and environmental pollution control in dry bulk handling.

Our worldwide reputation is built on high quality, well-engineered, robust, high performance chutes, backed up by excellent customer service and global lifetime product support.

Contact Cleveland Cascades Ltd

Unit 22, Dukesway, Teesside Industrial Estate, Thornaby, Stockton-on-Tees, Cleveland, TS17 9LT, United Kingdom Tel: +44 1642 753260 | Fax: +44 1642 753270

E-mail: enquiries@clevelandcascades.co.uk | Website: **www.clevelandcascades.co.uk**

Dry bulk trade sees cooling growth

Richard Scott, Bulk Shipping Analysis

Signs pointing to slackening growth momentum in global seaborne dry bulk trade have become more visible. During the past twelve months the robust pickup which had been seen in the previous year was not fully maintained. Especially towards the end of 2018, restraining influences were prominent. The outlook for the year ahead, 2019, currently suggests that further growth is predictable, but it may be modest.

Optimism about dry bulk trade in the early months of last year began to falter when indications of significant headwinds became more forceful. Several large import growth drivers apparently were losing intensity, and this pattern continued. There is now some difficulty in identifying what could provide a substantial boost to trade volumes over the period ahead.

Tentative estimates for global dry bulk trade last year indicate that the growth rate was only about half of the previous year's 4% expansion, at around 2%, as shown in table 1. Annual volumes in the coal and minor bulks sectors apparently increased solidly by around 3%, accompanied by almost flat iron ore and grain/soya volumes.

Among major dry bulk importers, China's import demand for several commodities moderated in 2018, with a noticeable impact during the second half. Amid evidence suggesting a slowing economy, specific adverse influences in some commodity-using industries, and effects from trade tensions, growth of imports into China weakened. Elsewhere in countries around the world there were restraints on import growth.

World economy foundations

The pattern of progress in global economic activity has conspicuous effects on dry bulk commodity movements, directly or indirectly. Large changes in production levels in industries using dry commodities are often linked closely to changes in consumer and business spending and also variations in government spending.

After the broadly spread improvement in economic output growth seen in 2017, there were widespread expectations that a synchronized brisk acceleration in the advanced countries and emerging economies would persist. As 2018 unfolded however, it became clear that this trend was not sustainable.

Recent estimates of growth in gross domestic product (GDP), an overall measure of goods and services output, calculated by the OECD organization are summarized in table 2. The OECD area of 'advanced' countries, comprising mainly the USA, Europe, Japan and South Korea, decelerated marginally in 2018 to average a 2.4% increase. An upturn in the USA contrasted sharply with deteriorations elsewhere. In China, a slackening tendency

TABLE 1: WORLD SEABORNE DRY BULK COMMODITY TRADE (MILLION TONNES)

	2014	2015	2016	2017	2018*	2019*
Iron ore	1,333	1,357	1,411	1,466	1,460	1,450
Coal	1,210	1,131	1,134	1,194	1,235	1,260
Grain (including soyabeans)	406	427	448	476	480	490
Other dry bulk commodities	1,845	1,874	1,874	1,930	1,980	2,020
Total dry bulk trade	**4,794**	**4,789**	**4,867**	**5,066**	**5,155**	**5,220**
% growth from previous year		–0.1	1.6	4.1	1.8	1.3

source: Bulk Shipping Analysis, December 2018 **estimate*

TABLE 2: GDP GROWTH IN KEY ECONOMIES (% CHANGE FROM PREVIOUS YEAR)

	2014	2015	2016	2017	2018*	2019*
USA	2.4	2.6	1.5	2.2	2.9	2.7
Eurozone	1.2	1.5	1.8	2.5	1.9	1.8
Japan	0.0	0.6	1.0	1.7	0.9	1.0
OECD area#	1.9	2.1	1.8	2.5	2.4	2.1
China	7.3	6.9	6.7	6.9	6.6	6.3

source: OECD Economic Outlook, 21 November 2018 ** forecast* *# mainly USA, Europe, Japan and Korea*

was evident.

How will these countries perform in 2019? A general pattern of slowing activity is widely envisaged among economists, with the OECD estimating 2.1% GDP growth in the area, and 6.3% in China. Trade tensions are a major uncertainty.

According to the OECD's end-November analysis "recent developments suggest that the global expansion has peaked and is likely to slow over the next two years". A more subdued outlook for capital investment spending is particularly relevant for dry bulk commodity import demand in numerous countries. OECD economists suggest that "increased trade tensions and uncertainty about trade policies remain a significant source of downside risk to global investment, jobs and living standards."

The US economy may continue to outperform this year, benefiting from the major stimulus imparted by higher government spending and tax reductions. But in Europe, Japan and China signs point to little or no potential for more vigorous economic growth rates, and it seems likely that a general slowing will unfold.

Steel industry trends

A large proportion of global dry bulk commodity movements is affected by the steel industry. Demand for steel in individual countries, and production volumes, reflects changes in spending patterns related to the pace and composition of economic activity. Steel production changes, in turn, affect consumption and imports of iron ore, coking coal and some other raw materials.

Steel production changes during 2018 in major raw materials importing countries showed only limited advances. Using percentage changes seen in the first eleven months of the year (comparing volumes with the same period a year earlier) as a guide, in the European Union and Japan crude steel production was essentially flat. In South Korea and Taiwan small 2% increases were seen. China and India (a key coking coal importer) performed strongly, with 5–6% expansion in recorded volumes.

However, China's apparent strong expansion was exaggerated by alterations in the statistical recording process. Closure of small steel mills, the output of which had not been included in official figures, led to additional output in the recorded category, resulting in an inflated growth comparison. The actual increase

last year appears to have been less than half the statistical rate.

In a number of countries around the world, steel demand could strengthen through 2019, based on the latest World Steel Association short-range outlook. But in China growth of finished steel products demand is projected to cease, while in Japan and South Korea it may be marginal at up to 1%. The EU may achieve an under 2% rise. Actual production is not always exactly in line with demand calculations.

Iron ore and coking coal trade

About one-third of all global seaborne dry bulk trade movements is comprised of iron ore and coking coal. In 2018 iron ore trade appears to have been flat, at about 1,460mt (million tonnes) as shown in table 1. Coking coal trade (not shown separately) may have been 3% higher, compared with the preceding year, at about 260mt.

China is the dominant iron ore importer. In 2017 the total (including some land movements) reached 1,075mt, comprising over 70% of world iron ore trade. Last year's total appears to have been marginally lower, contrary to early expectations of another increase. Despite well supported steel production, iron ore imports evidently were restricted by greater scrap use in the steelmaking process, replacing ore, and by a drawdown of ore stocks at ports.

In the coking coal segment trade is not dominated by China, which comprises about one-sixth, and is more widely dispersed. Imports into Japan and India are the largest parts. Higher volumes into these two countries and others apparently raised the 2018 world seaborne coking coal trade volume. The impact of India's rapidly rising steel output was positive.

Prospects for global steel industry raw materials trade in the twelve months ahead are not especially bright. Receding optimism about China's steel industry expansion and signs of potential for a decrease are reflected in expectations of flat or possibly reduced Chinese iron ore and coking coal purchases from foreign suppliers.

Among other countries which are prominent steel raw materials importers, additional volumes in 2019 mostly seem likely to be quite small. One exception is India where the outlook is more favourable. Sustained rapid steel production growth could boost coking coal trade, because India's domestic coal supplies are inadequate and of inferior quality. Extra iron ore imports to supplement supplies from domestic mines could also occur.

In 2018, iron ore trades have remained flat (photo: Wilhelmsen Ships Service).

Trade in steam coal

Steam, or thermal, coal is by far the biggest part of coal trade, comprising almost four-fifths of global seaborne movements in this category. The chief importing industry is power stations in many countries, accompanied by cement producers and other industrial users.

In 2018 world seaborne steam coal trade volume seems to have increased solidly by 3–4%, reaching around 970mt, despite the continued restrictive background reflecting an emphasis in many countries on using cleaner energy sources. This rise extended an upturn in the previous year.

Although overall energy consumption trends are still a substantial influence, policies mandating reduced coal usage are often a more prominent factor affecting imports. The prevailing attitude surrounding coal consumption is negative amid intensifying environmental pressure to cease or severely cut coal burning especially in power stations. The trend has already affected global import demand greatly. Europe's purchases have fallen steeply on a declining longer-term trend.

But the downwards pressure is not uniform or, at least, is not yet proving entirely negative. In Japan, South Korea and Taiwan steam coal imports have been well supported. There now seems to be a possibility of a sustained revival of volumes into India, while a group of smaller Asian importing countries could see robustly rising purchases amid new coal-fired power stations being introduced over the next few years. China's imports are more difficult to forecast and could be up or down.

Grain and soya trade

The grain and soya world seaborne trade category comprises large volumes. Other oilseeds and meals are included in the minor bulks segment. Estimates of grain (wheat, corn and other coarse grains) and soyabeans trade based on calendar years are shown in table 1, which reveals that annual totals have been rising although last year's growth to about 480mt evidently was marginal.

Trade statistics in this commodity group are usually compiled on a 'split year' basis, known variously as a 'crop year', 'marketing year' or 'trade year' reflecting the pattern of world harvests and timing of new export seasons. One notable feature of annual volume changes is the profound impact of weather variations, often unpredicted, affecting crops harvested by export suppliers as well as domestic crops in importing countries. Huge changes in import demand from year to year sometimes result.

Calculations by the International Grains Council show that world trade in wheat and coarse grains increased by 4% to 368mt in the past 2017/18 crop year ending June 2018. Higher imports into the EU were a feature, together with a rise in the Middle East area.

Recent estimates point to a flat outcome during the current 2018/19 year. Domestic harvest shortfalls in importing countries have not been large enough to suggest any obvious boost for imports. Consumption trends in many countries provide continuing support for import demand.

In the soya sub-sector signs of slackening trade growth have emerged. Global trade in soyabeans and meal within the 2017/18 marketing year ending September 2018 was over 4% higher at 214mt based on US Department of Agriculture calculations. In the current 2018/19 year no further expansion is foreseen.

China is by far the largest soya sector

importer, with imports of 94mt in 2017/18. An extended rising trend was a major contributor to strongly expanding world soya trade. Since then the trade dispute with the USA has unfolded. As a result, despite extra imports from other sources to offset lower supplies from the USA, China's overall soya purchases are expected to fall in 2018/19, possibly to 90mt or a lower total.

Trade in minor bulk commodities

Seaborne minor dry bulk commodity movements form an extensive sector even though many individual elements are relatively small. Numerous commodities of widely varying types are included, some of which are not minor but very voluminous. The overall quantity within the category is huge, with estimates suggesting that it amounts to more than one-third of all world seaborne dry bulk trade.

Cargoes associated with manufacturing industries and construction activity form the largest part of the minor bulks group. Agricultural or related cargoes comprise the remainder. Global seaborne trade in the entire category is tentatively estimated to have grown by 2–3% in 2018 to a level approaching 2000mt. Potential for a further increase during the year ahead is visible.

The biggest individual commodity movements are steel products and forest products, both comprised of many different varieties. Other prominent components in the 'industrial' sub-group are bauxite and alumina, steel scrap, cement, petroleum coke, salt and nickel and other ores. Agricultural or related bulks consists of sugar, oilseed meals, rice, plus raw or semi-processed fertilizers.

One highlight of the past twelve months was strengthening trade in the aluminium smelting raw material bauxite. China is an especially prominent importer. Some estimates point to world seaborne bauxite trade increasing by over 10% in 2018, reaching 110mt or more. Several other minor bulk commodities apparently saw sizeable growth in global trade volumes.

Future growth, a mixed picture

An upwards trend in global seaborne dry bulk trade is widely expected to persist, with increases both in the short term and longer term. But prospects for 2019 seem mixed. Some influences look reliably positive, while others are distinctly negative and in other instances uncertainty is so great that the result could be no change or either side of that outcome.

One apparently foreseeable change which is likely to remove support is the slowing global economic activity envisaged. Currently this pattern is not generally expected to be severe, more likely a gradual loss of momentum. However international trade tensions are a great uncertainty, with potential for a sharply worsening economic output trend if there is an escalation of the major dispute unfolding recently.

Events in China's economy and commodity import demand probably will be a key factor determining world dry bulk trade during the next twelve months. In the decade ending 2017 China contributed over two-thirds of the rise in annual world seaborne dry bulk import volumes. A weaker contribution in future, especially if it is a large change, is unlikely to be fully offset by additional growth among other countries.

Looking at prospects for individual commodity trade sectors in 2019, there is perhaps most confidence in further coal and minor bulks increases. Optimism about extended iron ore trade growth has receded. Potential for solidly rising grain/soya movements over the years ahead is visible, but signs pointing to extra import demand within the next twelve months are still awaited.

The views of Brazil's new president are worrying commodity exporters

The victory of right wing candidate Jair Bolsonaro in Brazil's presidential elections held in October last year, has pleased the business and financial communities, which thinks growth will now accelerate, *writes Patrick Knight*. But some of his plans worry producers and exporters of several of Brazil's commodities, notably soya and iron ore.

Bolsonaro, previously an army captain, defeated candidates from both the left and the centre with his populist agenda, to the surprise of many. He has been dubbed the 'Tropical Trump' for his hostility to China, Brazil's leading export market, and his desire to move Brazil's embassy in Israel from Tel Aviv to Jerusalem, which would infuriate the Arab world, also a big market for many Brazilian goods. He disdains regional trade groupings, such as Mercosul, to which most of Brazil's neighbours, notably important trading partner Argentina, also belong.

Bolsonaro is also in favour of Brazil exiting the Paris climate agreement, and proposes to lift restrictions on cutting down forests in Amazonia. He would like to open the region to mining companies, and to increase restrictions on the rights of Indians there. Few ranchers would welcome this, as they fear it would cause the many countries which import Brazilian beef to impose restrictions.

The big grain trading companies, conscious that consumers of soya in developed countries worry about the clearance of native forests, have tried to prevent extra plantings on land cleared of native trees. Soya and maize producers strongly oppose any moves against China, as exports to there of soya beans and maize, already Brazil's largest export, have grown sharply in the wake of the US–China trade spat.

This year's soya crop is expected to exceed 120mt (million tonnes) for the first time. Demand for grains by China this year is now being revised downward because of a serious outbreak of swine fever there. During 2018, 60% of the soya beans exported by Brazil went to China, compared with 48% the previous year, so Brazil should not be hurt as badly as the US by any cutbacks in Chinese soy imports.

Brazil's ministry of agriculture anticipates the area planted to soya rising by 15% to 71 million hectares by the late 2020s, with the total output of grains, of which 238mt was grown last year, rising to 300mt by then. Most of the extra plantings will be on land being switched from grazing beef cattle at low densities, to soya. New technology is allowing the number of animals per hectare to increase steadily. Demand for crops such as rice and edible beans, sold mainly on the domestic market, is expected to fall in future.

China is also vital for exports of Brazil's third largest commodity, iron ore. Increased restrictions on mills responsible for much of the severe pollution which affects many cities in China, is also benefiting Brazil. Ore mined in China has an iron content of about 30%, so large amount of coal are needed to make each tonne of steel from it. The iron content of most of Brazil's ore, notably that from the new S11D mine at Carajas, is 65%, so much less coal is required to make it into steel. Because Carajas ore is so attractive, it commands a premium of about 7% over other ores.

Output from Vale's S11D mine, opened in 2016, is to be raised from the current 60mt to 90mt a year in the next few years. Vale chief executive Fabio Schvartsman says that higher ore prices have allowed Vale to reduce its debt from $22 billion to $11 billion in the past few years. He said that high ore prices were a distraction for Vale, and led the company to be too aggressive. The company will be far more cautious in future.

Vale has also had to deal with the high costs caused by the shutdown of the Samarco mine, shared with BHP. The halted Samarco mine, where a dam failure caused a severe flood, several deaths and considerable pollution two years ago, should reopen later this year, when a new dam will have been built. Samarco ore was made into pellets, now in short supply. Anglo American, which was obliged to replace 330 Chinese-made pipes on a five-mile stretch of the 529km pipeline which carries ore from its mine in Minas Gerais state to the coast, has now resumed production. The company is to increase output from the current 17mt to 26.5mt a year by 2020, as new pumping stations are built.

Prospects continue very bright for the companies which form Brazil's pulp industry. The merger of Suzano and Fibria has been given official approval, and expansions for several of that company's mills are expected to be announced this year. Duplication of the Veracel mill in Bahia state, a joint venture between Fibria and Stora Enso, is to start soon. World demand for market pulp is now growing by 1.5–2.0mt a year and Brazil is now seen as by far the best place for most of the extra to be made.

Bolsonaro wants to lift restrictions on cutting down forests in Amazonia as he would like to open the region to mining companies, and to increase restrictions on the rights of Indians there.

Technology that makes the world go around

RULMECA

MAIN FEATURES
- Rugged construction for heavy duty
- Hermetically sealed against water and dirt
- Manufactured according to DIN, AFNOR, JIS, CEMA, FEM, BS

BENEFITS
- Totally safe and controlled roller
- Longer bearing and roller life
- Ability to supply rollers to every market worldwide

Your rollers for belt conveyors

Steel rollers - PSV series:
- perfect for mines, quarries, cement works, coal-fired electric utilities, dock installations and all bulk handling conveyors
- shaft ranging from 20 to 40 mm diameter
- tube ranging from 63 to 194 mm diameter
- minimum 30.000 theoretical bearing life
- no need for early replacements
- successful for more than 45 years

Contact your local RULMECA Company to discuss about this or other requirements for Idlers and Motorized Pulleys.

COMPANIES AROUND THE WORLD

www.rulmeca.com

Headquarters
RULMECA HOLDING S.P.A.
Via A. Toscanini, 1
I-24011 Almè (Bergamo)
Phone: +39 035 4300 111
e-mail: rulmeca@rulmeca.com

RULMECA - EUROPE
Denmark
RULMECA A/S
e-mail: dk@rulmeca.com

Finland
RULMECA OY
e-mail: fi@rulmeca.com

France
RULMECA FRANCE S.A.S.
e-mail: info.france@rulmeca.com

Germany
RULMECA GERMANY GMBH
e-mail: de@rulmeca.com

Great Britain
RULMECA UK Ltd
e-mail: uk@rulmeca.com

Italy
RULLI RULMECA S.P.A.
e-mail: export-it@rulmeca.com

Spain/Portugal
RULMECA IBÉRICA, S.L.U.
e-mail: espana@rulmeca.com

Sweden
RULMECA A/S
e-mail: se@rulmeca.com

Turkey
RULMECA Taşıma Aksamları Tic. Ltd. Şti.
e-mail: turkey@rulmeca.com

RULMECA NORTH & SOUTH AMERICA
Canada
RULMECA CANADA LIMITED
e-mail: sales-ca@rulmeca.com

USA
RULMECA CORPORATION
e-mail: sales-us@rulmeca.com

RULMECA - AUSTRALIA
RULMECA MELCO AUSTRALIA (PTY) LTD
e-mail: sales-au@rulmeca.com

RULMECA - ASIA
China
RULMECA (TIANJIN) CO. LTD
e-mail: sales-cn@rulmeca.com

Indonesia
PT. RULMECA INDONESIA
e-mail: sales-id@rulmeca.com

Thailand
RULMECA (THAILAND) CO., LTD.
e-mail: sales-th@rulmeca.com

RULMECA - AFRICA
MELCO Conveyor Equipment
e-mail: conveyors-za@rulmeca.com

Output from Vale's S11D mine, opened in 2016, is to be raised from the current 60mt to 90mt a year in the next few years.

The start-up of a series of giant mills in Brazil, each able to make up to 2mt of pulp a year, means that even there, the supply of wood is lagging behind demand. Exactly who will eventually own the Eldorado mill, where 1.7mt of pulp were made in 2018, is not clear. Although Eldorado's original owner, the troubled JBS meat company, was understood to have completed its sale to Paper Excellence, owned by Indonesia's Asia Pulp and Paper last year, JBS does not now want to sell, following last year's sharp rise in pulp prices. The matter has now been referred for arbitration. The large Klabin company, responsible for 18% of the world's production of corrugated paper, and which normally exports half its production, is to start work on a new paper machine to use pulp from its newly opened Puma mill. The need to reduce the consumption of plastics, is boosting demand for packaging papers. The Smurfit company is anxious to increase its holdings in Brazil, possibly including taking over the Irani company.

After almost five years of economic decline, which averaged 7% in 2015, and about 5% in the two successive years, the Brazilian economy shrank by less than 1% in 2018. Most of the fall occurred in the first half. The hope that the economy will grow by up to 2% in 2019, is very good news for Brazil's steel industry, which plans to make up to 31mt this year, the most since 2014. The shares of two of the largest companies, CSN and Usiminas, have recovered, aided by the sale of assets abroad. Demand both from the motor industry, and also from civil construction, one of the hardest hit sectors has greatly improved, so companies are re-opening halted mills. Gerdau, Brazil's largest steel company, which bought mills in many countries in the early 2000s, has also sold assets, and now plans to increase production of flat products, mainly for use by the motor industry.

Whether the new government will be able to increase investments in Brazil's infrastructure, where a lack of capacity in roads, rail and at ports, as well as waterways, greatly prejudices Brazil's ability to compete in crucial export markets, remains to be seen. Last year saw turmoil on the roads, still the dominant form of transport, caused by a prolonged strike of truck drivers. This was provoked by the sharp rise in the price of diesel. Freight rates were forced up, increasing the cost of moving soya and maize to the ports of the south east, from where two thirds is still embarked.

Diesel fuel is now subsidized, but the recent fall in the price of crude, could result in subsidies being suspended. Despite some increases in the efficiency of some rail systems and the opening of new lines which have allowed more of the grains grown in the north and north east to reach ports there, should grain prices fall, as they have done in recent months, Brazilian farmers would be at a great disadvantage to those in the US and Argentina. Some rail companies have now undertaken to invest more, in exchange for their concessions to operate systems being extended for 30 years. Work is also expected to start soon on the 1,700km 'Ferrograo' line, to be financed mainly by trading companies Maggi, ADM, Bunge, Cargill and Dreyfus. This will greatly cut the cost of getting soya grown in Mato Grosso to ports on the Amazon, or to Itaqui in Maranhao state.

Chinese investors have been attracted to some infrastructure projects, which is clearly a concern of the new president. One of these is the long delayed 'Transnordestina' 1,700km line, on which work began in 2005. This will eventually link soya growing areas, and reserves of iron ore, to ports in Bahia and Ceara states. It was planned for this system to be complete by 2010, but as has happened with several other new lines, the Transnordestina is still only one-third finished.

There is both good and bad news for Brazil's bauxite and alumina industries. The Alunorte alumina mill, the largest such mill in the world, owned jointly by Norsk Hydro and the Nippon-Amazon Aluminium company, operated at only 50% of its capacity during much of 2018, following an escape of waste which contaminated waterways in Amazonia. The mill was completely shut for a short period, which provoked the temporary closure of the Paragominas bauxite mine, which supplies the mill. The nearby Albras aluminium smelter was able to continue to operate using stockpiled alumina. The low world price of alumina was also a factor in encouraging Norsk to slow, and then halt production. This situation has improved, following the shutdown of some excess capacity in China, the main reason for low aluminium prices in recent years.

Meanwhile the Novelis company, which makes the thin sheet used mainly by the beverage industry, is to greatly increase output both of primary aluminium, and its capacity to process scrap, of which more than 90% is collected and re-used in Brazil. Demand for cans used both for beer and soft drinks is expected to increase sharply as the Brazilian economy recovers. Novelis is to raise its production of primary aluminium from 560,000–680,000 tonnes, while the amount re-cycled is to increase to 450,000 tonnes. DCi

India seeks larger share of sugar export market

faces opposition from competing nations

Transporting sugarcane across the Krishna River in southern India.

Kunal Bose

India — poised to make a determined bid to export 5mt (million tonnes) of sugar, mainly consisting of raws in the season that began in October 2018, compared with actual shipments of 450,000 tonnes last year — is courting strong opposition from the three principal established exporting nations, Brazil, Thailand and Australia. What apparently has upset them is New Delhi offering transport subsidy and also making direct payment to farmers of a portion of fair and remunerative price (FRP) of sugarcane that the government will routinely fix ahead of a new season. Indian factories under the law are required to pay FRP-based cane bills raised by farmers within two weeks of taking delivery of sugarcane.

The Brazilian trade ministry has sought 'consultations' on Indian subsidy at the World Trade Organization (WTO) citing as reason its failure to secure "enough information and clarifications" from the Indian government on its sugar policies. In a statement, the ministry says: "The suspicion is that Indian domestic support (to farmers) and its subsidies to sugar exports caused significant impact in the sugar market in a context of falling prices and decreasing production in the main centres Brazil, China and Thailand." Brazil is not alone in its protest against the alleged Indian subsidy. Thai cane millers too have teamed up with Global Sugar Alliance for Sugar Trade Reform & Liberalization to file complaints with WTO seeking rescinding of Indian official financial support for export of the commodity.

Yet another major sugar exporter, Australia, has also hauled India to the WTO, complaining that the millions of dollars that New Delhi is paying to sugarcane farmers is responsible for global sugar surplus, which in turn is proving hurtful for cane growers elsewhere, including Australia. The country's trade minister Simon Birmingham is well aware that the reference to WTO will take a "long time to resolve." But all the protesting countries must be hopeful that their actions may prompt India to reconsider its policy on subsidy.

Indian industry official Om Dhanuka is not surprised that the world's three major sugar exporting countries "are making an issue of India's attempts to export 5mt during 2018–19 (October to September)

awash as it is with huge surpluses resulting from the current season opening with stocks of 10.7mt. The country's sugar industry is facing an unprecedented crisis resulting from supply rush and low prices and this stands to be further exacerbated as the new season will also have production more than domestic requirements of 26mt. Exports alone could bring some relief to the industry whose overwhelming majority constituents are deeply in the red."

But why are the three other sugar producing countries up in arms against India seeking to sell the commodity in the world market? Indian authorities contend that reimbursement of internal transport and freight charges, loading and unloading and fobbing charges to support sugar exports is entirely WTO compliant. They also claim WTO compliance for the kind of direct payment being made to farmers for cane supplies to factories. Whatever the arguments and counterarguments on Indian subsidy, India is off on signing contracts and despatching sugar to foreign destinations. The country will be mostly selling raws in the world market as importing nations have got their refineries to make white sugar.

Millers in Brazil have earmarked 64% of sugarcane to ethanol making. This kind of trade off is also justified on the ground that domestic sales of ethanol have surged around 40% (photo: Sweeter Alternative).

The world has gone from a supply deficit to supply surplus in the past one year and nine months, largely because of a record production of 32.5mt in India and 14.71mt in Thailand in the 2017–18 season. According to UN Food & Agriculture Organization (FAO), the last season's estimated global production of 187.6mt, an 11% increase over 2016–17, left "the largest production surplus in history, leading to significant accumulated inventories, in both importing and exporting countries." No surprise, therefore, raw sugar futures on the ICE Futures US Exchange settled at 10.1 cents a pound on 10 August, the lowest finish for a front-month contract since June 10, 2008.

But sugar futures 2019 March delivery have since climbed off the ten-year low to trade close to 12.80 cents a pound to some relief of an export-desperate India. Traders believe ICE quotes improvement for raws have been helped by more recent reports that the earlier Indian production forecast of 31.5mt require to be scaled down because of dry weather interfering with cane growing in Maharashtra and Karnataka, the country's second- and third-largest cane-growing states. In Europe, where beet-based sugar production surged — encouraged by the European Union scrapping export and output quotas — factories suffered because of low prices. In a kind of natural reaction, the planted sugar beet area in Europe is down this time.

Brazil, which in normal times will have a share of 20% of the world production but will account for nearly half of global sugar exports, is to see a major dip of 8.3m tonnes in output in the current season to 30.6mt. The US Department of Agriculture (USDA) says the 21% drop in Brazilian sugar manufacturing is for the twin reasons of lower sugarcane yields in central and southern parts of the country and a much higher percentage of sugarcane being diverted to ethanol production. The latter was triggered by record high supplies of the commodity seriously weakening the market. Crop and sugar production forecast by Brazilian sugar producers' association UNICA is more or less in line with USDA estimate. Production in Thailand is forecast to fall by 1.71mt to 13mt. Marginal output improvements in Australia will not, however, leave much impact on global sugar balance and prices.

USDA says global sugar production is likely to tumble by about 9mt to nearly 185.9mt. In sugar like in other agricultural commodities periodic revisions of estimates are a routine because of impact of sudden weather changes on the crop and now also due to the growing trend of using cane for ethanol production. Take Brazil, which has remained in leadership position of ethanol extraction from cane since 1975 when OPEC's supply embargo drove up oil prices. Now also as oil prices have remained high and OPEC has decided to trim production by 1.2m barrels a day, the Brazilian trade-off between sugar and ethanol distinctly favours the latter. High oil prices when sugar is on the mat have led millers in Brazil to earmark 64% cane to ethanol making. This kind of trade off is also justified on the ground that domestic sales of ethanol have surged around 40%.

Encouraged by the Brazilian government sponsored new programme RenovaBio, which is expected to push demand for ethanol to 47.1bn litres by 2028 from 26.7bn litres in 2018, leading sugar millers such as Biosev, which is controlled by commodities trader Louis Dreyfus and Usina Coruripe are committing major investments to raise ethanol making capacity. Groups expanding ethanol capacity are also considering the expanding global demand for the fuel which, derived from sugarcane, leaves a lower carbon footprint than other ethanol-derived crops such as corn. DCi

Optimarin consolidates Fednav relationship with retrofit and newbuild orders

Fednav's Federal Dart: *the company's first newbuild delivered with an OBS unit installed.*

Optimarin has signed a contract to supply seven of its USCG-approved Optimarin Ballast Systems (OBS) to Fednav, Canada's largest ocean-going dry-bulk shipowning and chartering group. Five of the units will be fitted on existing vessels within the 63-strong Fednav fleet, with two deliveries set for newbuilds. The order comes on top of agreements for five units made last year, signalling a growing relationship between the two market leaders.

"Fednav is an established, family-owned and first class supplier of innovative maritime transport solutions within the dry-bulk niche," comments Optimarin CEO Tore Andersen. "With customers and routes in North America and around the world, the firm is dedicated to providing optimal service and requires proven ballast water treatment (BWT) systems that ensure complete global compliance.

"They initially ordered one retrofit and four newbuild units last year and have now decided to roll out further installations. In a technology segment that is still in its infancy, with varying degrees of reliability, Fednav, along with other leading shipowners, are opting for a system they know they can trust."

With recent orders for multiple systems from Höegh Autoliners, Ardmore and USCG, Optimarin is moving closer to the 700 units sold mark, with more than 500 installed and operational. Dana Wandschneider, Fednav's Manager, Owned Fleet, says this proven pedigree, alongside full IMO and USCG approval, was a key factor in the initial decision making process. Since then the company's attitude and professionalism has led the working relationship to blossom.

He notes: "Open, honest and straightforward communication has been the core of our relationship with Optimarin. We operate our vessels in a wide variety of conditions and locations worldwide, making ballast water treatment a complex procedure. Optimarin has been committed to understanding our challenges and, when necessary, works towards improving their system based on user feedback.

"As a company we are committed to delivering a higher standard of quality and environmental stewardship. We create and institute rigorous controls and processes, implementing and carefully leveraging technology and developing strategic partnerships with other industry leaders, like Optimarin, to provide the best results for our stakeholders and society in general. We always look to work with suppliers that share these core values."

Fednav has been in operation for the past 75 years, building a network of offices on four continents and a prominent position in both international shipping as well as on the St. Lawrence and Great Lakes. With extensive activity in the Canadian Arctic, the company currently boasts the world's largest fleet of ice-class bulk carriers.

Optimarin made its initial retrofit delivery to Fednav earlier this year, with global engineering partner Goltens installing an OBS on Federal Kumano at MPG Dolphin Shipyard in Varna, Bulgaria. The first newbuild orders concerned projects at Oshima shipyard in Japan.

OBS has now been successfully retrofitted in over 200 vessels. The system has certification from a comprehensive range of classification organizations, including ABS, BV, DNV-GL, LR & MLIT Japan. Current customers include GulfMark, Hapag Lloyd, Matson Navigation, McDermott, MOL, Saga Shipholding, Seatruck, Technip, and the Royal Netherlands Navy.

Langh Tech delivers scrubbers for the Greek market

Langh Tech has secured a large deal in Greece for the delivery of ten shipset scrubber systems for bulk carriers and product tankers.

Shipping companies Marmaras Navigation and Delta Tankers, owned by Paschalis Diamantides, one of the most reputable Greek shipowners, have selected Langh Tech's systems for their continuing fleet upgrade programmes.

Marmaras and Delta Tankers belong to the first movers among the Greek ship owners, that have selected during early 2018 to entrust scrubber technology for coping with the forthcoming IMO 2020 global low sulphur cap regulations and for looking for best match options for their large variety of ship types and sizes, but also for reliable partners in retrofit projects.

The total order consists of equipping nine 92,000dwt Post-Panamax bulk carriers and one 114,000dwt Aframax tanker with Langh Tech Open Loop Hybrid Ready systems, plus options for more shipsets to follow.

The scope of supply comprises of U-type scrubber towers for all the ten vessels. In each installation the main engine and all auxiliaries will be connected to the multi-inlet scrubber tower. Langh Tech delivers all the equipment necessary for a fully working open loop system. The deal also includes commissioning and certification of the systems. All of the systems will be delivered within 2019.

"We have selected Langh Tech for offering an attractive combination of system quality, simplicity and proven track record. We felt comfortable with their production facilities and we valued highly their inherent experience on scrubber systems as ship operators as well. They were able to facilitate our tight delivery schedule demand and showed great flexibility in formulating a custom-fit scheme for serving our specific post-panamax and aframax tanker fleet retrofit programme," says Diamantides.

"It is our honour to serve Marmaras and Delta Tankers in Greece and we are very excited to work on a demanding retrofit project with tight deliveries and analytical project management. The systems will be designed to fit restricted engine casing spaces and their low operating costs will offer a significantly fast pay-back to the shipowner. We have further committed to provide a strong technical support during the whole installation and commissioning procedure", says Laura Langh-Lagerlöf, Commercial Director of Langh Tech.

Marmaras Navigation and Delta Tankers are two of the most reputable ship owning companies in Greece with a total fleet of 32 bulk carriers and 28 oil tankers operating their ships with top class charterers.

Langh Tech designs and produces scrubbers for SO_x removal from exhaust gases and water treatment units for closed loop scrubbers. Langh Tech is one of the Langh companies, which also include ship owning Langh Ship, steel carriage and bulk containers from Langh Cargo Solutions and Industrial and Ship Cleaning Services Hans Langh.

Langh Tech scrubbers to be retrofitted to Polaris fleet

Langh Tech and STX Offshore & Shipbuilding (STX O&S) have signed a deal concerning scrubber retrofits on seven vessels in the Polaris fleet. The four 180,000dwt bulkers and the three 300,000dwt VLOCs (very large ore carriers) in the fleet will be equipped with Langh Tech's open loop scrubbers.

The scrubber installations will be done as turn key deliveries by STX O&S. On each of the vessels the main engine and the three auxiliaries are connected to the scrubber. The scrubbers are multi-inlet type and Langh Tech delivers all the equipment necessary for a fully working open loop system. The component deliveries will start in summer 2019 and the installations will follow soon after component delivery.

Langh Tech is well established in Korea and locally represented by Regional Manager Simon Kim. "I believe that this scrubber retrofit contract with Polaris Shipping will be a great milestone for Langh Tech to cooperate with many other esteemed Korean shipping companies in the future", says Kim.

Langh Tech is starting training of local service and commissioning engineers for the Korean market. This will in the future safeguard short reaction time for service visits in Korean and other near-by ports. Langh Tech scrubber manufacturing has been done in Europe, but now Langh Tech will start scrubber tower production also in Korea. "We look forward to further strengthening our position in the Korean market, both as component sales to new building yards and to retrofit installations," says Langh Tech's Commercial Director Laura Langh-Lagerlöf.

STX has for a long time been a major supplier for mid-size vessels, particularly MR vessels, boasting of its best performance. It is also expected that STX will keep taking the position of world market leader in the MR sector, no doubt, and will be a newly rising star for Mid-size of Gas ships as well based on their long and superb capability.

DELIVERING A HIGHER STANDARD

ibj
AWARDS
2018

★ ★ ★ ★ ★

Winner of the
IBJ People Development
Award

FEDNAV

WE GO OUT OF OUR WAY

www.fednav.com

Hempel to gain market share with new Centre of Excellence

On 29 November 2018, prominent coatings manufacturer Hempel officially opened its new Centre of Excellence in Barcelona. The centre's focus will be on the research and development of coating products within the field of passive fire protection in which Hempel is determined to gain market share during the next few years.

State-of-the-art research and development conducted by experts using the latest technology — this is what Hempel is now opening the doors to as the Centre of Excellence is inaugurated.

As a global expert in the coatings industry, Hempel is committed to increase its range of passive fire protection (PFP) coatings, and the entire Centre of Excellence is dedicated to this field.

The new Centre of Excellence is strategically located just outside Barcelona in Spain, as Hempel has a long and successful history in the region. However, the activities and results carried out here will have a global reach.

"We are determined to develop the coatings industry within the PFP field on a global scale," says Group Vice President and CCO Lars Petersson. "PFP coatings are an important part of our growth strategy. But it is equally important to us to help protect the inside of our customers' assets and provide safety to the people working or staying there. And applying the right coating is crucial here."

A strong organization with a dedicated team

Since 1 December last year, 29 employees have been be working at Hempel's new Centre of Excellence. They form a strong technical organization, which consists of highly skilled technicians, applicators, fire testers, and scientists.

R&D Director in Barcelona Santiago Arias says: "The organization at the new Centre of Excellence will continue the work in developing PFP products and testing solutions. Hempel already offers a range of PFP products, but the team is dedicated to moving forward and I can promise that our product portfolio will soon be expanded with solutions that our customers can trust to protect their buildings and industrial installations."

For the past seven years, Hempel has grown within the field of PFP coatings, and with the new R&D Centre of Excellence in Barcelona, this journey continues.

Facts about the R&D Centre of Excellence

- Hempel has invested € 6 million in this new Centre of Excellence;
- 3,000m² laboratory, testing areas and offices;
- When fully operational the PFP Centre of Excellence will employ more than 30 highly qualified employees, many of them experts within their field, including:
  - technicians, fire testers and applicators
  - scientists (including PhDs)
  - chartered engineers

About Hempel

As a prominent supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the protective, marine, decorative, container and yacht industries. It employs 6,700 people in 80 countries and has 28 factories, 15 R&D centres (including the new Centre of Excellence in Barcelona) and more than 150 stock points worldwide.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colourful. Hempel was founded in Copenhagen, Denmark in 1915 and is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific objectives around the world.

ABS grants AIP for Neptun's wind turbine transport vessel

'Blue Azurit' first vessel designed to transport components for turbines in excess of 9 MW

ABS has granted Approval in Principal (AIP) to Neptun Ship Design for its Wind Turbine Transport Vessel design, the first to support transporting parts for turbines greater than 9 megawatts (MW).

The 178m long *Blue Azurit* design allows wind turbine manufacturers to produce full length welded towers ready for installation. The energy-efficient vessel is designed to pick up components direct from the supplier's berth, transport parts to an offshore harbor, or feed them to the installation vessel.

"The scale of offshore wind turbines continues to increase steadily, offering greater efficiencies to the market. We are working with Neptun to verify compliance with ABS Rules, as it strives to deliver enhanced vessel capabilities supporting the wind industry's continued growth, while increasing reliability and efficiency," said Wei Huang, ABS Director, Global Offshore.

"The ABS extensive offshore industry experience made them the natural choice to support this project. *Blue Azurit* will help the offshore wind industry meet pressure to reduce costs, minimize project risks, deliver higher reliability and support renewable energy targets from new offshore wind nations," said Gerald Hadaschik, Neptun Managing Director.

In granting this AIP, ABS conducted a preliminary engineering plan review and considers, that the conceptual engineering is feasible for the intended application and is, in principle, in compliance with the ABS Rules for Building and Classing Offshore Support Vessels, 2018.

ABS remains the preferred classification organization for the offshore and energy industry as it has for more than 60 years. ABS has extensive experience supporting innovation in the offshore wind industry, including classification of Seajacks 'Scylla', the world's largest and most advanced wind farm installation and offshore construction vessel, constructed by Samsung Heavy Industries in South Korea. ABS is also playing a role in supporting the development of innovative concepts for future floating wind farm projects.

About ABS

ABS, a renowned global provider of classification and technical advisory services to the marine and offshore industries, is committed to setting standards for safety and excellence in design and construction.

Towards a better balanced bulk carrier market

Capesize vessel Goodwill *calling at the Port of Newcastle in Australia (photo Michele Mossop/Engineers Australia).*

Richard Scott, Bulk Shipping Analysis

Events over the past twelve months indicated that the recovery phase in the bulk carrier freight market cycle is still intact. But there was an impression of more limited progress in the upwards trend than had been seen in the previous two years. Moreover, while a downturn may seem unlikely to happen in 2019, there are some doubts about whether another solid improvement will occur. Indications supporting an optimistic view look finely balanced.

Slowing global dry bulk trade expansion last year was a restraining influence affecting the freight market rates trend. Both coal and minor bulk commodities trades appear to have grown solidly, but flat or flattening iron ore and grain/soya trades restricted the overall support from increased demand for transport capacity. The pace of bulk carrier fleet growth meanwhile remained fairly brisk, ensuring that further progress towards an improved demand/supply balance was restricted.

Nevertheless, many shipowners appear to be at least cautiously optimistic about a sustained strengthening of freight rates in

TABLE 1: WORLD BULK CARRIER FLEET (MILLION DEADWEIGHT TONNES)

	2014	2015	2016	2017	2018*	2019*
Newbuilding deliveries	48.2	49.3	47.2	38.4	28.0	32.0
Scrapping	16.4	30.7	29.3	14.7	4.0	9.0
Losses	0.1	0.2	0.2	0.3	0.1	0.2
Other adjustments/conversions	0.3	-0.2	-0.6	0.0	0.0	0.0
Net change in fleet	32.0	18.2	17.1	23.4	23.9	22.8
Fleet at end of year	**758.6**	**776.8**	**793.9**	**817.3**	**841.2**	**864.0**
% growth from previous year		2.4	2.2	2.9	2.9	2.7

Source: Clarksons Research (historical data) & BSA 2018-2019 forecasts **forecast*

the year or more ahead. Whether this is still a plausible outlook has become more questionable though. Prospects for dry bulk commodity trade growth suggest only a modest increase in 2019. This enlargement could be exceeded by accompanying bulk carrier fleet expansion unless there is a big upturn in recycling old or uneconomic ships.

Fleet expansion sustained

For the second-consecutive year, expectations of a meaningful slowing of the bulk carrier fleet's growth rate did not materialize in 2018. Estimates suggest that deadweight capacity increased by about 3%, similar to the previous year's enlargement (see table 1). As expected, newbuilding deliveries were substantially lower than seen in the previous twelve months. But an unexpected change was the collapse of scrapping (also known as demolition, or recycling) to a minimal volume. The net result was an unchanged annual deadweight addition to the fleet.

One year ago at the end of 2017, the world fleet of bulk carriers (ships with capacity exceeding 10,000 deadweight tonnes) included 11,116 ships totalling 817.3 million dwt, according to data compiled by Clarksons Research. Twelve months later at the end of last year, this fleet was about 24m dwt larger at 841m dwt, based on provisional estimates.

The newbuilding deliveries total in 2018 was down sharply. An annual total of about 28m dwt is estimated, a figure which may be revised when more complete information becomes available, 27% lower compared with 38.4m dwt seen in the preceding year. This calculated 10m dwt reduction in new ship capacity added was matched by an almost equal decline in scrapping old or uneconomic ships. Annual demolition sales in 2018 are estimated at around 4m dwt, over 10m dwt below the 14.7m dwt in the previous year.

While the overall bulk carrier fleet expanded by 3% last year, increases in the main vessel size groups — Capesize, Panamax, Handymax and Handysize — varied, although growth rates were within a fairly narrow range. The Capesize sector comprising ships of 100,000dwt and over, representing about two-fifths of the entire bulk carrier fleet, saw the fastest enlargement approaching 4%. A large part was contributed by the biggest capacity ships described as 'very large ore carrier' or VLOC, many of which were 400,000dwt vessels.

In the Panamax 65–100,000dwt size group, including Kamsarmax 80–90,000dwt bulk carriers, growth appears to have exceeded 2% in 2018. Evidently there were similar percentage increases in both the Handymax 40-65,000dwt category (including Ultramax ships exceeding 60,000 dwt as well as the longer-established Supramax tonnage of 50-60,000dwt), and within the Handysize group of smaller 10–40,000dwt bulk carriers.

Actual changes in annual transport capacity available are not always accurately indicated by these deadweight capacity growth figures. Changes in capacity to move cargoes also depend on how productively ships are employed. Key influences are ship speed, ballast (empty) voyage patterns, and duration of port visits, statistics for which are not available promptly or for the entire fleet. Consequently deadweight tonnage, a simple measure available on an up-to-date basis, is used as an indicator of cargo lifting capacity.

Illustrating how productivity is relevant, the fleet's average voyage speed has

Panamax to Panamax transshipment.

Shi.E.L.D. Services

technical management and consulting

Ships
Energy
Logistics
Design

Photo by courtesy of Coeclerici.

We provide management and consultancy services for the shipping and industry markets and for the on-shore and off-shore logistics of dry bulk materials, including design, construction, maintenance, management and operation of ships and transhippers and cargo handling equipment.

Thanks to our long experience in the logistics industry we commit to provide you with tailor-made solutions and high quality management services to ensure that your assets always comply with all applicable rules and regulations, respect the environment, run in a safe and cost-efficient manner and are maintained so as to preserve their value.

Corrado Cuccurullo, CEO

"Through our 20-year long expertise, efficiency and reliability we can help you achieve your goals!"

www.shieldservices.it

Shi.E.L.D. Services srl
viale Monza 270
20128 Milan – ITALY

ph. +39 02 83623450
info@shieldservices.it

substantial implications. Even a modest change upwards or downwards in the bulk carrier fleet's speed, resulting in the time taken to complete a voyage decreasing or increasing respectively, can affect the annual transport capacity supplied. Higher freight rates act as an incentive for a ship to perform at a higher speed, enabling more trips to be completed in any given period.

Changing pace of trade growth

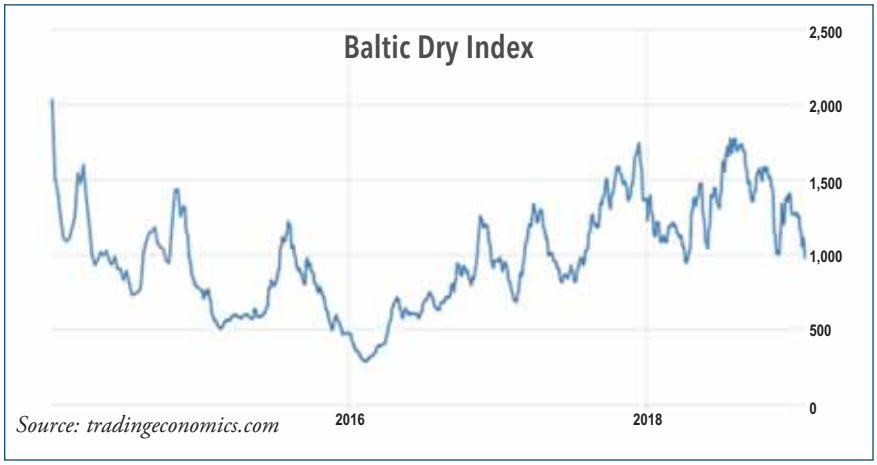
Contrasting with the steady rate of bulk carrier fleet enlargement seen last year, the pace of trade growth decelerated. A detailed global seaborne dry bulk trade overview is contained in another article in this edition of *DCI* ('Dry bulk trade sees cooling growth,' on p4), so the remarks below are a brief summary.

After accelerating in the previous year, dry bulk trade expansion appears to have slowed to about 2% during 2018, roughly half of the preceding figure, based on provisional estimates. The overall result was supported by fairly brisk increases in the coal and minor bulk commodities segments, together comprising about three-fifths of the total. But in the remaining two-fifths consisting of iron ore and grain/soya trade, volumes seem to have been essentially flat.

One prominent contributory factor resulting in the apparently slowing growth in global dry bulk trade last year was China's moderating import demand. Dry bulk commodity imports into China comprise about one-third of the world total, and therefore any significant change in pace has a noticeable impact. Among the three dry commodities together forming the largest part of purchases by China — iron ore, coal and soyabeans — there was little or no growth in overall volume last year.

Demand for ships' carrying capacity is also determined by a second influence. Trade volumes transported are the usual focus, because these can be measured easily and are a convenient proxy for vessel demand. Of influence also is the pattern of voyage distances. Changes in cargo-carrying distances in the bulk carrier and other sectors, shortening or lengthening voyage duration, affect the number of trips performed. In turn these variations affect vessel demand.

For this reason a more accurate representation of demand for transport capacity is the 'tonne-mile' unit, which incorporates both the volume of trade movements and the transport distance involved. However, statistics compiled on this basis are not widely available on a timely schedule because of the complex calculations required.



Source: tradingeconomics.com

Balancing demand and supply

Limited progress in maintaining the bulk carrier freight market recovery during 2018 broadly reflected how changes in the relationship between global demand for, and supply of, shipping capacity were evolving. Dry bulk commodity trade expanded at a modest rate amid prominent restraining influences. Bulk carrier fleet growth was steady, at a slightly higher rate than trade volumes were growing.

The interaction of these changes seemed to have only a small effect on the underlying balance between bulk carrier demand and supply. Consequently the gap between the two trends, a sizeable supply surplus, continues to restrict potential for a rising freight market which could improve bulk carrier profitability.

Substantial surplus capacity in this market sector is a legacy of the global economic depression seen almost a decade ago, with its devastating effects on trade volumes, and subsequent over-optimism for the recovery which prompted continuing excessive bulk carrier fleet expansion. Calculating how much surplus transportation capacity currently exists, however, is a challenging task because it cannot be measured directly. Nevertheless, whatever the result of calculations, it is clear that the fleet is significantly under-utilized.

Attempts to assess the market demand/supply balance — whether stable, deteriorating or improving — are further complicated by a wide range of often temporary factors. Some of these eventually prove to have longer-term implications. As seen at various times during 2018, prominent drivers of large freight rate increases or decreases include short-term fluctuations in commodity volumes moving and geographical variations in trade patterns. Cargo inventory changes in importing countries and changes in port congestion and delays also occur.

Another influence illustrated by events last year was the potential for geo-political disturbances to have an impact, possibly temporarily but perhaps with extended effects. All these factors affect freight market sentiment and expectations for the future, as well as derivatives trading, which in turn contribute to physical freight market fluctuations.

Patterns of freight market rates

Charts of freight market rates during 2018 clearly show contrasting patterns among the main bulk carrier size groups. For most of the market a fairly consistent trend of modestly improving rates unfolded. By contrast in the Capesize market segment a sequence of wild and huge freight-rate fluctuations occurred, resulting in the trend being difficult to discern, and emphasizing dependence of this segment on just two commodities, iron ore and coal, especially iron ore.

An overview of bulk carrier market freight rates is depicted by the Baltic Dry Index (BDI). This index, calculated daily by the Baltic Exchange, is based on a basket using time charter hire rates for a variety of ship sizes and typical employments. This calculation provides a very broad indicator for changes in the cost of transporting dry bulk commodity cargoes.

At the beginning of 2018 weakness reduced this index from approaching 1,400 to under 950. A recovery followed, including a very sharp interim setback, eventually peaking (for the year) at close to 1,800 early in the third quarter. Subsequently a large partial reversal during that quarter to below 1,400 was seen before an improvement towards 1,600 in subsequent weeks. Then the BDI declined very steeply back down to around the

JOTUN

Jotun Protects Property

WANT TO REDUCE YOUR CLEANING AND REPAIRS?

Protect your vessels' earning potential with durable cargo hold coatings.

In today's highly competitive world, ensuring your cargo vessels are as efficient as possible is a sizeable challenge. Jotaguard 600 cargo hold coatings are the answer. They're not only smooth, they go on fast and are truly resistant to abrasion and impact, which makes cleaning easier with minimal need for repair. The result? With Jotaguard 600, you paint and repair your vessels less. And get more from your business.

jotun.com/cargohold

Jotaguard | 600 SERIES

Norden's Supramax dry cargo vessel Nord Manatee, *seen here discharging soybean meal in Aarhus, Denmark. The 57,982dwt vessel was built in 2010.*

1,000 level in early November, but an upturn followed, to around 1,400 at year end.

Freight market prospects

Viewed from an early 2019 vantage point, what is the potential for a continuation of the improving bulk carrier freight market rates trend during the twelve months ahead? Some positive signs are prominent, but negative influences also are at the forefront, causing considerable doubt about how much stronger momentum will be gained by the market.

It seems quite likely that global dry bulk commodity trade growth will not even match last year's reduced rate and may be at the 1–2% range's lower end. Meanwhile world bulk carrier fleet growth probably will not slacken greatly and could be at least 2%, perhaps towards the 2–3% range's upper end. If this combination occurs, the underlying balance between demand and supply influences is unlikely to see a meaningful reduction of excess carrying capacity.

As discussed in detail in this edition of *DCI*, trade growth prospects for 2019 seem quite subdued. The global economic activity trend is widely expected to stay in a slowing mode, resulting in slackening demand for the products of industries using dry bulk commodities. While the broad picture is not completely negative, several more specific influences affecting various commodity imports into some countries point to a weakening. Questions about potential for further growth in some of China's bulk imports are particularly relevant.

During the past twelve months the significance of political events affecting world dry bulk trade has been firmly underlined. International trade tensions, with potential or actual adverse effects, have multiplied. Changes in national policies for domestic industries in some countries have immediate short-term and longer-term effects on commodity import purchases. Such aspects appear set to persist through the twelve months ahead, but by nature are difficult to foresee except as a general influence: there are no realistic means of estimating the timing and magnitude of consequences for bulk trade movements.

Bulk carrier fleet prospects suggest that substantial expansion may continue. The entire global orderbook for new ships may not seem particularly excessive. However, orders scheduled for completion in 2019 point to the distinct possibility that new-building deliveries will remain sizeable and could exceed last year's total. Scrapping is quite likely to rise, providing a bigger offset, but estimates of how much bigger are speculative, since the freight rates trend and market sentiment which are difficult to predict will have a major impact.

An important aspect which could hasten a move towards higher bulk carrier scrapping is the approach of tighter international maritime pollution and emissions regulations being implemented towards the end of this year and in early 2020. These regulatory changes will negatively alter the economics of bulk carrier operation, adding compulsory extra capital spending or operating costs which will be large in many cases. Some shipowners with older vessels may decide not to incur the additional upfront costs often mandated, choosing to sell ships for demolition instead.

A substantial strengthening of the bulk carrier freight market rates trend during 2019 seems to require one or more large changes in the basic influences. Accelerating growth in global seaborne dry bulk trade volumes, to 3–4% or higher would provide a boost. Alternatively a sharp slowdown in bulk carrier fleet expansion to 1–2% or lower could have a similar impact.

Arguably at present neither of these requirements seems likely to happen, although some partial combination of the apparently necessary changes could occur. If such a limited move towards a closer balance between vessel demand and supply is accompanied by maintained or raised market sentiment about longer term dry bulk market improvement, the freight rates trend may see a tendency to become firmer. DCi

Innovative co-operation agreement between the Montreal and Trois-Rivières port authorities

In mid-December last year, the port authorities of Montreal and Trois-Rivières announced the ratification of a first-ever co-operation agreement to improve and enhance their respective port services.

Focused on sharing information and intelligence and exchanging best practices, the agreement signed between the two ports will ultimately make it possible to increase the productivity, competitiveness, efficiency and safety of port services and procedures. Four work pillars are targeted under this agreement:

- marine operations;
- environmental management;
- port logistics; and
- port/city relations.

The ports of Montreal and Trois-Rivières are now exploring how to jointly implement innovative approaches. This agreement extends and structures longstanding collaborative efforts between the two port authorities, united by shared values and a common trade area.

"As a gateway to the heart of North America, the St. Lawrence is an undeniable strategic advantage for Canada and Quebec. The partnership we are signing today will make it possible to co-ordinate our efforts to increase the competitiveness of the St. Lawrence, a vital link in the growth of our two ports in a highly competitive global context," said Gaétan Boivin, President and CEO of the Trois-Rivières Port Authority. He also specified that this partnership is a concrete component of the TRPA's On Course for 2030 development plan.

Port of Montreal.

"We are signing cooperation agreements with other ports around the world to combine our strengths and strategies to boost port performance. Doing so with a neighbouring port sharing the same strategic vision of our activities and services, and with sustainable development as a cornerstone, can only be a win-win," said Sylvie Vachon, President and CEO of the MPA.

About the Port of Montreal

Operated by the Montreal Port Authority (MPA), the Port of Montreal is the second-largest port in Canada and a diversified transshipment centre that handles all types of goods: containerized and non-containerized cargo, liquid bulk and dry bulk. The only container port in Quebec, it is a destination port served by the largest shipping lines in the world. It is also an intermodal hub with a service offering that is unique in North America, featuring its own rail network directly dockside connected to Canada's two national rail networks. The MPA also operates a Cruise Terminal and a Port Centre.

The MPA factors economic, social and environmental components into its corporate initiatives. This commitment is governed by a sustainable development policy whose guiding principles focus on involvement, co-operation and accountability. Port activity supports 16,000 jobs and generates $2.1 billion in economic benefits annually.

About the Port of Trois-Rivières

As one of 18 Canada Port Authorities, and active since 1882, the Port of Trois Rivières offers a wide range of facilities and services to the marine industry at all seasons. It is an important player in economic development at the regional, national and international levels for major industrial sectors such as aluminium, forestry and agri-food. The Port of Trois-Rivières welcomes 55,000 trucks, 11,000 railcars and more than 200 merchant and cruise ships annually from some 100 ports in more than 40 countries around the world. It handles more than 3 million metric tonnes of traffic and generates nearly 1,000 direct jobs.

The Port of Trois-Rivières.

MVTTC serves the Mississippi region

Mississippi Valley Trade and Transport Council (MVTTC) and its 80 members are brought together to network with other maritime service professionals and ultimately united to promote commerce within the Mississippi Valley River System.

Comprised of companies such as barge lines, port authorities, trading companies, freight forwarders, cargo terminals along with dozens of other commercial genres, the MVTTC provides united leadership and a singular voice when it comes to matters influencing production and distribution of cargo — from grain to iron and seemingly everything in between.

Founded in 1982 and then-named the Mississippi Valley Coal Exporters Council, the MVTTC was originally a trade group promoting the movement of coal through the inland waterway system and lower Mississippi River.

Because of the volatility of the coal industry — a market filled with rapid boom and bust periods — the council diversified to include all commodities transported throughout the Mississippi River.

The Council views the wide range of businesses represented in the MVTTC as a strength rather than a liability, in that the issues the Council tackles must concern the entire roster of its members and therefore bring about the most change. For instance, the MVTTC is a strong proponent of deepening the Mississippi River from 45 to 50 feet to allow more commerce. It's also addressing the need to modernize outdated infrastructure along the river, specifically the locks and dam system found in parts of the upper Mississippi and the Ohio River, which causes problems for both importers and exporters.

On a more micro level, the MVTTC forms alliances with local universities (such as the University of New Orleans) to address workforce development issues.

New handling equipment for Newcastle

In Australia, Newcastle Bulk Terminal has completed the dismantling of its old ship-unloaders and has temporarily put in place bulk cargo hoppers to allow business to continue while a new ship-unloader and conveyor system is put in place.

The redundant equipment, which had been operational since 1968, was located on Kooragang 2 berth, where a variety of dry bulk commodities were handled, such as fertilizer, rock phosphatic, ores and meals.

However, Kooragang 2 and 3 berths remain fully in use, being the busiest and most diverse common user berths in the port.

To replace the outgoing equipment, Port of Newcastle is investing $33 million into a new ship-unloader, which includes a state-of-the-art crane, conveyor infrastructure and an electrical substation. The port justifies the investment by stating that its customers have requested more capacity to grow their cargo volumes. The new unloader will have a capacity of 1,000tph (tonnes per hour), compared to previous average rates of 230tph.

The new crane unloader is being built in Vietnam and is to become operational as of early 2020. Design and construction is being undertaken by Tenova Takraf.

Barry Cross

Exports drive banner season at Port of Hamilton

The Hamilton Port Authority's 2018 cargo results are in, revealing the highest volume of cargo handled through the port in more than a decade.

More than 11.6 million metric tonnes of cargo was imported or exported through the Port of Hamilton in Canada during the 2018 shipping season, an 18% increase over 2017's total.

"Many Hamiltonians remarked that the harbour looked especially busy with ships this year," said Hamilton Port Authority (HPA) President & CEO Ian Hamilton. "And they were right: we welcomed 647 vessels to port this season, 43 more than in 2017."

In 2018, more ships were making overseas trips to and from Hamilton. "This season really shows how Canada can diversify and develop new markets if it has the right infrastructure in place. In 2018, exports through the Port of Hamilton were up by 63.6% over 2017." Behind this trend were increased exports of Ontario-grown grain, helped along by new terminal capacity at the port, a solid crop year, and expanded European market access as a result of the CETA agreement.

In November of 2018, Transport Minister Marc Garneau was in Hamilton to announce an investment in the Port of Hamilton through the National Trade Corridor Fund. This $17.7 million investment, matched by HPA, will provide for new and upgraded transportation infrastructure, and see port lands reconfigured to create new development-ready employment lands. "In the past decade, we've attracted more than $300 million in private sector investment to Hamilton, and we have grown our on-port employment to more than 2,100 jobs," notes HPA's Ian Hamilton. "We're focused on using this latest investment to continue our positive impact on the regional economy."

The Port of Hamilton is the seventh largest port in Canada by volume, and the largest in Ontario.

Polish Szczecin is top bulk terminal in new BIMCO report

The best performing port, in BIMCO's *Dry Bulk Terminals Vetting Report 2018*, is Szczecin in Poland. The report collected input from 144 ships covering 381 terminals. A total of 97% of the reports were rated as average or better, which gave an average rating of 3.6 (out of five). The result is a marginal better than last year's results.

"I think, in many ways, the report shows an encouraging trend, that bulk terminals generally perform well — only four reports were rated as 'poor'," says Aron Sorensen, Head of Maritime Technology and Regulation at BIMCO.

The reports show that good communication between ship and terminal is a crucial part of port performance and is factor acknowledged in written responses by captains.

The number of reports contributed to BIMCO rose by 52% to 916 in total, increasing the number of ports covered by 102. Albeit, the reports originate from a small number of companies, which partly explains a somewhat skewed geographical spread of the report.

"I think this information is valuable to both the shipowners and the ports, but we are still far from satisfied with the number of reports submitted to us for this initiative," Sorensen says.

Ideally, BIMCO would like to have 1,000 ships participating in the survey.


Port Szczecin.

The top five ports were:

1. Szczecin, Poland
2. Quebec, Canada
3. Newcastle, Australia
4. Gladstone, Australia
5. Ciénaga, Colombia

The report indicates improved communication between the terminals and the ships, but adequate language skills remain a problem in some locations.

The survey also looked into waste handling, and the number of ships experiencing a terminal's refusal to collect garbage or exorbitant prices to do so, is still too high, according to the report.

"We need terminals and ports to live up to their responsibility and receive waste at a reasonable price," Sorensen says. Another point of concern was that the setting of gangways was impossible in 11% of all cases, thereby restricting the access to and from the ship. This is clearly unacceptable and must be addressed as a safety matter.

About BIMCO

BIMCO is the world's largest international shipping association, with around 2,000 members in more than 120 countries, representing 56% of the world's tonnage. Its global membership includes shipowners, operators, managers, brokers and agents. BIMCO is a non-profit organization.

Sea Commercial Port Yuzhny handles thermal coal for power stations

At 1430hrs on 14 November, the *Zoe S* moored at berth no.9 of the Sea Commercial Port Yuzhny, carrying a load of African coal. The vessel delivered 50,500 tonnes of coal for Darnytska and Chernihivska power stations. Cargo handling commenced at 1730hrs.

"Today, the state company handles a large amount of coking coal for metal producers. At the same time, handling of thermal coal is of vital importance, since there are real problems with heating in cities. Thus, within several weeks, the thermal coal is to be delivered to ensure warmth in people's homes in Kyiv and Chernihivshchyna. On November 21, bulk carrier *Stella Dora* from Rotterdam is to deliver 76,000 tonnes of thermal coal for Kryvorizka power station. In 2017, the state company Sea Commercial Port Yuzhny handled 1.23 mt (million tonnes) of thermal coal for public and private power stations," said Anatoliy Yablunivskiy, acting director of Sea Commercial Port Yuzhny.

Sea Commercial Port Yuzhny handled 1.8mt of imported cargo, including 379,100 tonnes of thermal coal, for ten months in 2018.

Sea Commercial Port Yuzhny is located on the north-west coast of the Black Sea in the non-freezing Adzhalyksky estuary and it is the deepest port in Ukraine. The company provides a wide range of loading- unloading services, storage and related works; it handles bulk, general and break-bulk cargoes. Scheduled cargo delivery and cargo handling are effectively performed due to the convenient location of the railroad station Beregova, developed infra-structure of the road and railways. The company operates five deep-water berths, two of which are dedicated to handling of Capesize vessel up to permissible tonnage. Annual cargo turnover of the company is 15.07mt.

Ukraine and Egypt co-operate on bulk port projects

The Ukrainian Sea Ports Authority has signed a memorandum of co-operation with the port authorities of two Egyptian ports: Alexandria and Damietta. The agreement, signed in Kyiv in the Ukraine on 2 November this year, involves the establishment of a bilateral working group with representatives of shipping lines, traders and port operators to stimulate the implementation of joint projects. It also provides for information exchange to assist shipping companies, importers, exporters and forwarders, exchange of experience in port modernization and the development of IT services and technologies.

Alexandria, situated in the Nile delta, is the main seaport and the second largest city in Egypt. The port is connected to the Nile by a navigable channel. Its annual turnover, 15mt (million tonnes), accounts for about 80% of the total volume of foreign trade in Egypt.

Port Damietta is located on the Mediterranean coast, east of Alexandria. It has terminals for general and bulk cargo. The port's capacity for handling grain is about 7.5mt. There is a LPG plant, a container terminal and a mineral fertilizer plant on the port territory.

The signing was held within the framework of the Seventh Meeting of the Intergovernmental Joint Commission on Economic, Scientific and Technical Cooperation between Ukraine and Egypt. From the Egyptian side, the Memorandum was signed by the Minister of Investment and International Cooperation of the Arab Republic of Egypt, HE Dr. Sahar Nasr, from the Ukrainian side – Head of Odessa branch of the USPA (Odessa Seaport Authority), Igor Tkachuk.

"The Port of Odessa has a great experience of cooperation with the ports of Egypt," said Tkachuk. "The cargo turnover between our ports is more than 4.5 million tons per year. More than half of these cargoes is export of agrarian products from Ukraine. The signing of the Memorandum will be an additional stimulus and a basis for the further development of bilateral co-operation."

For the fourth year in a row, seaports of Ukraine have improved their positions in the Global Competitiveness Report 2018, compiled by the World Economic Forum. The port services and infrastructure of Ukraine ranked 77th in the latest version of the report. In 2017, Ukraine occupied the 93rd position.

In July, the Authority signed a memorandum of cooperation with Qatar Ports Management Company to increase cargo turnover between countries, in particular export supplies of Ukrainian agricultural products to Qatar, as well as attracting investments in the development of Ukrainian port infrastructure.

Port of Odessa.

Netherlands ports

reporting on dry cargo volumes

Port of Rotterdam sees slight fall in dry bulk cargoes in 2018

The Port of Rotterdam is Europe's largest sea port. The port owes its position to its outstanding accessibility for sea-going vessels, as well as to its intermodal connections and the 180,000 people working in and for Rotterdam's port and industrial area.

DRY BULK THROUGHPUT AT THE PORT OF ROTTERDAM

(million tonnes)

	2017	2018	diff.
Agribulk	11.1	9.9	–11.6%
Iron ore & scrap	31.2	30.1	–3.6%
Coal	25.8	26.4	2.3%
Other dry bulk	12.1	11.3	–6.3%
Total	**80.2**	**77.6**	**–3.2%**

other dry bulk includes biomass; Port of Rotterdam Authority.

DRY BULK THROUGHPUT AT THE PORT OF ROTTERDAM

- Total dry bulk throughput in the port of Rotterdam (including Dordrecht) declined by 3.2% or 2.6mt (million tonnes) to 77.6mt in 2018.
- The share of dry bulk in total throughput (469mt) dropped to 16.5%.
- The only dry bulk cargo to show growth compared with 2017 was coal. This was because of an increase in coking coal for the German steel industry. Steam coal declined because the share of hard coal in power production keeps shrinking (closures of coal-fired power plants, competition of renewables, gas and lignite).
- Iron ore throughput also declined compared with 2017. One reason for this was maintenance of a large blast furnace in the hinterland of the port, reducing demand for iron ore.
- Agribulk, predominantly imports of grain and oilseeds, showed a strong decrease and ended below 10mt for the first time since 2012. Throughput increased in Q4 but this was not enough to compensate for the decline in the rest of the year.
- Other dry bulk was also below the level of 2017. Other dry bulk mainly consists of raw materials for industrial production and construction. It also includes biomass. Biomass increased to more than 0.5mt because a coal plant in the Netherlands started with co-firing of wood pellets in November.
- The extreme low water levels on the Rhine and other inland waterways also had an impact. Transport costs were very high as more barges were needed to ship the same volumes, trains and trucks could not compensate for the lack of available barges. Steel plants and power stations were forced to reduce operations. As a result port storage levels of bulk cargo were very high.
- In 2019 there should be a small increase in dry bulk throughput, based on the closure of German coal mines, stable demand from German steel industry and sustained economic growth.

BREAKBULK

Roll on/roll off (ro/ro) throughput volumes rose by 1.3% compared to the previous year. There was no increase in trading volumes on ro/ro services to and from the UK due to the local economic downturn as a result of ongoing uncertainty about Brexit. On the other hand, the volume of cargo transported via ro/ro services to the Iberian Peninsula did increase.

The volume of breakbulk handled in Rotterdam recorded its strongest decrease in the first quarter of 2018. As a result, volumes recorded until end September still fell 6.5% short of the total recorded for the same period last year. Nevertheless, by the third quarter it had become clear that volumes had stabilized again.

'Breakbulk carousel' gives breakbulk and heavy cargo companies space for further growth in Rotterdam's Waalhaven

The smart carousel plan in the Waalhaven was signed recently. In the coming three-and-a-half years, 12 hectares of industrial site and 1,155 metres of quay will undergo a user change. The industrial sites and port infrastructure will also be renovated by the Port of Rotterdam Authority. The aim is to give an additional growth incentive to the Rotterdam breakbulk sector.

"This operation, which was carefully prepared over a long period together with the involved companies, enables us to demonstrate that we are giving the Rotterdam breakbulk sector ample space to develop," stated Emile Hoogsteden, Director Containers, Breakbulk and Logistics at the Port of Rotterdam Authority. "This particularly concerns heavy lift, project cargo, steel and non-ferrous metals. Rotterdam is already well-positioned for this, due to its unique location, container logistics connections and increasing number of scheduled breakbulk and heavy cargo services. The investments now being made by these companies and the Port Authority will form a further incentive to make Rotterdam the breakbulk hub of Europe."

Seven transfer operations

The redevelopment can start because empty depot MRS has relocated from Waalhaven to the short sea cluster in Eemhaven. This, together with seven transfer operations, has offered four renowned breakbulk companies space to modernize and focus on further development.

Four renowned breakbulk companies

The four companies involved are Metaal Transport (non-ferrous metals and steel), Broekman Project Services (heavy lift, project cargo and offshore), J.C. Meijers (multi-purpose terminal) and RHB/Rotterdams Havenbedrijf (specialist heavy lift and project cargo). Various land allocation agreements and declarations of intent have been signed with these parties.

'Much more efficient'

"We currently have a site on the Heijplaatweg and on Waalhaven Noordzijde," stated Willem-Jan de Geus, Director of Metaal Transport. "We have also been leasing various warehouses throughout the port area to enable us to meet demand. With this new 90,000 square metre area of land on Droogdokweg, we can concentrate our activities and operate much more efficiently." Metaal Transport will retain the Heijplaatweg location, including the offices, and will construct a 25,000 square metre warehouse on the new site.

About Metaal Transport

Metaal Transport has been providing storage and throughput of non-ferrous metals and steel products since 1964 and organizes the final distribution to recipients.

It works for producers and trading houses as well as for purchasers and also has LME certification (London Metal Exchange). The products are supplied and transported by water, road and rail.

About J.C. Meijers

J.C. Meijers has been active as stevedore and freight forwarder in Rotterdam for almost ninety years. The company also has freight storage capacity. The focus lies on conventional breakbulk in all its forms, including pallets, bundles, drums, cars, crates and project cargo, in combination with heavy lifts.

About Broekman Logistics

Broekman Logistics offers customized full service logistics solutions throughout the world. The company was founded in 1960 and specializes in transport by sea, road, rail, air and multi-modal transport. The Broekman Logistics head office is located in Rotterdam. Some 800 employees work from offices in Belgium, Czech Republic, Poland, India, Singapore and China.

About RHB Stevedoring & Warehousing

RHB is an independent stevedore terminal, that specializes in handling project cargo, heavy cargo, breakbulk and offshore cargo, as well as the storage of these types of cargo, including IMO. The company, founded in 1930, has its own 208-tonne port cranes and uses floating cranes with a 1,800-tonne capacity.

No kind of cargo is too big for the port of Rotterdam

Whether it concerns cars, project cargo and heavy lift, forest products, steel or non-ferrous metals: the port has specialized terminals for any type of breakbulk cargo. The all-weather terminal and dedicated service providers who are standing by 24/7 ensure that breakbulk can be processed at any time of the day. This, combined with the largest fleet of floating cranes in Europe and well-thought-out hinterland connections, makes the port of Rotterdam the breakbulk port in Europe.

- 24/7 access to the port;
- deepest port basins;
- large and advanced fleet of floating cranes;
- main destinations accessible by rail, road or inland shipping within 24 hours; and
- specialized terminals and service providers for any type of breakbulk.

Heavy Lift & Project Cargo

Project cargo keeps getting heavier and larger. The port of Rotterdam meets the growing demand for facilities for special transport. Thanks to the wide port basins, excellent service providers, specialized terminals and dedicated staff, no cargo is too big or too heavy to handle.

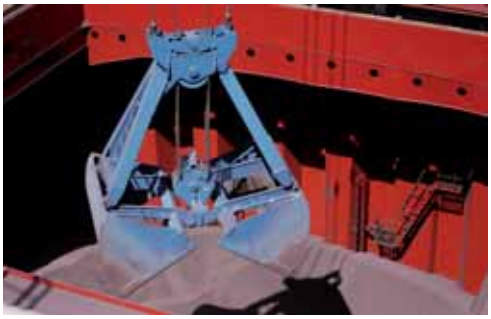
Shipping companies for breakbulk cargo

There are specialized shipping companies in Rotterdam for each type of breakbulk cargo. These include:

- **steel:** services range from trans-shipment, storage and distribution of steel to value-added services to enable the processing of steel pipes, tubes, coils and other steel products.
- **forest products:** wood products such as paper, pulp, cellulose and any other form of forest products are in expert hands in the Port of Rotterdam. In addition to the conventional transshipment of forest products, the port also offers excellent options for transporting this type of cargo (paper, pulp, packaging materials and wood products) in containers. Smooth interaction between Rotterdam's container terminals and the specialized services and facilities offered at its breakbulk terminals ensures the efficient transit of cargo towards the end user.
- **non-ferrous metals:** The Port of Rotterdam is an expert in handling non-ferrous metals. Several specialized terminals provide tailor-made solutions for aluminium, copper, zinc, lead, tin, nickel and other non-ferrous materials. These transshipment terminals combine their quayside operations with extensive storage options that meet the criteria of the London Metal Exchange and the Minor Metals Trade Association.

WORLDWIDE NUMBER ONE

IN ROPE-OPERATED GRABS



Are you looking for a new grab?

Please contact us. At Verstegen we are fully specialised in rope-operated mechanical grabs. Our goal is to provide the optimal grab for your specific operation. A new Verstegen grab leads to higher production rates and lower maintenance costs through extreme reliability and long lifetimes. Tell us how you want to improve your operation and together we will find the best solution.

Visit us at **www.verstegen.net**

VERSTEGEN

TOGETHER WE GRAB MORE

Verstegen Grijpers B.V.
The Netherlands

WWW.VERSTEGEN.NET

Start of European research project to convert Rotterdam coal-fired power plant to biomass

In November last year, the European ARBAHEAT consortium embarked upon a research project to investigate the conversion of the ENGIE Ultra-SuperCritical coal-fired Rotterdam power plant into a biomass-fired heat and power plant. The innovative technology used to produce the required steam treated biomass has been developed by the Norwegian company Arbaflame AS.

The goal of this showcase is to investigate the technical possibilities of cost-effectively converting the coal-fired power plant into a flexible 100% sustainable biomass-fired plant, which will be able to deliver sustainable electricity as well as sustainable heat. For this project the consortium will receive over €19 million EU funding.

Steam treated biomass pellets with comparable characteristics to coal

The ARBAHEAT project is aimed at integrating an innovative biomass pre-treatment installation into the ENGIE coal-fired power plant. The installation will produce so-called steam treated biomass pellets from sustainable biomass, which complies with the most stringent EU sustainability criteria. These pellets were specifically chosen as energy source as they have comparable characteristics to coal. Compared to normal biomass pellets they are more water resistant, have a higher energy density and have almost the same burning characteristics to coal. This will facilitate the use in an existing power plant and significantly reduce costs for converting the existing coal-fired power plant to biomass.

Although parts of the steam treatment technology and resulting biomass pellets have been tested before by Arbaflame on 15 other power plants, demonstrating the cost-effective integration of the technology into an existing modern power plant has never before been done to this extent. "A successful demonstration of this concept will establish an impressive showcase for other EU coal-fired power plants or even to other bio-energy plants," says Arbaflame CEO, Håkon Knappskog.

Promising solution for retrofitting modern coal-fired plants in a cost-effective way

The European ambitions to limit CO_2 emissions has a significant impact on the operation of coal-fired power plants and on the required balancing power to support the grid supplementary to solar and wind energy. Retrofitting some modern existing coal-fired power plants with the ARBAHEAT concept could offer a significant contribution to the realization of decarbonization targets in Europe by adding sustainable heat and power flexibility. The state-of-the-art ENGIE power plant is the perfect candidate for this first demonstration project because of its size and strategic location in the port of Rotterdam. "The plant can play an important role in the harbour of Rotterdam not only supplementary to wind and solar but also in providing heat. However at this moment there is no viable business case to convert a coal-fired powerplant into a 100% sustainable and flexible biomass plant. A successful demonstration will allow for delivering large amounts of sustainable electricity and heat to the surrounding area," says manager Coal ENGIE, Jeroen Schaafsma. Besides energy, the project will also produce other biological side-products from the steam treatment process, such as biochemicals, allowing for an even more sustainable and cost-effective conversion of the power plant.

Energy, science and EU government join hands in achieving sustainability goals

This four-year demonstration project brings together European expertise from the energy sector, the scientific community and the renewable energy sector committed to achieving the EU sustainability goals. In addition to ENGIE (NL) Arbaflame (NO), PNO Consultants (NL), TNO (NL), Sintef (NO), Free University of Brussels (VUB, BE), Port of Rotterdam (NL) and University of Bergen (NO) are also members of the ARBAHEAT consortium. The consortium partners have all the relevant knowledge and resources available to make the ARBAHEAT project to a success.

With the €19 million grant the EU acknowledges the sustainability of the project and its targets and supports the implementation of this demonstration project.

Next generation.

CRANE BARGE 6324

It's not just a barge, it's a Damen Barge. More than that, it's a Damen Barge with remote monitoring capabilities. With our next generation transshipment barge we've taken a digital leap, incorporating a dashboard that displays all data such as overall performance and fuel use. And, with this new technology applied to proven, innovative designs, this barge will transship up to 1,000 tonnes per hour.

PRODUCTS.DAMEN.COM

DAMEN

Get Ready for Brexit guides companies quickly through Dutch ports

Together with PortBase, the co-operating sector organizations in Dutch ports have launched the campaign website www.getreadyforbrexit.eu. This enables exporters, importers and their logistics service providers to see at a glance what they need to do to transport their cargo quickly to the United Kingdom after Brexit. The launch of the website signalled the start of the international information campaign that aims to support the entire logistics chain in the run up to Brexit.

The www.getreadyforbrexit.eu website focuses on informing and activating parties in the logistic chain, such as importers, exporters, carriers and freight forwarders. 'Client journeys' have been established per target group to show step-by-step which action needs to be taken by whom and when in order to import or export quickly via Dutch ports after 29 March 2019. The co-operating parties have asked the logistics chain to participate in a joint solution for Brexit in Dutch ports. The uniform approach will ensure smooth handling of the customs formalities that will arise as a result of Brexit.

An approach for Dutch ports

The Get Ready for Brexit initiators are PortBase, port entrepreneur organization Deltalinqs, interest organization FENEX, evofenedex and Transport and Logistics Nederland/AFTO. The port authorities of Amsterdam and Rotterdam, ferry operators and shortsea terminals have worked together with Dutch customs since last September toward one Dutch chain solution for Brexit in Dutch ports; a solution that satisfies European legislation. The ingredients of this approach result in 100% digital and automated handling of customs formalities, with optimum reuse of data. All information precedes the cargo.

Both for shortsea and ferry traffic there will be one access for all terminals. This will enable smart Customs checks, with minimum intrusion on the process. After Brexit it will be even more attractive to use Dutch ports to transport from and to the United Kingdom.

Iwan van der Wolf, Managing Director of PortBase: "As national Port Community System, PortBase has a co-ordinating role in making the necessary joint agreements and in the development of the required IT process. A lot has already been achieved in recent months, and a central working method has been embraced by all participating parties. But there's no time to sit on our laurels, as 29 March will be here before we know it. And we really need to be ready."

A new reality

The approaching Brexit is creating a new reality for the logistics chains between the Netherlands and the United Kingdom. Whatever the outcomes of the political negotiations: each form of Brexit will result in customs formalities for shortsea and ferry traffic. In the case of a very possible no deal, this will happen immediately after 29 March 2019. But, contrary to what many may think, customs formalities are a given in the near future, even in the event of a soft Brexit. "Preparing our logistics chain for this now will enable all cargo to travel through Dutch ports quickly, even after Brexit. If we don't do this, we'll all come to a standstill after Brexit," stated Steven Lak from port entrepreneur association Deltalinqs.

Interdependence

To enable the Dutch port solution to work, each link in the logistics chain must participate and prepare in time. If one party doesn't succeed in meeting the customs formalities in time, everyone in the chain will come to a standstill.

From exporter, importer, freight forwarder and customs agent to carrier, terminal, shipping company, shipping agent and ferry operator, each party has a task and responsibility. If everyone takes timely action and forwards the correct customs information, after Brexit all cargo will continue to travel quickly via Dutch ports from and to the United Kingdom.

Says Director, Bart Jan Koopman, from evofenedex: "That is why the international campaign is so incredibly important. The transport chain continues deep into the hinterland. Shippers and carriers in countries such as Poland and Germany also need to know what they have do to continue to transport their freight quickly and without problem via Dutch ports from and to the United Kingdom after Brexit."

Port of Rotterdam launches incentive scheme to boost climate-friendly shipping

Carbon-neutral port

In Rotterdam, the challenge is crystal-clear: there is a strong desire to bring port activities in line with the goals set out in the Paris Agreement. The Port of Rotterdam will be working towards a carbon-neutral port in partnership with the private sector. This ultimately means creating a port with no negative impact on the climate. And this, in turn, calls for an energy transition marked by radical innovations and new technologies.

Decarbonization of maritime transport

To decarbonize logistics that run via Rotterdam, in 2018 Port Authority CEO Allard Castelein announced a €5 million incentive scheme for climate-friendly shipping. This scheme will support ship owners, charterers, fuel suppliers and producers and related parties experimenting with low-carbon or zero-carbon fuels that can help to substantially lower the sector's CO_2 emissions.

The Port of Rotterdam wishes to play an active part in the further reduction of CO_2 emissions generated by the shipping sector. Through this scheme, it is able to give various parties that extra financial push they need to realize a concrete project in this area.

Five million euro made available through the Incentive Scheme

As of 21 January 2019, parties can apply for funding via the Incentive Scheme Climate-Friendly Shipping. The Port of Rotterdam Authority has made €5m available to this end. So shippers, shipping companies, fuel producers and suppliers, engine manufacturers and ship owners should not hesitate to join strengths and submit their proposals to the Incentive Scheme Climate-Friendly Shipping.

The objective of the Incentive Scheme Climate-Friendly Shipping

The Incentive Scheme is intended to promote projects and demonstrations in Rotterdam that utilize new climate-friendly fuels in maritime shipping. The scheme will run until the end of 2022.

Key requirements

- This scheme is intended for fuel projects that reduce CO_2 emissions by over 50%. In cases where the proposed project involves biofuels, these need to be of an advanced nature and be produced from residual flows and waste flows.
- Any party is allowed to submit an application, provided the alternative fuel project directly involves parties within the relevant transport chain and the applicants intend to actually use a qualified alternative fuel for the propulsion of a sea-going vessel.
- The alternative fuel in question needs to be bunkered within the port of Rotterdam.

Procedure

- Interested parties are invited to complete and submit application before 1 July 2022.
- Applications that appear eligible for consideration within the requirements of the Incentive Scheme will be invited by the Port of Rotterdam Authority Assessment Team for a meeting, during which they will exchange information.
- A total of € 5 million is available for allocation until 31 December 2022. Funding will be awarded on a 'first come, first serve' basis.

Transition to climate-friendly fuels

Rotterdam's port area is eminently suited as a location for the development of alternative fuels, as it already contains a large share of the required infrastructure and fuel facilities. The port is home to a host of major international companies involved in the production, storage, handling, distribution and trading of fuels.

Efficiency measures alone could already reduce CO_2 emissions by 20 to 50%. Nevertheless, if the maritime shipping sector aims to satisfy the international community's ambition to cut emissions by at least 50% by 2050 it will need to switch to climate-friendly alternative options.

Port of Amsterdam broadens its cargo portfolio

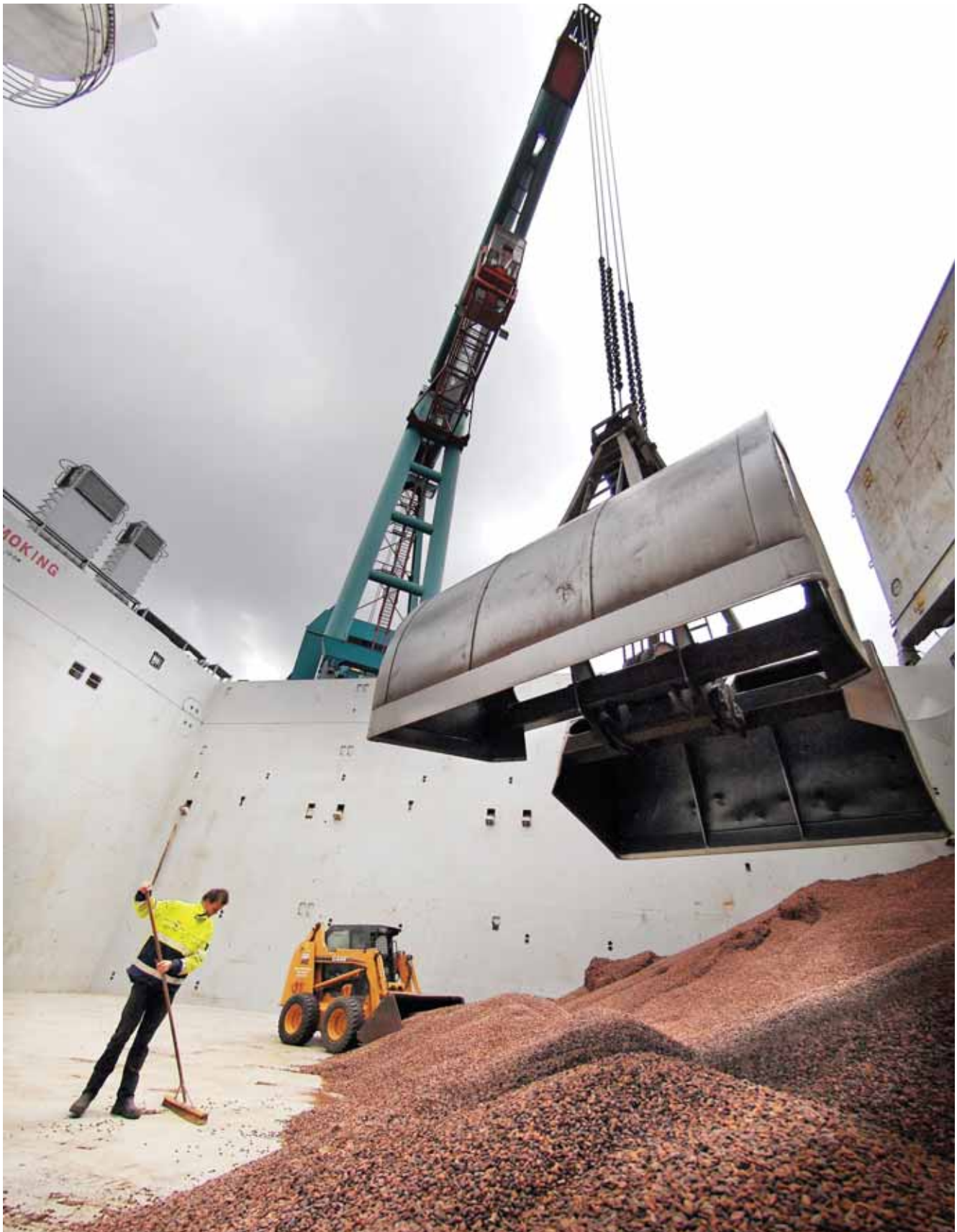
The Port of Amsterdam region is a top player in dry bulk; Amsterdam is the world's largest cocoa port and the second-largest coal and agribulk transshipment port in Europe. The port's dedicated terminals offer services like shipping, storage and transport for all sorts of dry bulk, ranging from coal to scrap and from agribulk to industrial minerals. A substantial part of the dry bulk is also processed in the Port of Amsterdam before transhipping it into Europe.

Excellent hinterland connections by road, rail and water

The Port of Amsterdam has excellent hinterland connections for dry bulk transport. Many of the dry bulk terminals in Amsterdam have their own road, rail and inland shipping facilities and are directly connected to Europe's hinterland. Maximum size vessels can discharge and load (part of) their dry bulk at the lightening facilities before the locks in IJmuiden.

Coal

As Europe's second-largest coal port, Amsterdam is a leading player in coal. Over the next decade, coal transport is expected to continue to decrease. The Port of Amsterdam has the ambition to grow in a sustainable way and is ready to



invest to accommodate the growth in the market of biomass.

By investing in intensive use of space and several sustainable adjustments, the volume of coal transshipments can be housed at the port's existing large and flexible terminals. The Port of Amsterdam has excellent hinterland connections for coal transport and is directly connected to frequent inland shipping and rail shuttles into Europe. Maximum size vessels can discharge (part of) their dry bulk at the lightening facilities before the locks in IJmuiden.

The main reason for the decrease in coal throughput over the last year is the decrease in German hard coal demand in 2018.

Alternative dry bulk cargo

Other dry bulk cargoes volumes amount to over 7mt (million tonnes) annually in 2018. These dry bulk trades can be mainly divided into building materials, industrial minerals and scrap metal. The most important dry bulk trade in this respect is building materials, most notably aggregates. Port of Amsterdam has a strong presence in the overseas import of aggregates from primarily Norway, Scotland and the UK. These aggregates are feedstock for the building industry for the construction of infrastructure (road, rail and waterways), housing and utility. The drivers behind the 10% growth in overseas import of aggregates in 2018 were twofold: on the one hand construction of housing and utility is booming in Amsterdam and the region; and, on the other hand, the sources of aggregates are shifting from sediment extraction from rivers to extraction of aggregates from quarries on land.

Agribulk

The Port of Amsterdam region is a top player in agribulk. It has all the facilities for agribulk and has excellent hinterland connections.

The Port of Amsterdam is a key international logistics hub for agricultural bulk products such as soybeans, grains, oilseeds and raw materials for animal feed. Its terminals are well equipped and highly experienced in agribulk transport, storage and shipping. Because of the presence of many food companies in the region, a lot of agricultural products are also processed in or nearby the Port of Amsterdam.

Amsterdam's agribulk terminals are situated adjacent to deep water quays and have their own rail and inland shipping facilities. With excellent hinterland connections and frequent shuttles (by rail and water) into Europe, the Port of Amsterdam is a logical location for agribulk.

Agribulk has a strong position in the Port of Amsterdam. Three out of four of the biggest global players are active in the port: ADM, Bunge and Cargill/IGMA. The main drivers of the incoming flows are the direct transport of throughput volumes to the hinterland and the processing of agribulk in several production facilities e.g. fertilizer and crushing plants. The main reasons for the increase in throughput in 2018 is the broadening of the portfolio.

Breakbulk/project cargo

The Amsterdam port region is a very important hub for breakbulk and project cargo. With dedicated terminals, including four all-weather terminals and various heavy lift cranes of 1,400 tonnes, it facilitates various customers with a wide range of cargo, resulting in an annual import and export throughput of 2.8mt. Not only are various breakbulk goods handled and stored in the Port of Amsterdam, a quantity of the commodities is also processed in the port area. And there is still ample space to grow. Amsterdam's experienced terminals are ready to offer tailor made solutions for breakbulk and project cargo.

SAVE 10%
Use the discount code
CT19DC

Coaltrans China™

8 - 10 April 2019
Marriott Shanghai City Centre, Shanghai, China

With the import ban likely to be lifted, it's time for you to meet your potential clients

NEW FEATURES FOR 2019:

Gala Dinner

Sit-down networking dinner with international and Chinese delegates from across the supply chain, including senior-level officials from the state-owned power companies and international coal producers.

International Focus Day

Hear from international suppliers and buyers of Chinese coal as they discuss the market conditions of their respective countries, anticipated production volumes and purchase requirements followed by closed-door roundtable discussions to dive deeper into the issues whilst making new connections.

Meeting Hub

Informal seated networking area within the exhibition space to meet and catch up with clients.

Coaltrans Conferences

Book your place at:
coaltrans.com/china

Bedeschi wins contract to supply clinker handling system

Bedeschi SpA has reported that it has signed another contract, to supply material handling equipment to the company Cementeria Costantinopoli based in Barile (PZ), Italy. The contract covers a storage system for clinker, and includes one STK P bridge stacker and a BEL C bridge reclaimer.

The system consists of:

- one belt conveyor, 15m long and 1,000mm wide;
- one belt conveyor, 60m long and 1,000mm wide;
- one STK P 25/1000 bridge stacker;
- one BEL C 160/21 bridge reclaimer;
- stacking capacity 100tph (tonnes per hour); and
- reclaiming capacity 130tph.

With the combination of the bridge and reclaimer running, it is possible to reclaim material from the whole storage surface. The reclaiming is done from the bottom of the pile; the buckets discharge the reclaimed material onto the belt conveyor installed on the reclaiming bridge which feeds the material to the plant belt conveyor parallel to the main rails and storage walls.

This type of stacking and consequent reclaiming allows for the reclaiming of material from different layers assuring a very high mixing effect.

SMM CJSC cranes help eliminate shortage of equipment at Russian ports

SMM CJSC is a high-technology Russian company specializing in design, manufacture, assembly and servicing of heavy lifting equipment and replacement handling devices for ports, terminals, shipyards and industrial companies. Its head office is located in St. Petersburg.

There are more than 60 seaports in Russia, with the biggest of them located in the South, the Far East and the Northwest Basins. Over the past 20 years the Russian Ports Development Program has been focusing on the elimination of port facility shortages, acquiring new lifting equipment and the modernization of currently available equipment.

According to The Russian Seaports Association, cargo turnover at Russian ports grew almost fourfold between 2000 and 2017. In 2016, cargo turnover was 721.9mt (million tonnes), 6,7% higher than the previous year. In 2017, it grew a further 9%. Generally, the freight of Russian seaports has been increased almost by 90% since 2006. The total volume of freight reached 373mt, showing a growth rate of 11.1%.

SMM CJSC has renovated crane equipment at several Russian sea ports, such as Murmansk sea port, Novorossiysk sea port and Vostochny port. The modernization of equipment was implemented by more than 50, 40 and 30%, respectively.

Years of fruitful co-operation with Russia's biggest ports has put SMM CJSC at the forefront of the national market in level luffing cranes supplies, which constitutes more than 80% of the total market share. The company has manufactured more than 100 level luffing cranes over the last ten years.

SMM CJSC offers a full line of lifting equipment to face any technological challenge in accordance with our customer needs, for all sizes of vessels including Panamax and for different types of cargo (general and breakbulk cargoes). Maximum top stage capacity of level luffing cranes is 200 tonnes and boom reach is up to 60 metres. Level luffing cranes are being used at extreme low temperatures, which is particularly relevant for northern ports of Russia.

Manufacturing of ecological equipment and application of environmentally sound technologies are more important than ever. SMM CJSC offers complete solutions for dust protection urban infrastructure.

One of the company's main goals is to protect residential areas from coal dust blowing from ports and adjacent territories during the storing process and coal loading.

SMM CJSC has been implementing the latest technologies. Its products meet high quality standards, which ensures maximum performance and provides large coefficient of lifting equipment use. All of the above allows the company to outperform foreign competitors in many ways.

On the heavy lifting equipment market SMM CJSC face competition from German companies, such as Kocks Ardelt Kranbau GmbH and Liebherr-International AG and from different Chinese companies.

SMM CJSC owners estimate the portal equipment market, namely level luffing cranes, at US$1 billion. They believe that Russian equipment has a strong export potential. Level luffing crane supplies to India, Vietnam and South America countries are actively being negotiated.

FLSmidth to expand Hindalco's alumina refinery in Odisha, India

FLSmidth will supply machinery and equipment for the 0.5mtpa (million tonnes per year) extension of the world-class refinery of Utkal Alumina International Limited (UAIL) in Odisha, India.

Utkal Alumna International is a wholly-owned subsidiary of Hindalco Industries, an industry behemoth in aluminium and copper. It is the metals flagship company of the Aditya Birla Group, the world's largest aluminium rolling company and one of the biggest producers of primary aluminium.

When finalizing the contract, Bibhu Mishra, Head MCoE, Hindalco, Mumbai was very pleased and proud to be continuing Hindalco's partnership with FLSmidth and with the decision to choose FLSmidth for all the critical parts of the project. While stressing the need for on-time delivery and quality, he complimented FLSmidth and its team on their professional competences and commitment.

The contract was finalized at a recent meeting of Hindalco's and FLSmidth's top managements.

"Hindalco is a global major in the field of aluminium with world-class operating facilities. We are therefore very proud to continue partnering with Hindalco in their expansion programme in which safety and productivity are key. Because we cover the entire flowsheet of mining and minerals processing, we can provide a strong solution that gives our customers the best return on their investment when looking at the total cost of ownership. All of this with a minimal impact on the environment," said Anders Bech, Regional President.

The scope of this contract includes bauxite grinding, handling, mud washing, hydrate filtration and gas suspension calcination packages on an EPC basis (excluding civil works). Design, engineering, manufacturing, supply and erection of these units will be done by FLSmidth.

The project is to be completed by second quarter of 2020, and once operational, this plant will augment the alumina capacity by 0.5mtpa. This will be a fully integrated solution for Hindalco. FLSmidth's state of the art products will reduce the energy consumption, minimize the environmental impact thanks to greater caustic recovery and will also reduce planned and unplanned equipment downtime by predictive and prescriptive maintenance.

Hindalco is one of the largest integrated primary producers of aluminium in Asia. It has a pan-Indian presence that encompasses the entire gamut of operations, from bauxite mining, alumina refining, aluminium smelting to downstream rolling, extrusions and recycling.

FACTS

Scope:	Brownfield EPC expansion
Plant capacity:	0.5mtpa
Customer:	Utkal Alumina International Limited (UAIL)
Geography:	Doraguda in Odisha state, India

Wood transport enters a new dimension with SENNEBOGEN

Logs as far as the eye can see. In the thick of the action: the SENNEBOGEN 830 M material handler delivered by SWECON in 2018. It features a trailer and extra-powerful traction thanks to a reinforced all-wheel drive undercarriage.

SENNEBOGEN 830 E AND TRAILER DEPLOYED AT FIBERBOARD

A view over the log yard at Fiberboard in Baruth in the German province of Brandenburg provides optimism for the future. Gigantic proportions, logs as far as the eye can see, and in between them a green material handler steadily doing its rounds. The machine is a new SENNEBOGEN 830 E that recently took over logistics at the yard. With the accompanying trailer it is capable of transporting up to 30 tonnes of timber at a time.

"A material handler with 14-metre

A potent combination: fully loaded, the SENNEBOGEN 830 M transports around 30 tonnes of log timber on its trailer.

From left: chief wood purchasing manager Olaf Klinkert, machine driver Michael Kliem, fleet manager Sebastian Pätzig and SWECON sales representative Tony Schulze-Günther.

reach plus a large trailer makes the ideal combination for our requirements," explains Sebastian Pätzig, head of the vehicle fleet team at Fiberboard in Baruth.

Founded in 2008, the wood mill takes in around 450,000 ATRO (wet weight) tonnes of log timber annually for chipping and processing into HDF substrate board. The Fiberboard GmbH HDF plant and the CLASSEN Industries GmbH laminate plant thus form a combine: HDF board is transshipped directly to the affiliated laminate plant where it is processed into laminate flooring — around 80 million square metres of it per year.

To further optimize operations at the log yard, it was decided in 2018 to introduce a new handling concept using a SENNEBOGEN 830 E material handler and a specially designed, braked triple-axle trailer with a permissible total weight of up to 50 tonnes. After close and intensive liaison with SENNEBOGEN and sales and service partner SWECON Baumaschinen GmbH, the new machine concept finally went into operation in September 2018.

14-METRE REACH AND UP TO 30 TONNES OF TIMBER TRANSPORTED AT A TIME

The SENNEBOGEN 830 E material handler is equipped with a powerful 168kW, emission stage 4 diesel engine and an especially robust mobile undercarriage with single tires, four-point outriggers and all-wheel drive for greater tractive power. Supplementing the machine is a hitched 50-tonne trailer specially designed to meet the customer's requirements.

Around 180 truckloads of log timber arrive at the yard daily and are either loaded directly into the stationary chipper or put into temporary holding storage in the expansive log yard. This is the roaming territory of the new SENNEBOGEN 830 M trailer. The machine is a multifunctional performer: it stacks logs, hauls them around the entire yard and is also able to load and unload them autonomously and feed the chipper — there is hardly anything more you could ask for.

The 830 trailer is a longstanding and successful item in the SENNEBOGEN product portfolio: the concept of long reach with high tractive power has proven its worth, especially in the USA.

"We adapted the concept to our needs and even had the combination TÜV-approved," explains SWECON sales representative Tony Schulze-Günther. "The driveways are still being adapted because this machine of course has a larger turning circle, but even so there are compelling advantages already."

The height-adjustable and comfortable Maxcab places the operator at an eye level of approximately 5.7m, giving the driver both extra safety and comfort. From this high vantage point, he not only has an unimpeded view of the working area, but can also load and unload with greater precision and speed — a further plus point.

Consultancy and Training for the Dry Bulk Industry

We offer consultancy and short courses in all areas of bulk materials handling technology

NEW Short Course for 2019:
Port and Terminal Operations for Bulk Cargoes

12 – 13 March 2019

Hosted by the Wolfson Centre for Bulk Solids Handling Technology in association with abta ASSOCIATION OF BULK TERMINAL OPERATORS

Who should attend? Stevedores, Operations supervisors, Port managers, Ships Masters, Port developers, Cargo superintendents, Equipment suppliers, Design consultants

Subjects covered include:

- Ship unloading technologies (Grabs vs CSUs, different CSU technologies)
- Conveying technologies (pneumatic versus belt)
- Storage and discharge technologies (silos, flat stores, stacking etc)
- Loading/unloading control (weighing, controlling ship bending etc)
- Rail and road outloading equipment and control
- Explosion and fire risks and management (ATEX, fire control & management)
- Mobile plant and safety
- Developments in automation and autonomous vehicles
- Dust control and environmental protection
- Controlling cargo damage (particle degradation, spoilage, water damage etc)
- Wear protection and maintenance
- Cargo characterisation for handleability and other issues
- Practical hands-on work on cargo characterisation

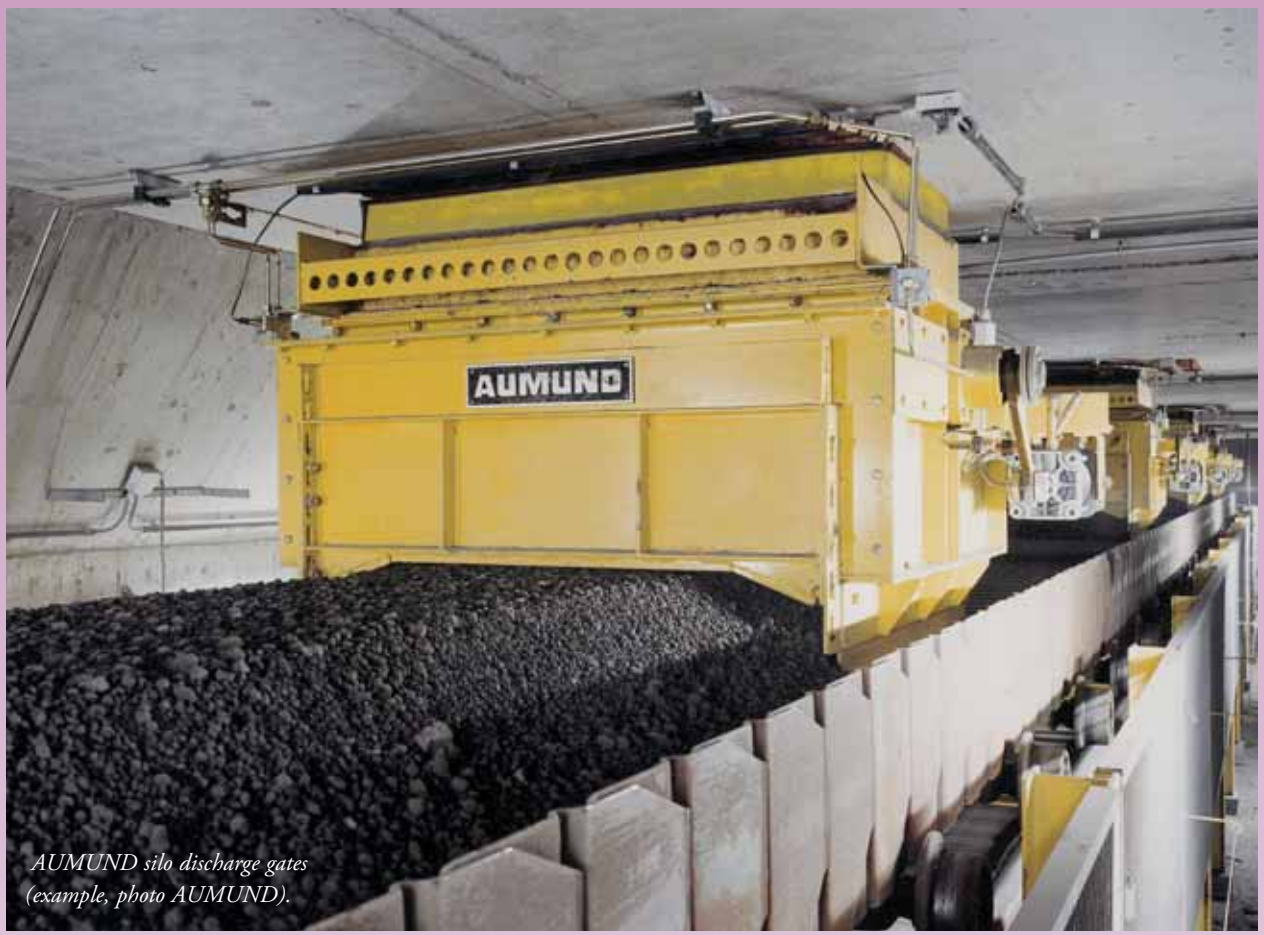
Full course details and on-line booking: www.bulksolids.com

Wolfson-enquiries@gre.ac.uk +44 20 8331 8646

UNIVERSITY of GREENWICH

The Wolfson Centre for Bulk Solids Handling Technology

AUMUND supplies major clinker conveying machinery packages for Argentinian cement plants



AUMUND silo discharge gates (example, photo AUMUND).

AUMUND Brazil and AUMUND China have joined forces and worked closely with Sinoma Tianjin TDI to win two orders in succession for the AUMUND Group of Companies from South America.

AUMUND will supply three chain bucket elevators, eight belt bucket elevators, five pan conveyors and a drag chain conveyor for the construction of L'Amali Line 2 at Loma Negra Compañía Industrial, the foremost cement producer in Argentina. The order package will be rounded off with 19 silo discharge gates which will be installed under the clinker silo to feed the pan conveyors located there.

Loma Negra, established in 1926, awarded AUMUND the order in August 2017 to build a second kiln line with a capacity of 5,800 tonnes per day at the L'Amali Plant in Olavarria in Buenos Aires Province. The new line, which will produce 2.7 million tonnes of clinker per year, will be located adjacent to the existing kiln line. Production will start early in 2020.

In June, AUMUND Beijing was able to conclude another successful project in Argentina, together with AUMUND Brazil and Sinoma, to supply four belt bucket elevators, three chain bucket elevators and three pan conveyors via Sinoma TDI to Cementos Avellaneda. Cementos Avellaneda belongs to the Brasilian Votorantim Group and Spanish Molins.

Traditionally AUMUND Brazil has had good working relationships in the oligopoly of cement production in Argentina, where the market is shared between four producers, Loma Negra, Holcim Argentina, Cementos Avellaneda and Petroquímica Comodoro Rivadavia, with 18 manufacturing locations between them.

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, 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. The global conveying and storage technology business is spearheaded through a total of 15 locations in Asia, Europe, North and South America and a total of five warehouses in Germany, USA, Brazil, Hong Kong and Saudi Arabia.

RopeCon® transports limestone across treetops in Guatemala

The countryside around the village of San Juan Sacatepéquez in south-eastern Guatemala is hilly and forested. Cementos Progreso, S. A. had been planning to build a new cement plant there for some time. Among other things, the project required a solution to transport limestone and marl from the crusher to the processing plant. Cementos Progreso, S. A. opted for RopeCon® as a means to cover the distance of approximately 1.6km and the vertical rise of almost 200m. RopeCon® is perfectly suited for the hilly terrain and for the crossing of wooded areas.

The San Gabriel cement plant is located some 35km northwest of Guatemala City. There the Guatemalan company Cementos Progreso, S. A. produces some 2.2 million tonnes of cement every year for the local market. The limestone needed for the process is mined in a quarry located approximately 200m lower than the cement plant. The terrain between the crusher in the quarry and the plant is hilly and wooded and stretches over a distance of approximately 1.6km.

By using RopeCon® to transport the limestone between the crusher and the processing plant Cementos Progreso, S.A. is able to cross that terrain in a straight line despite the difficult topographical situation. This means that a gradient of 22° is reached where the terrain is steepest. Because the RopeCon® belt is fitted with axles with running wheels at regular intervals, no additional cleats were required to tackle that gradient.

The system requires no more than four towers over its entire length. Thanks to the long rope spans between the towers the amount of space required on the ground can be reduced to a minimum. The need to interfere with vegetation remains limited to a small number of points and the track does not represent an insurmountable obstacle for wildlife or humans.

RopeCon® has now started operation. The material is loaded onto RopeCon® by a feeder conveyor and unloaded at the unloading station via a housed-in chute. The system transports 2,100 tonnes of limestone and marl every hour to cover the demand for the cement production.

TECHNICAL DETAILS

Length	1,583m
Vertical rise	196m
Conveying capacity	2,100tph
Speed	3.6m/s
Number of towers	4
Motor rating cont.	1,680kW

RopeCon® is a product developed by the Austrian ropeway manufacturer Doppelmayr. It offers the benefits of a belt conveyor as well as those of a cable car by successfully combining what is best in both technologies. The system is currently in use for a variety of material transport applications. It essentially consists of a cross-reinforced continuous flat belt with corrugated side walls which is driven and deflected by a drum in the head or tail station. The belt is fixed to axles arranged at regular intervals, which support the belt. Running wheels are fitted to either end of the axles. These run on track ropes with fixed anchoring and guide the belt. The three track rope pairs form the line structure for the system and are elevated off the ground on tower structures. The system therefore requires only a minimum of space on the ground and is ideally suited for difficult terrain and to cross obstacles of all kinds.

Doppelmayr Transport Technology GmbH is a 100% subsidiary of the international Doppelmayr Group with headquarters in Wolfurt, Austria. Within the group, Doppelmayr Transport Technology is the point of contact for material transport. Doppelmayr is a technology pacesetter and pioneer in ropeway engineering and is also present in other lines of business. Apart from material transport systems the group also designs, plans and manufactures passenger ropeways for winter and summer tourism as well as for the urban transit sector, rope propelled APMs (e.g., the systems currently operating at the airports of Toronto and Mexico City) or fully automatic high rise warehouses.

SUPERIOR®

superior-ind.com/ports

MOVE IT

ONE MACHINE LOADS, TRANSFERS AND STOCKPILES

ONE TO THREE LANE PORTABLE TRUCK UNLOADERS

- Portable equipment quickly moves in and out of position
- Minimize feed point moves increases flow of material and uptime
- Lower capital purchase and faster lead times than fixed infrastructure
- Pre-assembled or quick installations on small footprints

CRUSHING | SCREENING | WASHING | CONVEYING | SUPERIOR | COMPONENTS | PLANTS | TURNKEY | AFTERMARKET

FLSmidth exits bulk material handling business

FLSmidth has reached an agreement to sell its bulk material handling business to Rainbow Heavy Machineries. The transaction has been structured as a sale of certain assets. As a result of the transaction, FLSmidth will exit the non-mining bulk material handling business.

The main part of FLSmidth's non-mining related bulk material handling business is delivered out of Wadgassen Gmbh in Germany. The non-mining bulk handling business has been for sale and reported as discontinued activities since 2015. Annual revenue for bulk material handling was DKK 880m in 2017.

FLSmidth's plan to exit bulk material handling includes:

- a transfer of employees, brand and IPR to Rainbow Heavy Machineries
- FLSmidth retains all ongoing projects, but to be delivered through an operational agreement with Rainbow Heavy Machineries. The projects are expected to be finalized during 2019–2020.

The subsequent business related to bulk material handling will continue to be reported as discontinued activities. The transaction has no impact on the guidance for 2018. The sale transaction is subject to various conditions and is expected to be closed by the end of January 2019.

Bedeschi to supply shiploaders to Barcelona Port Terminal

Bedeschi has reached an agreement to supply two shiploaders to handle muriate of potash, rock salt and vacuum salt to equip new port facilities in Barcelona Port Terminal. The contract includes the engineering, manufacturing, delivery, erection, installation, testing and commissioning. The two shiploaders have been developed for vessels up to 70,000dwt and a nominal conveying capacity of 1,300tph (tonnes per hour), with a peak capacity of 1,500tph. The machines were fully assembled in La Spezia (Italy) and the first one was shipped on 27 December 27 for delivery to the final destination. The second shiploader is expected to have reached Barcelona port by the time this issue of *Dry Cargo International* goes to press.

LOAD WITH THE LEADER

Leading the way with innovative dust free loading solutions for rail, ship, and barge loading of bulk materials at terminals and port facilities throughout the world.

DCL®

DUST CONTROL AND LOADING SYSTEMS, INC.

WWW.DCLINC.COM

08660 ANCE RD • CHARLEVOIX, MI 49720
PH: 231-547-5600

ECO-FRIENDLY PRODUCT LINE

Indexator expands its range

Indexator XR rotator range now available in several sizes

Indexator from Vindeln in Sweden — the world's largest manufacturer of hydraulic rotators — is expanding its XR compact rotator range with the small and powerful XR 300.

The XR range comprises compact, powerful rotators with heavy-duty bearings. They are designed for extreme applications where rotator function requirements and load capacities are especially high. They are optimally designed for both rigid and dangle mounting. Slew bearings, high performance and long

XR models 600, 400 and 300.

Indexator
Rotator Systems

Compact and powerful
The XR 300 is here

Indexator's heavy duty series – XR rotators – is expanded with a smaller powerful unit, the XR 300. Optimally designed for extreme applications for both fixed and dangle mounting together with the same technical benefits as the entire XR range.

The XR range comprises compact, powerful rotators with slew bearings. They are designed for extreme applications where rotator function requirements and loads are especially high. With long service life XR rotators delivers performance every day.

PATENTED SOLUTION

PROTECTED MOTOR AND SWIVEL

The patended torque transfer solution means that external forces acting on the bearing, does not affect the motor and svivel inside the XR rotator. This extends the rotator's service life significantly in comparison with competing solutions.

LONG-LIFE VANE MOTOR

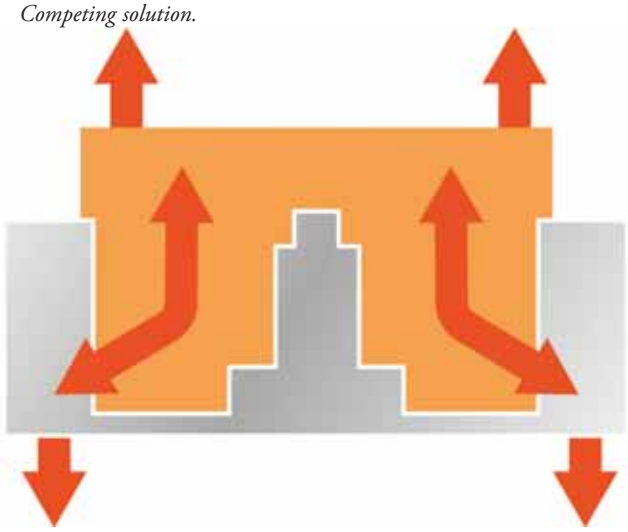
Indexator's tried-and-tested vane motor – the only compact rotator on the market using this principle. While the vane motor provides extreme high torque, it is also very forgiving of torsional forces and large slewing masses.

A COMPLETE POWER PACKAGE

XR rotators come into their own wherever you need to handle large loads in every directions. The XR product range is constanly being extended to meet rotator demands. Both for rigid and dangle mount.

Indexator's patented solution.

Competing solution.



service life make the XR series ideal rotators to rely on when it really counts.

Wherever you need to handle large loads, XR rotators come into their own. Indexator is now launching a smaller model, the XR 300.

The XR 300 is designed to handle both positive and negative axial loads up to nine tonnes. The model is also built for a radial load tolerance of seven tonnes and is thus ideal for applications with high side loads such as rigid mounting sorting grapples on excavators, or dangle mounting for e.g. scrap or timber handling applications.

Patented torque transfer solution.

Patented torque transfer solution, long-life vane motor and easy maintenance

In common with other models in the XR series, the XR 300 has a patented torque transfer design.

"In a nutshell, the technology means the swivel and motor are not affected by external forces, which provides major service life benefits compared to competing solutions," says Johnny Karlsson, Area Sales Manager at Indexator.

Thanks to the XR-series' patented torque transfer solution, external forces acting on the bearings do not affect the motor and swivel inside the Rotator. This extends service life significantly in comparison with competing solutions.

Another feature that benefits service life is Indexator's tried-and-tested vane motor — the only compact rotator on the market using this principle. While the vane motor provides high torque, it is also very forgiving in case of forced rotation and large slewing masses. The modular design with slew bearings, motor and swivel in separate modules, makes service and maintenance easy.

Eagerly-awaited rotator

"There's never room for unscheduled downtime anywhere rotators are used. Because they simply have to keep on working, hour after hour, high reliability is just as important as high-performance," says Karlsson.

To make sure the XR 300 can do the job, it has been rigorously tested, both in a test environment and in the real-world scenario's machines and tools encounter. The result is a

Motor Driven Reels
- Monospiral and Level-Wind configurations
- Rugged and dependable magnetic coupler for dusty environments

Cable Festoon
- Corrosion-resistant, long-life rollers; precision sealed bearings
- Systems customized for the application
- Preassembled option, for easy installation

Cable Chain
- Rugged design for demanding environments
- Long operating life
- Custom-configured

Rugged Energy & Data Transmission Systems

Conductix-Wampfler has one critical mission: To keep your bulk material handling operations running 24 / 7 / 365. You need proven, worry-free energy solutions - and Conductix-Wampfler has them. Our systems provide reliable electric power and water to stacker/reclaimers, barge and ship loaders/unloaders, bulk conveyors, tripper systems, and gantry cranes. Conductix-Wampfler systems are rugged, low maintenance, and time-tested in tough, dusty environments. All products are backed by the largest sales and service network worldwide!

www.conductix.com

CONDUCTIX wampfler

DELACHAUX GROUP

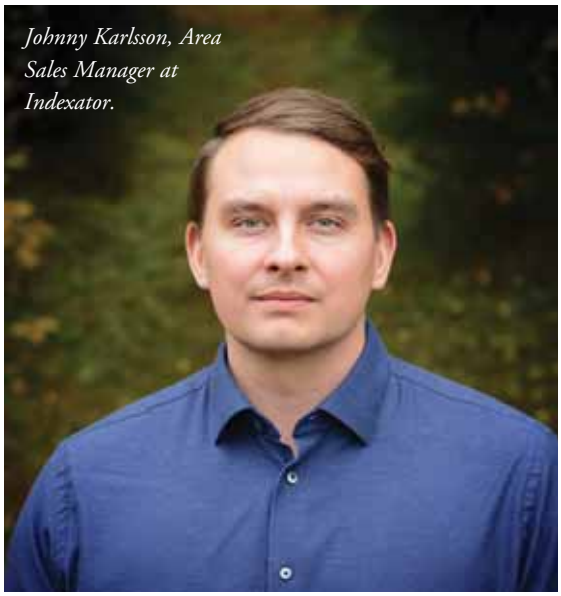
Indexator's tried-and-tested vane motor principle.

NEW

The XR product range is continuously being extended to meet customer demand.

	XR 300	XR 400	XR 500	XR 600
	XR 300 LS, 300 T LS	XR 400, 400 I, 400 C, 400 P	XR 500, 500 C	XR 600, 600 C
Max axial load static*	Max ±300 kN	Max ±550 kN	Max ±700 kN	Max ±850 kN
Max axial load dynamic	Max ±90 kN	Max ±200 kN	Max ±250 kN	Max ±300 kN
Max radial load dynamic	Max ± 70 kN	Max ±140 kN	Max ±180 kN	Max ±200 kN
Torque at 25 MPa	3000 Nm	4100 Nm	7000 Nm	7000 Nm

*Max axial load static indicate theoretical max load for hanging applications without accelerations.



Johnny Karlsson, Area Sales Manager at Indexator.

rotator with long service life that delivers performance every day.

The XR 300 is a rotator size eagerly awaited by customers, and market demand is high, especially from the customers who saw the rotator's benefits when they participated in the prototype tests. Indexator began series production at the end of 2018, and as of January 2019, the XR 300 is now in full production.

"There is great demand from machine manufacturers and every possibility that this size segment will be the largest in the entire XR series in terms of volume," says Karlsson.

The XR range

The XR range is available in several sizes and models with different bolt patterns and extra channels for central lubrication and cable pass through.

About Indexator

Indexator Rotator Systems AB is a global expert in the manufacture of rotators, swivels and accessories. Today, Indexator is an extremely strong brand in the forestry, material handling and recycling industries all over the world. The company conducts world-class R&D that includes a dedicated, in-house test lab upon which international equipment manufacturers also rely when developing new products and functions. Indexator currently has around 140 employees and annual sales of approx SEK 320 million. A high proportion of sales goes for export, with around 80% of production being sold to more than 40 markets around the world. DCi

Getting the inside track on dust control

HKD Blue expands its dust-control product line

HKD Blue's R-120 is the new solution for short- to mid-range dust control with low flow rates.

HKD Blue continues to innovate, expanding its dust control product line

HKD Blue introduces R-120

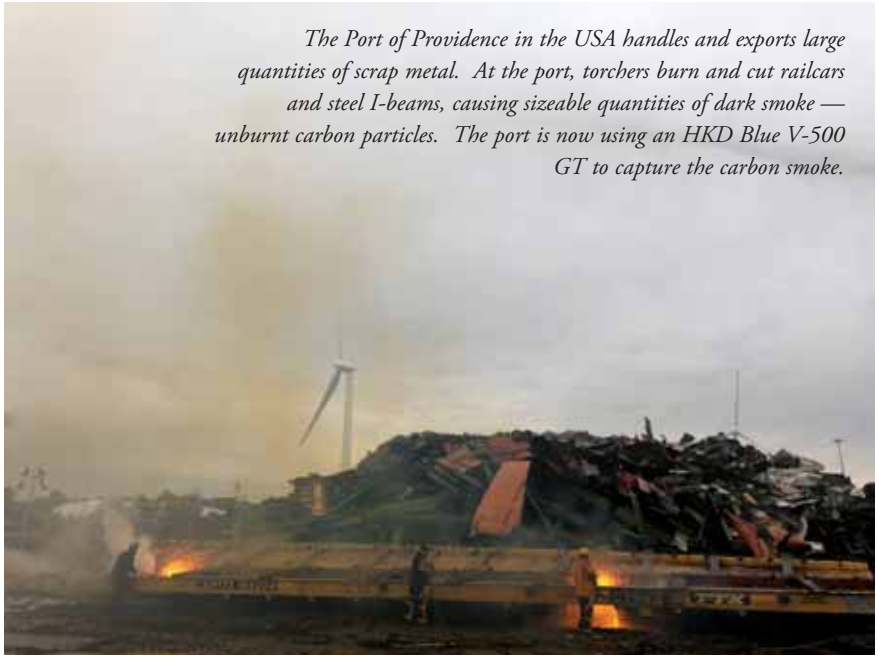
The R-120 from HKD Blue is the new solution for short- to mid-range dust control with low flow rates. This model is designed for interior dust control, specifically for indoor material handling and storage facilities.

The R-120 projects a fog-like atomized mist to control dust emissions without saturating material. The 10HP fan motor is equipped with variable frequency drive, allowing the operator to increase or decrease the mist projection from 20ft to 150ft. The 2HP vertical pump supplies pressurized water to the two misting rings. The two rings, actuated either manually or automatically, allow for three different flow rates.

Interior dust control is becoming more important at bulk transfer and storage stations as local authorities begin to enforce strict air quality control regulations. At the Port of Chicago, in the USA, stevedore operators are required to have dust control while loading trucks with manganese ore. Safely handling this type of material requires effective dust control

without over-saturation. The R-120 has forklift channels, allowing the operator to easily manoeuvre the machine to spray mist across the trailer, ensuring the material does not get wet.

The addition of the R-120 complements HKD Blue's V-500 product line, which has many proven applications at port facilities. Recently, a self-contained V-500 GT was used at the Port of Providence to control smoke emissions. At this facility, torchers burn and cut railcars and steel I-beams to prepare them for further processing. During this activity, sizeable quantities of dark smoke — unburnt carbon particles — are released into the atmosphere. To avoid complaints from neighbours and environmental violation fines, and to protect workers, the port used an HKD Blue V-500 GT to capture the carbon smoke. The operator programmed the oscillation pattern to create a 'wall of water' downwind of the smoke, trapping the unburnt carbon particles and dropping them to the ground. With remote control functionality, operators easily adjust the barrel angle to target the smoke when the wind shifts. They could also increase or decrease the water usage depending on the quantity of smoke emissions to best control the fugitive smoke.

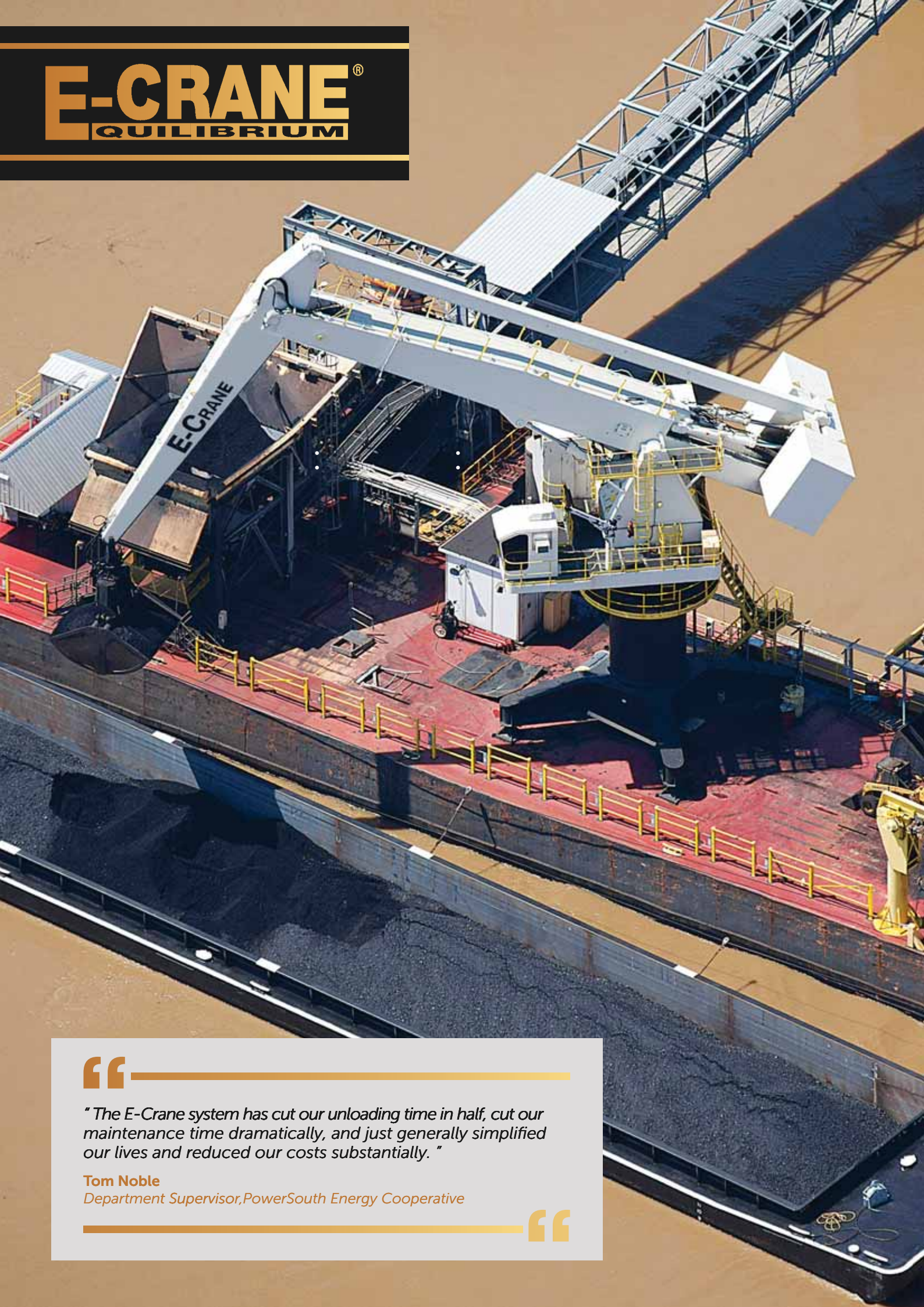


The Port of Providence in the USA handles and exports large quantities of scrap metal. At the port, torchers burn and cut railcars and steel I-beams, causing sizeable quantities of dark smoke — unburnt carbon particles. The port is now using an HKD Blue V-500 GT to capture the carbon smoke.

V-500 GT in action: the dust is blocked by a 'wall' of water.

The onboard generator of the unit is very important for the operation, as many facilities cannot afford to run 480V power lines because they are costly to install and pose a safety hazard with the high volume of heavy equipment in operation. DCi

E-CRANE® QUILIBRIUM



" The E-Crane system has cut our unloading time in half, cut our maintenance time dramatically, and just generally simplified our lives and reduced our costs substantially. "

Tom Noble
Department Supervisor,PowerSouth Energy Cooperative

CIMBRIA.COM

HIGH QUALITY EQUIPMENT FOR DRY BULK CONVEYING

CIMBRIA CONVEYING EQUIPMENT

Cimbria develops and manufactures an entire range of conveying equipment for handling a vast variety of bulk materials, ranging from agricultural products to industrial commodities and raw materials.

The Cimbria equipment are delivered worldwide as singular supplied equipment or as a part of a total solution where they link key machines to form smoothly running industrial plants.

SOLUTIONS. TOGETHER.

CIMBRIA UNIGRAIN A/S
Praestejorden 6 | DK-7700 Thisted | Phone: +45 96 17 90 00 | E-mail: unigrain@cimbria.com

CONVEYING | DRYING | SEED PROCESSING | ELECTRONIC SORTING | STORAGE | TURNKEY | SERVICE

CSUs: an ongoing success

continuous ship-unloaders remain as popular as ever

Fig. 1: FAM CONTI ship-unloader for seagoing vessels in use in the Netherlands.

Characteristics of the unit shown:

Mass flow:	*3,000tph*
Boom outreach:	*46.5m*
Slewing range:	*270°*
Lifting height:	*38m*
Size of vessel:	*up to 180,000dwt*

Louise Dodds-Ely

FAM compares continuous and discontinuous unloaders

FAM Magdeburger Förderanlagen und Baumaschinen GmbH is a medium-sized company headquartered in Magdeburg, Germany. It has a long history as a manufacturer of handling and conveying systems with a heritage dating back to the 19th century. Employees of the FAM Group have expertise in bulk materials handling, mining machinery, stockyard systems, mineral processing, loading equipment, conveying facilities and port technology. Well over half of the FAM workforce are engaged in engineering.

One of the FAM Group's major focuses within the bulk cargo handling market, amongst others, is ship-unloading technology. For bulk materials unloading, two types of handling systems are basically deployed: continuous and discontinuous. In the continuous mode ship-unloading by means of bucket elevators prevails (Figure 2),

Fig. 2: Continuous unloading of cargo vessels by means of bucket elevators, vessel size 5,000dwt, hard coal 1,300tph, Germany.

while in discontinuous operation the main device used for unloading is a rope grab (Figure 5). However, given the growing development of scooping-up bucket elevators, continuously working unloading systems are now being increasingly used to efficiently handle large mass flows.

Bucket elevators are also more efficient and flexible in the residual emptying of a cargo hold than grab-type unloaders. Moreover, the continuous mode of operation helps reduce the environmental footprint. It allows for dust-free and low-noise operation being at the same time very gentle on the material handled.

The bucket elevator's high flexibility is facilitated by its specific design typical of CONTI ship-unloaders. The machine's superstructure with an unloading boom and a counterweight boom is rested on a portal and can turn around vertical axis, while the machine travels along the jetty.

The rotating discharge bucket elevator is located at the head of the unloading boom, which can be adjusted in height. (see Fig. 1 on p57).

While the vertical and horizontal conveying pathways are fully enclosed to prevent noise and dust emissions, the bucket elevator boot incl. a triangular chain guide is not covered. This design enables extraction by the scooping buckets in a similar way to the bucket wheel or bucket ladder principle. The material is taken up on the lower horizontal section of the bucket chain strand (Fig. 3).

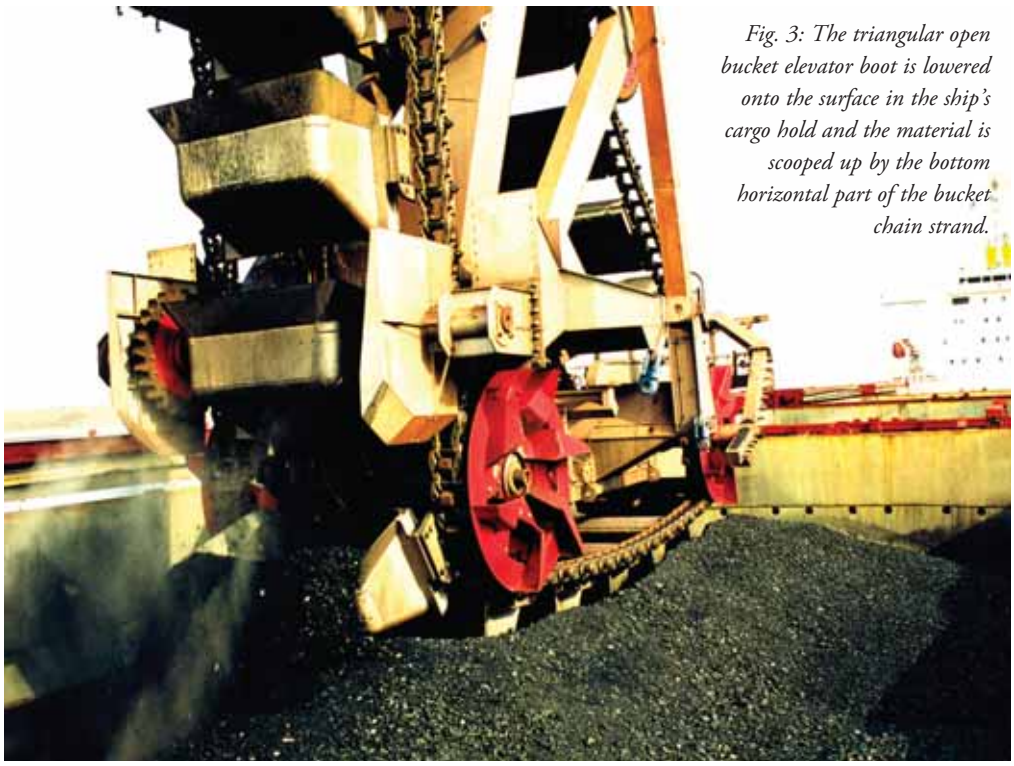


Fig. 3: The triangular open bucket elevator boot is lowered onto the surface in the ship's cargo hold and the material is scooped up by the bottom horizontal part of the bucket chain strand.

At the bucket elevator head, the material is dumped onto a horizontal turntable which transfers it further to the boom conveyor. Compared to the various chutes systems, this particular design allows for considerable reduction of the bulk material's height of fall and the installation height of the revolving bucket elevator, as well as helps eliminate dust and noise at the bucket elevator head.

The boom conveyor transports the material to the feeding hopper arranged at the ship-unloader's pivoting axis from where it is further transferred by a reversible hopper discharge conveyor to the terminal's jetty conveyors. (Fig. 4).

The two steel link chains of

the bucket elevator strand are permanently lubricated. For this reason, they require little maintenance and are subject to minimum wear. The chains are selected with smaller chain pitches to allow the drive sprockets and the deflection sprockets to be furnished with a maximum amount of teeth. This arrangement helps reduce the development of noise resulting from the 'polygonal effect'.

Depending on the port facility conditions, it is often necessary to discharge a number of different material types. This is when discontinuous ship-unloaders are often deployed due to their ability to handle bulk materials of any particles sizes and properties. These machines are very flexible owing to their simply exchangeable grabs of diverse shapes and sizes which facilitates relatively rapid adaptation to the bulk material to be handled. When small or medium unloading capacities are required, grab-type unloaders with a movable superstructure and a single-link or double-link luffing boom are put into operation (Fig. 5).

When high handling capacities are required, grab-type unloaders with rail-mounted portal bridge are employed (Fig. 6 on p60). These machines have a horizontal bridge girder with one or two cantilever arms (also foldable) on which a rope-controlled trolley moves the grab both horizontally and vertically at high travelling speeds (up to 4m/s) and lifting speeds (up to 3m/s). The load cycle of the grab is similar to that of the grab unloader with a rotatable superstructure, just instead of the horizontal movement of the grab performed by the luffing boom, the grab's is moved along the bridge girder by the trolley.

Fig 4: FAM CONTI ship-unloader CSU1100.14S, for use with vessels up to 2,500dwt, handling coal at a rate of 1,100tph, in Germany.

Here again the bulk material is transferred to an intermediate hopper arranged in the portal. In order to minimize the accelerated self-weight of the travelling trolley, the trolley itself as well as the grab's holding and closing unit are accommodated in a separate machine house which is secured on the portal. Special rope systems are required for the positively locked shifting of the travelling trolley along the horizontal conveying pathway. The positive lock enables high travelling speeds and acceleration. In order to increase the number of potential load cycles, advanced technology is used to control the drives and the automatic oscillation damping of the grab.

The FAM Group

Headquartered in Magdeburg, Germany, the FAM Group has a total of 14 subsidiaries in Germany, Bulgaria, Chile, China, Canada, Russia, Singapore, Hungary, and Australia as well as representations, among others, in South Africa and in the United States. Approximately 1,500 employees work for the FAM Group around the globe. Planning, project development, designing, manufacturing, assembly and startup as well as servicing of bulk material conveyor systems generate a turnover of about €300 million per year.

FAM successfully plans, designs, and

Fig 5: a stationary grab ship-unloader with a double-link luffing boom for the port handling of gypsum and clinker intended for a cement plant in Vietnam. The vessel is 15,000dwt.

Characteristics of the unit shown:

Handling capacity:	*600tph,*
Outreach:	*25m*
Grab volume:	*14m³*

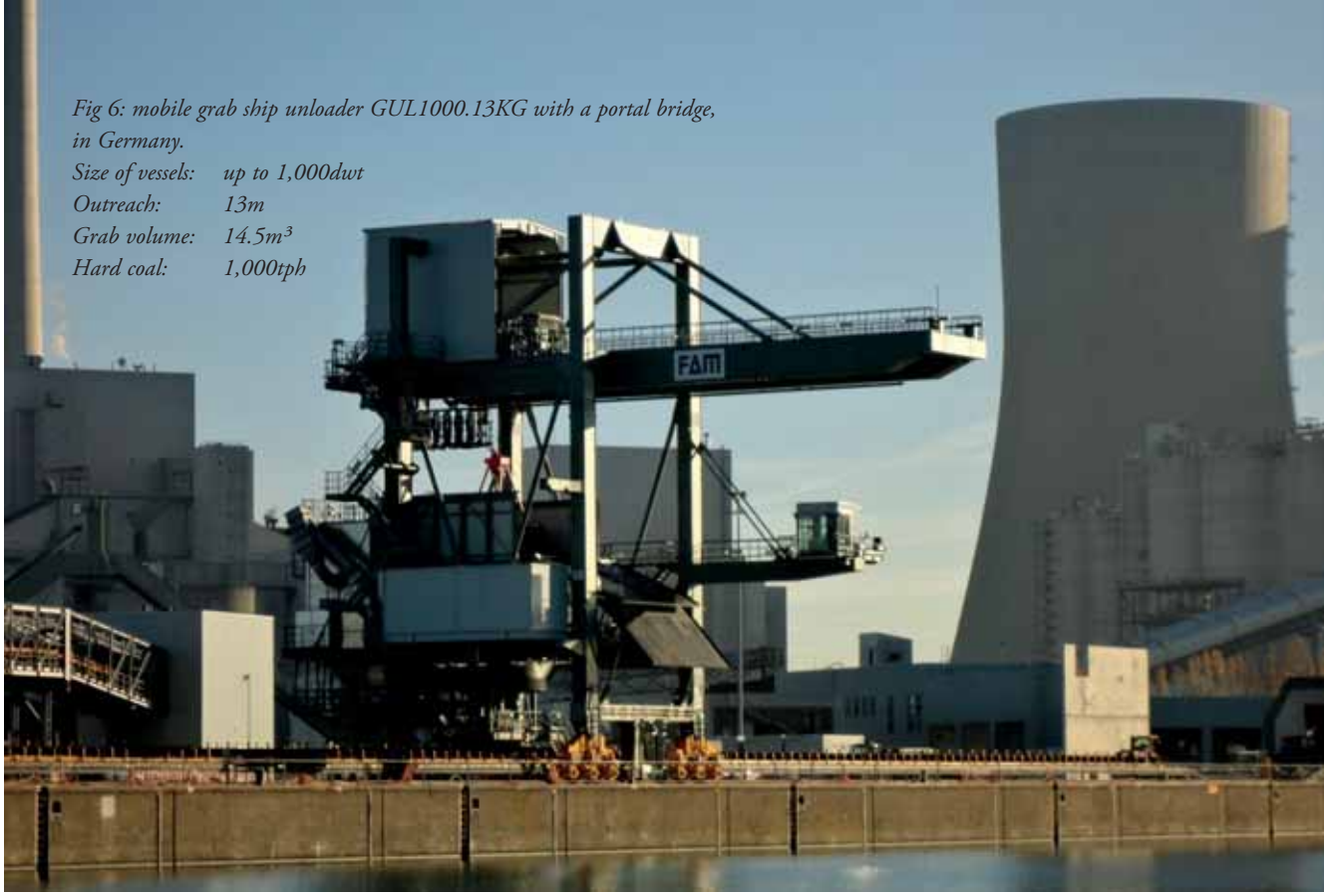


Fig 6: mobile grab ship unloader GUL1000.13KG with a portal bridge, in Germany.
Size of vessels: up to 1,000dwt
Outreach: 13m
Grab volume: 14.5m³
Hard coal: 1,000tph

manufactures turnkey plants and systems for mining, conveying, loading, and storing minerals, raw materials, and goods. FAM efficiently combines its know-how of serial and custom-specific production. In addition to engineering services, the company offers a complete range of manufacturing services as well as after-sales service. For more than 100 years, FAM has incorporated in its global solutions professional competence, engineering know-how and top-level project management.

Van Aalst Bulk Handling offers tailor-made solutions for maximum efficiency

Van Aalst Bulk Handling is based in the Netherlands and is a flexible organization focused on assisting its international customers by providing tailor-made solutions for their dry bulk loading, unloading, storage and pneumatic conveying projects. For many years, Van Aalst Bulk Handling has supplied complete designs and equipment and systems to the bulk industry. It offers installation and training services for the equipment that it supplies. Its customers can rely on its experienced and reliable team of bulk handling specialists.

Customized CSUs

All CSUs from Van Aalst Bulk Handling BV are made according to the specific

Van Aalst offers only tailor-made solutions.

Pneumatic conveyors offer a range of advantages.

requirements of its customers. It does not believe in standard sizes, as these can be either too small or too large for a particular application. If they are too large, they will use too much energy and, as a result, will be inefficient.

Most of Van Aalst Bulk Handling's ship-unloaders and loaders are used to convey cement or fly ash and most of the company's experience has been gained with these products. However, other materials can also be handled with its equipment.

The Van Aalst custom-made pneumatic loading and unloading equipment makes it possible to operate at the lowest power consumption and will ensure a smooth operation and consequent efficient capacities. However, to be able to construct the optimum size of equipment, information from the client is required and that is why Van Aalst's personnel will go to meet the customers to achieve the best effective solutions.

Advantages of Pneumatic Conveyors

The biggest advantage of pneumatic ship unloading is that they are designed to suck up the material from the holds of the ship to convey this directly to trucks, smaller ships, silos or other storage facilities. Both processes (unloading and conveying) are performed by the same machine built on a mobile platform on tyres or rails or even fixed to the quay. While mechanical unloaders screw the cement out of the ship, further transport — screws, belt conveyers and bucket elevators — will be vital also. Transport of the cargo with mixed air material from a pneumatic ship unloader flows through simple (underground) pipelines, which gives a lot of flexibility in port areas. Therefore a maximum manoeuvring space remains in the port areas during ship-unloading activities and thereafter. Less maintenance is required on a pipeline in contrast to a mechanical belt conveyer from the screw unloader to the storage facilities which requires dust extraction at the inter-connections between the various devices, and a lot of maintenance.

Van Aalst for more comfort and higher efficiency

The unloading process of a pneumatic ship unloader is like a big vacuum cleaner; the cement is sucked out of the ship at a high average unloading rate, so Van Aalst Bulk Handling's machines are eating their own dust as well. The big advantage is that, even with a small layer of cement on the ship's floor, it maintains a good unloading capacity. A mechanical screw unloader, however, needs a much higher layer of cement on the ship's floor to keep a good average capacity. From the moment that one metre of cement is left, the unloading capacity rate drops. Than the help of multiple giant front-end loaders have to save the average capacity.

It is not only the unloading process, but also the suction arm, of a pneumatic ship-unloader that offers a big advantage. This hydraulic articulated manipulator arm is very flexible and can reach into corners and under hatch coamings. Also, for different water level variations, a pneumatic ship-unloader gives an advantage over mechanical unloading as they use a fixed arm which cannot reach into corners or under coamings. Much less clean-up work is required for the pneumatic types. Screw unloaders are designed as separate unloading units only, and must be combined with other — sometimes existing — equipment.

Additionally, screw unloaders have an

More comfort and higher efficiency.

arm with counterweight construction which results in more weight and corner loads being put on to the dock area, resulting in higher wheel loads than a pneumatic ship unloader. So, one can say that a 600tph (tonnes per hour) pneumatic ship-unloader will reach the same through-the-ship capacity as a 1,000tph screw unloader.

Some of Van Aalst Bulk Handling's clients which operate both type of unloaders indicate an even bigger difference. All equipment of a pneumatic ship-unloader is built onto one mobile platform, all equipment can be electric or diesel driven. All equipment is sized to the optimum and most efficient , dust free way.

Van Aalst: more than just ship-unloaders

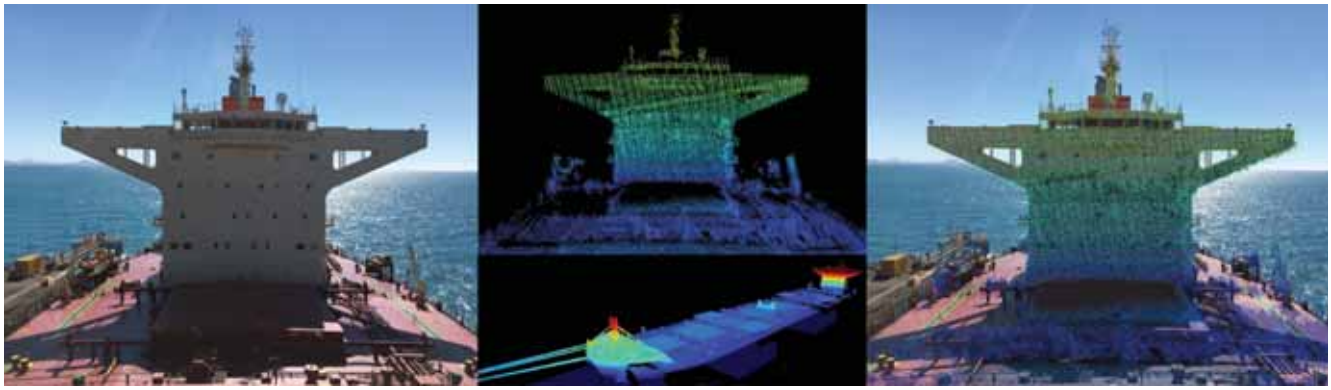
Van Aalst's wide range of bulk handling equipment is in use with major cement processing companies from all over the world, and includes much more than just ship-unloaders. Also available are conveying units, which can convey dry powdered substances through pipelines up to 1,000 metres or even longer.

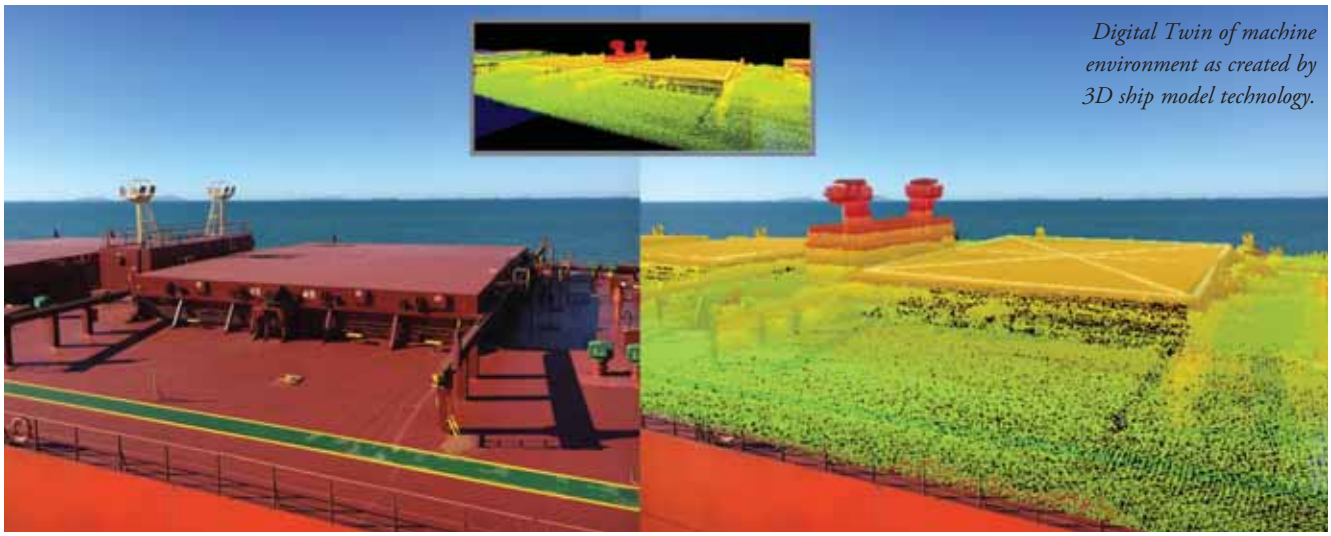
Van Aalst's pneumatic shiploaders are extremely popular, due to the tailor-made approach, so that various ship sizes can be loaded efficiently at high speeds. Van Aalst Bulk Handling BV also offers solutions for the storage of dusty and abrasive materials such as cement and fly ash.

Therefore, Van Aalst offers complete turnkey — flat on floor — silos for this, but also the design and delivery of the specific reclaim aeration equipment for domes and silos as well.

Van Aalst offers more than just ship-unloaders.

Introducing digital twins and AI for continuous ship unloading with iSAM technologies





Digital Twin of machine environment as created by 3D ship model technology.

Current continuous ship-unloaders have to be manned by an operator all the time, and only teach-in procedures are available to support the operator. The unloading process has to be performed entirely manually and the collision protection is sometimes difficult, because the operator can see neither the unloading area nor the complete machine in all positions.

iSAM has developed and implemented two main technologies to improve production, safety and economy on ship-unloaders and shiploaders. The same technology can also be applied to continuous ship-unloaders (CSUs).

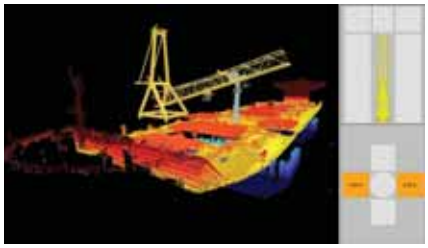
The task of operating an unloader driverlessly and autonomously was a great challenge, if not an impossible mission. With a combination of the latest 3D LiDAR technology originating in self-driving cars, the leading-edge control technology and RTK-GPS systems for machine positioning, iSAM succeeded in solving the problem.

The solution consists of an advanced collision protection system, a sensor and an evaluation system which enables a control system to create a digital twin of the equipment and the environment. For the first time, this allows the effective protection of the ship-unloader boom, telescope and spoon.

It also creates the foundation for remote and even fully autonomous operation by enabling the system to use artificial intelligence to 'see' its environment and make its own, situation-specific decisions as an operator would do.

The key advantages of the system are:

- improved and safer working conditions;
- automatic identification of all collision hazards;
- timely warning to the machine control system to stop critical movements before a collision occurs;
- prevention of downtime and damage to valuable assets;
- lower wear and tear because mechanical performance limits are respected in automated mode;
- reliable and safe operation even during obstructive weather and environmental conditions such as rain, wind, dust, fog or snow;
- real-time determination of the machine and the cargo position;
- real autonomous operation (i.e. not a remote control);



AI used by 3D ship model to calculate distances between machine structures – e.g. the telescope - and environmental objects - such as the hatch coaming or product - for autonomous operation

- possibility of manual intervention from the central control station:
  - 'freeing' from an extraordinary situation (for instance buried buckets due to collapsed material walls);
- very uniform unloading performances;
- fulfillment of operational guidelines and safety rules; and
- situational awareness for operators based on 3D environmental model with overlaid 3D CAD model of machine.

Additionally, the use of fully automated ship-unloaders means a significant reduction of personnel expenses. One

operator in the central control station can easily handle four ship-unloaders with minimum stress thanks to a maximum degree of automation.

The iSAM technology for ship-unloaders is compatible to the continuous ship-unloader requirements and provides among others the following functions:

- **3D laser scanning for:**
  - measurement of hatch position;
  - measurement of actual cargo distribution; and
  - reliable detection of collision hazards.
- **GNSS (GPS, GLONASS, GALILEO etc.)**
  - exact positioning of machine gantry;
  - exact positioning of bucket elevator inside the hatch; and
  - high reliability of position data.
- **Hatch manager**
  - automatic determination of best path (no teach-in); and
  - adaptation to new unloading situations.

The continuous unloading performance is ultimately independent of the actual operator, and the advanced collision protection based on current, real-time 3D scan data provides reliable obstruction information with <10cm accuracy.

A 'true' autonomous operation without operator intervention and an automated unloading right from the beginning including the initial 'levelling' of the material surface are enabled by iSAM technology.

Autonomous operation in ports — references

To date, iSAM has equipped seven ship-unloaders, two shiploaders, five train loaders and more than 40 stacker/reclaimers with this technology.

Four autonomous grab ship-unloader systems are fully operational at the Port of Hamburg in Germany and three systems at the Port of Rotterdam in the Netherlands. The operational and safety procedures are approved by public authorities.

About the company

iSAM AG, Gesellschaft für angewandte Kybernetik, located in Muelheim an der Ruhr, Germany, develops and implements automation solutions that enable industry, commerce and service suppliers to increase their performance. iSAM's team includes specialists from the engineering, computer science and physics sectors as well as business economics, focusing on increasing customer value. The company's customers can be found all over the world and in almost every industry, such as mining, bulk materials handling, transport and logistics, steel and metal manufacturing and processing, tube welding and pipeline construction, mechanical engineering and plant building, electronics and aerospace. iSAM AG is well prepared for future challenges and iSAM experts are constantly developing, upgrading and adapting their technology to other applications and markets, finding unique solutions for each customer request.

Upgrades of pneumatic unloaders, compared with mechanical units

Upgrades of ship-unloading systems take place for a variety of reasons. In this article, Neuero details upgrade possibilities.

Geometry or site changes

Water level changes or ship-unloading plans

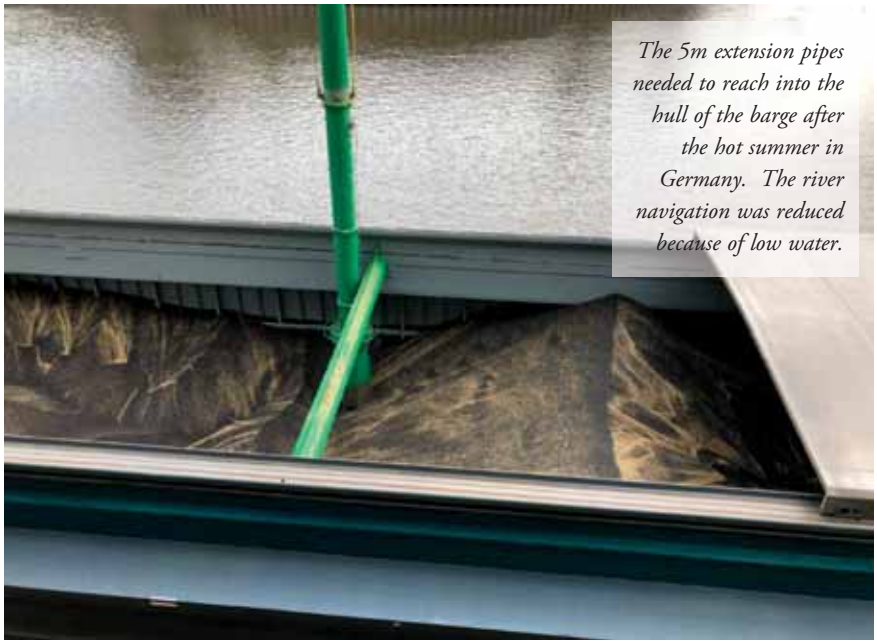
In 2018, a particularly dry year had a direct effect on waterborne transport in Germany, even increasing the gasoline price because ships could not transport full cargoes due to low draughts.

Because of these circumstances, Neuero's customer, the oil mill Sels in Neuss on the banks of the Rhine River experienced extremely low water levels. This very low level was not anticipated, and it was likely that mechanical or screw unloaders would have great difficulty unloading the ships. A pneumatic unloader offers a simple solution. Extension pipes and some cable extensions were delivered, and then Sels was able to proceed with unloading. In the end, an extension of 5m was fitted.

The same solution is also used for other non-planned situation. Normal unloading equipment, with minimum/maximum levels, also takes into account the fact that each of the seven hatches on a Panamax vessel will be visited three times, to maintain the ship's balance. However, today some ships are designed in such a way that it is possible to unload one complete hatch while the others remain full of grain. When this happens, the ship does not rise in the water, and the vertical pipe is normally too short. Again, a pneumatic unloader is a simple solution, adding vertical extension pipes. In this situation, a chain or screw unloader is not normally suitable.

Increased ship size

Neuero often faces the need for an unloader upgrade to cope with increasing ship sizes. It made no sense to invest



The 5m extension pipes needed to reach into the hull of the barge after the hot summer in Germany. The river navigation was reduced because of low water.

VIGAN

Pneumatic or Mechanical Ship Loaders & Unloaders Port Equipment - Turnkey Projects

PNEUMATIC SHIP UNLOADERS :
From 100 to 800 tons/hour
All sizes of vessels • All types of grains

PORTABLE GRAIN PUMPS up to 270 t/h

PNEUMATIC BARGE UNLOADER up to 600 t/h

LOADER up to 2000 t/h

SIMPORTER up to 1500 t/h

Reliability, Efficiency, Quality, Efficiency, Quality, Reliability, Quality, Reliability, Efficiency... 😃

VIGAN ENGINEERING S.A. RUE DE L'INDUSTRIE, 16 - 1400 NIVELLES - BELGIUM
TÉL.: +32 67 89 50 41 ▸ FAX : +32 67 89 50 60 ▸ WWW.VIGAN.COM ▸ INFO@VIGAN.COM

These unloaders were supplied in 1995 and went several years without any components being changed. In 2007, Neuero updated one machines to give original capacity and also increase one horizontal boom by 10%. The results were positive, so Neuero upgraded the second machine in 2011.

before, but now the company has to offer ideas of how to deal with this conundrum.

Common reasons for upgrades include the increase of ship sizes from Handysize to Panamax, or from Panamax to Capesize — or simply starting out at the beginning of the design process to develop an unloader that can reach the centre of the hatch.

In the old days, it was planned that unloaders would reach the centre of the ship hatch. This is a minimum requirement, to ensure vessel stability.

Basic reasoning is that the lower the weight, the lower the cost. However, operational costs then increase with the need to bring grain to the ship's centre. These days, it is best for the boom to reach the end of the hatch, to reduce the amount of grain that has to be moved by front-end loaders.

All three of these reasons dictate the need for a longer horizontal boom — and, sometimes, a vertical one, too. Increasing the horizontal boom is not as simple as increasing the vertical pipe, but it is possible. It requires a check at static, a stability calculation and a boom and horizontal pipe extension, as well as electric and steel wires changes.

To change a mechanical unloader by increasing the horizontal and vertical conveyors is not a simple task and is normally not possible.

This unloader was supplied in 1993, for a rate of 190tph. In 2008, Neuero upgraded the 25m boom, increasing capacity to 250tph, and lengthening the horizontal boom length by 10%.

Capacity increase/reduction of power consumption

Capacity increase is normally difficult if it has not been pre-planned. In some projects, Neuero has been able to achieve increased capacity by increasing the main drives and maintaining the rest. For pneumatic unloaders, it must be possible to increase the filter and the airlock, otherwise the cost of the capacity increase is high.

Reduction of power consumption is a request that Neuero has faced several times after damage has been caused to the rotary piston main blower. With the turbo blowers with frequency inverters, Neuero was able to save 20% energy.

At same time, a considerable noise reduction is achieved by changing a low-frequency blower to a high-frequency turbo blower.

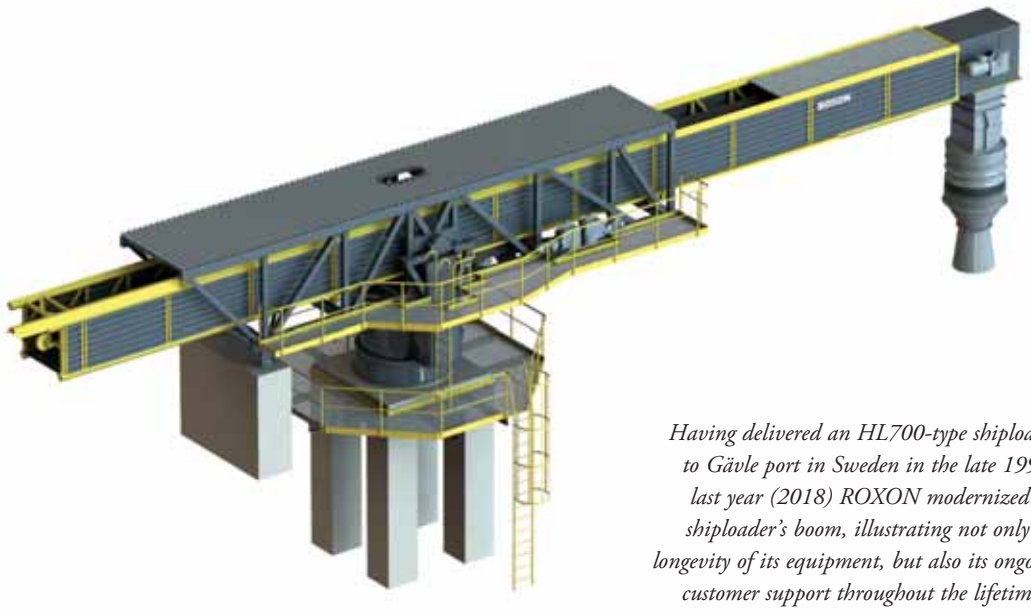
Upgrade experience

Comparisons between pneumatic and mechanical unloaders have inaccurately implied that pneumatic models are loud, less efficient, have increased product breakage and high power consumption. Many potential clients believe these statements to be true. However, this comparison is only true when discussing old installations that use rotary piston blowers (roots). Today, only power consumption is higher, but even this is less than is widely believed. High efficiency, even during clean-up operations, as well as new drives, mean that this difference is minor compared with weight, initial price and maintenance costs.

It is also easier to carry out future upgrades to pneumatic unloaders, rather than mechanical units. DCi

ROXON's Baltic expertise

as ROXON reclaims its identity, the company reports on activities in the Baltic region



Having delivered an HL700-type shiploader to Gävle port in Sweden in the late 1990s, last year (2018) ROXON modernized the shiploader's boom, illustrating not only the longevity of its equipment, but also its ongoing customer support throughout the lifetime of equipment supplied.

Many readers know ROXON and NEPEAN as equipment and system suppliers for material handling. Last year, Australian NEPEAN purchased ROXON from Sandvik, thus reintroducing the traditional brand name after a decade in non-existence. Many material handling and dry bulk professionals in the Nordic countries still remember ROXON from earlier times. Not only did ROXON deliver a lot of conveyor systems for mines and power plants but there is also an extensive ROXON reference list and map for dry bulk handling equipment at ports and terminals around the world.

Detailed information of all ROXON dry bulk references, for example around the Baltic Sea would not fit into a single article. Let us therefore focus on a few of the most interesting delivered projects. In addition to dry bulk handling, ROXON has served a lot of mining customers in the north.

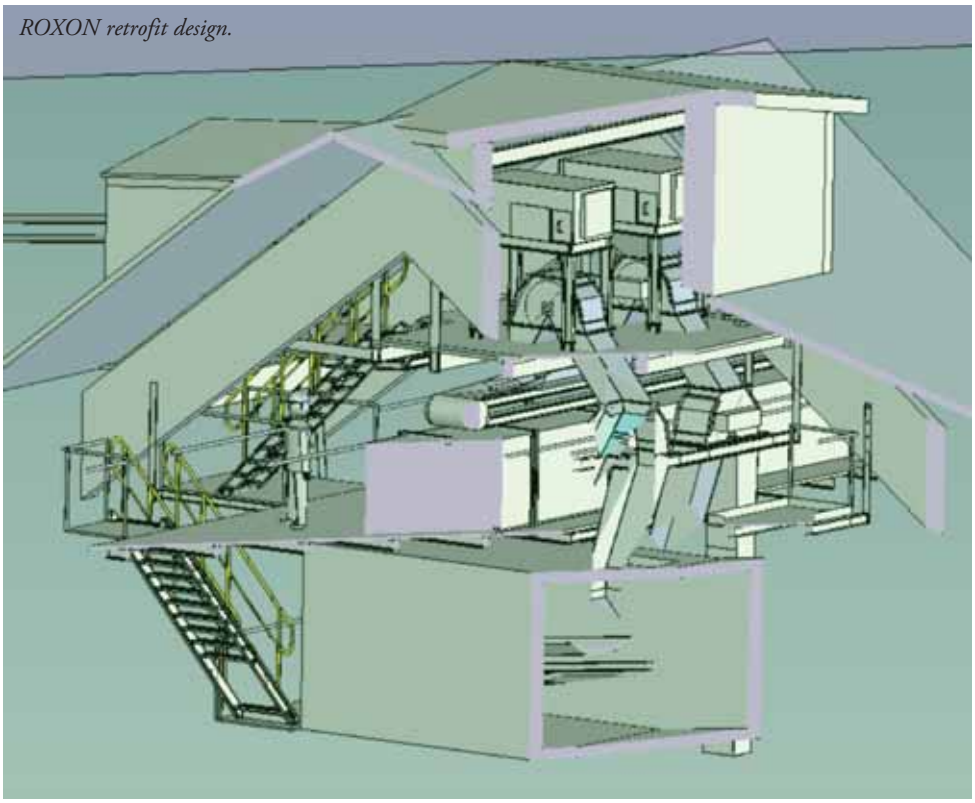
It is therefore no wonder that among ROXON's references there are port and storage facilities for Swedish mine company LKAB. These references are located in Luleå, northern Sweden, not far from the Arctic circle. In the 1990s, ROXON delivered iron ore handling system for the local port and recently a few years ago a storage facility with stacker and reclaimer to import, store and transport bentonite.

The list of ports around the Baltic Sea where ROXON has delivered equipment for dry bulk handling since 1970s is an impressive one: Luleå, Sundsvall, Gävle, Malmö, Kemi, Kotka, Pori, Raahe, Muuga, hopefully not forgetting so many. The equipment has included quay conveyors, receiving hoppers, belt conveyors, feeders, etc. Since material handling equipment has a life time of 20+ years, there are many times when ROXON has been able to utilize its old reference drawings when the client is asking for modernization or new delivery for the same location. In several projects, old ROXON equipment has been replaced

Roxon's equipment has been installed in many ports around the Baltic Sea.

"A man who stops advertising to save money is like a man who stops a clock to save time"

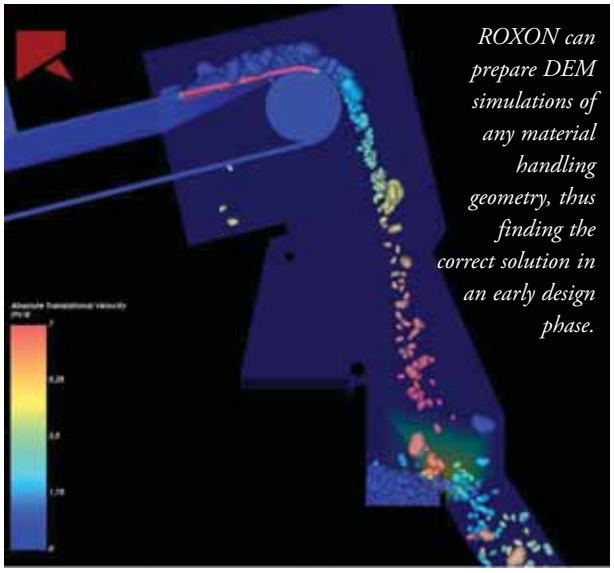
– Henry Ford


ROXON retrofit design.

or modernized by newer ROXON equipment as the client's needs have changed over the years. In some cases, the handled material has changed or tonnage requirement increased. No matter what kind of material handling challenges the client is facing, ROXON experts are there to help.

Even though dry bulk handling and material handling systems seldom are not 'rocket science', they require a lot of knowledge of handled material, its flow and wear characteristics and conveyor technology. Such expertise cannot be built overnight but requires decades of references of various systems, different materials and fit-for-purpose equipment, and naturally people with decades of experience in material handling. This has led ROXON's clients to trust the company with their multi-million projects, safe in the knowledge that they will be executed to the highest level. ROXON can offer all of this to its customers — its employees are among the best experts in the industry and are happy to help any customer with any material handling related challenge.

Material flow in conveyor chutes can be mentioned as an example of a typical bulk handling problem. This sounds like a piece of cake, but is only possible if you have the experience and knowledge of the specific material in the exact real life condition. For example, dry bulk material with high humidity content in an Arctic port and sub-zero temperatures is a dangerous combination if the supplier does not know how to deal with it. In addition to in-house knowledge and experienced professionals with decades of material handling expertise, ROXON can also prepare DEM (discrete element modelling) simulations of any material handling geometry, thus finding the correct solution already in an early design phase. All together, the long history of ROXON references, repeated projects for the same customers and ports prove the quality of ROXON systems.


ROXON can prepare DEM simulations of any material handling geometry, thus finding the correct solution in an early design phase.

In addition to port, terminal and storage equipment, ROXON references around the Baltic Sea include a couple of shiploaders for dry bulk. For example, in the late 1990s, ROXON delivered a fixed HL700-type shiploader to Gävle port in Sweden for lead concentrate. This year ROXON customer service delivered boom modernization for the very same shiploader. Such a long timeframe illustrates both that ROXON delivered equipment will meet the requirements of the entire life cycle and that ROXON is there for customers during the total life time of the equipment. Another port with a lot of references under different customers is port of Kotka in Finland with several projects delivered over the decades. There are ROXON belt conveyors, feeders, warehouse conveyors and HL500 type moving shiploader in the port. Most of them still in operation after 15–25 years since delivery.

Hard-to-handle materials

Talking about challenging materials, another area of speciality is fertilizer handling. It is not only difficult in sub zero temperatures but being extremely corrosive, can easily become a safety threat in case the steel structures lose their integrity. Corrosiveness presents another material handling challenge, in addition to flow characteristics and possible material freezing in cold temperatures. ROXON has several fertilizer handling references around the Baltic Sea and the latest ones in Yara Uusikaupunki plant in Finland. Corrosiveness has been tackled with the right material selection — stainless steel when in contact with material and the right painting system elsewhere.

Very often port and fertilizer projects are more or less retrofits where new conveyors are connected to old structures and conveyors. Such projects combined with tight time schedules, for example during the annual one-week shutdown, always require detailed installation planning, experience of similar earlier projects and expertise. ROXON experience shows such challenges can best be tackled through laser scanning of the old structures and detailed 3D design of the new structures. Only this provides detailed enough drawings for installation crews to know exactly what to dismantle and where to install the new structures. DCi

German Equipment Manufacturers

Jay Venter

Konecranes wins repeat order for mobile harbour crane technology in Turkey

In the third quarter of 2018, Atakaş Liman İşletmeciliği Ve Tic. A.Ş. (Atakaş Port Business) ordered a Model 7 portal harbour crane, making it the third Konecranes Gottwald crane purchased within the past year. The recent contract includes an option for another crane at a later date.

The rail-mounted portal harbour crane for Turkey's newest port operator, Atakaş Port Business, a subsidiary of Atakaş Corporate Group, follows two rubber-tyred Konecranes Gottwald Model 7 mobile harbour cranes put into operation a year ago. Starting mid-2019, the latest crane will go to work in Iskenderun on Turkey's southeastern coast, mainly handling bulk and later serving large container vessels.

Vedat Ohri, General Manager of Atakaş Port: "Our aim is to provide the greatest benefits to the Mediterranean, Central Anatolia and Southeastern Anatolia regions. To meet our goals, we have chosen reliable and high-performance Konecranes Gottwald mobile harbour crane technology once again. We started our operations with two flexible rubber-tyred cranes to handle various types of cargo, but now need rail-mounted cranes for continuous-duty bulk handling. To enable the new crane to work on our rails, Konecranes will team its mobile harbour crane technology with a portal exactly designed to our needs. We are also preparing to load and unload large container vessels with up to 18 rows at a later date."

Hans-Juergen Schneider, Regional Sales Manager of Konecranes' Business Unit Mobile Harbour Cranes, said: "We are proud that this ambitious new Turkish port operator selected our technology right from the outset and continues to opt for it, having come to appreciate its assets."

The Model 7 portal harbour crane for Atakaş is a four-rope G HSK 7528 B crane. It provides lifting capacities of up to 125 tonnes, a powerful 50-tonne grab curve for mechanical grab operation and an outreach of up to 54m. The crane's individually designed portal has a clearance of 6m, the track gauge measuring 14m. To compensate for the different rail loadings due to the crane offset in relation to its portal, the bogies on the quay side are fitted with eight wheels each and on the land side with six.

PEINER Grabs - The Original

Customized Solutions for your Bulk Handling Tasks Worldwide

Our rugged PEINER grabs are particularly suited to applications where performance and the highest levels of durability in the turbulent everyday routine of logistics are required, e.g. ports, ships, steel and saw mills, waste-to-energy plants and recycling or scrap handling factories. Crane manufacturers and the construction machinery industry also rely on our innovative handling solutions.

Trust in the professional experience of more than 65 years and benefit from a comprehensive global sales and support network. Let us work together to find new successful ways for your business. We can provide the adequate solution for your specific challenges. Our design and manufacturing abilities secure maximum quality and reliability.

SMAG
GROUP COMPANY

PEINER SMAG
Lifting Technologies

+49 5341 302 647 LinkedIn peiner-smag.com contact@peiner-smag.com

Efficient division of work in timber handling with two SENNEBOGEN 730 M-HD at Rettenmeier Holzindustrie

The two 730 M-HDs work together on the sorting line in three-shift operation.

The two SENNEBOGEN E-series machines fit in perfectly with Rettenmeier's corporate philosophy in Hirschberg: sustainability and a positive ecological balance thanks to the lowest possible energy consumption and the use of resources in wood processing.

Due to the low average energy consumption and the long service life of SENNEBOGEN machines, it was possible to meet the high requirements of the customer Rettenmeier.

At Rettenmeier, SENNEBOGEN stands for quality: "The machines are extremely durable and therefore very economical. This is why, in co-operation with our contacts at the dealer Tecklenborg, we decided to use another 730 M-HD on the sorting line," says Sandro Egelkraut, fleet manager at Rettenmeier Holzfabrik GmbH in Hirschberg.

The two timber-handling machines work in three shifts and together handle 1,000 cubic metres per shift on the sorting line.

Egelkraut also attaches great importance to safety at work: "Since the paths between the wooden stacks are very narrow, the machine convinced us with its special stability and manoeuvrability. Thanks to the sliding door on the side of the cab, entering the cab is also comfortable and safe for our operators"

The 730 M-HD manages even tight turning manoeuvres between the wood stacks flexibly and effortlessly.

Konecranes awarded order for three large mobile harbour cranes from Ras Al Khaimah, UAE

In the fourth quarter of 2018, Saqr Port, part of the RAK PORTS GROUP, ordered three Model 8 mobile harbour cranes. Therefore, two Konecranes Gottwald cranes will be delivered in April 2019, with a third one to follow in July 2019.

Situated in Ras Al Khaimah, Saqr Port is the major bulk terminal in the Middle East and an essential pillar of the Emirate's economy. The two new eco-efficient diesel-electric cranes, additions to the existing fleet of eleven Konecranes Gottwald mobile harbour cranes, will handle inbound and outbound bulk material including coal, limestone and clinker.

David Owen, Port Engineering Manager, Saqr Port: "Ras Al Khaimah is one of the most rapidly growing Emirates. Our port not only plays a key role in the long-term strategy of our Emirate, but also as a logistic backbone of the entire Arabian Peninsula. To fulfill this dual role, we have operated mobile harbour cranes from Konecranes for many years which have proven themselves to be very efficient. The new Model 8 cranes form both the next step in our partnership with Konecranes and our terminal's performance. These large cranes will help us to sustainably boost productivity in Saqr Port."

Dirk Stoll, Regional Sales Director of Konecranes' Business Unit Mobile Harbour Cranes, said: "The United Arab Emirates are situated in the centre of an extremely dynamic world region. Reliable handling of bulk materials is thus crucial. We are proud that this important customer continues to trust in our technology for its bulk operations.

Konecranes Gottwald Model 8 mobile harbour cranes are in high demand around the globe. In 2019, three will be delivered to the United Arab Emirates where they will handle predominantly inbound as well as outbound bulk material. The picture shows a similar crane handling coal.

"Saqr Port's decision once again in favour of Konecranes Gottwald mobile harbour crane technology confirms that our large cranes perfectly meet the needs of terminal operators who are faced with the challenges of rapid growth," he continued.

The three Model 8 mobile harbour cranes for Saqr Port are four-rope G HMK 8410 B cranes with a powerful 63-t grab curve in combination with the highest operating speed on the market, resulting in the highest handling rates. For particularly eco-efficient use, the cranes will be prepared to be hooked up to the terminal's grid.

ORTS Grabs
Germany

THE BEST LINK BETWEEN SHIP AND SHORE.

Tel: +49 451 395 850
Fax: +49 451 392 374
Email: sigvard.orts-jun@orts-gmbh.de

ORTS Grabs
Orts GmbH Maschinenfabrik,
Schwartauer Str. 99
D-23611 Sereetz, Germany

www.orts-grabs.de

Senalia Terminal modernization

3 SL1000 KIKO DSH at site.

After successfully installing in 2014 a SL1200 at Elie peninsula in Rouen, Senalia has ordered three new shiploaders for the Grain Terminal Grand Couronne. These new shiploaders will replace shiploaders working with jet slinger belts and will dramatically reduce dust emissions. That is an important part of Senalia's environmental protection plan with the added benefit of an efficiency increase.

Senalia won the IBJ award in 2017 for environment protection and — utilizing Neuero equipment — in 2018 for best ship loader/unloader category.

The delivery of the new shiploaders to Grand Couronne was not easy. There is no space at site for local assembly. Therefore the shiploaders were assembled at a different location and then shipped with a special heavy lift ship completely assembled. As Neuero shiploaders are specifically designed to fit at the site and each shiploader is also slightly different, a lot of planning is required in order to fit on site conveyors. After assembly in Rostock port the three shiploaders were loaded with two cranes into a special ship. North Sea weather at this time of the year includes high winds and waves.

Just before Christmas, the unloaders were carefully disembarked at the site, completing their journey. Final fittings and start-up will be in January 2019.

Neuero Team in Rostock dispatching equipment.

ALWAYS OUT FRONT – WITH SPIRIT AND SKILL

The most successful mini excavator of its time, along with other inventions that set the standard in material handling today – all from a highly approachable company with a long history. Outstanding quality thanks to constant further development and a high degree of innovation – the solid foundation on which Fuchs has established its leading technological position worldwide. For more than 130 years, one aspect of material handling has remained constant – Fuchs. We set the standard for system solutions and customer proximity – and will continue to do so in the future.

www.terex-fuchs.com

FUCHS®
A TEREX BRAND

WORKS FOR YOU.™

BEUMER Group: System supplier for the bulk material industry

Overland conveyors often run through rough terrain and over unstable ground.

With loading systems from BEUMER Group, the bulk material safely gets into the cargo holds of ships.

Picture credits: BEUMER Group GmbH & Co. KG

From quarry to consumer

BEUMER Group, based in Beckum/Germany with group companies around the globe, develops customized system solutions that provide increased efficiency in the bulk material industry. The international group manufactures intralogistics for conveying, loading, palletizing, packaging, sortation and distribution technology employs about 4,200 people and achieves an annual turnover of about €770 million.

BEUMER Group's product portfolio in the conveying technology sector includes overland conveyors and pipe conveyors. These can be used by companies in the mining industry to transport various bulk materials even over long distances and often through rough terrain. Depending on the type of conveyor and the properties of the material to be conveyed, angles of inclination of up to 15° can be achieved. The throughput capacity of BEUMER Group conveying systems is up to 10,000 tonnes per hour.

These conveying systems are an economical alternative to truck transports, which often bridge long distances. Depending on the nature of the terrain and the length of the route, however, the vehicles quickly reach their limits since, among other things, they need well-developed roads and fuel. The costs of construction, maintenance and possible extensions of the infrastructure are significant. In addition, this implies additional, serious landscape changes. The emissions caused by truck traffic are high, both with regard to toxic substances and to noise and dust. The BEUMER Group belt conveyors are provided with environmentally safe electric drives and low-energy belts. Therefore, especially in these times of climate change and increasing greenhouse gas emissions they are considered a preferred option. The system supplier relies on camera-equipped drones for the planning, projection and construction of these systems. Using special software solutions, the experts evaluate the aerial photographs photogrammetrically to generate digital terrain models.

The BEUMER Group product range includes stackers and bridge reclaimers for storage yards with so-called blending bed systems. These stack the bulk material and guarantee a maximum blending effect. Users can also efficiently homogenize large quantities of various bulk materials and thus ensure the uniformity of the raw materials used.

To ensure efficient loading, BEUMER Group also supplies shiploaders. They consist of a fixed boom with an extendable telescopic belt conveyor. This allows ships to be filled efficiently. The systems are also equipped with a dedusting unit which keeps the process emission-free. In addition, bulk loading heads which are used to load bulk materials into silo vehicles quickly and without dust are available. They are designed according to the double-wall system. The material inlet and the dedusting unit are separated from each other. In order to balance out any minor positional deviations of the vehicle, the bulk loading head can be moved laterally during placement. For large loading capacities, BEUMER Group has developed mobile loaders that adapt to the length of the vehicles. If open vehicles are to be loaded without dust, various telescoping loading systems are available.

When it comes to filling, palletizing and packaging bulk materials, BEUMER Group provides customers with complete packaging lines. The system supplier offers the BEUMER fillpac® filling machine in various versions. The unique feature of this filling technology is that it can fill a wide range of materials, from very fine to coarse structures with the utmost precision. In addition, various palletizing solutions and a high-performance packaging system with sophisticated features are available.

Industrial Solutions for the mining industry

Continuous ship unloaders.

When it comes to bulk materials handling and transportation, our customers can count on more than a century of experience in both individual machines and turnkey plants. Our proactive approach sees us investing in environment-friendly solutions. For example, our continuous ship unloaders for ocean-going vessels and river barges have an enclosed conveying route from the ship hatch to the pier conveyor.
Get in touch with us: **info-mh@thyssenkrupp.com**
www.thyssenkrupp-industrial-solutions.com

engineering.tomorrow.together.

thyssenkrupp

Liebherr delivers the first out of two LHM 550 to Euroports Germany

Euroports, one of the largest port infrastructure companies in Europe, develops, operates and manages global maritime supply-chain solutions for international customers in target industry sectors. With a network of 26 port terminals in Europe and Asia, the company handles more than 60 million tonnes of bulk, breakbulk, liquid and containerized goods.

Liebherr and Euroports have had a business relation for more than seven years and Liebherr mobile harbour cranes of different sizes have been in operation at the Leftbank of Antwerp for Euroports Belgium in this time.

In 2018, Euroports Germany decided to opt for two LHM 550 in order to increase the turnover at the multipurpose terminal in the Port of Rostock, Germany. One of the two cranes was shipped fully assembled in mid-December: the heavy load carrier *Meri,* from the Liebherr plant to the 500 metres distant pier of Euroports.

Universal All-Rounder

Both cranes LHM 550 come in a two-rope configuration and were tailor-made to Euroports Gemany's specific requirements.

With a maximum lifting capacity of up to 144 tonnes and a maximum outreach of 54 metres, the cranes will be the strongest mobile harbour cranes in the Port of Rostock. The machines will be used for various applications like project cargo, bulk and containers.

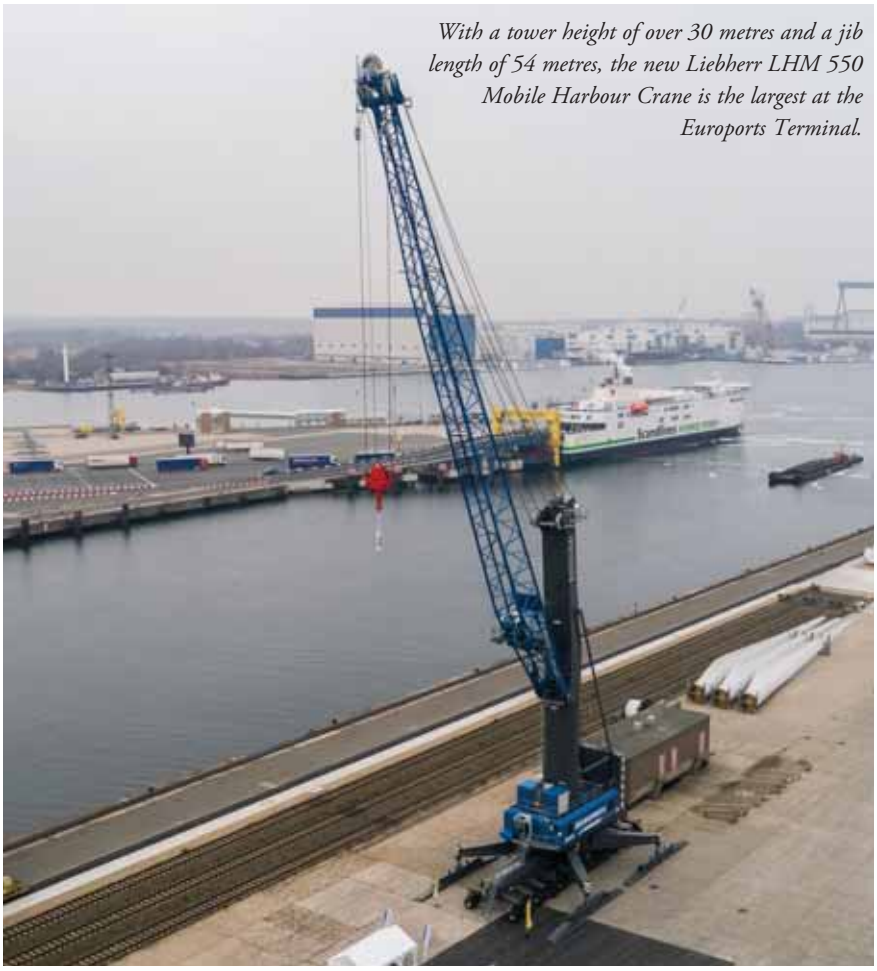
The difficult conditions at the Euroports pier were a challenge in the configuration process. In order to comply with the prescribed ground pressures, Liebherr has found a customer-specific solution with specially adapted double supporting pads.

On good neighbourliness

"We are very happy that we could now win Euroports Germany as our customer, after we already had a very good relationship with Euroports Belgium. We thank them for the trust they have placed in us and we will support our neighbours in all matters," says Andreas Müller, Sales Director of Liebherr Mobile Harbour Cranes.

"With this investment we will further enhance the performance of Euroports Germany. The new cranes will enable us to work more universally and with a higher load capacity at all berths and at the terminal. We look forward to continuing our co-operation with the Liebherr team," added Karsten Lentz, Managing Director of Euroports Germany.

Responsible persons of Euroports, Rostock Port and Liebherr receive the crane in the Rostock overseas port.



With a tower height of over 30 metres and a jib length of 54 metres, the new Liebherr LHM 550 Mobile Harbour Crane is the largest at the Euroports Terminal.

Karsten Lenz, Managing Director of Euroports Germany receives a small present from Steffen Pohl, Managing Director of Liebherr commercial area, at the handover.

MUHR BULK

NEW: CSR Cascade Speed Retarder

Flexicient.

More flexible. More efficient.

BULK LOADING SYSTEMS
MVS | MBG | MBO
CSR Cascade System

The flexible and world-wide largest product range. Closed, open, combined. Of course dust-free. With individual adaption modules. More efficiency due to a reduction of operating cost by up to 50 %.

RAILCAR DUMPERS
L-Tec | L-high Tec

Dumps up to ten railcars at the same time without a height limit. Space-saving due to the unique Muhr compact design. More flexible and more efficient.

For more Information please call now:
+49 (0)8034 9072-0

Muhr GmbH
Grafenstraße 27
83098 Brannenburg/Germany

info@muhr.com

How e-chains make older cranes fit for the modern age

Theo Diehl, Head of Crane Technology Industry Management at igus, knows crane applications like the back of his hand. He is a specialist in all types of crane upgrades using igus energy chains. As different as cranes are, one problem always remains: "The older the models are, the more often technology is used that still works but is no longer up-to-date in terms of cost-effectiveness," explains Diehl. "When it comes to cable management on cranes one tends to see old trailing cable systems, so-called festoons, which move the cables in a similar way to a curtain rail." There has long been a more economical solution: energy chains that guide cables in a movable 'chain' made of high-performance plastics.

Reliable, space-saving and flexible modernization of old cranes with energy chains offers operators a whole range of benefits. For example, they increase the reliability of the equipment. "With festoons, there is a risk of loops getting tangled up and causing expensive downtime," explains Diehl. "Energy chains, on the other hand, manage the cables more reliably — even with travels of several hundred metres." Another advantage of energy chains over festoons is that they save space. Vertically hanging cable loops can be up to three metres long, whereas the height of an e-chain system is just 80cm. In addition, as energy chains are modular in design, they offer more flexibility, allowing for changes to the cable layout or subsequent upgrading. Fibre optic cables or hoses for hydraulic fluids can be accommodated inside the chain, as well as power and data cables — all securely held in position using interior shelves. The crane builder also saves 10% on structural steel required to accommodate the cable festoon. Last but not least there are now energy chains, such as the P4, which igus has optimized with rollers within the chain links for low-friction and energy-saving operation. When the chain runs upon itself, the upper run rolls on the lower run. Compared to sliding friction, the rolling friction is 75% lower — which means up to 57% less drive power and significantly reduces energy costs, especially for long travel distances. Energy chains make the crane more flexible for future operations. Diehl therefore states: "It make sense to say goodbye to trailing cables and switch to energy chain systems."

IGUS PERFORMS PROFESSIONAL INSTALLATION

A prerequisite for reliable and energy-efficient operation is that the energy chains are matched to the system and installed professionally. This is carried out by our installation team on request. "Our qualified specialists guarantee fast and error-free installation, which lays the foundation for high system availability," explains Diehl. "No matter the architecture of the crane or the available space, together with the customer we find a combination of energy chain and guide system that guarantees a high system reliability." Also upon request, igus will provide the chain fully-assembled. The igus readychain factory in Cologne assembles up to 500 ready-to-install systems per week. "Many crane manufacturers want pre-assembled systems with cables and connectors for faster installation. The "everything from a single source" principle offers a time saving of at least 50%."

MODULAR CONSTRUCTION KIT FOR CRANE MODERNIZATION

igus provides a modular construction kit with which 90,000 energy chains can be produced — for different travels, accelerations, fill weights and environmental conditions. The energy chains can reach record lengths of over 600m for large container gantry cranes in ports and can withstand fill weights of over 90kg/m. However, the modular cable management system is only one element of successful crane modernization. This is most effective when experienced consultants are available, says Diehl. "Cranes are as unique as trees. There are many special features, such as large temperature fluctuations depending on the location and high vibration," Diehl knows from experience. "Here an off-the-shelf solution does not exist, instead we design and install the system with the customer to their exact requirements. Every crane needs its own energy supply system."

ENERGY CHAINS — SERVICE LIFE OF UP TO 200,000KM

igus energy chains are made of igumid polymer, which possesses several properties that are ideal for harsh

environments: it is durable and wear-resistant, stable in extreme temperatures, weather-resistant and withstands high compressive and tensile loads. "For the crane industry, these heavy-duty energy chains have a service life of up to 200,000 kilometres," says Diehl. "This corresponds to an average service life of ten to twelve years, during which hardly any maintenance work is required." A crane system in Xiamen (southern China) is evidence of this long-life. There, the energy chains are still fully-functional, even after 15 years under the tropical sun. In contrast, an inferior polymer would quickly deteriorate and crumble.

The igumid material has been subjected to rigorous stress tests by igus in its climatic chamber. At temperatures between –40°C and +120°C, no changes in the mechanical properties were detected.

Embedded sensors connect energy chains to the Internet of Things

The Internet of Things plays an important role in modernization. By embedding sensors and linking them to monitoring modules, igus enables customer IT systems to network with its energy chains. The sensors measure the push-pull forces, accelerations and ambient temperature of the energy chain, then transmit the data continuously to the monitoring modules to ascertain the condition of the system. If a fault occurs (e.g. due to foreign objects in the chain), the system shuts down automatically to prevent cable breakage and further, more expensive, damage. "Continuous monitoring extends the service life of the crane and ensures a more economical operation," explains Diehl. "In times of rising cost pressure, these intelligent energy chains increase competitiveness in almost all sectors of the industry. The investment in sensors and monitoring modules pays for itself quickly."

About igus

igus GmbH is a global manufacturer of energy chain systems and polymer plain bearings. The Cologne-based family business has offices in 35 countries and employs 3,800 people around the world. In 2017, igus generated a turnover of €690 million with motion plastics, plastic components for moving applications. igus operates the largest test laboratories and factories in its sector to offer customers quick turnaround times on innovative products and solutions tailored to their needs.

Dangote Cement relies on AUMUND Group conveying and storage technology

The award by Sinoma of several orders for Nigeria and Senegal to companies of the AUMUND Group has consolidated AUMUND's position on the African continent. Working closely with Sinoma Nanjing NDI, AUMUND Beijing will supply more than a dozen machines to countries in Africa by 2020. Another of the AUMUND Group companies, SCHADE Lagertechnik, won the order to supply several machines for two Dangote projects in Nigeria.

For each of the two 6,000tpd (tonnes per day) plants, Dangote Obajana Line 5 and Okpella, AUMUND will supply three belt bucket elevators with a capacity of 660tph (tonnes per hour) to convey raw meal, and to feed raw meal to the preheater towers at 520tph. Three further AUMUND belt bucket elevators with a capacity of 480tph will convey cement to the silos. An AUMUND pan conveyor with a weighing scale mechanism and a capacity of 500tph, running from the coolers to the clinker silos, and three further AUMUND pan conveyors under the clinker silo, round off this comprehensive machinery package.

SCHADE also won orders for these plants, a stacker with a capacity of 3,500tph for Obajana and another at 2,160tph for Okpella, as well as a portal reclaimer to operate at 800tph in the limestone storage of each plant. Additional stockyard equipment completes the supply package.

For each of the Dangote projects Apapa and Onne Clinker Export & Gypsum Import Terminal, AUMUND Beijing will supply a double bucket elevator to convey clinker to the silos at a capacity of 1,200tph, and several other chain bucket elevators. Those to convey gypsum to the bunkers will have a capacity of 720tph at Apapa and 480tph at Onne. Two 1600 Series Samson® material feeders with a handling capacity of 400tph of clinker, two AUMUND telescopic chutes and two truck loaders for clinker will also be supplied to each terminal.

As a further outcome of the successful working relationship with Sinoma, AUMUND has received an order to supply a belt bucket elevator with a capacity of 300tph to convey cement to the new silo at the Dangote Cement Senegal Expansion Project.

AUMUND has partnered with Sinoma over the past 20 years to supply numerous key conveying technology components for Dangote projects all over Africa, among others for Ibese lines 1–4 and Obajana lines 3–5 in Nigeria. AUMUND belt bucket elevators to convey raw meal to silos and preheater towers, pan conveyors to convey clinker from coolers to silos and for silo discharge under the coolers, are some of the major AUMUND products to be found in these cement plants.

Dangote Cement prides itself on being the foremost cement producer in Africa, with plants in ten countries on the continent, with a total production capacity of 45.6mt (million tonnes) and more than 24,000 employees. The Obajana, Ibese and Gboko plants alone produce around 30 million tonnes of cement per year.

First oil shale power plant in Jordan trusts in AUMUND technology

Jordan is building its first oil shale power station in Attarat, 50 kilometres east of Al Qatranah. As soon as the two 235MW plant units are commissioned, AUMUND technology will also be in operation here. Working closely with WorleyParsons Beijing and Guangdong Power Engineering Co. Ltd., AUMUND China developed the technical conveying solution for this project, which is currently the largest in the private sector in Jordan.

The engineering, procurement and construction are the responsibility of Guangdong Power, which awarded AUMUND China the order to supply four AUMUND Bucket Apron Conveyors type BZB, with plate widths of 1,600mm, and lengths of 69m, as well as four AUMUND central chain bucket elevators type BWZ at 53m high. The conveying capacities of each machine can reach 375tph, and the bulk material is bottom ash at temperatures of up to 350°C.

"The bottom ash is very fine, and spillage can often occur. This is the reason the customer chose AUMUND bucket apron conveyors, as these minimize loss of material. Two AUMUND bucket apron conveyors and two AUMUND bucket elevators will operate in each of the two generating units. Our scope of supply also includes items such as steelwork, electrical engineering and sensors," explains Henning Rath, Technical Director at AUMUND China. The installation of the AUMUND machines is planned for the end of 2019.

AUMUND bucket apron conveyor type BZB (example, photo AUMUND).

AUMUND supplies full clinker conveying equipment to cement plants in Algeria

Example application of an AUMUND drag chain conveyor, type LOUISE, in a cement plant (photo AUMUND).

The successful partnership between AUMUND France and AUMUND China has resulted in large orders for AUMUND in Algeria for two new cement plants at Zahana and Bechar. Decades of customer support, in particular strong after-sales service by AUMUND France in Algeria, as well as the close relationship of AUMUND China to the Sinoma Group, have culminated in this achievement.

The two orders together comprise 26 belt and chain bucket elevators, two bucket apron conveyors, ten pan conveyors and ten drag chain conveyors.

The Société des Ciments de Zahana (SCIZ) plant, which has a capacity of 4,500tpd, is near Oran, around 450km from the capital Algiers. Here three chain bucket elevators with centre distances ranging from 22.5 to 34.9m, and capacities from 50 to 220tph, will be used to convey cement and clinker. Eleven belt bucket elevators (cc 22.5–116.1m) will convey raw meal, cement and clinker with capacities between 190 and 680tph. The AUMUND bucket apron conveyor with a centre distance of 61.1m and a capacity of 360tph will join the five AUMUND Pan Conveyors (cc 18.3–106.8m, capacity 300–360tph) in conveying clinker. The ten AUMUND drag chain conveyors with centre distances between 6.1 and 33.8m will be used in clinker dust extraction and are designed for conveying capacities from 15 to 80tph.

The second order for Algeria, for the Bechar cement plant, was placed by CBMI to AUMUND Beijing with support from AUMUND France. This plant has a capacity of 3,200tpd and will operate 15 AUMUND belt and chain bucket elevators, five AUMUND pan conveyors and an AUMUND bucket apron conveyor for its bulk materials handling. The bucket elevators with their centre distances ranging from 11 to 102.9m will convey raw meal, cement and clinker with capacities from 70 to 480tph. The five pan conveyors, with centre distances from 22.2 to 89.8m, will convey their loads at up to 480tph. The AUMUND bucket apron conveyor in Bechar (centre distance 88.5m, capacity 200tph) will also convey clinker.

About the AUMUND Group

The AUMUND Group is active worldwide. The conveying and storage specialists have special expertise at their 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, 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.

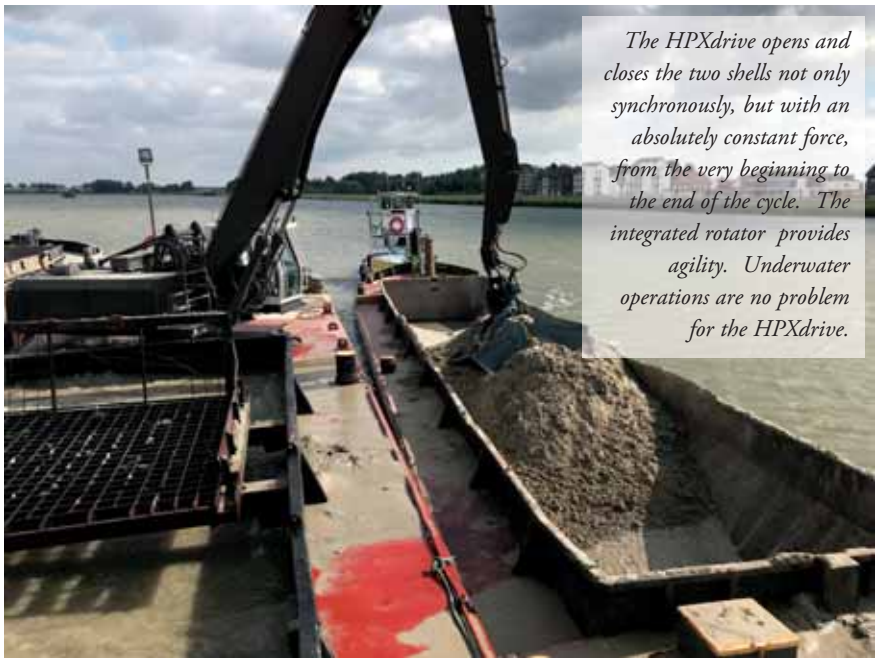
The global conveying and storage technology business is spearheaded through a total of 15 locations in Asia, Europe, North and South America and a total of five warehouses in Germany, USA, Brazil, Hong Kong and Saudi Arabia.

Low maintenance: re-handling clamshell bucket C40HPX from Kinshofer

Martens en Van Oord (MvO) is ensuring lower maintenance costs with the Kinshofer C40HPX re-handling bucket from Rigter Handelsonderneming B.V.

Since its founding in 1986, Martens en Van Oord has become a prominent company in road and waterway construction in the Netherlands, and specializes in civil engineering. Smart logistics and efficient deployment of construction aggregates have been key factors since the beginning.

The company's search for a new re-handling clamshell bucket resulted in a Kinshofer C40HPX with a capacity of 2,500 litres. "With this type of re-handling bucket we expect to be able to work more efficiently with lower maintenance costs. The great thing about this bucket is that you can easily change the shells during maintenance or for products with a different specific gravity," says Tobias van Oord (Material Director at Martens en Van Oord). If re-handlers want to handle large amounts of material at industrial or harbour sites, choosing the right attachment for the job depends greatly on the kind of the grainy or bulky material they want to grab. Therefore, on most worksites, classical grabbing devices such as the clamshell buckets are still first choice. Attached to an excavator, their mobility and universality makes them especially attractive. These clamshell buckets can be acquired from the one-stop-shop of Kinshofer's, one of the world's pre-eminent manufacturers of high-quality attachments for excavators.



The HPXdrive opens and closes the two shells not only synchronously, but with an absolutely constant force, from the very beginning to the end of the cycle. The integrated rotator provides agility. Underwater operations are no problem for the HPXdrive.

In the last two decades, Kinshofer has developed re-handling clamshell buckets (C-Series) for excavators and carriers with an operating weight from 18 tonnes up to 100 tonnes. The most outstanding technical highlight among them is the C40HPX, a re-handling clamshell bucket for excavators with up to 40 tonnes' operating weight — with shells driven by Kinshofer's revolutionary extra compact HPXdrive, providing an absolutely constant movement force for all the opening and closing processes. With the HPXdrive for carriers up to 40t/88000 lbs the torque is generated by two pistons, which run opposed and have four helix threads. The force is delivered to two shafts, on which the shells are mounted. These advantages of the HPXdrive-technology provide an extended service life and higher efficiency. This means a vast lifespan extension compared with conventional cylinder grabs, resulting in extremely low cost of ownership.

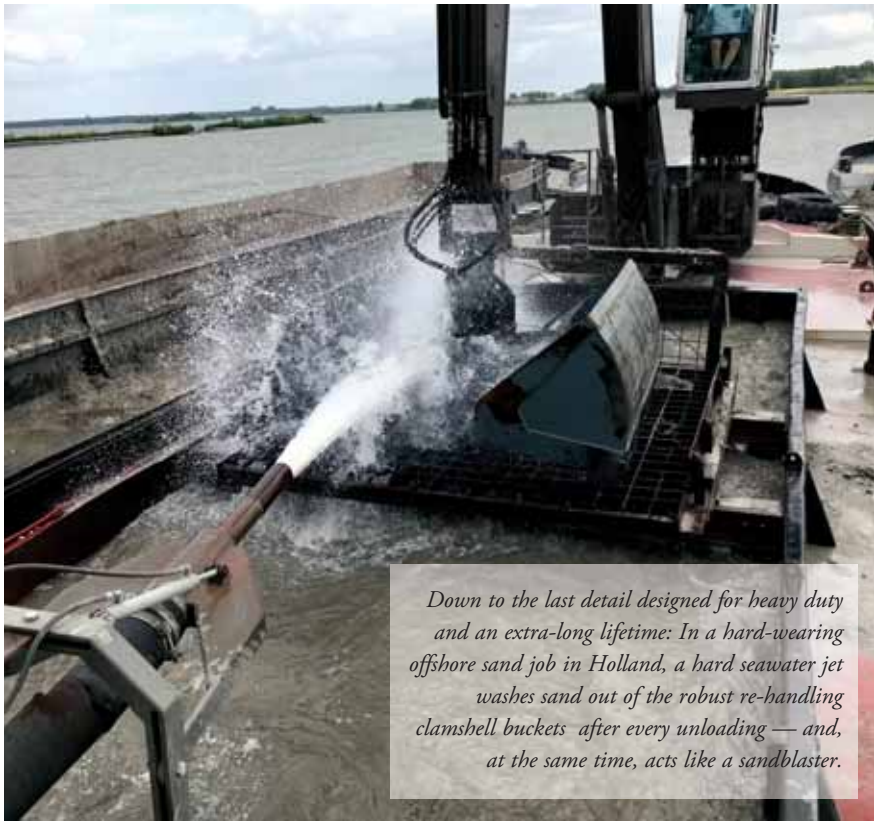
All this with just an absolute minimum of maintenance needed: there are no greasing points, as the interior parts of the HPXdrive run in the oil of the hydraulic circuit. Low maintenance means less downtime.

The long life of the C40HPX is ensured

thanks to the use of HB 500 steel in the manufacture of cutting edges. The shell back walls (8mm/0.31in, HB 500) also resist highly abrasive materials. The shafts are hardened. Bearing points have high strength bronze bearings. The integrated rotation has sophisticated features: swivel and bevel are sealed, rotary feedthrough and motor are accessible directly, and an integrated non-return valve guarantees a secure retention of the load. Due to wear-resistant closed shells, the clamshell re-handling buckets are ideal for very fine-grained loads like cereals.

The excellent digging characteristics that the owners like when doing their jobs make the difference: they are the result of the high and absolutely constant closing force. Thanks to this constant force, the C40HPX is not only ideal for daily works, but also for difficult tasks. The HPXdrive and its integrated rotation form a very compact unit with absolutely no protruding components like cylinders. The unit is waterproof and can thus be used for underwater operations as no oil can leak. The torsion-resistant shells feature an optimal loading due to the high volume, and precise positioning is provided by the integrated rotation with sturdy slewing ring.

The C40HPX is available with open or closed shells that are mainly used for handling cereals, coal or other dusty material. Interesting too: exchangeable shells are mounted to the well shaft. There are different shell sizes available.



Down to the last detail designed for heavy duty and an extra-long lifetime: In a hard-wearing offshore sand job in Holland, a hard seawater jet washes sand out of the robust re-handling clamshell buckets after every unloading — and, at the same time, acts like a sandblaster.

Kinshofer's experience of almost 50 years plus its strict commitment to premium quality result in extremely robust and reliable tools for rough and high-wear jobs.

DC

INDEX OF ADVERTISERS

YOUR SPECIALIST FOR SHIPUNLOADERS

The NEUERO pneumatic shipunloaders are state of the art in the segment of continuous shipunloaders worldwide.

efficient unloading

more efficient than comparable systems

reduced noise

< 80 dB through noise supressing constructions

reduced dust

lowest dust emission

Made in Germany

NEUERO produces reliable and high-quality conveyor systems with German Engineering.

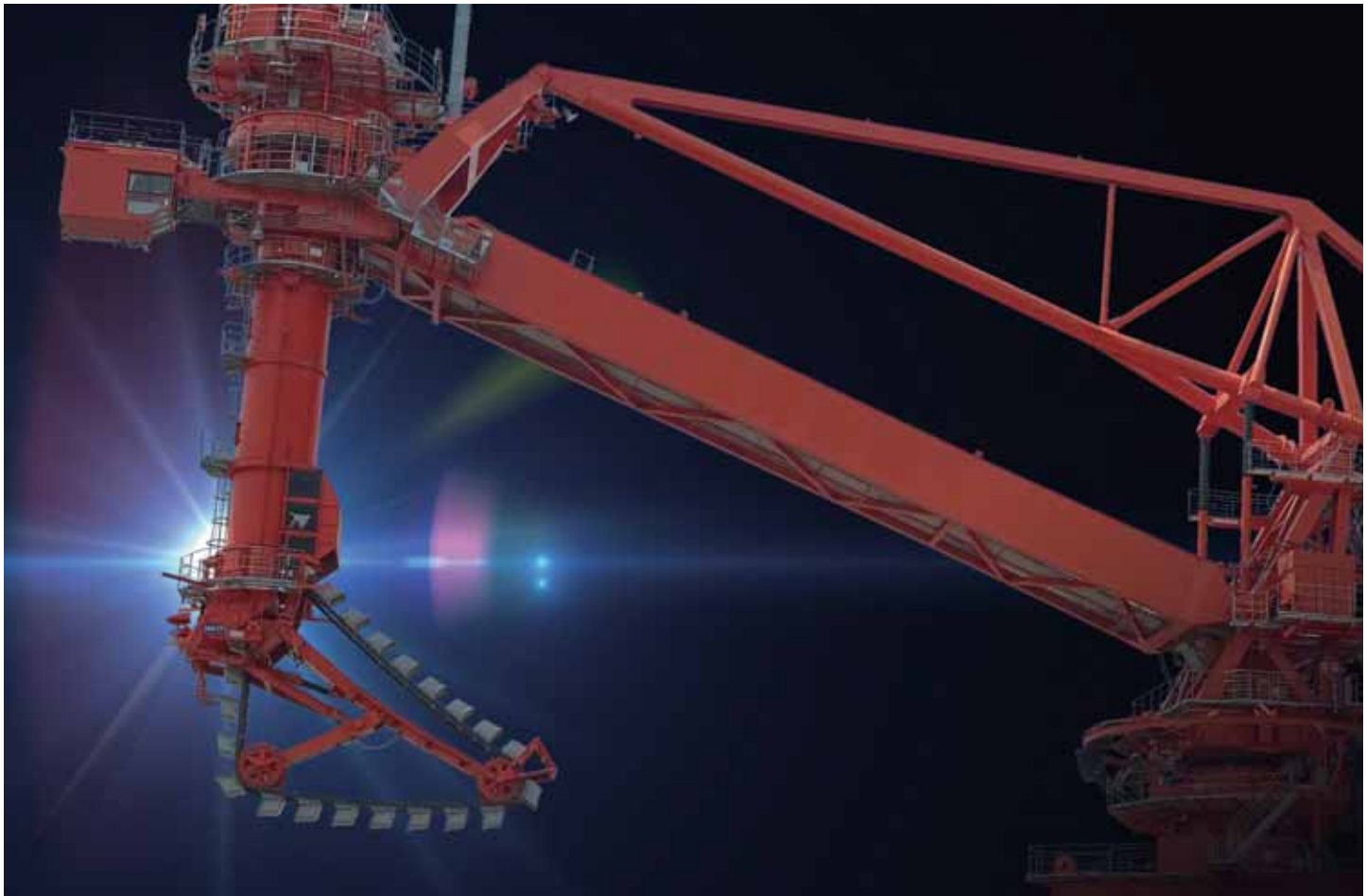
Over 100 years of experience

Our customers rely on NEUEROs know-how and quality awareness for over 100 years.

TÜVRheinland ZERTIFIZIERT
Management System
ISO 9001:2015
OHSAS 18001:2007
www.tuv.com
ID 9105037183

Get in contact
+49 5422 9 50 30
neuero@neuero.de
www.neuero.de

NEUERO Industrietechnik



Best Solution of Bulk Handling

World Leading Supplier*

IHI

Realize your dreams

* for Bucket Elevator type Continuous Ship Unloader

Ship Unloader / Mobile Multi-Purpose Crane /
Stacker / Reclaimer / Stacker-Reclaimer /
Conveyor / Ship Loader /
Total Engineering & Consulting

IHI Transport Machinery Co., Ltd.
8-1, Akashicho, Chuo-ku, Tokyo 104-0044 JAPAN
TEL : +81-3-5550-5375
FAX : +81-3-5550-5366
Website : http://www.iuk.co.jp/english/index.html