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FEATURES

- Asian Coal & Agribulk
- South Africa Report
- Grab Manufacturers
- Stockyard Equipment
- Great Lakes & St Lawrence Seaway System

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

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APRIL 2015 issue

featuring...

Support from grain and soya trade

Indications pointing to additional dry bulk commodity import demand around the world are clearly visible. But some restraining influences are also very prominent. These signs suggest that global seaborne trade growth in this sector during 2015 will not be as robust as seen last year.

The outlook for economic activity in several key areas has improved slightly, although not enough to imply more than a modest positive impact on dry bulk trade. Estimates published recently by the OECD organization showed an upwards revised forecast for GDP in the OECD area. Prospects for Japan and eurozone countries are looking a little more encouraging. However, China still seems to be facing an extended slowing trend.

Grain

Predictions for trade in wheat and coarse grains during the current 2014/15 crop year ending June have been raised again. Instead of the sharp fall previously envisaged, a 1% increase to 309mt (million tonnes) is now shown by International Grains Council estimates. Although imports into China and the European Union are set to weaken, other countries' larger purchases could provide a full offset.

In the soyabeans and meal category, a world trade increase of over 3% in marketing year 2014/15 ending September is predicted by the US Dept of Agriculture, raising the total to almost 175mt (see table 1). The strong upwards trend in China's soyabeans imports appears set to continue, while higher volumes into other Asian countries and elsewhere seem likely.

Iron ore

Another sizeable global iron ore trade expansion is foreseeable this year, amid lower international ore prices resulting from the massive growth of supplies entering the world market, especially from Australia. These additional volumes are expected to displace higher cost iron ore supplies, particularly output from domestic mines in China.

Updated forecasts, published last month by the Australian Government's Department of Industry, suggested that world iron ore trade could grow by 57mt or 4% in 2015, to 1,393mt. The calculations point to most of the growth among importers being contributed by a large 46mt (5%) increase in China's imports, which could reach 935mt. In Europe, Japan and South Korea potential for growth seems very limited.

Coal

Prospects for coal trade seem to have deteriorated, amid further weakness in China's import demand and signs that this downwards trend may be set to persist. There is also uncertainty about Europe's requirements. Not all aspects are negative, however, as India's purchases remain buoyant and could continue expanding, while there are some favourable signs elsewhere.

Unfavourable influences affecting China's coal imports in the early months of this year have been evident. Following the country's sharp import decline in 2014, reducing the annual total (including low-quality lignite) by a huge 35mt, down to 292mt, a pattern of weakening seems to be evolving. Last year, much higher hydro-electricity output amplified the adverse impact on coal usage of government measures to control air pollution and shift towards cleaner fuels.

Minor bulks

Among minor bulk commodities, a large element consist of steel products (coil, sheet, plate and many other items). Global seaborne steel products trade has been on a rising trend, and apparently increased robustly to reach about 305mt last year, including sharply higher US imports. Another, perhaps smaller, global increase could be seen this year.

Bulk carrier fleet

Within the Panamax (65–99,999 deadweight tonnes) bulk carrier segment, world fleet growth could continue decelerating in 2015. During the previous twelve months, Panamax fleet capacity rose by 8.5m dwt (4.6%), reaching over 193m dwt at year-end, as shown in table 2. Newbuilding deliveries are expected to decrease this year, while scrapping may be higher, although both of these key influences are difficult to forecast accurately.

TABLE 1: WORLD SOYABEANS AND SOYAMEAL IMPORTS (MILLION TONNES)

	2009/10	2010/11	2011/12	2012/13	2013/14*	2014/15*
European Union	33.6	34.3	32.9	29.5	31.2	32.1
China	50.4	52.6	59.3	59.9	70.4	74.1
Other Asia	25.8	27.2	27.5	27.8	30.3	31.8
Others	30.5	31.5	30.7	32.5	37.2	36.8
World total	**140.3**	**145.6**	**150.4**	**149.7**	**169.1**	**174.8**
% change from previous year	+8.8	+3.8	+3.3	-0.5	+12.9	+3.4

source: US Dept of Agriculture (10 Mar15) *Oct/Sep marketing years* **forecast*

TABLE 2: PANAMAX (65-99,999 DWT) BULK CARRIER FLEET (MILLION DEADWEIGHT TONNES)

	2010	2011	2012	2013	2014	2015*
Newbuilding deliveries	14.4	22.2	27.1	20.0	13.3	13.0
Scrapping	0.7	5.2	8.7	5.0	4.8	5.0
Losses	0.0	0.2	0.0	0.0	0.0	0.0
Plus/minus adjustments	0.8	0.3	-0.1	0.0	0.0	0.0
World fleet at end of year	**134.7**	**151.6**	**169.9**	**184.9**	**193.4**	**201.4**
% change from previous year-end	+12.0	+12.5	+12.0	+8.9	+4.6	+4.1

source: Clarksons (historical data) & BSA 2015 forecasts **forecast*

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CONFERENCE SCHEDULE

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Indonesia
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9–11 June
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The Netherlands
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W: www.tocevents-europe.com

2–3 September
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TBA
Brazil
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W: www.coaltrans.com

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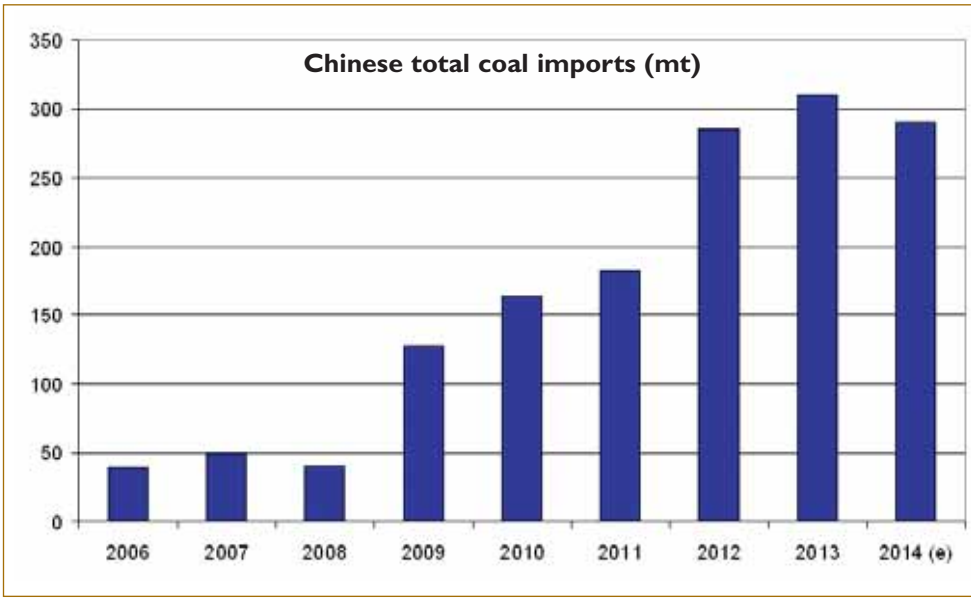
Asian Coal Trade 2015

Dr Tim Jones, e-coal.com

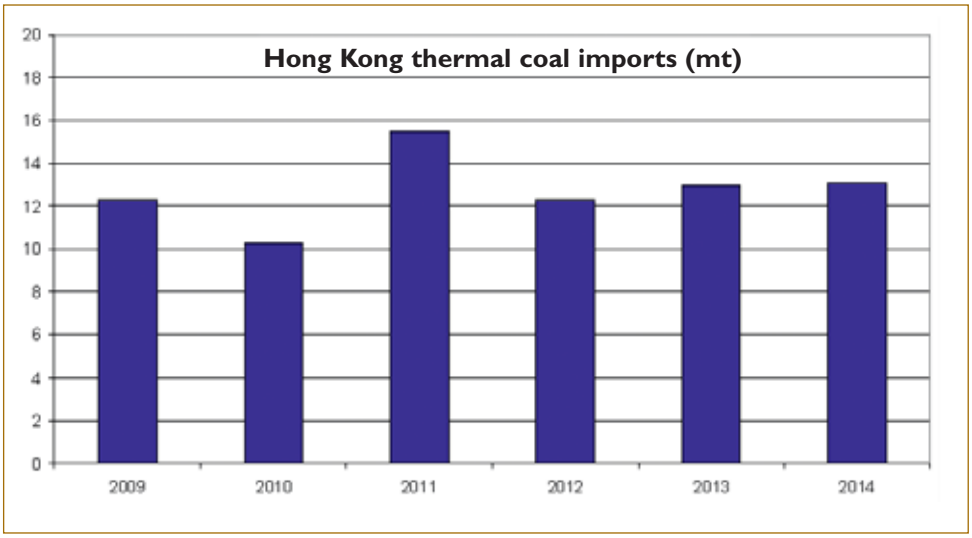
Asia continues to be the main area of activity in international coal trade this year. China and India remain major consumers and producers in the region, but with the former exhibiting lower economic growth during the past year. While GDP growth in China remains above 7% the country's consumption of coal has been decreasing by some 1.5% year-on-year. Coal production also declined last year, due to government intervention in order to tighten supply in the weak market. This economic trend is currently forecast to continue in 2015 but coal consumption is expected to grow by a modest amount. That is also likely in 2016 so China remains a key market for coal imports in the Asian region albeit as a less spectacular one than it has been during the past decade. The international market is sensitive to any government intervention in the Chinese market which occurs from time to time, and this has been the case again over the past six months.

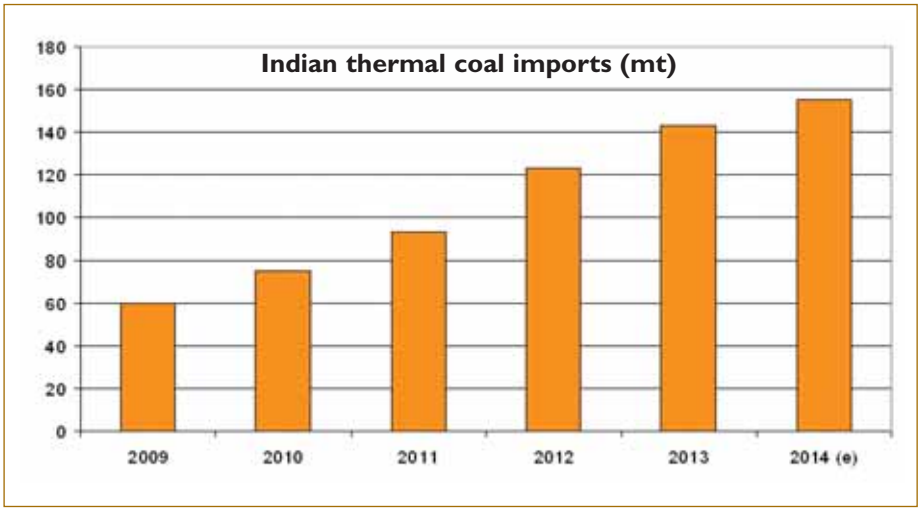
China exported about 2.45mt (million tonnes) of thermal coal last year which reflects its decline as a major coal exporter over the past few years. The only reported markets were in Japan, Korea, and Taiwan in 2014, and China is now established as



a net importer of coal. Exports to these markets decreased during 2014 and prospects for 2015 look lacklustre. One of the main constraints on Chinese coal export potential is the relatively high cost compared to competitors in the international market. The e-coal.com China Spot Price has been around US$80-90/t FOB basis 6,000kcal/kg NAR (net as received) which places the shippers well out of the running for most buyers amid the current weak market. This compares with around US$60/t in Australia and Indonesia, as well as Russia in the Asian region. Almost three quarters of China's coal mining companies have been recording losses and wage payments have also been a problem to meet during the past year. The China National Coal Association

continues to lobby the government over economic issues affecting the domestic coal industry. This probably helped in making the decision to reduce export tariffs from the beginning of 2015. The tax rate was reduced from 10% to 3% on all coal for export, which was hoped to increase the shippers' competitiveness in the international market. The Association is also lobbying for a reduction in the rate of VAT on coal mining from 17% to 13%. As the first quarter of 2015 comes to a close, the Chinese coal exporters continue to be uncompetitive in the market, and domestic supply appears to be more than adequate. Some tonnage may be being sold at competitive rates but these deals remain unconfirmed. Stocked coal needs to find a buyer somewhere. Of the major power stations surveyed, around 100mt of coal was reported to have been in the stock piles at the end of 2014. In the coming years, coal is expected to face competition from substantial additional nuclear and hydro generation capacity, particularly in the coastal areas which have been key markets for imported coal.

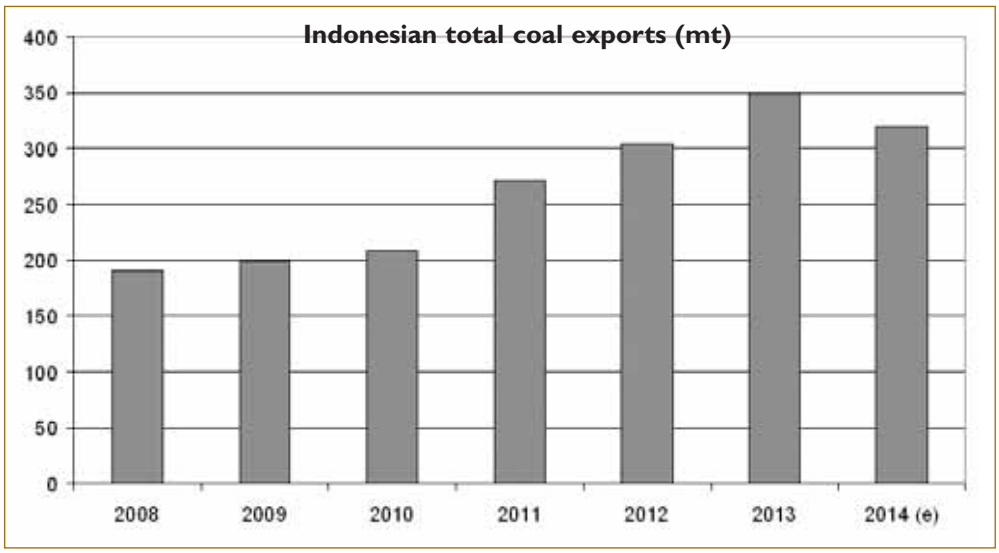


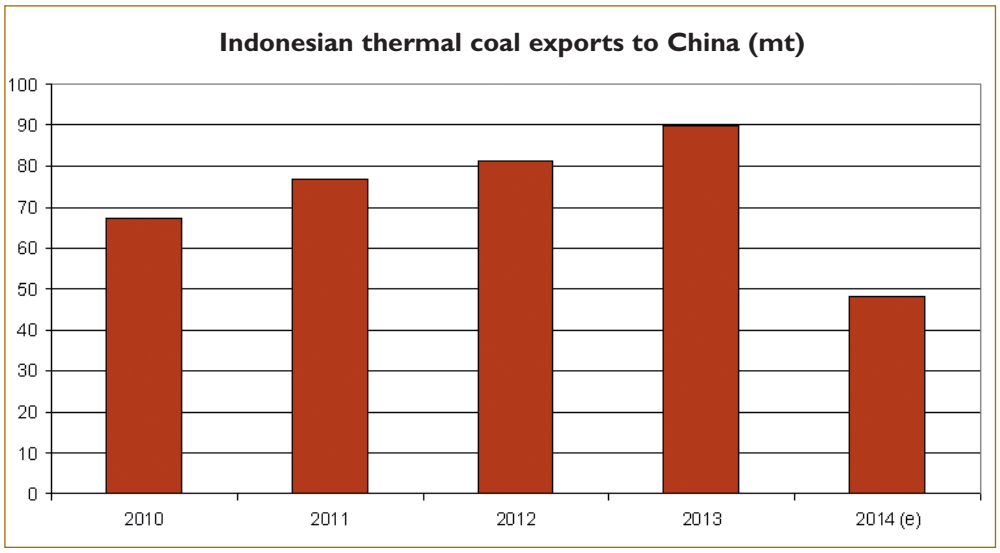


Demand for imported thermal coal in China slowed in the second half of 2014 after a stronger start. The decline was attributed to high availability of hydro power amid low prices and high coal stocks at the domestic mines. The overall weaker economic situation did not encourage firm consumption of thermal coal during the second half of 2014. The latest estimate for total coal imports in 2014 is 197mt. About 60mt of this was low grade lignite, and thermal coal imports were an estimated 133mt. The quantity of lignite being imported increased during the panic over the threatened ban on low grade coal which the government announced during 2014. Indonesian exporters provided the bulk of the low grade coal taken by China last year.

As the new quality control regulations came into force at the start of 2015 there were reports of delays at the receiving ports in China, and there were even some reports of cargoes being turned back. Whether these were returned to their origin, or were able to find new buyers outside China is unclear. The whole exercise was, however, extremely costly and probably caused more overall environmental emissions and other impacts than if the coal had been accepted. As mentioned earlier in e-coal.com *Coal Market Intelligence* the Chinese authorities now require all suppliers of coal to provide a trace element analysis and to guarantee those limits. Market reports indicate that this is not being done in all cases due to the potential for future claims on the supplier. Others have been providing such analyses with guarantees while demanding a premium on the coal price.

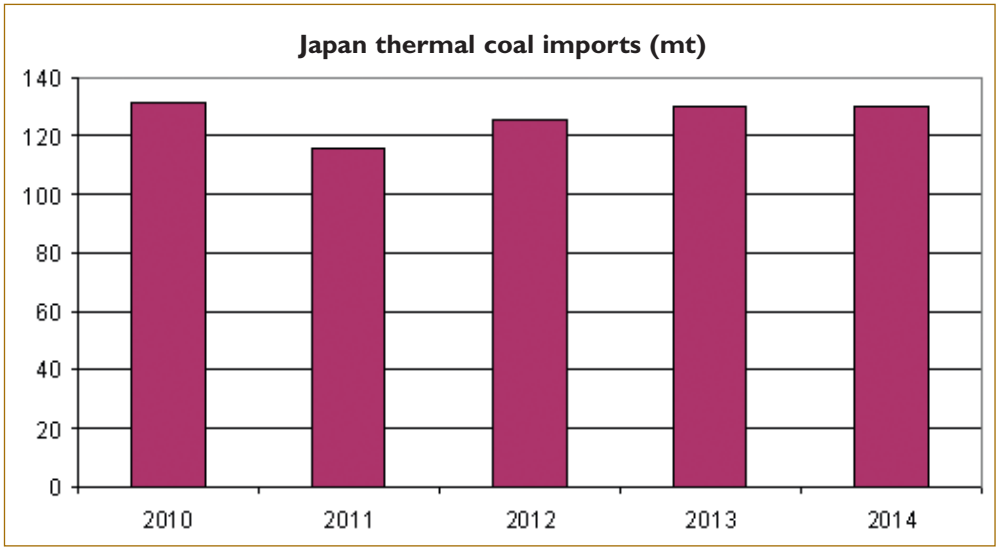
Previously accepted material with certain specifications will





no longer be permitted. These include lignite with sulphur content of more than 1.5% and ash above 30%. Any other coal with sulphur content above 3% and ash above 40% is also banned from being imported. There will also be limits on coal specifications if it has to be transported more than 600km from a port or mine to the consumer. Some of these rules are quite cumbersome. Lignite with CV lower than 3,941kcal/kg NAR, sulphur content greater than 1%, and ash above 20% is one limit. Other coal with CV higher than 4,300kcal/kg NAR and sulphur content above 2%, and ash above 30% is another limit. The Chinese government has also imposed new rules on other elements potentially present in coal, and these include arsenic, chlorine, fluorine, mercury, and phosphorus. The paperwork for shippers has also grown, and requires details on the originating mines of the coal, the location and contact details of the consumer, and the transport distance.

The Indian coal sector is estimated to have seen growth in imports of about 26mt in 2014, taking the total to about 160mt. The major supplier country was Indonesia last year with an estimated 115mt, with South Africa coming second, and Australia also with significant tonnage of over 6mt. Other countries including Chile made up the remainder of an estimated 25mt of imports. Coal India Limited, which produces about 80% of the country's coal, had set a production target of 507mt of coal for FY2014, but is falling short of achieving that quantity. The miner is, however, increasing output each year but is not being able to meet the new annual target.



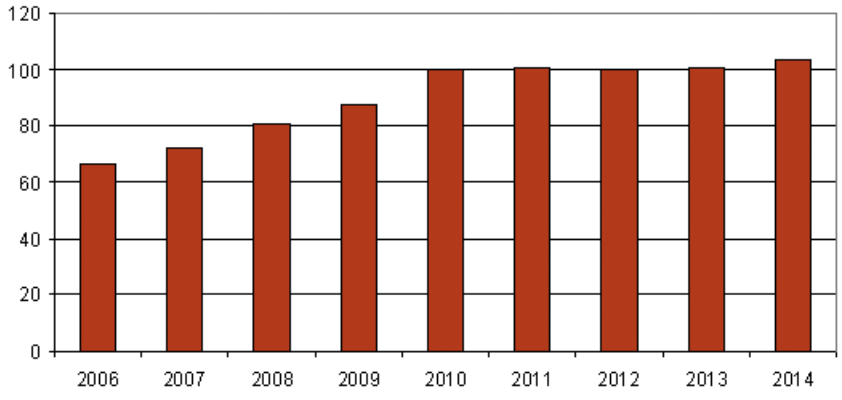
The target last year was 452mt. India relies on coal for more than three quarters of its electricity generation, and about 60% of installed capacity is coal-fired. The country is managing to increase thermal generating capacity more rapidly than it has been targeting.

Players in the Indian coal market saw a more stable situation during 2014 following the elections in April, and this helped trade compared to the previous year. Domestic producers and traders, as well as international players had sought clarification of various government regulations which were then forthcoming. The rupee also stabilized and strengthened, and this was seen as a boost to the coal sector. The slump in the coal and freight market also allowed buyers to import coal at much lower delivered prices in 2014. A decrease of about 25% was seen for South African coals, while coal from other supplier sources was purchased at smaller but still significant decreases. The South Africans benefited from these market conditions and sold around a third more coal to India in 2014. The final tonnage is estimated to be around 30mt compared to about 20mt in 2013. With new restrictions affecting the Chinese markets in 2014, Indonesian shippers were able to take advantage of the firmer demand from India and sold substantially more tonnes there compared to the previous year. Although prices were weaker for the Indonesian exporters, there was less of a severe impact due to the Chinese rules, and Indian buyers welcomed the lower prices in rupee terms as well.

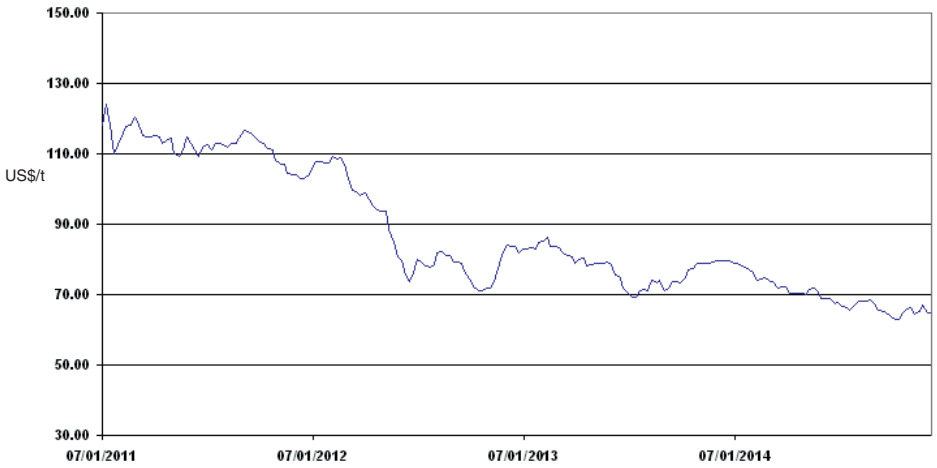
Domestic coal production and supply in India continues to be constrained by regulations. A new Coal Mines Bill was not passed as hoped last year, so the coal sector is still lobbying for this legislation to be implemented in order to increase supply of domestic coal. Consumers would benefit from the new legal provisions which would give access to new coal blocks to the state miners as well as private companies following government auctions. Meanwhile, the steel makers, cement industry, paper mills, and other consumers face supply issues on a regular basis. The future of imported coal looks firm and is likely to continue to grow until the regulations improving domestic coal mining are introduced. This could take more time, based on recent experience.

Transport infrastructure remains inadequate in India and these constraints have impacted the ability of importers to bring in as much coal as they had hoped for. Organization and logistics remain a problem, with plenty of opportunities to improve efficiency. Coal receival at the ports has been slower than required, and vessel congestion has been an issue. This was more serious on the east coast where the bulk of Indonesian coal imports seems to have been arriving. A substantial investment is being made to expand port capacity with some reports indicating close to US$10bn could be spent in the next few years. The railways are also under severe pressure to transport sufficient coal to the consumers, and there is a serious shortage of coal wagons. Transport by rail is cheaper than the alternatives, so the

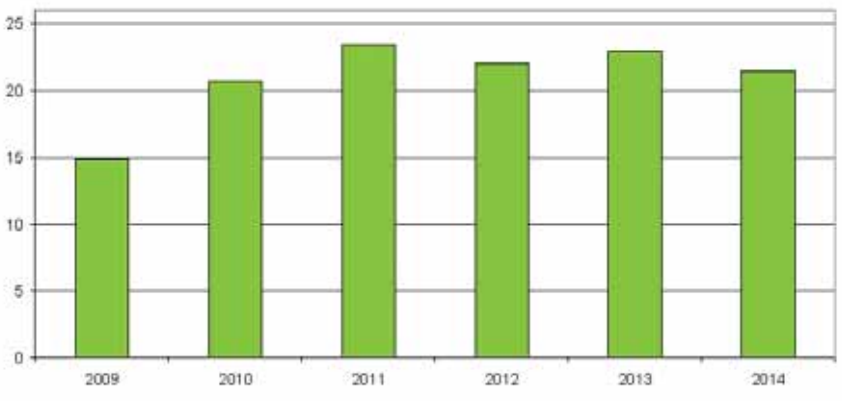
Korean thermal coal imports (mt)



e-coal.com Mahakam River Spot Price (FOB barge basis 6,700kcal/kg GAD)

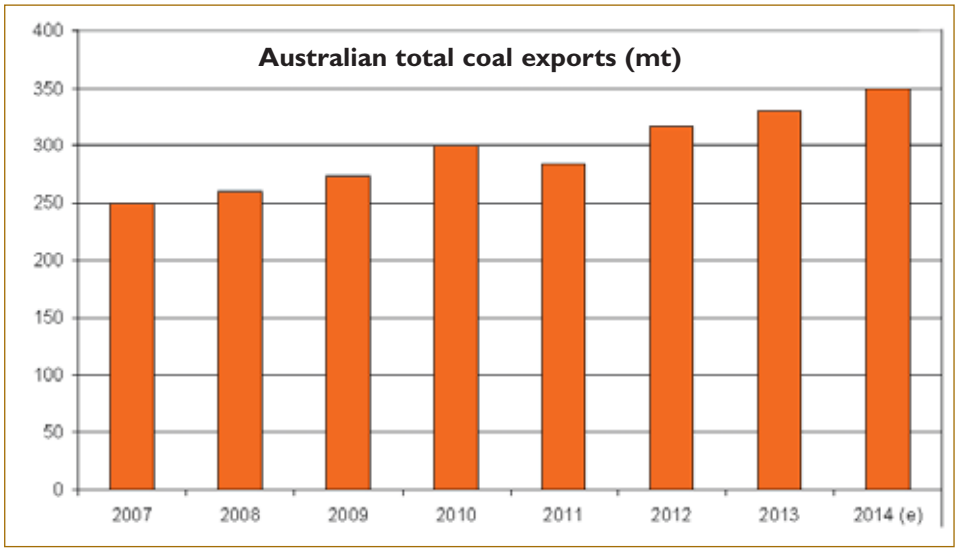


Malaysian thermal coal imports (mt)



shippers and customers have been adversely affected when they are forced to use road haulage at substantial additional costs. In some cases this is reported to have added an extra third onto the cost.

The Japanese thermal coal market has been firm and steady over the past couple of years, with a modest increase in imports reported for 2014. This brought the total to about 130mt which was an increase of some 0.5mt. The buyers took advantage of the much weaker Russian rouble last year, and purchased more coal from that country. Growth in

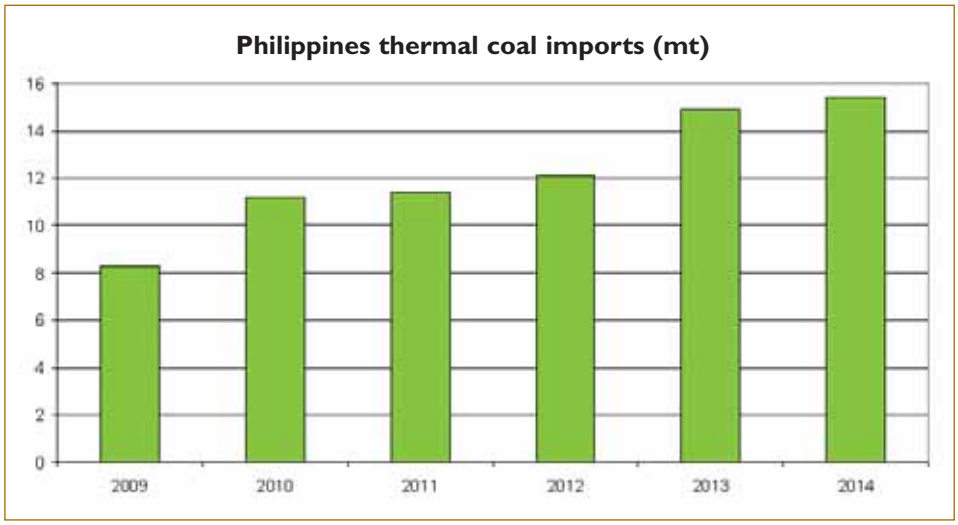


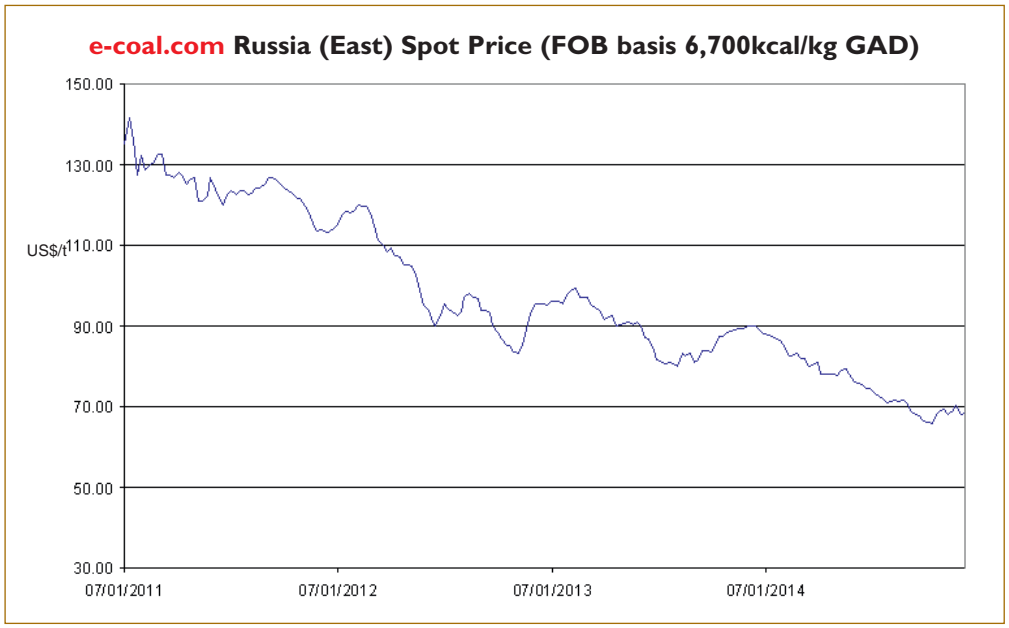
Russian supply reached a total of some 9.8mt which was an increase of 1.8mt or 18.3% compared to 2013. The most competitive alternative supplier country was Indonesia, but the Japanese took less of its lower quality material in favour of the better priced and higher quality Russian coal. Around 35mt of Indonesian coal went to Japan in 2014 which was the lowest amount since 2011. The freight disadvantage also did not favour shippers further away, including Canada, South Africa, and the USA. Imports to Japan from those countries were lower in 2014 compared to the previous year. Australia maintained its role as the main coal supplier to Japan with around 80mt shipped in 2014 which was about the same as in the previous year.

Since the Fukushima disaster, Japan has almost 50 nuclear power plants inactive and this has contributed to the increase in

coal-fired generation over the past three years. There are indications that some nuclear power generation will resume in the coming months after safety regulators have completed their work. The Sendai nuclear power station operated by Kyushu Electric Power has been given approval to resume generating electricity. It will the first nuclear plant to be reactivated since the Fukushima disaster.

Japan has a large programme of coal-fired power generating capacity expansion, with around 13.6GW of new capacity planned. A number of these could be commissioned over the next five years, and would lead to additional demand for imported coal. If the current programme is completed in the next decade or so, at least an extra 7mtpa of imports could be required.

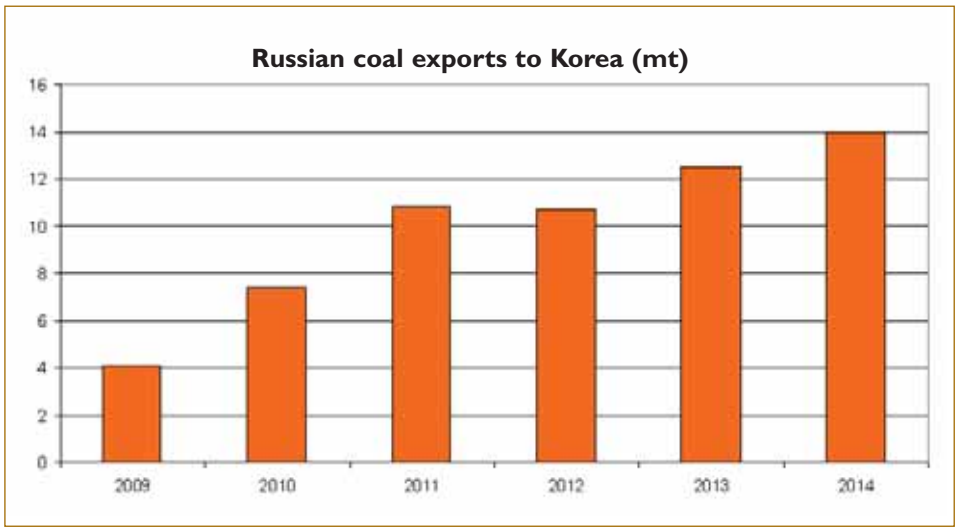


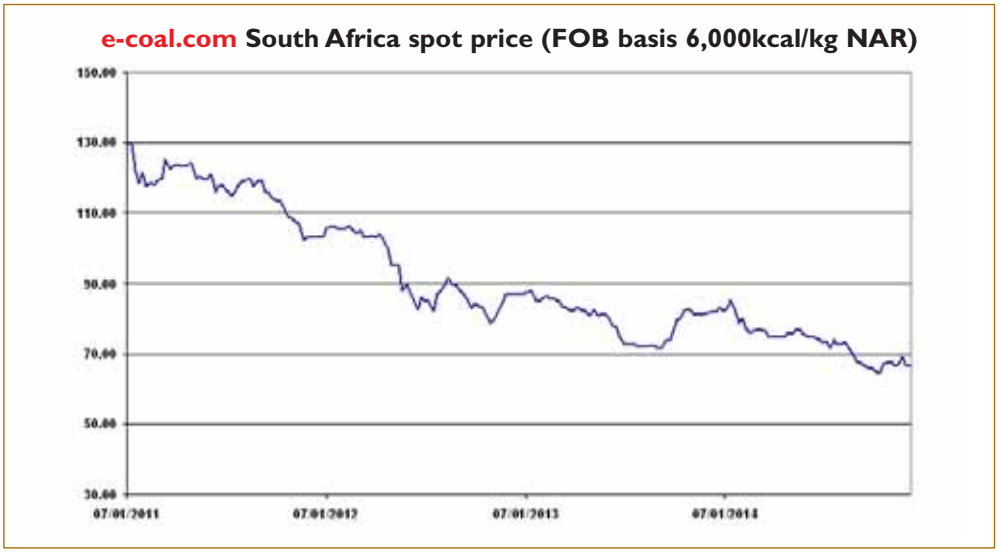


Demand for coal in Korea has remained firm over the past year, and imports are believed to have reached over 100mt in 2014. Australia and Indonesia remained the key suppliers with less impact from cheaper Russian material than in Japan. The Russian suppliers gained market share, however, but at the expense of less competitive suppliers such as the USA. Imports of coal from Russia increased by some 1.7mt to reach 13.2mt while US shippers lost out by the same amount taking their total shipments to just 0.4mt.

Last July, the Korean government introduced a new tax on coal consumed in the power sector, and this has resulted in greater use of higher quality coals while consumption of lower quality material decreased. More sophisticated blending techniques are being developed for those boiler designs based on the low quality coals largely sourced from Indonesia, and demand for that product will continue albeit at a lower level. Korea has plans to commission an additional 10GW of coal-fired power generating capacity over the next two years. This is expected to result in increased demand for coal over the next few years, and several million tonnes of further imports each year will arise. While nuclear generation could impact coal consumption in the future, the government has imposed very strict safety regulations on the operators and this could slow down the increase in nuclear power over the coming years.

On the supply side in the Asian coal market, the Indonesian Coal Mining Association is understood to be pleased that their new export regulations and permitting system look set to curb illegal mining. The issue has persisted for a couple of decades and there have been many attempts to stop the practice. The quantity of illegally exported coal is, however, believed to have grown to some 100mt by the end of 2013. The latest system is welcome although delays in

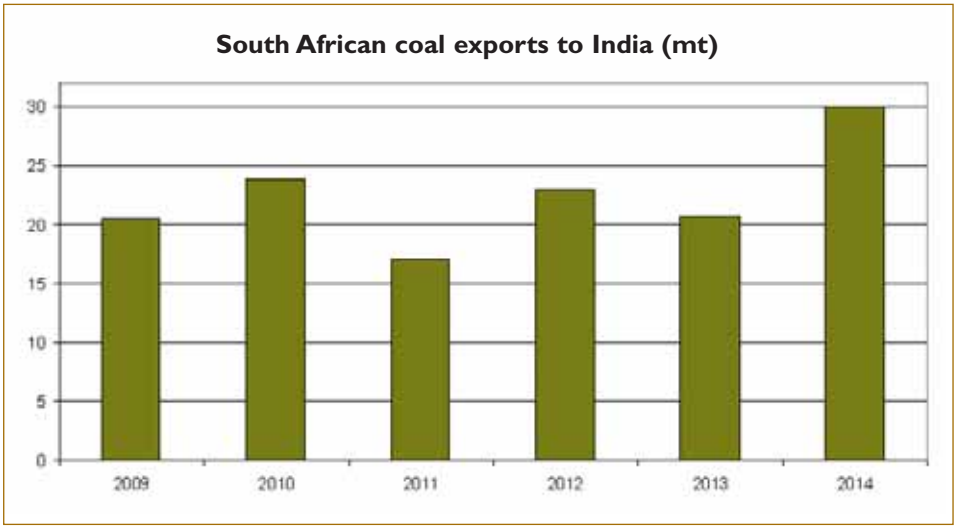




year after a strong 2013 as well. They have been seeing firm business in China and India, with the former now set to favour their higher quality material for imports in 2015 and beyond. Other countries remain firm buyers of Australian coal and these include Korea and Taiwan, as well as Malaysia, Thailand, and Vietnam. The main buyer, Japan, took less thermal coal in 2014 but other markets presented an opportunity such as Mexico. The European market remains a smaller target for the Australian thermal coal shippers, but it continues to show interest in the coking coal exporters.

providing legitimate exporters with timely permits this time has cost some of them in lost business. In an effort to bolster prices the government had a production target of 420mt in 2014, which was level with 2013. The impact on illegal mining will be interesting to watch, and is likely to affect the market.

New regulations and export licence terms are believed to have had an impact on Indonesian coal supply last year, with the total estimates being anywhere from 390mt to 420mt. Data from the importers has been of more use in trying to determine the figures, but it remains unclear. The new rules on low grade coal imports in China had a significant impact, offset somewhat by Indian demand. More than 30mt of coal production in the country is probably not accounted for in a timely manner each year and this seems to have been the case in 2014.

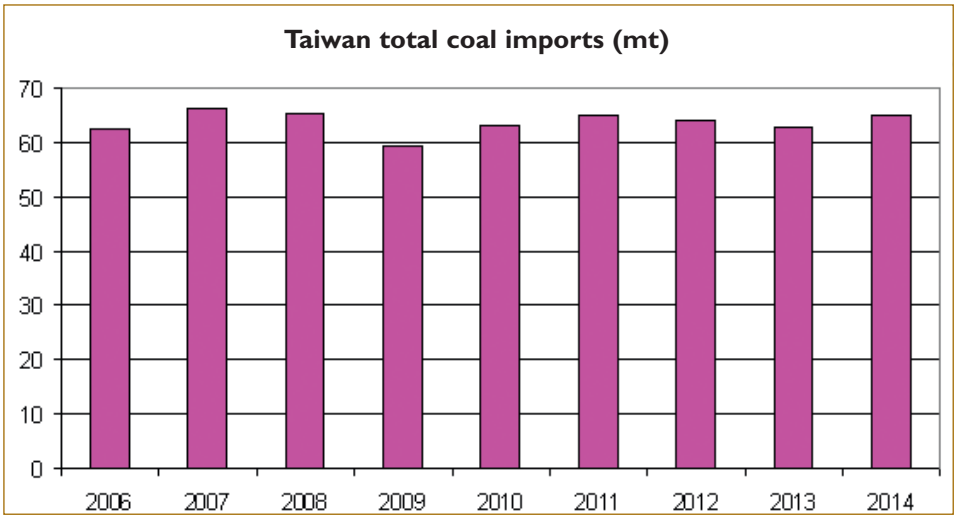


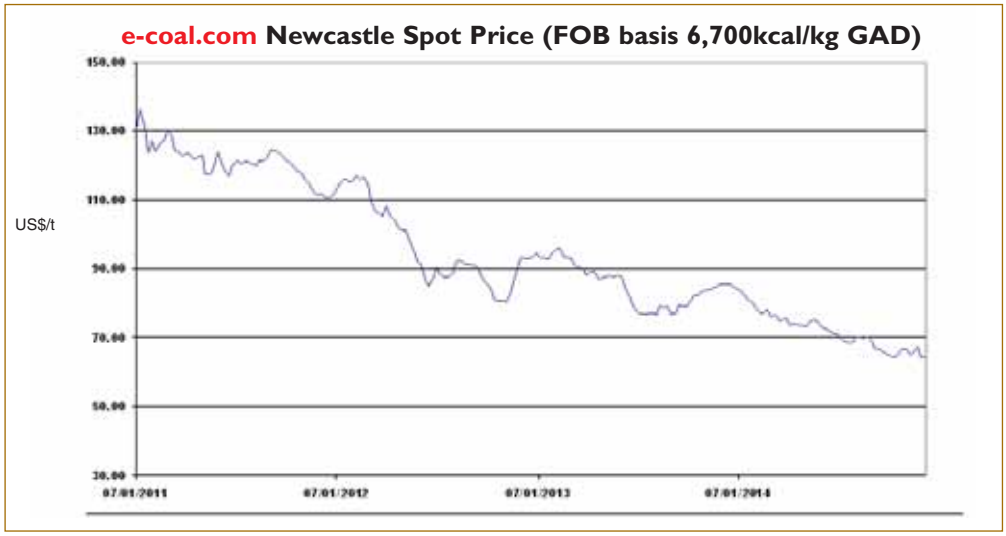
While Indonesia remains dominant in the supply of thermal coal to the Asian market, the shippers not only face regulatory changes this year, but also competition from Russia with its weak rouble, and suppliers of higher quality coal from South Africa and Australia to China.

The Australians enjoyed growth in their exports again last year after a strong 2013 as well. They have been seeing firm business in China and India, with the former now set to favour their higher quality material for imports in 2015 and beyond. Other countries remain firm buyers of Australian coal and these include Korea and Taiwan, as well as Malaysia, Thailand, and Vietnam. The main buyer, Japan, took less thermal coal in 2014 but other markets presented an opportunity such as Mexico. The European market remains a smaller target for the Australian thermal coal shippers, but it continues to show interest in the coking coal exporters.

The coal suppliers in the Asian region will be keeping an eye on growth markets in 2015. These include the large market in India where domestic supply remains inadequate, and the smaller countries with big appetites including Korea, Malaysia, and Vietnam in the east. The accompanying charts indicate recent trends and coal import volumes in those countries.

With coal prices falling since 2010 the coming year looks set to be another challenging one for coal shippers to the Asian markets, as well as the producers in some of the consumer countries. India is expected to continue its growth in demand and is also forecast to pass China as the main importer of thermal coal in the Asian market. Coal-fired power generation will remain firm in countries like Japan, Korea, and Taiwan while additional capacity is being brought on in Vietnam and Malaysia. The Australian and Indonesian suppliers dominate the market, but they are still facing challenges and pursue cost reduction policies after several challenging years now. A strong



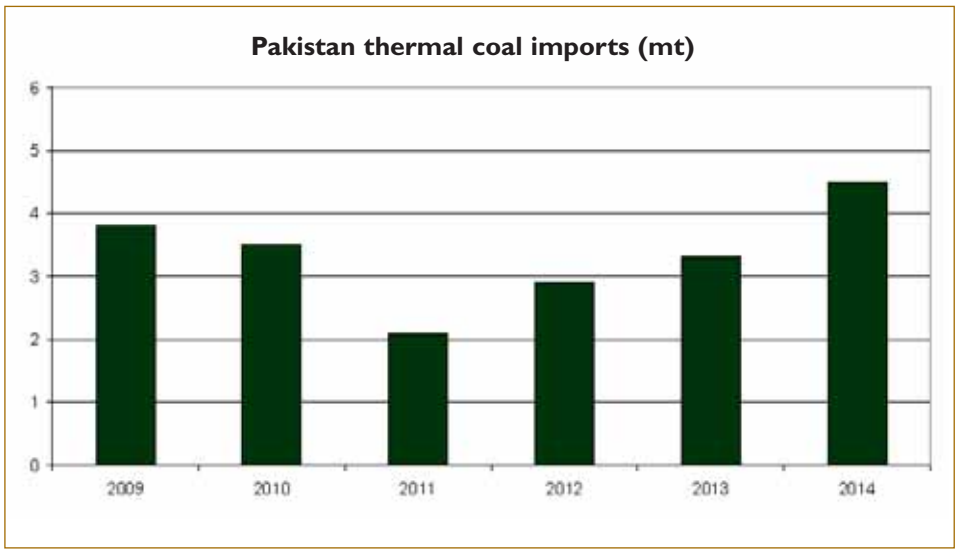


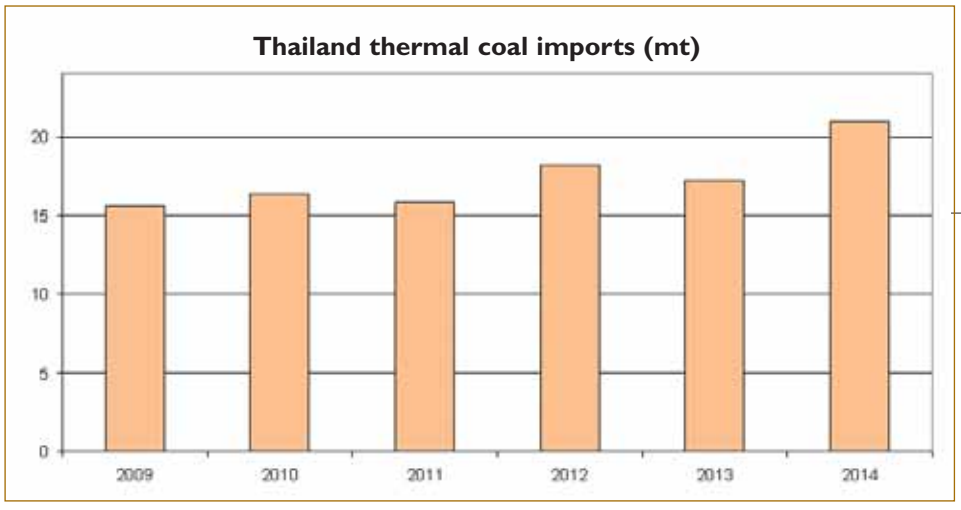
Australian dollar softened the blow for many of the operators, but other factors are contributing to the high supply situation that persists in Australia. Where the shippers are locked into a take or pay contract they are motivated to increase available tonnage, and this of course does nothing to help the coal price by bringing supply more into balance with demand.

In Russia the collapse of the rouble by some 50% against the US dollar as a result of economic sanctions is understood to have benefited some coal exporters by making them more competitive in the international coal market. This has resulted in increases in market share in some countries during 2014. A new record in overall coal export tonnage was set, but this includes all coals into other markets as well as Asia. The growth in coal imports in Pakistan which is a smaller consumer country is mainly due to increased demand from its growing cement industry, and this is expected to continue.

Overall then, there will be plenty of activity in the Asian coal market again this year, and the region will dominate trade volumes in the international coal market. At the time of writing, buyers in Korea and Taiwan were busy in the thermal coal spot tender market, allowing all players to gauge the price levels being offered from the usual shippers. Hard coking coal shippers have been seeing a weak market and their brands have been on offer at relatively low prices. The outlook for freight has been for a softening market as well, so delivered prices are currently low across the region.

Until producers are free from constraints preventing them from reducing output without financial penalties the supply situation is not going to change. Coal prices will stay low for as long as the current level of balance persists and this will suit the consumers throughout the Asian region. The key changes will be the move towards higher quality coal and greater efficiency in the established markets. India looks set to be the dominant growth market for coal in the coming few years. As always, there will be plenty of business done and the sector will be the most dynamic in the coal world. DCi





Dr Tim Jones is Director of e-coal.com Consultancy and Editor of the weekly publication Coal Market Intelligence *which covers 11 spot markets worldwide, gives key information on the latest deals and tenders, company news, people and jobs, industrial relations, and ports, shipping, and freight rates.*

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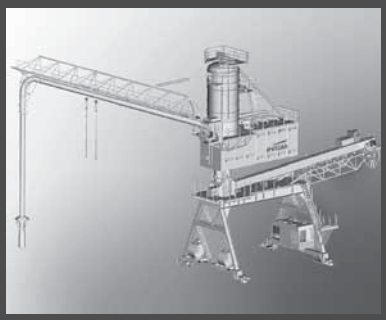

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Asian agribulk

Kunal Bose

India's winter crops damaged by unseasonal showers and hailstorms

Food price inflation pinches at least half the 1.25bn Indian population hard. This is of much concern to the government of the day. Weather behaving untowardly at crucial points of crop growing and harvesting leaves the government in jitters. This has happened now as some strong showers and hailstorms through most of March have left winter crops like wheat in particular and also pulses, rapeseed and potatoes damaged in as many as 14 states across the country's north and the centre. This agriculture season (July 2014 to June 2015), 61m hectares were committed to winter cereals and about 2m hectares to fruits and vegetables. Based on land use and weather behaviour ahead of heavy rains in March, the government in a second advance estimate released in February scaled down likely wheat crop output to 95.76mt (million tonnes) from last season's 95.85mt. But the scene has turned worse since.

The saving grace is following a video conference between the prime minister's office (PMO) and untimely rain affected states and some rapid field assessment of damage, it appears winter crops and also vegetable and fruit farms have taken a hit in up to 11.4m hectares and not 18.1m hectares as was feared earlier. Of the total affected area, the major winter crop wheat suffered at over 6.2m hectares out of a sown area of 30.6m hectares. According to initial reports from states coming under the spell of unseasonal rains, winter wheat production could be down between 4% and 5%. The country may harvest around 91mt if the damage is taken at 5%. What, however, is not to be ruled out at this stage as harvesting has begun that the wheat crop could be even lower.

Awaiting a comprehensive assessment of the extent of crop damage by government agencies, leading farm industry official Om Prakash Dhanuka says, "Unfortunately unseasonal heavy downpour happened just ahead of wheat crop harvesting. I understand the top high protein wheat producing states of Madhya Pradesh and Rajasthan have suffered the most." No wonder, no sooner did Indian flour millers come to know of the crop setback, they bought over 80,000 tonnes of Australian prime wheat for April–May shipments at prices ranging from $260 to $265 a tonne, including freight. All the orders combined make it the biggest wheat import by India since 2010 when, according to US Department of Agriculture, the country bought around 200,000 tonnes. Purchases since then were low because of regular good domestic production. India being the world's second-biggest producer and consumer of the grain, any significant purchases by it following crop setback cannot but cause a price rally as was seen this time in the movement of benchmark Chicago prices. Besides lingering uncertainty about the Indian wheat crop, size and quality wise, the world market has concerns over dry weather and rising temperatures negatively impacting the US winter crop.

Will unseasonal rains causing yet-to-be estimated damage to Indian pulses production not lead to higher imports than is generally the case? India is the world's largest producer,

consumer and importer of pulses, a key source of protein in vegetarian diet. According to India Pulses and Grain Association, the country's annual requirements of all kinds of pulses are around 23mt while domestic production, depending on how much land is committed to pulses in a season and behaviour of weather, ranges from 18mt to 19mt. The gap in demand and supply is met by imports mainly from Australia and Russia. But regular imports are also made from Ethiopia, the US and Canada.

Though duty free imports of black and white chickpeas are allowed to avoid shortages developing at any point, the government keeps an eye to ensure that under the weight of imports, locally produced pulses prices do not sink below minimum support prices. The national objective is to step up pulses production from the same land generally available to the crop by raising productivity through improved farm practices. To engage farmers proactively in a crop, returns for their efforts and investments have got to be adequately rewarding. In the case of pulses, the government is playing the role of arbiter between the demand of traders to maximize imports and local farmers' legitimate expectation of remunerative prices.

In the meantime, New Delhi has constituted a ministerial group headed by home minister Rajnath Singh to decide the financial compensation to be given to farmers whose crops got damaged by unseasonal rains. Agriculture minister Radha Mohan Singh admits that "the current assistance given to farmers in distress under the government's disaster relief fund is inadequate. This needs to be raised." Farmers should not only be compensated for the crop loss but they should also be helped to get ready to grow the next crop. New Delhi claims all Indian states have adequate money under State Disaster Response Fund to bail out farmers when disasters like March heavy rains occur. Moreover, the federal government has announced its readiness to make available additional funds to states if need be. Whatever the reason, the government headed by Narendra Modi has a distinctly pro-industry and anti-farmer image. The crop loss provides the government with an opportunity to correct the perception by suitably raising the compensation amount and also disbursing it quickly.

"India's buffer stock of wheat and rice during most part of a year is well above the norm the government itself has set. This no doubt is the result of fairly rich harvests in recent years and the government's massive food procurement programme. Food security at all times and compulsion to make available 61.4mt of food grains under various welfare schemes at highly subsidized rates underpin the need to maintain minimum inventories, but which need to be scientifically worked out," says Dhanuka.

"When food grain inventories exceed the benchmark, more than one problem arises. First, in the absence of adequate and proper storage facilities, wheat and rice are exposed to nature leading to an unacceptable level of wastage. Second, with overflowing grain stocks resulting largely from lack of commercial judgement, the Exchequer already under stress comes under compulsion to finance more than the needed inventories. Third, it is not that such large wastage as seen in India and loss of quality are not avoidable," argues Dhanuka. He questions whether it would make sense for the country to actively engage in export in times of bumper harvest to avoid the cost of surplus food grains maintenance but hedge simultaneously for buyback if shortages in future warrant?

Dhanuka's argument makes commercial sense. But the government needs strong political will to ask its own trading houses like STC and MMTC and carefully chosen similar private enterprises to engage prudently in sales, hedging and buyback of

Leading farm industry official Om Prakash Dhanuka.

farm commodities. That wheat production this year will fall short by a few million tonnes of an estimated consumption of 94mt is now a given. But that is not of concern since the government held stocks of close to 20mt at March beginning against buffer requirement of 7mt. The concern is about quality of the new crop and the challenge is surplus food management.

The crisis that has befallen the Indian sugar industry, the world's second largest after Brazil, would have been largely avoided if New Delhi had supported exports by giving adequate but WTO compliant subsidy to exports of raws and discouraged imports by way of penal customs duty. Indian sugar factories owe cane supplying farmers nearly $3 billion because of sugar prices not even fully compensating the cost of cane, not to mention wage bills and other cost components. Not only are all sugar companies across the board in the red, the industry has ceased receiving fresh investments in modernization and capacity expansion. "The only way for India to export is for government owned trading houses STC and MMTC to buy sugar from factories at production cost at least and then sell it in the world market. That way, the industry will be relieved of a portion of inventory burden and the local market sentiment will somewhat improve in turn," says Dhanuka who owns a factory in Bihar. The May delivery raw price on New York's Intercontinental Exchange (ICE) is trading at well below 13 cents a pound.

But why are sugar prices trading at multi-year lows? Recall February 2011 when sugar futures traded at 36.08 cents a pound. Since then, sugar made quite a few peaks and lows. As the commodity is facing headwinds on more than one count, it could still seek lower prices. First, according to US Department of Agriculture, the world sugar production in 2014/15 (October to September) will be an estimated 175.59mt against actual output of 175.7mt in the previous year. What will put pressure on prices is the expected current season ending stocks of 44.4mt. Remember nearly 80% of sugar is extracted from cane and the balance from beet. Cane crop being perennial in nature, it is not easy for growers to switch to other crops when returns like now are poor. The Brazilian currency being at 12-year low, the South American country Brazil, the world's largest exporter of sugar, now has an extra incentive to sell aggressively in the world market. Finally, where is the incentive to produce biofuel from cane when oil prices are trading this low? So more and more cane for producing sugar.

In the meantime in a break from a regular rise in Indian agro exports since 2010 financial year, the year ended March 2015 saw exports slipping by $3bn from $32bn. Fall in agro exports of this order did not impact the country's trade balance much because of sharp falls in oil and gold prices. But Indian farmers did take a hit as lower agro exports had a bearing on prices and therefore, on their income.

ClassNK establishes new rules for bulkers and oil tankers

Major classification society ClassNK (Chairman and President: Noboru Ueda) announced the establishment of its Common Structural Rules for Bulk Carriers and Oil Tankers (Rules for the Survey and Construction of Steel Ships Part CSR-B&T) on 27 February. These new technical rules were developed in response to the adoption of the Common Structural Rules for Bulk Carriers and Tankers by the International Association of Classification Societies (IACS). The requirements in Part CSR-B&T apply to both bulk carriers 90 metres or longer and oil tankers 150 metres or longer whose contracts for construction are dated on or after 1 July 2015.

In addition to the above, other relevant parts of the ClassNK Rules and Guidance for the Survey and Construction of Steel Ships were also amended on 27 February to reflect the establishment of Part CSR-B&T.

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Delivery of 'Corona-series' coal carrier 'Corona Triton'

Kawasaki Kisen Kaisha, Ltd., Tokyo, ('K' Line) has proudly announced the delivery of the *Corona Triton*, an 88,000dwt-type special coal carrier at Marugame Shipyard of Imabari Shipbuilding Co., Ltd., Japan on 7 April this year.

Corona Triton is same type as 'K' Line's specialized fleet for transport of thermal coal known as the 'Corona-series'. The Corona-series consists of epoch-making coal carriers equipped with wide beam and shallow draught, which are the most suitable type to enter ports of domestic thermal power stations to discharge cargo.

VESSEL SPECIFICATIONS

LOA	229.98m	Deadweight tonnes	88,881dwt
Beam	38.00m	Gross tonnes	49,720t
Depth	19.90m	Net tonnes	28,545t
Full draught	13.904m	Hold/Hatch	5/5

With this new latest deployment, the Corona-series now consists of 18 carriers. 'K' Line is proud that its Corona-series has been so favourably evaluated for always ensuring a steady and reliable thermal coal transport service for its customers, with maximum safety.

GAC Netherlands & GAC Belgium join Green Award Foundation

As part of their continuing commitment to supporting environmental issues, GAC Netherlands and GAC Belgium have signed up to the Green Award (GA) Foundation's incentive scheme. Under the agreement and with immediate effect, ships that are GA-certified and which utilize GAC's ship agency services at ports in either country can claim a 5% discount on GAC's agency fees.

Extra clean, extra safe

Jan Fransen, Executive Director at Green Award Foundation, says: "In the ever increasingly challenging shipping industry, GAC was willing to take an initiative to provide a new type of incentive by granting discounts on their agency fees. On top of promoting extra safe and extra environmentally friendly shipping, Green Award is also about creating a platform in which we are able to assist the frontrunners in attaining the recognition they deserve. This creates a strong foundation for an industry-wide joint maritime Corporate Social Responsibility." GAC is one of the world's largest ship agencies with a long standing reputation for quality service. Handling more than 60,000 port calls annually through a worldwide network consisting of more than 300 GAC offices in over 50 countries and carefully selected network partners in all other locations, the company is a keen supporter of environmental initiatives.

Mark van den Akker, Managing Director of GAC Netherlands and GAC Belgium, says: "GAC is thrilled to be working with Green Award and to help its members save costs. Environmental issues are high on our agenda, as evidenced by our new HullWiper technology from GAC EnvironHull, and our yearly Chairman's Award for Environmental Excellence."

Jan Fransen (Executive Director, Green Award Foundation), right, welcomes Mark van den Akker (Managing Director, GAC Netherlands Ltd & GAC Belgium NV) to the Green Award Foundation.

About GAC Group

GAC is a global provider of integrated shipping, logistics and marine services. Emphasizing world-class performance, a long-term approach, innovation, ethics and a strong human touch, GAC delivers a flexible and value-adding portfolio to help customers achieve their strategic goals.

Established since 1956, GAC employs over 10,000 people in more than 300 offices worldwide.

About Green Award Foundation

Green Award certifies sea-going oil and chemical tankers, bulk carriers, LNG carriers, container carriers and inland navigation barges. Its assessment criteria cover environmental, quality and safety aspects, and performance of management and the crew. With this comprehensive approach and a diverse team of the industry's experts supporting the scheme, Green Award secures the quality of its audits and real value of its certificate. With over 50 ports and other maritime related organizations providing discounts to the certified companies and ships, the scheme motivates ship owners and managers to invest in the improvements on board and ashore and serves as a reliable Corporate Social Responsibility and risk reduction tool for participating shipping companies, ports and maritime service providers.

Ship owners should stop their seafarers eating fish caught from vessel


Henry Anderson.

Allowing seafarers to eat fish they have caught off the side of their ship is a sure way for the crew to contract food poisoning and it can take a whole ship out, according to one of the shipping industry's leading voices on food quality and catering standards onboard ship.

This comment by Henry Anderson, Consultant Chef and Founder of Marine Catering Services, followed recent media reports that 14 crew from a Japanese bulker in Canada were hospitalized after they contracted ciguatera fish poisoning which is caused by eating tropical fish that consumed toxin-producing algae.

"When I am onboard vessels training the crew on menu preparation and food hygiene, I give clear instructions to all crew members not to go fishing for fresh fish when ships are at anchor as you don't know if the fish has been caught in red tides. Nor are you able to detect whether any caught fish has toxins within their system, as that can only be obtained by laboratory examination of the product.

"Ship owners and managers should buy their fish products from reputable suppliers as this proves traceability of the product purchased and complies with due diligence procedures should anyone should become sick. This is also backed up by written food temperature controls in which any meal can be traced back to the menu," he said.

Ship owners can find themselves privately sued for damages if a claimant can prove that the 1990 Food Act has been breached and due diligence has not been carried out, Anderson warned.

Henry Anderson is an experienced master chef and catering consultant. Having learnt his trade over many years working for a number of hotels and commercial units, he subsequently became a training development chef for a large catering company on sea going vessels.

It was here that he trained multi-national catering staff to ensure they were fully compliant with industry standards in line with ILO/MLC requirements. In 2004 he decided to set up his own company, Marine Catering Services (MCS), as he felt that he could help to make big improvements in the training, procedures and practices of the marine catering industry.

Will your cargo arrive 'dry'?

David Duffield.

Fuel oil leakage into cargo.

David Duffield MNI, Marine Consultant, Braemar Incorporating the Salvage Association

General overview of the issues commonly occurring that result in 'wet damage' to dry cargoes — causation and prevention

One of the most common claims against bulk carriers is damage to cargo from water ingress and more seriously, where this happens in cargoes vulnerable to liquefaction, it can result in the capsize and loss of the vessel and often loss of life.

Why? Many of the vessels that suffer water ingress to the holds via hatches, bilges, internal manhole covers, pipelines and ventilators are modern well found ships as well the older vessels that suffer a life of wear and tear. The size of the vessels is not always relevant although this can be a factor. The size of a claim obviously has the potential to be greater along with the size of the vessel, though the type and value of the cargo is of course very relevant. Some wet damaged cargoes can cost more to dispose of than their original value let alone the loss value of the

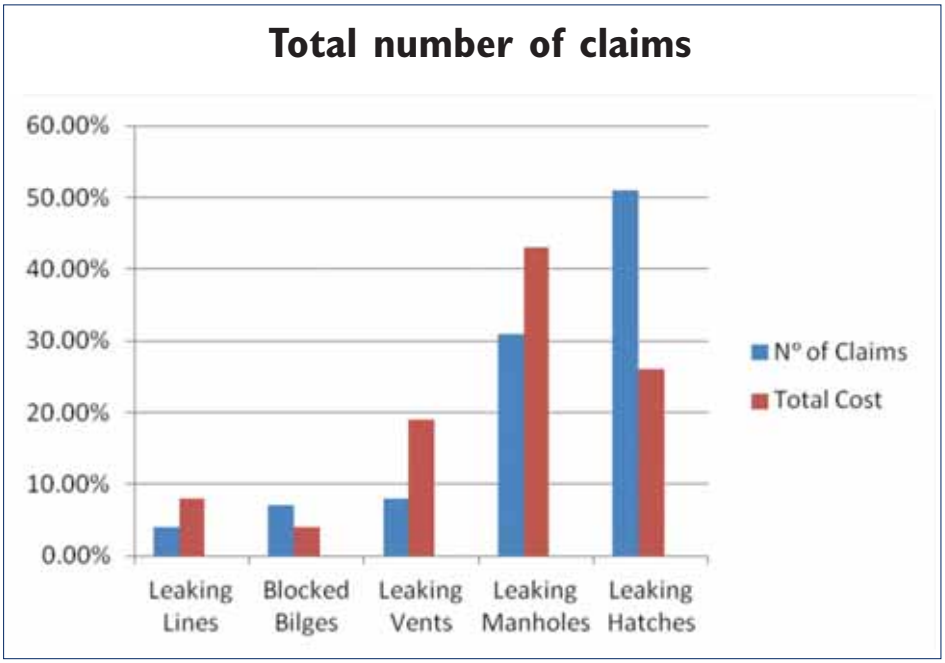
1. IACS data

CLASS OF BULK CARRIERS BASED ON SIZE[1]

Type	Length	Gross tonnage	Deadweight
Mini	100 – 130m	5,000 – 14,000	10,000 to 23,000
Small – Handy	130 – 150m	5,000 – 14,000	10,000 to 23,000
Handymax	150 – 200m	14,000 – 30,000	23,000 to 55,000
Panamax	200 – 230m	30,000 – 45,000	55,000 to 80,000
Capesize	230 – 270m	45,000 +	80,000 +
Very Large +	270m +	45,000+	80,000 +

cargo and delays etc.

From a review of claims[2] for wet damages 2008 to 2012 on assorted sizes of bulkers and container vessels we find the following assessment of wet damage causation;



[1] Leaking lines

In general not many vessels now have 'live' lines passing through carrying liquids. Most lines for pumping ballast and fuel etc pass through duct keels, double bottom and or side tanks, cofferdams etc. The traditional 'bulker' will, however, have fuel and ballast sounding pipes and vent pipes rising up through them and in some cases where the upper wing ballast tanks are filled via the double bottom tanks 'live' ballast lines or trunking. These are all susceptible to leaking in general as a result of corrosion, bad joints and physical damage from cargo handling gear. The costs involved can be high especially where a fuel line has leaked and oil pollution is involved in the clean up and disposal costs on top of cargo losses and delays.

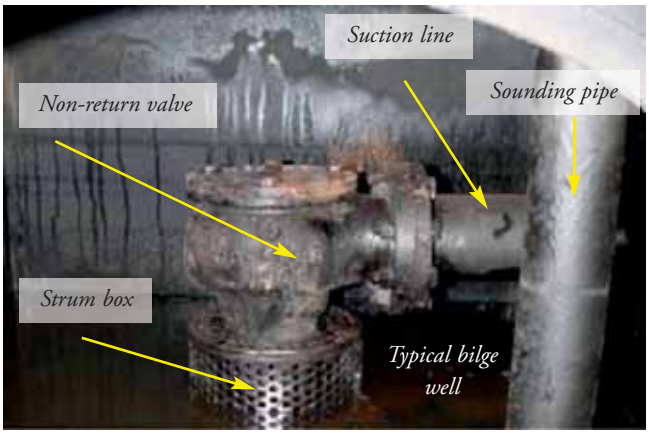
In many cases the causation of leaks is due to poor maintenance; these items are, due to the difficulty of access, rarely looked at. Deteriorating joint seals, corrosion of flange bolts and corrosion of the pipes themselves is common. Often these lines are behind protective cover plates/screens which hide them and also allows the hidden build up of cargo residues which retain moisture and enhance corrosion or the residues may in themselves be corrosive, sulphur for example. Accidental physical damage can occur during cargo operations and the damage is not immediately apparent as the line may not be full at the time. Poor maintenance of protection plates and grills can increase this risk.

CLAIMS BREAKDOWN

Source	Number of claims	Total cost
[1] Leaking lines	= 4.00%	= 8.00%
[2] Blocked bilges	= 7.00%	= 4.00%
[3] Leaking vents	= 8.00%	= 19.00%
[4] Leaking manholes	= 31.00%	= 43.00%
[5] Leaking hatches	= 51.00%	= 26.00%

[2] Blocked bilges

Blocked and leaking bilges can cause small problems but also major issues, including hold flooding. The main causation is poor maintenance, and a lack of routine checks and testing. Bilges become blocked up due to cargo residues of previous and/or current cargo entering into the bilge well and blocking the strum box/suction. Generally, due to the perforated well cover plate not having a suitable filter cloth over it (e.g. hessian), if the bilges are blocked then any water that enters the hold cannot be pumped out.



If the strum box is loose or worse in a corroded condition or missing then particulate matter can enter the bilge system causing non-return valves to stick open. When this occurs and the bilge line is being used, water will enter the bilge and then the cargo hold.

Prior to loading a cargo the bilges should be thoroughly cleaned and suctions, non-return valves tested to ensure water can be pumped out and cannot flow back in from the suction line.

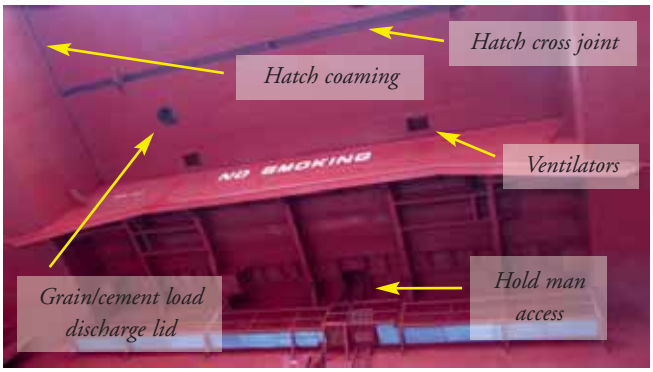
[3] Leaking vents and accesses

Cargo hold ventilators come in different forms; natural flow and force draught; mushroom with lever flap (pictured); with screw-down flap; hatch coaming/lid door louvre style vents/cowl vents etc.

The flap mushroom vent is quite high above the deck to allow for deck cargo, but it reduces its susceptibility to water ingress in rough weather/shipping seas. However, the closing flaps and seals are difficult to maintain and liable to leak. Often the rubber seals are found to be 'dead', i.e. are hardened and without any elasticity for compression and, in some cases, perishing. In addition these vents are prone to corrosion from the inside out and physical damage from cargo handling. The small screw-down vent seen is a more sturdy design but similarly liable to damage. The example seen above has been damaged due to the crew running a mooring line adjacent to it that became taut under the hood when being heaved up. It is impossible to close this vent as is. Cowl vents require canvas covers to be lashed over them. Other vents be they on the

2. Swedish Club P&I 'Wet Damage to Cargo (2013)'

hatches, coamings or separate trunkings normally have doors/lids that are screwed down on a rubber gasket with butterfly clamps. These are dependent on no corrosion or distortion and a good seal in place. Ventilator water tight security is dependent upon their being closed in wet conditions.



Potential ingress points.

This hold man access lid below has 'dead' and ill-fitting seals and was not found watertight.

[4] Leaking manholes;

All ballast tank, void spaces and fuel tank manhole access lids should be regularly checked to ensure all bolts are in place and

tightened, the gasket is pliable and undamaged and the cover plate is in good order and in place. Leakages from tanks, fuel and ballast water can be problematic at the best of times but if cargo is in the hold then the result can be very expensive.

[5] Leaking Hatches

Cargo hatches of all types are susceptible to leakage and this is for several reasons all of which can be resolved through regular checking of the hatches and hatch coamings, clamping, securing devices and drainage systems. Ultrasonic testing is probably the best and most efficient way of testing the weather tightness of ships hatches and associated openings. Loss of watertight integrity of the cargo hold can result in heavy claims for damaged cargoes, not least the value of the cargo but the cost of subsequent delays for removal, disposal and replacement as well as claims from receivers from loss of production etc., especially considering today's tight schedules for supply chains. Ultimately though it can result in the loss of the vessel.

Worn coaming drain channel.

Drain channel, blocked non return drain outlet.

Incorrect, badly fitted repair 90°.

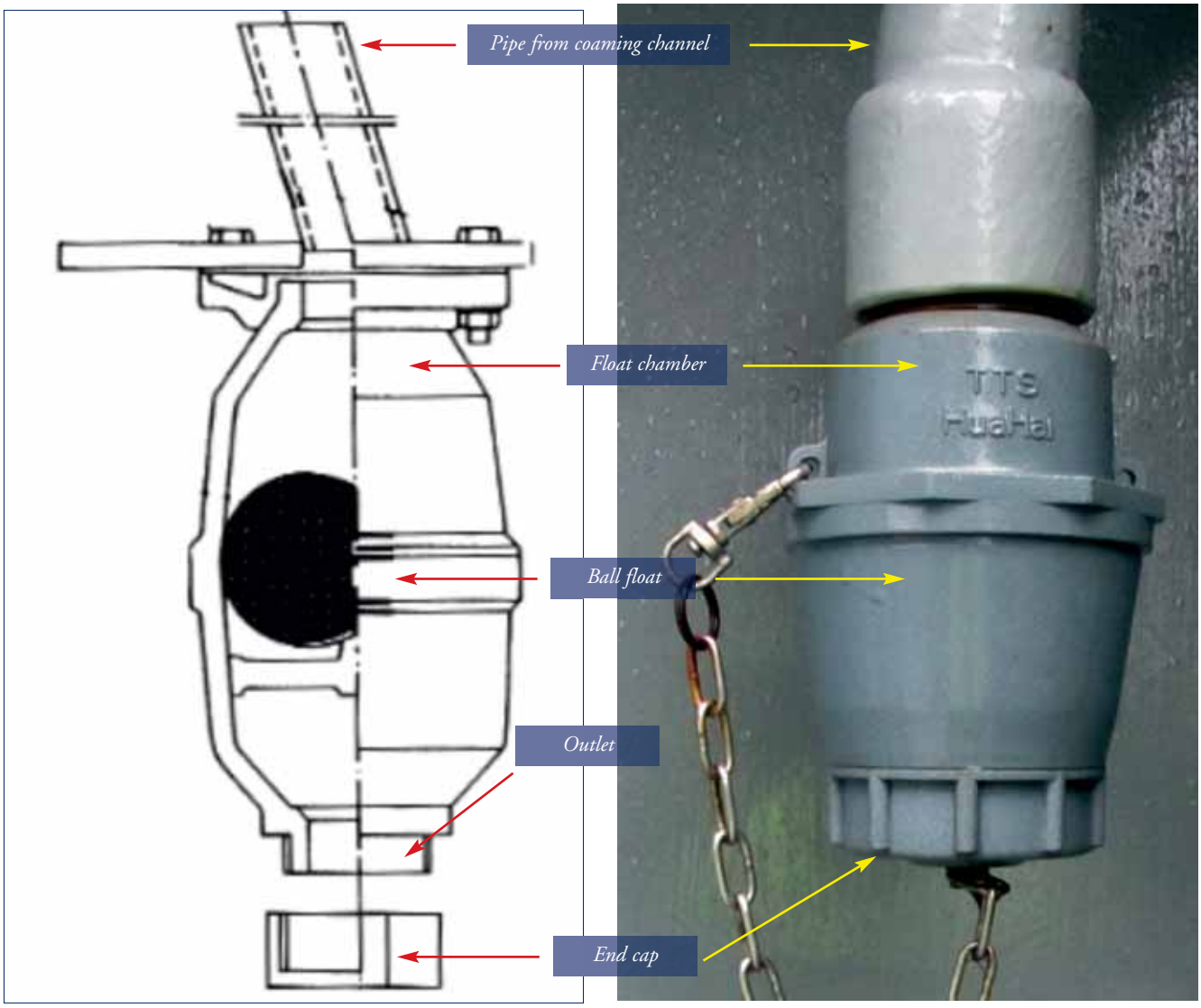
Damaged/worn out seal.

Containment channel and damaged seal.

Not only should the drain channels around the coaming be intact and clear, the non-return valves at each corner should be cleaned and examined every time before a hatch is closed to ensure they are operational and that the end cap is not screwed on. These valves consist of a chamber with a ball float within that will allow water to drain out but not flow in (see pictures on p25).

Other causes of leaks

Other leakage problems are caused by poorly maintained hatch open/close equipment increasing damages to the hatch lids.



Corroded hatch lid.

Steelwork issues are also problematic: these include corrosion through the hatch lid (see picture left) cross joint seal, long-term poor maintenance.

Prevention is better than cure

In many cases there is nothing wrong with a hatch lid but crews do not always follow the manufacturers guidance on closing and securing a hatch. This results in unbalanced compression on the seal from clamping one area too tightly which can prevent the opposite area from being clamped down and forming a seal. This is often not apparent, ships staff should be trained in the correct procedures for opening and closing the numerous types of ship hatches and how to achieve a tight seal. Training should also be given on the continual maintenance of hatches vents and accesses and their associated equipment. Regular observation of and testing of hatches by water pressure/ultrasonics at regular intervals or after structural accidents should be a standard procedure.

Braemar (Incorporating the Salvage Association), has offices worldwide offering highly qualified, experienced and trained surveyors who can provide the expertise to assist owners, charterers and insurers to survey vessels in regard to the above issues for loss prevention, post incident assistance and more in marine survey and technical matters. It can also provide ultrasonic testing if required using its modern equipment.

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shorecranes up to 208 tons

Waste water treatment at Van Opdorp

Aquavia, a subsidiary of KWS Infra, has worked on an improved, environmentally friendly water treatment facility at Van Opdorp Transportgroep in Sas van Gent, Terneuzen, the Netherlands. The facility collects and treats water used for cleaning transport equipment and material. The project, which included the modernization of associated waste water pipes, sumps and other water streams, demonstrates how both companies have sustainability high on the agenda, notes Henk Hamelink, HR/SHEQ manager at Van Opdorp. "This means additional focus on protecting and promoting a healthy and safe environment, strengthening the local community, efficient use of scarce resources such as clean water and, where possible, energy recover of these scarce resources."

TMGA modifies concession

In Spain, TMGA has asked the port authority to allow it to undertake substantial modifications to the concession it was granted on 30 July 2014 at its dry bulk and general cargo terminal in the outer harbour of Punta Langosteira. This involves substantial warehousing for dry bulk, with a request to allow it to build a larger warehouse. *Barry Cross*

New Terneuzen terminal for Turkish 'salt of industry'

In September last year, Packaging Terneuzen Terminal (PTT) officially opened in the Port of Terneuzen. The Verbrugge Terminals subsidiary is the Northwestern Europe distribution centre for Etimine SA, a subsidiary of Eti Maden IGM, a Turkish state-owned company and one of the world's largest boron producers. Ships carrying borax will make monthly calls in Terneuzen.

Borax, also known as the 'salt of industry', has a wide range of chemical applications from fire retardants to cosmetics and detergents. Besides the storage and handling of bulk products, PTT will take care of the packaging of these products in large and small units. Top managers representing Eti Maden IGM, Orhan Yilmaz and Bayram Ankarali, were special guests at the terminal's opening.

TMGA acquires MHC

Terminales Marítimos de Galicia (TMGA), which is based at the Spanish port of La Coruña, has acquired an LHM 550 mobile harbour crane, which will allow it to handle dry bulk, containers and general cargo. In 2008, the same company acquired a smaller LHM 500 MHC. *BC*

ICL to have new Barcelona terminal

ICL has requested that it be allowed to build a new terminal in the port of Barcelona. This will handle salt and potash. The proposed terminal, which will be on the Álvarez de la Campa quay, will require investment of €100 million. If it receives the go-ahead, ICL plans to open the terminal this year. *BC*

Big leap forward for Terneuzen lock

On 5 February, the Netherlands and Belgium's Flemish Region reached the next phase in the construction of the new lock in Terneuzen. Flemish Minister of Public Works, Ben Weyts, and Dutch Minister of Infrastructure and the Environment, Melanie Schultz van Haegen, signed the treaty for the project in Terneuzen. At the event, the joint Dutch and Belgian project organization unveiled the engineering plan for the lock.

The new, larger lock at the Port of Terneuzen — roughly the size of the new locks on the Panama Canal — will improve accessibility to the Port of Ghent on the 32km Terneuzen to Ghent channel, promoting increased inland shipping between the Netherlands, Belgium and France. Additionally, the smooth passage of maritime traffic will prove an economic impulse to the region. The first ship is expected to enter the new lock in 2021.

The Flemish–Dutch Scheldt Commission (VNSC) is responsible for the project team preparing for the construction. Engineering consultancy LievenseCSO was awarded the contract for the initial reference design of the new lock and related research such as environmental impact. The Municipality of Terneuzen is also closely involved in the project.

New JIPC Industrial Terminal in Aqaba South Port

Royal HaskoningDHV is working together with the Jordan Industrial Ports Company (JIPC) on the rehabilitation and extension of the Industrial Terminal in South Port of Aqaba, Jordan.

Abed Salameh (JIPC) and Jan Dekkers (Royal HaskoningDHV) report on this challenging project.

Jordan Phosphate Mines Company (JPMC) and Arab Potash Company (APC) import raw materials and export fertilizers products and potash via the existing industrial jetty located in the South Port of Aqaba. Due to the increase in volumes handled, it was decided to refurbish, upgrade and extend the existing port facilities and construct new handling and storage facilities (see photo).

For the implementation of this challenging project, JPMC and APC formed a Joint Venture under the name Jordan Industrial Ports Company (JIPC).

Royal HaskoningDHV assisted JIPC with the design and the preparation of the tender documents, the evaluation of the tenders, assistance during contract award and will also supervise the implementation of the project as the Employer's Representative.

Jordan Phosphate Mines Company (JPMC)

Jordan Phosphate Mines Company (JPMC) is a Jordan-based company established in 1953 as a public shareholding company with the objective to mine and market phosphate rock, as well as produce fertilizers and invest in related industries. JPMC employs about 4,000 personnel and operates three mines producing phosphate rock and downstream fertilizers, and a chemicals plant at its fertilizer complex at Aqaba, Jordan. JPMC is the largest mining and industrial employer in Jordan and is the sixth largest producer of high quality phosphate rock and the second-biggest exporter worldwide.

Arab Potash Company (APC)

Arab Potash Company has a concession from the Jordanian government to exploit, manufacture, and market the mineral resources of the Dead Sea. The site is located 110km south of Amman and 200km north of Aqaba. The site is a solar evaporation pond system with various processing plants. By expanding and optimizing this system, production has increased to 2.4mt (million tonnes) per year. The potash is transported by trucks to the storage facilities in Aqaba. APC employs over 2,000 personnel and has offices in Amman, Safi and Aqaba.

Royal HaskoningDHV

Royal HaskoningDHV is an independent, multi-disciplinary consultancy with its head office based in the Netherlands. It has been active for over 100 years, successfully carrying out projects throughout the world. Royal HaskoningDHV is global market leader in the development of maritime port and transport infrastructure, and integrates sophisticated planning, design and implementation expertise, including contractual, legal, risk, supervision and financial skills. The multi-disciplinary nature of

the organization enables a complete and comprehensive service to be offered to the client that covers all stages of a project from conception to completion.

Project approach

The project approach from start up to award of contract included the preparation of the design brief to define all design issues, possible alternatives and recommendation of the preferred option. After approval, the master plan was prepared which contained the final basis of design with project definition drawings, followed by the preparation of the tender documents based on EPC/turnkey conditions of contract (FIDIC Silver Book).

The project was advertised in local and international magazines and papers resulting in more than 30 expressions of interest (EoI). After evaluation of the EoIs, the JIPC Board of Directors decided to send the tender documents to ten joint ventures.

The received tenders were first checked for completeness, subjected to in-depth technical evaluation to check full compliance with the Employer's Requirements and select the most attractive technical bid. A financial evaluation was subsequently conducted and led to selection of the preferred tenderer for contract negotiations.

After agreement, the contract was then signed with the JV Tecnicas Reunidas – PHB Weserhütte of Spain. Construction will start during the second quarter of 2015 with completion scheduled within 22 months.

Scope of the Project

The new Industrial Terminal will amongst others comprise:

A. refurbishment of the existing industrial jetty;
B. refurbishment and upgrading of the existing import and export conveying system;
C. refurbishment of the existing sulphur bulk warehouse;
D. construction of a new jetty located between the existing Industrial jetty and the adjacent new JPMC jetty;
E. two new 2,000tph (tonnes per hour) wide span shiploaders for fertilizers and potash on the new jetty;
F. a new 1,200tph sulphur ship unloader and a new 2,000tph slewing shiploader on the western side of the refurbished existing industrial jetty;
G. new loading/unloading facilities and pipelines for ammonia and phosphoric acid on the eastern side of the refurbished existing industrial jetty;
H. a new bulk warehouse for sulphur; and
I. a new office, workshop, two substations and required infrastructure.

The main drivers for this challenging project are:

- state-of-the-art design of the terminal with maximum flexibility and redundancy;
- minimum dust emission and spillage according to the ALARA (as low as reasonably achievable) principle; and
- minimal interruption of the existing operations during construction.

Joint effort

The preparation of a design brief, master plan, tender documents and the evaluation of the tenders for the new Industrial Terminal was a joint effort of JIPC and Royal HaskoningDHV and resulted in a modern terminal with increased loading and unloading capacities, tailored to the experience of JIPC with major improvements regarding dust and spillage control.

DUNKERQUE

THE FRENCH PORT FOR DRY BULK

Accessible to ships with draughts of 14.20 metres via the De Gaulle Lock, the Central Port is the location for many industries. It includes the grain and multibulk terminals, as well as the raw materials reception facility for the ArcelorMittal steel works.

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Dunkirk confirms identity as multimodal port

The share of alternative transport modes at Dunkerque-Port has reached 49%, an increase of 1% over 2013. The modal share of rail transport is 30%. This mode naturally relies on historic sectors such as coal and ore, but now offers promising prospects in combined transport, as can be seen in the doubled frequency of the container shuttle to and from the Greater Paris area (Bonneuil). Grain procurements have also soared in recent months, extending the hinterland of the Port of Dunkirk to new markets. In consolidating their overland traffic at Dunkirk, shippers are making use of the largest maritime infrastructures available.

Waterway transport also continues to develop, with a modal share up one point at 16%. The main traffic concerned is grain (1.19 mt [million tonnes]), a sector in which the modal share is as high as 52%. Combined transport is growing too, and should experience a new boost in 2015 with the deployment of new services for northern France. The volumes carried by the Nord Ports Shuttle (NPS), which started up in November 2013, became permanent in 2014.

Finally, pipeline transport now accounts for 3% of traffic, in particular since liquid bulk operators have connected to the Trapil national network.

The opening of the LNG terminal should contribute to the reinforcement of this mode in coming years.

Including the traffic of the maritime industrial area, rail traffic reached 13.4mt in 2014, strengthening the port's position as a leading freight hub in France. Waterway traffic exceeded 3mt for the first time in 2014, marking Dunkirk more than ever as the foremost inland waterway port of the Nord-Pas de Calais region.

France's third-ranking port, Dunkirk is well known as a port handling heavy bulk cargoes for its numerous industrial installations. It has also built its reputation in other sectors such as cross-Channel RORO traffic to Great Britain, containers, fruit, etc. Classified as the seventh port of the North Europe Range which extends from Le Havre to Hamburg, Dunkirk is also the leading French port for ore and coal imports, France's leading port for containerized fruit imports, and the country's second-ranking port for trade with Great Britain.

Ventanas to open state-of-the-art copper warehouse

The Chilean port of Ventanas is undertaking environmental impact assessment studies prior to the construction of the hi-tech warehouse for the storing of copper concentrates. This will be able to hold up to 46,000 tonnes of copper and will require investment of $20 million.

The warehouse will have a proprietary ventilation and dust capture system, which will allow the circulation of air to take place. A further ventilation system will ensure that negative air pressure is maintained throughout the warehouse, which will prevent any material inside from escaping.

Trucks ferrying in consignments will also discharge these in an environmentally encapsulated environment. *BC*

Colombia inaugurates Puerto Brisa

Colombia has inaugurated the new Puerto Brisa, which is a multipurpose terminal located at Dibulla in the Caribbean Department of La Guajira. It is situated some 70km from Riohacha and 100km from Santa Marta. It has draught of 18.5m and can receive vessels of up to 180,000dwt. It is expected to handle coal, asphalt and cement, among other commodities. *BC*

Adani group to open new Abbot Point terminal

In Australia, the Adani group has signed a memorandum of understanding with South Korean company POSCO to build a new terminal at Abbot Point coal port. This will handle high-quality coal for export.

It will be known as Terminal Zero (T0) and will handle coal outbound from mines in the Galilee region at rates that should prove highly competitive throughout Asia.

The terminal will have a capacity of 14mt (million tonnes) per annum, expanded to 70mt per annum as part of a second phase. *BC*

Ship waste collection with less hassle at Zeeland Seaports

From January 2015, ship owners and agents can deliver ship-generated waste and cargo residues more simply, safely and efficiently at the Dutch seaports of Vlissingen and Terneuzen.

In a new three-year contract with Martens Cleaning, port company Zeeland Seaports fully compensates costs, introduces a new standard of environmentally friendly recycling, and further reduces the administrative burden on agents and captains.

"As soon as we receive notification from the port management system, we take over the planning and adminstration," says Serge Hendrickx, Director of Martens Cleaning. "For the agent, it's much simpler. We can also collect waste waterside as well as quayside, which further increases safety and efficiency.

Waste responsibilities

The European Union requires ships to notify Member States about accumulated ship-generated waste and cargo residues, which must be collected before the ship leaves port. This includes sludge, bilge water and other oil-water mixtures as defined in the IMO's MARPOL regulations.

Zeeland Seaports' CEO Jan Lagasse, "As a port, we differentiate by how we manage these requirements on behalf of the port's users — less hassle and more care for the environment. With this new agreement, we're showing how we deal with our waste collection responsibilities up front."

Concrete agreements

Zeeland Seaports has opted to outsource ship waste collection through a Europe-wide tender, which was awarded to Martens Cleaning, a subsidiary of Zeeland-based transport, handling and environmental services group Hoondert. According to Hein Versluis, Advisor Port Safety & Environment at Zeeland Seaports, the approach has many advantages.

"Working with one party ensures that, as a port, we're in better control and can make concrete agreements to ensure higher quality and safety, while at the same time reducing our administrative costs."

Innovative recycling

Versluis also highlighted the environmental impact. Instead of collecting waste and redistributing to polluting industries, Martens Cleaning employs innovative recycling methods to reduce the impact on the environment. The company has also developed technology to utilize waste heat from a neighbouring refinery to process the collected ship sludge into usable oil products. Plus, with this new agreement, Zeeland Seaports becomes the first Dutch port to implement the Dutch government's 'Green Deal' ship waste supply chain programme, which aims to reduce the amount of plastics supplied to ships and ensure the collected waste plastic is recycled.

Djibouti to build two new ports

Djibouti is building two new ports: on Lake Goubet and in the Gulf of Tadjura, with total investment reaching $125.7 million.

Goubet port will export both culinary and industrial salt extracted from Lake Assale, which is located 120 km West of Djibouti city. This new facility, which is to be built by China Harbour Engineering — and should open in 2016 — will require investment of $64 million.

Tadjura Port will specialize in exporting potash from neighbouring Ethiopia, which has no coastline of its own. This facility requires $61.7 billion and should be opened in 2016, too, with exports commencing in 2017. It is located in eastern Djibouti, overlooking the Gulf of Tadjura, close to Northern Ethiopian. *BC*

Biomass terminal for El Ferrol

The Galician company García Forestal is to build a biomass terminal in the outer harbour at the Spanish port of El Ferrol. This will be an export facility.

The company has been operating for the last 40 years in the supply of forestry products to manufacturers of cellulose, electric and thermal energy, and pellets. *BC*

New Topolobampo terminal opened

A new terminal has opened at the Mexican port of Topolobampo. In its initial phase, the facility has absorbed investment of $13.5 million. Further expansion of the terminal will take place throughout 2015.

The new facility will mostly handle bulk minerals, particularly copper. It's eventual capacity will allow it to also handle 3.2 million tonnes of agribulk and store up to 120,000 tonnes on site. *BC*

New Tergrasa warehouse in Rio Grande

In Brazil, a new warehouse (A3) has been opened at Terminal Graneleiro Tergrasa. This facility, which cost $15 million, has a capacity of 150,000 tonnes and is the largest of its kind in Rio Grande do Sul, belonging to the local co-operative. Construction took one-and-a-half years, but the putting into operation of the warehouse will boost existing capacity at the port by 50% to 2.1 million tonnes. *BC*

Porto Velho to expand rapidly

The Brazilian port of Porto Velho is projected to be handling 5mt (million tonnes) by 2018. This implies an increase of 1mt of dry bulk and a further 600,000 tonnes of general cargo.

Among the dry bulk commodities handled are soya, corn and cement. In 2014, 4mt were handled, up 20% over 2013. Significant movement of grain arrives at the port along the Madeira River for onward shipment. *BC*

Porto Murtinho to reopen?

The governor of the Brazilian state of Mato Grosso do Sul Reinaldo Azambuja has held talks with the businessman Michel Chaim, owner of Ultibras, which is the company that runs the Porto Murtinho port terminal. Discussions were about to find ways of reactivating operation at the river port, something which is a priority for the state governor. *BC*

Aveiro receives two new cranes

The Portuguese port of Aveiro has taken delivery of two cranes. The first, a Liebherr LHM400, is able to handle loads of up to 140 tonnes with an outreach of 48m. It will be used to handle containers, general cargo and dry bulk.

The second crane, a Mantsinen 140RKM, can handle up to 17 tonnes at an outreach of 30m; this will be deployed on general cargo duties.

The cranes belonged to PTM Iberica, which is part of Spain's Pérez Torres Marítima group. *BC*

ETE/ETF awarded multipurpose terminal concession

In Lisbon, the ETE/ETF group has been awarded the concession to operate the Multipurpose Terminal at the port. The concession will run until February 2021. The terminal covers an area of 48,935m². *BC*

Transnet to achieve budget on Richards Bay line

South African state-owned rail operator Transnet remains confident that it will have carried the budgeted 77mt (million tonnes) of coal to Richards Bay Coal Terminal by the end of the financial year to March. Nor would the target be impacted by the announcement by Glencore that it is to shut part of its Optimum coal mine, thereby slashing exports worth 5mt a year.

Significantly, not all the capacity allocated to black economic empowerment miners as part of the Quattro scheme is expected to be taken up, although this is a problem of stockpile capacity at the port for the RB1 grade coal they produce. Nevertheless, this issue is being addressed.

In the meantime, Transnet has confirmed it has seven projects under way to boost rail capacity into the port even further. At present, RBCT can handle up to 91mt annually, although it only exported 71.3mt in 2014.

Copper traffic up at Angamos

In 2014, Chile's port of Angamos reported cargo handled amounting to 3.3mt (million tonnes), up 26% over 2013. Of particular note was 1.4mt of copper cathodes. Since Angamos started operations in 2003, it has handled a total of 40mt of copper cathodes thanks to the specialist installations it has at its terminal.

Last year, the port also saw the arrival the first self-tipping containers for use with dry bulk commodities. Minerals arrive from the mine to the warehouse in a totally sealed environment, with 80,000 tonnes of concentrate handled in the three months since this operation began. *BC*

Arica handles sodium sulphate

In February, Terminal Puerto Arica (TPA), one of Chile's most northerly ports, unloaded a consignment of 3,000 tonnes of sodium sulphate on behalf of client Unilever Andina Bolivia, which was en route to Cochabamba in Bolivia. Unusually, discharge was direct from vessel to truck. The whole operation required a fleet of 113 trucks and allowed the vessel to stay in port during no more than five shifts. *BC*

Tocatins rail terminal opens

Brazil's most modern rail transshipment terminal for grain began operations at Tocatins in February. The facility has been designed to load both soya and corn, with Agrex do Brasil estimating that this year it will handle around 250,000 tonnes of grain. During the harvest, Agrex believes that it will receive around 200 truckloads a day, with on-site storage available of up to 17,000 tonnes. Trains will leave the terminal bound for the port of Itaqui. *BC*

Glencore buys into Barcarena

US-based ADM is to sell a 50% stake in the grain terminal that it operates at the port of Barcarena, in Pará state, to the Swiss trading company Glencore. Henceforth, both companies have set up a joint venture to oversee operations at the terminal. Capacity at Barcarena is to be increased from 1.5mt (million tonnes) to 6mt and that, in future, it will be able to accommodate Panamax bulk carriers. *BC*

Upgrades on the way for Rio Grande

In Brazil, the Ports Ministry authorized investment of $118 million to undertake a comprehensive dredging programme at the port of Rio Grande. The dredging programme will last for eight months, having started in February.

Rio Grande is Brazil's fourth-largest port in terms of volume handled, boosting throughput last year by 10%. *BC*

Brazil boosts use of containers for bulk

In Brazil, The Ministry of Agriculture wants to see widespread use of containers to transport soya from production areas in the interior towards the port of Santos. According to a ministry spokesman, some companies are already doing this, because it gives them a much more flexible way of moving production to the port.

The Ministry of Transport would like to see a restriction on which states can use Santos as their main outlet. Those allowed to continue would be the states of Mato Grosso, Mato Grosso do Sul, Goiás and Minas Gerais.

During the height of the harvest season, the port of Santos generates extensive queues of trucks wishing to enter the port and it can take vessels many days to secure a berth given a lack of capacity. *BC*

South Africa

challenges and opportunities

Iain McIntosh

Overview

Bulk export cargo flows from South Africa showed a moderate but slowing growth of 2.0% in 2014 also following sluggish growth in 2013. Whilst in recent year's slower growth was more to do with infrastructure constraints (rail and port) there was also a change in the market and notably China's buying pattern with India other markets appearing as greater influence on volumes.

Saldahna port volumes grew slightly in 2014 in spite of flat iron ore volume; this was also boosted by manganese ore volume which moved through the multi-purpose berth due to increasingly tight port capacity for this product. Richards Bay volumes remained largely flat — even though coal volume was up marginally, it was offset by declining other products such as chrome ore. Port Elizabeth is already at maximum due to terminal size.

Volume growth is estimated to be 3.6% in 2015. However, this could be conservative as volumes were up over 20% in the first two months of 2015 driven by Saldahna and Richards Bays export volume. Whilst this is only two months, it does suggest a strong year ahead. However, there is uncertainty with infrastructure, industrial climate and the global market, notably

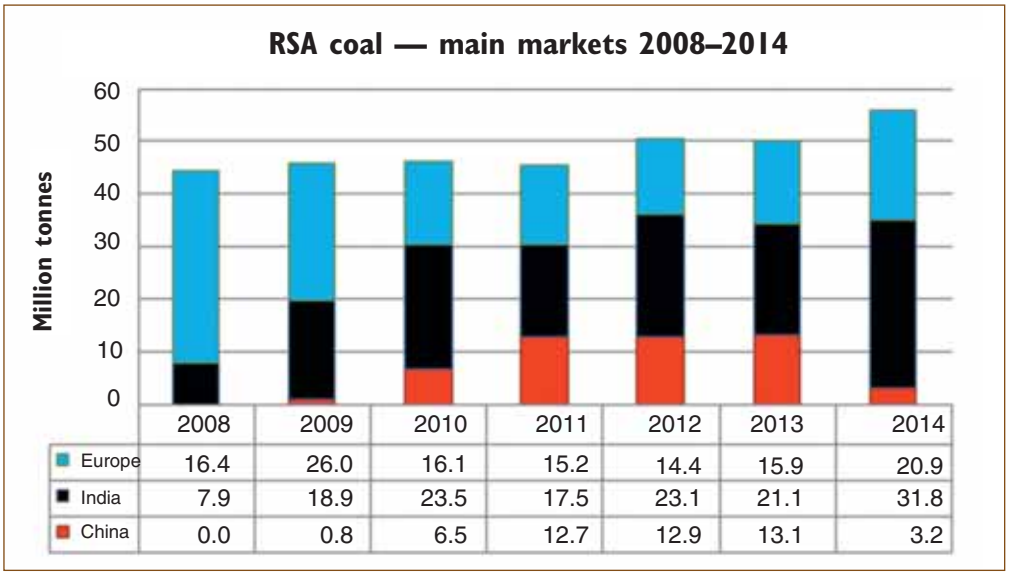
SOUTH AFRICAN DRY BULK EXPORTS 2009–2015 (MT)

Port/year	2009	2010	2011	2012	2013	2014	2015 (E)
Richards Bay	68.9	75.0	76.0	80.0	85.1	85.5	88.0
Durban	5.6	5.6	7.0	6.8	8.1	7.6	8.5
Port Elizabeth	2.8	4.1	4.6	5.3	5.7	6.1	6.3
Saldanha	43.6	47.4	53.3	55.7	53.4	56.0	58.0
Other	0.8	0.6	0.6	0.5	0.2	0.4	0.4
Total bulk	121.7	132.7	141.5	148.5	152.5	155.6	161.2
Growth (%)	5.3	9.0	6.6	4.8	2.8	2.0	3.6

Source: TNPA monthly data

China's slowdown.

In terms of opportunities South Africa is largely an export demand location for bulk cargo and notably the major bulks of coal and iron ore which require a large amount of Capesize and Panamax supply. This, of course, moves to RSA in ballast as is the case with other major bulk supply countries. It is in the Handysize and Handymax sector where opportunities for balanced loads in and out could develop and this would be attractive for owners of tonnage in this sector.



	2008	2009	2010	2011	2012	2013	2014
Europe	16.4	26.0	16.1	15.2	14.4	15.9	20.9
India	7.9	18.9	23.5	17.5	23.1	21.1	31.8
China	0.0	0.8	6.5	12.7	12.9	13.1	3.2

Traditionally, South Africa has imported wheat, rice, soya flour and fertilizer in sizeable quantities and on a structural yearly basis. This has, in turn, supplied a number of vessels to load minor ores and other products back out. However South Africa has just suffered a major drought in the maize growing areas of the Orange Free State and North West which has impacted the maize crop with a fall of 32% (over 5mt [million tonnes] reduction). This has the potential to swing South Africa from an exporter of maize (2.2mtpa) to importer (1.5mt) during 2015. This will therefore remove some demand for Handy sector export vessels (and therefore the higher ballast bonuses that can go with this) and produce more vessels for export due to increased demand for imports. A 1.5mt import of maize will potentially supply 40–45 additional Handy vessels into the export market and assist the supply/demand balance. This is a welcome win for exporters and bulk vessel owners alike.

The flow comparison is assessed in below table highlighting a potential additional 70 x 30,000 tonne (Handysize) equivalent vessels available for export from import demand.

SOUTH AFRICAN AGRICULTURAL TRADE

Port/year	Exp 14	Imp14	Exp15	Imp15
Maize	2.1	0.0	0.0	1.6
Wheat	0.0	1.5	0.0	1.6
Fertilizer	0.0	1.1	0.0	1.2
Rice	0.0	0.2	0.0	0.4
Other products	0.0	0.4	0.0	0.5
Total	2.1	3.2	0.0	5.3
Handysize 30K equiv	70	107	0	177

On the industrial front, 2014 was another difficult year for the South African mining industry but, again, largely confined to the platinum and gold sectors. However, more radical union incursion into the coal sector looks likely in coming years. Also not helping the mining sector was the well-documented power shortages from the state supplier ESKOM due to high levels of backlog maintenance and new power station delivery behind schedule. Finally, the government-delayed mineral resources bill and with it much uncertainty for mining investment in the future is adding further challenges to industry.

On the positive side Transnet, South Africa's state-owned freight transport and Logistics Company which last year announced a US$ 4.7 billion award for 1,064 locomotives from four overseas manufacturers has now started rolling locomotives off the local production line with 95 units just delivered. They were assembled at Transnet Engineering's Koedoespoort plant and all but 70 of the ordered 1064 units will be assembled locally. These first 85 units have already been deployed on the Manganese Ore line to Port Elizabeth and the Sishen Iron Ore line.

Review of South Africa's Major Bulk Cargo

Coal trade

Exports from South Africa grew a little faster during 2014 but in a softer global trade which also grew slowly and, notably, China which declined after rapid growth in the last few years. However, a lot of this was offset by India, which is fast becoming the largest importer of steam coal in the world. This would most definitely have been the reason for global price reduction in coal and Indian demand is driven purely by sluggish growth in Indian mine production, coupled with a more stable Rupee. Against this backdrop, South Africa did well to maintain above-average growth.

Richards Bay Coal Terminal (RBCT) led the way with a new record of exports now reaching 71.2mt, up 1mt on 2013. This again was a good performance given a large downtime (power cables electrical fault for ten days in February 2014) which damaged export flows. Transnet Freight Rail meanwhile

EXPORT OF STEAM COAL THROUGH THREE MAIN GATEWAY PORTS (MT)

Total SA coal (mtpa)	2008	2009	2010	2011	2012	2013	2014
Richards Bay Coal Terminal	61.8	61.1	63.8	65.5	68.3	70.2	71.2
Durban	1.5	1.2	1.0	1.2	1.4	1.1	0.5
Maputo	1.2	1.4	1.6	2.2	3.5	2.5	3.5
Total SA coal	**64.5**	**63.7**	**66.4**	**68.9**	**73.2**	**73.8**	**75.2**
Growth (%)	–6.3	–1.2	4.2	3.8	6.2	0.8	1.9

delivered 72.4mt by rail 2.8% more than 2013 so this therefore looks good for RBCT to achieve a stated goal of 74mt of exports in 2015. Early figures from Richards Bay (RBCT does not publish monthly figures any more) does suggest the year has got off to a good start.

Durban volumes declined but rail into Maputo and export definitely moved upwards in 2014 and just maybe RSA exports could reach 80mt in 2015.

It is well reported that RBCT can handle 91mtpa so there is plenty of room to grow, and research work has also been done to increase capacity to 110mt in a phase 5 expansion. Ultimately RCBT will need good supply from rail, and that is still a challenge; however the Transnet roll out of increasing locomotives and stock in coming years will assist this process. Transnet is also looking at upgrades to the coal line from the Waterberg (which is where all the new mining growth will come from). Currently this line can only handle 5mtpa but should upgrade to first 30 and 60mtpa by 2018/2019, and this has to be done as the coal resources are significant in this region.

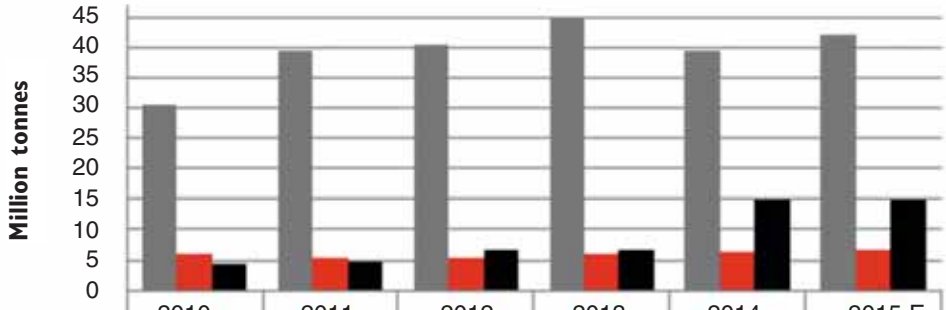
Exports in 2014, although only marginally larger, did witness a major change in the export distribution from recent years. Whilst volume to Europe had seen a major decline from 2009 onwards and a swing to India/China this trend was somewhat reversed in 2014 and Europe volume bounced back whilst Indian volume rocketed to nearly 32mt and looks set to maintain this in the future. China volume dwindled away and it is likely that, with its declining import demand, RSA will no longer be a supplier of choice. It is likely that Europe volume could grow further should coal sourcing from Russia decline. Both Russia and Colombia have been major suppliers to Europe up to now. Interesting times are ahead for the coal trade — a swing back to the Atlantic is likely.

Iron ore trade

In spite of trade volume globally in iron ore increasing rapidly in 2014 (12%), the volume was slower for South Africa in what has been a tough year for this sector. Export figures ex-RSA to various markets compared globally trade are detailed in the table below.

As with coal, although not to the same extent, we see China volume declining and other markets growing and this trend may have something to do with other sourcing in Africa. China is still importing iron ore at a rapid rate and has invested heavily in West Africa (Sierra Leone, Mauritania and Liberia) to limit its reliance on other markets. West African exports of iron ore to China reached 35mt in 2014 compared to only 3–4mt in 2011. Whilst West Africa is further away, the increased supply on the world market has contributed to weaker prices and therefore competition between markets with South Africa potentially under threat as a supplier.

Again as with coal the stand out change has again been India



RSA IRON ORE EXPORTS (MT)

Year	2009	2010	2011	2012	2013	2014	2015 (E)
Europe	3.9	7.6	6.7	6.3	7.8	6.7	7.0
China	34.3	30.5	39.3	37.2	44.7	39.3	42.0
Japan	4.1	5.9	5.4	4.1	6.0	6.3	6.5
Other	2.4	4.5	4.6	6.5	6.5	14.8	15.0
Total	**44.8**	**48.5**	**56.0**	**54.1**	**65.0**	**67.1**	**70.5**
Growth (%)	36.1	8.8	15.5	–3.4	11.1	3.2	5.1
Global trade	**898**	**991**	**1,052**	**1,109**	**1,189**	**1,332**	**1,417**
Growth (%)		10.4	6.2	5.4	7.2	12.0	6.4

Source: UNCTAD/Trademap.org

MANGANESE ORE (MILLION TONNES)

Year	2009	2010	2011	2012	2013	2014	2015 (E)
Total mang. ore exports	4.1	7.3	6.8	7.9	9.9	12.1	13.2
World export	14.9	20.2	21.0	21.1	24.6	25.8	27.1
RSA share (%)	27.8	36.1	32.2	37.5	40.2	46.9	48.7

who imported 4.6mt from RSA in 2014 from virtually a zero base. Significantly India only imported a total of 5.8mt so South Africa is supplier of choice. It is incredible that India only in 2010 was a major iron ore exporter of over 100mt but today it is now nearly a net importer. This could again be a developing market in favour of South Africa.

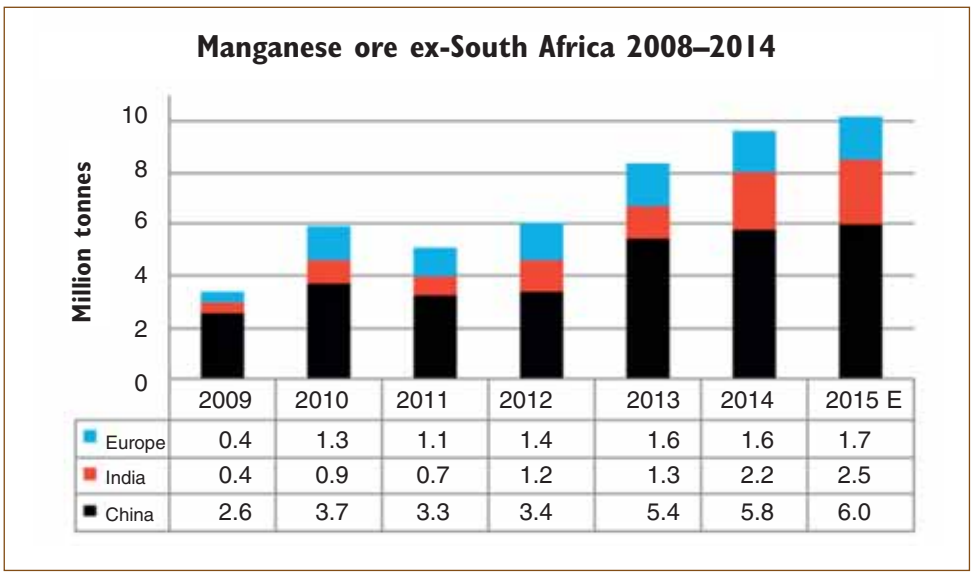
and port upgrades.

By 2019 the terminal should have 82mt capacity and port infrastructure via stackers, tipplers and an additional shiploader would be installed to handle this. The main question would be with installed capacity will the market be able to take this increased volume if China declines?

Manganese ore at Port Elizabeth.

The distribution is starting to change clearly from the destination graph.

As reported last year Saldahna exports will remain relatively flat over the next few years as the system waits for Transnet rail



MANGANESE ORE TRADE

This continues to show exceptional growth and contributed the majority of South Africa's overall bulk volume growth in 2014. Data released through Trademap.org shows that exports of South African manganese ore surged again with 22% growth to 12.1mt in 2014 following 24% growth in 2013. The emerging miners such as Tshipi, Asia Minerals and Kalagadi Mining continued to feed this as well as trader growth from a range of other mine supplies. Significantly, the growth in keeping with global growth of this product is also re-establishing a stronger, even dominant, position of South African market share in this commodity with nearly 50% share. The disappointing aspect of this growth is South Africa's continued inability to beneficiate this product more into alloys due

Chrome ore.

to the well-documented Eskom power shortages. We have taken a more cautious view on 2015 volume given the weaker global price for ore as well as China potentially reducing demand, so have set growth at 9% to 13.2mt but early export volumes in 2015 do look strong.

The challenges continue to come from the logistical dynamics of getting the product to exit port as with most South African bulk cargo. Manganese ore is mined in the Northern Cape nearly 1,000km from its gateway port in Port Elizabeth. In spite of constraints, Port Elizabeth still managed to grow again and moved just over 6mt. Some of the bulk growth continues to be absorbed via Durban through Bulk Connections which handled a new record 3.12mt in 2014 and significantly after only two months in 2015 has shipped a further 850,000 tonnes so is well on course for a new record. There is simply no real further growth through Port Elizabeth and so new channels needed to be found. There was also some export of bulk through Saldahna in 2014 at the breakbulk terminal. Whilst containers have also shared in some of the export growth ultimately bulk is the solution and once Nqgura bulk terminal comes on line with 16mtpa capacity Durban in particular will play an important role.

World trade in manganese ore is set to rise to 36mt by 2017 based on forecasts in some areas. The growth is made possible by China not being able to expand its domestic production further, but demand is rising due to stainless steel production. Based on these figures it is essential that South Africa maintains infrastructure growth as it is now firmly the countries third-largest bulk export.

Distribution by main destination is shown in the graph and this does appear constant across the markets but again India and Europe are also increasing purchases.

Given the challenges on infrastructure, it is therefore important that a solid plan is in place for the future and this is now formally under way through Transnet capacity upgrades. This is via both inland rail upgrades as well as port. The key start-up date for new capacity will be 2018/2019 financial year.

It is still hoped that Nqgura Manganese Terminal will be commissioned in 2018/2019 and will have two shiploaders with the ability to load two 80,000dwt Panamax vessels simultaneously, which is a massive ramp up over the current operation in Port Elizabeth handling only one vessel at maximum 60,000dwt capacity.

In this respect, it has been interesting to see how Port Elizabeth terminal has coped with increasing volume noting that the terminal has only one berth. In 2010, the terminal handled largely Handysize smaller units but did use 22 Handymax vessels. This grew to 65 Handymax vessels in 2011 and used 94 Handymax vessels in 2014. Significantly we have also seen the use of 23 small size Panamax vessels (65–70,000dwt range) so the port has still handled the same number of vessels per month but increased the load per month.

That said, at 6.2mt the system cannot handle further growth

CHROME ORE EXPORTS (MILLION TONNES)

Year	2008	2009	2010	2011	2012	2013	2014
China	2.71	4.55	3.59	4.47	4.23	6.37	4.62
Europe	0.20	0.20	0.41	0.51	0.71	0.51	0.71
Other Asia	0.21	0.20	0.32	0.35	0.49	0.56	0.58
Others	0.76	0.22	0.38	0.37	0.41	0.96	1.10
Total	**3.88**	**5.17**	**4.70**	**5.70**	**5.84**	**8.40**	**9.23**
Growth (%)		33.2	–9.1	21.3	2.5	43.8	–16.5

so it remains tight supply and demand in this sector for two to three years.

Chrome ore trade

The chrome ore exports flows are updated below and shows South African exports declined by 16.5% in 2014 which, in fact, were showing 32% decline by mid 2014. This was entirely the result of the platinum strike lasting five months in the first half of the year. The impact of this was the by-product of UG2 chrome and had a massive effect on export supply. Of more concern in spite of South African short supply, this did not impact the global price which was another factor in less exports overall.

Even more surprising was that China did not replace the lesser supply and in fact only imported 9.4mt against her previous record of 12mt in 2013. The declines in volume did not seem to affect the bulk sector as much as the container sector and this was evidenced by more bulk volume moving through Durban which was traditionally the container gateway in the past.

What has been positive in 2014 is the re-emergence of ferro chrome exports from South Africa in spite of the power crisis. New energy-efficient furnaces have been installed which has allowed production to grow. In 2014, exports grew to 3.12mt up from 2.7mt in 2013. Volumes were as high as 3.9mt in 2008, so there is some way to go but the numbers are positive. South Africa has also diversified into other markets with this product so China is less than 30% of exports.

It has been a turbulent year for South Africa in 2014, and 2015 looks like it could be similar in certain ways but there are positive signs in some sectors and the potential for good growth. The grain trade increased imports will also provide a welcome boost to operators of Handy tonnage to secure two-way trade and this will be an interesting development to watch. 'Challenges' and 'opportunities' are definitely the watchwords in 2015.

Barloworld Logistics and LBH Africa partner to deliver excellence in bulk

Forming mutually beneficial, strategic relationships with key suppliers and business partners enables companies to focus on their core business, while leveraging the expertise and experience of industry leaders in order to fast-track innovation and enter into new markets. Barloworld Logistics and LBH Africa have formed such a partnership to offer dry bulk commodity supply chain solutions to clients into and out of southern Africa.

The Barloworld Logistics and LBH Africa team will act as a single point of contact between clients and multiple service providers across the dry bulk supply chain. By integrating processes and managing multiple suppliers, the team offers integrated multimodal management solutions that enhance visibility and improve security, service and efficiency across the supply chain whilst simplifying and reducing the administration of the movement of dry bulk commodities. According to Steve Ford, chief executive of Barloworld Logistics, "Our partnership with LBH Africa is indicative of our strategy to leverage our supply chain expertise and grow our service offering into niche markets. The combination of our specialist skills and in depth practical knowledge enables us to customize, optimize and enhance dry bulk commodity logistical processes and in so doing, reduce operational costs, improve service and increase reliability."

Athol Emerton, managing director of LBH Africa continues, "Providing cargo owners with relevant real-time information and stock level visibility across the supply chain will enhance accurate cargo and ship planning, minimizing demurrage and potentially facilitating early funding mechanisms that enhance cash flow. With our partners we will be able to improve on issues such as truck congestion at mine and port; standardized PODs and prompt or regular contractor payments. All of these frustrate efficiencies but they can now be an issue of the past!"

The team is focusing on offering dry bulk commodity solutions for grains, chemicals and minerals. Both businesses are strategically positioned and globally connected through an established freight network on international trading routes ensuring a comprehensive understanding of local and international markets, customs and excise law requirements and to deliver the safe and cost effective movement of goods inland, through ports and across borders and oceans.

Ford continues, "Technology plays a vital role in increasing visibility across the supply chain delivering insightful management information, enabling faster, smarter, more successful decision-making and better control across the supply chain. The combination of our supply chain capabilities and integrated technology platform with LBH's in-depth understanding of bulk commodity movements enables both parties to offer customers a more holistic, optimized and value adding supply chain solution with superior safety and governance standards."

"This is a very exciting partnership. We are delighted to provide customers with a unique 'lighthouse visibility' solution and look forward to continually innovating to create the most competitive and secure bulk solutions in the industry for our customers and to potentially rolling these out into other regions over time," concludes Emerton.

More about Barloworld Logistics and LBH Africa

LBH Africa

Part of the global bulk orientated LBH Group with operations on every continent and in most major bulk ports worldwide, LBH Africa is a specialist in bulk commodities shipping and logistics. LBH has been serving the bulk maritime industry for 30 years. With owned and staffed offices in all major South African, Mozambican and Namibian ports, LBH Africa is well established as the leading charterers, port agency and clearing and forwarding agent of bulk commodities in southern Africa.

Combined with a well-established network of key suppliers and partners across the global bulk commodity supply chain, LBH Africa's on the ground knowledge, highly specialized bulk commodity expertise, skills and capabilities and equipment provide customers with highly effective solutions.

Barloworld Logistics

Part of the 112 year old Barloworld Group, Barloworld Logistics designs, implements, operates and manages smart supply chain solutions that enable business success. With extensive logistics and supply chain experience in the mining, industrial and agricultural industries, Barloworld Logistics has an exemplary track record in delivering sustainable value for our clients.

Through smart partnerships with key industry players and clients, Barloworld Logistics has not only developed many in-house and world-class competencies, but is adept at setting world class standards in safety, governance and risk management.

DemcoTECH Engineering – an integral role in growing Africa's mining and minerals industry

Pipe conveyor for Koidu Mine, Sierra Leone.

Recent work for Lětseng Diamond Mine, located in Lesotho's Maluti Mountains, is indicative of the integral role that bulk materials handling specialist, DemcoTECH Engineering, plays in the development of Southern Africa's mining and minerals resources. The contract, which was awarded as part of the mine's expansion initiatives, is a continuation of a working relationship DemcoTECH has had with Lětseng since 2008 when it supplied the original tailings disposal system for the second diamond treatment plant at the mine.

This most recent work for Lětseng, which follows a number of studies for the mine, focused on upgrading part of the mine tailings materials handling capability to handle higher capacities resulting from Lětseng's Project Kholo.

In addition, DemcoTECH carried out a design audit on the run-of-mine (ROM) stockpile system at Lětseng, and based upon this audit, has upgraded the ROM stacker as a turnkey contract. The drive for the 24m-high boom was relocated to ground level for ease of maintenance, as well as redesigning the head arrangement to ensure that the material is distributed evenly over the stockpile reclaimer feeders. In addition, a new WEBA headchute arrangement was installed to ensure that material particle sizes are also distributed evenly over the dump. To minimize any disruption to production, the improvements to the ROM stacker were implemented during a shutdown period of ten days in February 2015.

DemcoTECH is also completing the conveyor design and dump expansion layouts in order to cater for the increased tailings due to the expanded throughput.

DemcoTECH's extensive engineering design capability, state-of-the-art technologies and innate understanding of remote mining sites, typical of Southern Africa, were showcased in the 2008 contract for Lětseng. This contract required innovative engineering solutions to overcome the challenges presented by the location of Lětseng — the highest diamond mine in the world at an altitude of 3,200m. The project included design and supply of a conveyor with fixed tripper and multiple discharge points, a 1.6km overland conveyor over undulating terrain and a 1km long tail-driven downhill extendable conveyor with a rail-mounted tripper and boom spreader, as well as an emergency dump system.

Solutions, such as the inclusion of a regenerative braking system on the tail pulley of the extendable conveyor to prevent the conveyor from over acceleration, were included to accommodate the tortuous route the overland conveyors had to follow. Lesotho's mountainous terrain meant steep inclines and declines en-route to the tailings dump had to be designed for.

The system was also required to operate at ambient temperatures ranging from +35°C to –20°C in wind speeds higher than 100kmph on a very exposed site.

Firmly rooted in Sub-Saharan Africa

Recent work illustrates both the company's international and local track record, and also its capability to undertake small to mega projects. This capability ranges from being engineering contractor on the major Teluk Rubiah maritime terminal, established by Vale in Malaysia, to a turnkey contract for a 10,000tph (tonnes per hour) shuttle conveyor for a mining house in South Africa. The latter project included the project management, fabrication, shop assembly and installation of the shuttle belt into its final position in a building at a height of approximately 43m above ground, under rigorous working conditions, extremely limited space constraints, as well as an 'extremely tight' shutdown window.

"Despite having seen growing international success in recent years, DemcoTECH remains firmly rooted in Sub-Saharan Africa," says DemcoTECH general manager, Paul van de Vyver.

"Our strong track record servicing the materials handling industries from South Africa right up to West Africa is evidence of this, in addition to the many other projects we have carried out for the mining and minerals industry, such as the supply

Expansion to the manganese export facility at Assmang Limited's Cato Ridge Alloys plant in KwaZulu Natal, South Africa.

Recent work for Lětseng Diamond Mine continues a long working relationship with the mine which commenced when DemcoTECH supplied the original tailings disposal system for the second diamond treatment plant.

of niche process plants."

These projects include the expansion of a manganese export facility for manganese miner Assmang at its Cato Ridge Alloys plant, and the establishment of a new 40,000 tonne capacity, multi-discharge clinker silo at NPC Cimpor's Simuma Plant, both in KwaZulu-Natal, South Africa.

For the ports and terminals industry, DemcoTECH's track record in Africa range from various studies, such as that carried out for an iron ore mining house, optimizing the materials handling layout at the port and development of an export jetty and berths, to the execution of projects for major shipping and logistics company, Grindrod, at Maydon Wharf and Richards Bay in South Africa.

DemcoTECH has also designed and supplied sampling plants that enable exporters to have both physical and chemical qualities of ore products certified independently before they are loaded for export.

"We supplied such an iron ore sampling plant for the Saldanha iron ore terminal in the Western Cape, South Africa for Kumba Resources, and later completed an upgrade to the facility," says van de Vyver.

Also in South Africa, DemcoTECH successfully completed a project for a belt filter and cooling system for the processing facility at the Tronox Namakwa Sands heavy minerals mine near Brand-se-Baai on the Western Cape coastline.

Beyond South Africa's borders, DemcoTECH was responsible for the design, engineering and layout of the front end and the layout of the complete process plant for Noventa Limited's tantalite processing facility at Marropino, northern Mozambique.

Moving further north, DemcoTECH's project portfolio includes the provision of a conveyor system for Mali-based Syama Gold Mine, a pipe conveyor for Koidu mine in Sierra Leone, and a pneumatic transport system at Nova Cimangola's cement plant in Luanda, Angola. In addition, DemcoTECH supplied a sulphur storage and lime dosing system for the sulphuric acid plant for Freeport-McMoRan Copper & Gold's project in the DRC.

"The industry is under continuing pressure to maximize productivity as a result of depressed economic conditions, as well as facing legislative and public pressure to reduce its impact on to the environment. Our success is based on our proven ability to assist industry surmount these challenges by providing reliable and efficient, fit-for-purpose systems," says van de Vyver.

DemcoTECH services are offered though contracting mechanisms from EPCM to lumpsum turnkey including studies and from concept design through to detailed feasibility studies. After-sales services include spares, maintenance, refurbishments and operational readiness packages covering procedures, systems and workplace tools required to successfully operate and maintain a new or upgraded plant.

Cleveland wins SIA NK Tehnologija order

Cleveland Cascades have been successful in winning an order from Latvian company SIA NK Tehnologija for a Cascade shiploading chute.

The system, which will go into service in Klaipeda, Lithuania, is the third project between the two companies as Cleveland looks to strengthen and prolong a successful working relationship with NK.

The chute will be fitted to a loading boom which is inclined at 13.5° and will load potash and other fertilizers at rates of up to 1,400tph (tonnes per hour). Annually, the system will load between 1.5 and 2 million tonnes.

At 29 metres fully extended, the chute retracts to 5.7 metres, and is lined with a combination of ceramic (head chute) and UHME PE (cascade cones) liners to prevent abrasion from the product causing premature wear. Electrically, the chute is equipped with various safety components to ensure efficient, continued and safe operation.

The system is to be designed, manufactured, and assembled by August 2015, followed by on site commissioning of the system in Lithuania.

PELIKAN material handler proves its worth

KIROW ARDELT GmbH operates globally as a crane builder and is the bulk handling specialist within the Kranunion group. With experience extending over more than 110 years, Kirow Ardelt offers a wide variety of bulk handling machines, ranging from the TUKAN double jib level luffing crane either with or without integrated hopper, to the KRANICH single jib crane or the PELIKAN balanced material handler; Ardelt is able to offer high quality customized solutions.

Ardelt has been producing the PELIKAN, a hydraulic-driven material handler with a balanced jib-system, since 1992 selling multiple units in a variety of different sizes and executions. For operations where it is beneficial to force the grab into the bulk material, for example during handling of scrap metals or wood-chip, the PELIKAN, Ardelt's equilibrium material handler, comes into its own. The PELIKAN is an expert in its field and has the ability to operate with pinpoint positioning and control, essential when handling large goods such as logs or steel slab.

To achieve short delivery times, maintain a high level of quality and to be able to comply with different customer applications, the PELIKAN is constructed in standardized modules which can, in turn, be combined with a wide range of standard slewing parts, ranging from class sizes of 80 metric tonnes up to 800 metric tonnes and more.

The standard slewable parts of the PELIKAN can be fitted with a variety of jib systems to adapt the material handler to the desired working area and required lifting heights. Equipped with a range of load-carrying attachments; hydraulic grabs, load hooks and magnets the PELIKAN is ideally suited to handle all types of bulk cargo. The PELIKAN is even capable of handling special goods if fitted with a vacuum lifting device.

The wide choice of standard designed, but nevertheless custom build, lower structures enables optimum adaption to customer requirements and supports the logistics of the yard perfectly; for example the PELIKAN can be mounted on a high-gantry portal, which can be passed unhindered by vehicles below operating in the yard, or alternatively mounted onto a stationary pedestal. For travelling needs the PELIKAN can be rail-mounted or run on a crawler chassis.

To further optimize the original design, and as a reaction to ever-increasing handling capacities and customer demands, the standard machine range has been extended recently with the launch of the redesigned PELIKAN 500, 600 and 800. Furthermore the development of even larger capacity machines is in the pipeline.

The final construction phase of the first two machines ordered from the redesigned product range, in 600-tonne class size, with a lifting capacity of 15t at a maximum outreach of 38m is just reaching its conclusion.

German engineering skills in combination with the long established experience of crane building and the cutting edge technology of established sub-suppliers guarantees the outstanding efficiency of the PELIKAN.

Durable loading hoses from LISTENOW – ideal for any material or application

Great strides have been made in the handling of bulk materials of all types. As automation technology develops further, the need for equipment that is both reliable and proven in the field will only increase.

Loading hoses from LISTENOW GmbH & Co. are manufactured at the company's own plant in Rutesheim (Germany), and can be custom-made — often with short lead times — in various strengths and with a selection of coatings.

LISTENOW loading hoses range from 200mm to 2,000mm in diameter, with their length tailored to the needs of the individual client. Both inner and outer hoses are reinforced with wire rings and can be fitted as required with screw threads or steel wire guides, as well as guide loops for electrical cabling.

Both inner and outer loading hoses are reinforced with wire rings (all photos: LISTENOW GmbH & Co.)

These highly durable loading hoses last three to five times longer than those constructed from conventional polyester fabric or canvas and cost only marginally more — the extra cost is quickly redeemed. LISTENOW PU-Flex (European patent No.: 001445) loading hoses have already proven their worth in scores of real-world situations.

The inner hoses of loading hose sets are either unattached or fixed with guides to cups or telescopic tubing.

Single hoses for loading systems without dedusting connectors feature smooth, anti-static inside surfaces, wire rings, flexible sleeves and compensators.

Optional rings, opposing or offset rope guides and spiral springs are also available.

Loading hose sets for loading systems with dedusting connectors are supplied in three variations:

- ❖ unconnected inner and outer hose;
- ❖ interconnected exterior and interior hose; and
- ❖ interconnected exterior and interior hose with rope guide loops.

The PU-Flex brand is a proven performer for hoses that come into direct with bulk materials.

Single hoses for loading systems without dedusting connectors,

O.B. Wiik's storage halls: flexible, expandable and easily relocatable

Storage solutions provider O. B. Wiik was established in Oslo, Norway in 1912.

O. B. Wiik is a innovative company in engineering, design, manufacturing and supplying relocatable structures.

The company's product is well suited for use as warehouses, bulk storage, workshops, flight hangars, sports halls, aid and relief stores, and much more.

Tailor-made special solutions to meet customers' requirements are part of O.B. Wiik's everyday business. One example of the company's innovation was a hall that was erected on top of three floating pontoons to house 3,000 guests and 600 staff for dinner during DNV – GI's 150 years anniversary in June 2014.

The 'floating' hall built for DNV – GIs 150th anniversary.

Continuous research and development over the years has made O. B. Wiik one of the leading European manufacturers of relocatable halls. The company has extensive experience in supplying structures to areas with harsh winds, heavy snow loads and very cold climates, as well as areas with hot humid climates combined with strong winds.

All O. B. Wiik structures are calculated by engineers to suit local wind and snow conditions required in each specific area. Its mobile clear span storage tents are supplied in widths from 4 to 100 meters. All structures can be extended to any length depending on customer requirements, as seen in the picture below which depicts a 600m-long hall at the Port of Gothenburg in Sweden.

The curved 600m-long storage hall at the Port of Gothenburg.

Raw materials, finished products, machinery, sensitive equipment or road salt – almost everything can be stored in a warehouse from O.B. Wiik. Structures are characterized by great adaptability and low price, flexible size and a wide range of accessories that make their applications virtually unlimited.

WiikHall storage halls can be supplied with reinforced sidewalls to cope with the weight of these commodities.

Storing salt in bulk.

O.B. Wiik delivers relocatable buildings tailored to meet special requirements. All the company's standard buildings can be fitted with the appropriate equipment for handling specialized functions or fulfilling advanced needs like mobile traverse cranes in the ceiling or conveyor belts. Buildings can be linked together in any kind of formation, even curved if required. In addition to this, O.B. Wiik supplies all kinds of entrance doors, sliding gates, overhead rollers and folding gates.

Bulk storage hall for pellets.

O.B. Wiik erects relocatable warehousing for port authorities. These structures are placed with the desired dimensions in the most appropriate locations for goods handling. They are supplied with accessories, which both protect the contents and simplify work. Examples of such equipment include dehumidifiers for bulk commodities which cannot tolerate moisture, or large drive-in doors to simplify access by truck.

Storage hall fed by bulk conveyor belt.

Bulk storage halls.

O.B.Wiik's multi-purpose halls can easily be expanded, reduced, relocated or even rented out for other purposes as needs change. Regardless of their location, they can be tailored to the relevant site dimensions and the existing surroundings. In just a few days a solid and versatile multipurpose hall can be erected. Guidance from specialists with long-lasting experience ensures that the structure meets all requirements in an optimal way.

The company's insulated WiikHall has become a popular choice when it comes to cutting costs and saving energy. They are offered in two different dimensions of insulation, depending on customer requirements — U-values are either 0.36 or 0.76.

Bad weather is always a threat to progress when installing or refurbishing bridges. Shelters from O.B.Wiik keep damp and wind effectively at bay. Damp is a problem for both personnel and materials when building bridges. A dry environment is particularly important during the final phase of such jobs.

100m-wide storage hall.

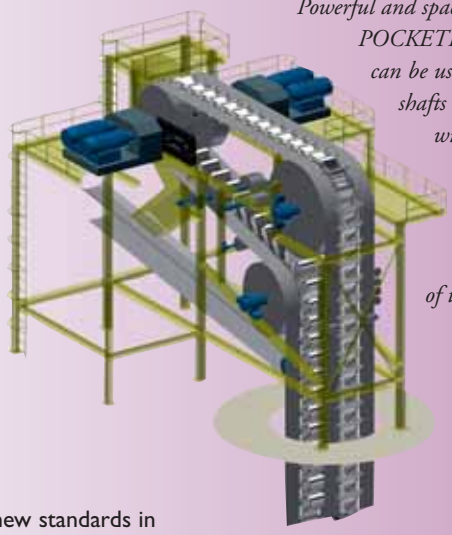
O.B.Wiik often installs a weather shelter of the desired size when work like laying membranes, road surfacing and road marking is done. The company's tailor-made self-expanding shelters are well-known and product at several construction sites.

O.B.Wiik's main business is developing and manufacturing top-quality warehouse facilities, relocatable buildings tarpaulins and weather shelters. WiikHalls have now been installed in more than 100 countries.

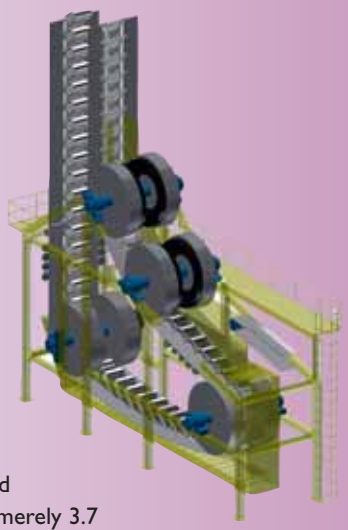
Weather shelter bridge.

Overcoming limits in vertical

Space-saving, environmentally friendly and efficient: this is POCKETLIFT® from the ContiTech Conveyor Belt Group. In terms of conveying height and capacity, this conveyor system is the most advanced continuous conveying technology for the vertical transportation of bulk materials. With unlimited heights through modular arrangement of the conveyors and capacities of up to 6,000 metric tonnes per hour, POCKETLIFT® sets new standards in continuous vertical conveying With this performance, POCKETLIFT® is perfect for conveying materials in underground mine shafts and allows cost-effective and efficient mining operations, as shown in the American White County Coal (WCC) Mine in Carmi, Illinois, USA.



Powerful and space-saving: the POCKETLIFT® system can be used in narrow shafts and can cope with unlimited heights through modular arrangement of the conveyors.



WCC was the world's first mining company to use the trend-setting technology for vertical conveying in its own mine. Even today, it still operates the world's largest POCKETLIFT® installation. The company chose POCKETLIFT® because it helped to double the conveying output in the mine without the need to sink a conveyance shaft with standard dimensions. Instead, the new shaft measures merely 3.7 metres in diameter. Consequently new coal deposits could be accessed and transported without making large-scale investments or taking up a lot of space. The company has been using POCKETLIFT® for around a decade now, and the technology has proven itself in daily use. Since 2002, the system has transported over 38 million metric tonnes of coal to the surface and has impressed people with its clear benefits versus a traditional skip hoist system.

The compact structure of POCKETLIFT® makes it an especially attractive proposition for the mining industry. While other transportation systems like skip hoist are made entirely from steel, the POCKETLIFT® conveyor is much more lightweight. The system comprises two narrow steel-cord belts that are connected by rigid triangular cross bars. These cross bars also have a guiding function. The material is transported in fabric-reinforced rubber pockets that are bolted to the middle of the cross bars. The pockets can be installed and removed individually. This structure makes POCKETLIFT® much more compact than conventional conveyor systems and therefore ideal for handling materials in mining shafts. Thanks to the minimal space required in the vertical section, the system can also be used with very small shaft diameters. “This criterion offers an immense advantage for underground mining,” says Friedhelm Litz, Innovative Products manager at the ContiTech Conveyor Belt Group. “In many cases, even an existing ventilation shaft can be used. This helps to reduce construction costs”.

conveying with ContiTech's POCKETLIFT®

Another advantage for system operators: POCKETLIFT® saves energy and, in turn, money too. Compared with conventional conveying systems, POCKETLIFT® needs a lower drive power. Skip hoist systems need to accelerate the materials to high speeds. This results in power peaks and therefore in higher investments for energy supply. The POCKETLIFT® system is different. Due to the continuous mass flow less drive energy is necessary. The costs per metric tonne of bulk material conveyed are well below the average — energy consumption per metric tonne and 100 metres of lift height stays below 0.3kWh. This allows mine operators to save on energy supply. Thanks to low noise emissions, the conveyor system has a much smaller impact on the environment than other products.

With its properties, POCKETLIFT® is a systematic enhancement of the tried-and-tested FLEXOWELL® technology. FLEXOWELL® conveyor systems are designed for horizontal, high-incline and vertical transport of bulk materials of all kinds – from coarse coal and ore, rock, granular sand or fertilizer through to grain. The material transported can vary from ultra-fine, floury matter to chunks up to around 400mm in size. As with POCKETLIFT®, the advantages for system operators lie in the low space requirements and fewer material transfer points as well as in the lower energy requirement and environmentally friendly handling.

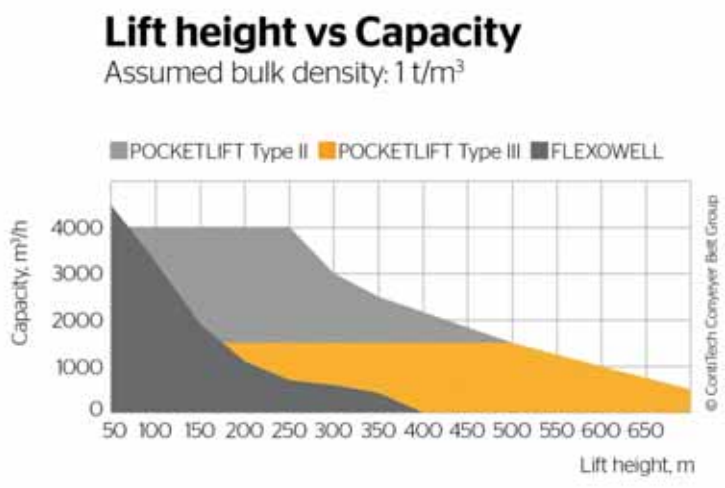
The White County Coal (WCC) Mine in Carmi, Illinois, USA, was the first mining company in the world to use the trend-setting technology for vertical conveying in its mine, and today operates the world's largest POCKETLIFT® installation. After nine years, the company has replaced the conveyor belt once.

A success story is continued

Every POCKETLIFT® is a custom design, specially tailored to the application in question. For WCC, ContiTech — in collaboration with its long-standing US partner FKC-Ltd. — has created a solution with a lifting height of 276 metres. This system is around a quarter of a kilometre in height and transports up to 1,815 metric tonnes an hour. With 782 pockets, the conveyor belt has a total weight of around 100 metric tonnes and so is extremely lightweight compared with conventional shaft conveyor systems. "Thanks to the POCKETLIFT® technology, the head gear of the shaft could be reduced to a minimum," explains Litz.

Even after more than a decade, WCC is still very happy with the POCKETLIFT® technology. The company has already renewed the system. "After conveying 30.5 million metric tonnes with the first conveyor belt over almost nine years, the system was due for replacement," says Chris Russell, the responsible mining engineer at the White County Coal Mine. Not only is replacing a conveyor belt a highly complex logistical task but it also entails downtime for the mine, so it is essential that it can be replaced as quickly as possible. This is another area where POCKETLIFT® scores. Thanks to its easy handling and excellent planning, the replacement of the belt in the White County Coal Mine took one week less than originally scheduled. As a result, POCKETLIFT® gave the customer, WCC, yet another reason to stick with this conveyor system in the future.

In the meantime, many other mine operators have become aware of the benefits of POCKETLIFT®. In addition to projects already completed in underground gypsum mining in Russia, ContiTech is also in discussion with other mine operators. "The greatest challenge at present is how to transport coal through a height difference of 1,000 metres. For this, we are intending to place two POCKETLIFT® systems on top of each other," says Litz. "And, I'm sure that POCKETLIFT® is up to this challenge."



Being a further development of the FLEXOWELL® technology the standard POCKETLIFT® Type III reaches capacities up to 1,500m³/h and unlimited lift heights through modular arrangements of the conveyors while new generation POCKETLIFT® Type II was developed for high capacities even up to 4,000m³/h. Different pocket widths for both systems allow a tailor made design exactly to customer requirements.

readycable® finder – fast cable selection for delivery within 24 hours

The readycable® product finder is the latest online tool from cabling specialist igus® that provides users a quick and easy way of selecting from over 2,830 ready-made drive cables suitable for a range of applications. The tool, which can be found on the company's website, features cables with different approvals and compliances from 20 different manufacturers' standards. Once the appropriate cable has been selected, the user can place an order instantly and the product can be dispatched from 24 hours.

"Over the years igus® has developed numerous online tools as it strives to make its products fully configurable and available to order online with rapid delivery," comments Justin Leonard, director, igus®. "This latest tool, which comes from our readychain® and readycable® business unit, is extremely simple to use, enabling customers to select and order the specific cable they need with the knowledge that it will be delivered the next day."

Finding the right drive cable for a particular application is straightforward; the user can either enter the manufacturer's part number or select a manufacturer by name from the dropdown menu. Once the cable has been selected, a detailed overview of it is then provided that includes information such as the outer jacket material (PUR, PVC or TPE), bending radius, environmental conditions, travel distances and conformity with relevant standards such as UL and CSA.

Based in Northampton in the UK, and with global headquarters in Cologne, Germany, igus® is the largest producer of injection moulded polymer bearings and reinforced plastic cable carriers in the world. Product lines include industry-leading e-chain® cable carriers, chainflex® continuous-flex cables, iglidur® plastic plain bearings, igubal® spherical bearings, drylin® linear bearings and guide systems. The company has 26 subsidiaries across 31 countries and employs more than 2,150 people worldwide.

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DELACHAUX GROUP

BRUKS Rockwood supplies shiploader to the Port of Portland

BRUKS Rockwood has supplied a fixed, shuttling, and slewing shiploader to the Port of Portland in Portland, Oregon. The system is being supplied by Kinder Morgan Company, a terminal operator in bulk material products. Designed to handle soda ash material, this system loads at 2,450tph (metric tonnes per hour) while using a telescopic chute which is positioned by shuttling and slewing of the shiploader.

The shiploader is designed as a fixed unit mounted on the wharf. A four-legged structural tower steel truss assembly supports the shiploading boom conveyor and loading spout. The loader's boom will run in a horizontal plane and extend outward to provide accommodation to the loading point on the ship. There is a conveyor that extends out with the boom, so the material will discharge while the boom is being extended/contracted. This process is called shuttling. The shuttling boom has two sets of counter weights. One is a static weight that mounts to the truss structure. The second is a dynamic weight that moves as the truss moves in and out, that acts as an additional balance for the assembly. Along with the shuttling process comes the slewing process.

Slewing is the process of means to turn circularly without change of place. The slew bearing assembly is a high capacity ball bearing mounted to the top of the base of the truss right below of the loading boom. Slewing permits the booms to rotate a certain amount of degrees, for this specific loader it approximately moves 200° of rotation. These multiple processes are used to accommodate Handysize vessels on up to Panamax vessels ships. To assist with material control and efficient loading, the boom is equipped with a telescopic spout created by Cleveland Cascades.

The Cleveland Cascade chute is designed to cascade material using interlocking steel funnels to close in the bottom of the chute while sealing in material and dust. The chute is controlled by an electric motor; gear reducer and two lift pulleys. Sheaves mounted at the four corners of the upper support provide for even lifting and stability. The chute can discharge up to 2,500tph while having a volumetric rate of 2,400 cubic metres/hours.

After the ship has been properly positioned at the dock, the operator can position the loading conveyor over the appropriate hold by shuttling and slewing the boom into the operating zone, and lowering the telescopic spout into the hold. The shuttling and boom slewing features will enable the operator to position the loading spout in multiple areas within the hold area. The operator performs these functions using a portable radio controller.

Once the ship is filled to maximum or preferred load the operator moves out of the holding cavity by reversing the previous controls, and the ship heads on its way to its destination. In all, the Port of Portland shiploader is a perfect example of maximizing the efficiency of material handling.

Service contracts support ENEL CSUs

Open pit mining and underground solutions provider, Tenova TAKRAF, is supporting four continuous ship unloaders (CSUs) through two service contracts awarded by the leading Italian power generation company, ENEL S.p.A. Tenova TAKRAF is part of the global total technology solutions provider, Tenova Mining & Minerals.

Each contract services two bucket chain CSUs, previously supplied by Tenova TAKRAF Italy, and located respectively at Civitavecchia and Brindisi to feed coal to two of the largest power plants in Italy. Both contacts are 24-month duration extensions of previous contracts.

The service contracts are an evolution of maintenance support originally supplied by Tenova TAKRAF Italy for the two CSUs at Civitavecchia, with the main goal for the coal terminal being to maintain reliability and a planned annual output of 4.5 million tonnes a year. This has been consistently achieved at Civitavecchia, where the CSUs are the only source of input coal. At Brindisi, the CSUs are employed in replacing or jointly handling coal with grab unloaders.

The CSUs have an operating capacity of 1.5tph (metric tonnes per hour) on the Civitavecchia project and 1.8tph at Brindisi and are able to unload vessels up to 130,000dwt. The machines are equipped with a bucket chain elevator approximately 38m high and a slewing/lifting boom, which includes the transfer conveyor, of 42m length. One of the major advantages of these CSUs is their low environmental impact, as the power plants are under special control and supervision of the Italian government to update/upgrade system equipment to reduce all emissions. The CSUs minimize dust and noise emissions during the discharge cycle.

"ENEL recognizes the importance of detailed and planned maintenance in consistently achieving optimum performance from their machines, which are of strategic importance in maintaining coal feed to the power plants," says Alberto Dardano, managing director of Tenova TAKRAF Italy. "All four CSUs have achieved excellent performances since installation."

"These service contracts are an expression of our enduring relationships with our clients; in ENEL's case the relationship dates back to the 1980s when Tenova TAKRAF Italy was then known as Italimpianti," continues Alberto Dardano; "Furthermore, our aftermarket services are a crucial element in our total service delivery, as our support to the client does not simply cease at project handover. We believe in building long-term client relationships through living with and supporting our products over their complete lifecycle."

Tenova TAKRAF Italy developed the bucket chain CSU in the 1980s and, since then, with ongoing enhancement to the technology, has supplied 15 machines worldwide. The most sophisticated part is the articulated type digging foot for which Tenova TAKRAF Italy owns the patent. Through the coordinated movement of dedicated hydraulic cylinders, the digging foot can modify its geometrical configuration to obtain the best bucket filling and reach the walls to remove the residual material.

Tenova TAKRAF is a key supplier of equipment and systems for open pit mining & underground solutions and bulk handling, having provided hundreds of complete systems, as well as individual machines to clients all over the world in all climatic conditions. Globally sourced air pollution control, specialized handling equipment, and technology for the cement and fly ash industries ensure selection of optimal processing options.

Tenova Mining & Minerals is a total integrated solutions provider to the global mining, bulk materials handling and minerals beneficiation and processing sectors, offering innovative technological solutions and full process and commodity knowledge across the mining industry value chain.

Tenova is a worldwide supplier of advanced technologies, products, and engineering services for the metals and mining & minerals industries.

Repeat order for Siwertell unloader confirms long-term customer satisfaction

Siwertell ship unloaders provide a highly environment-friendly operation.

Siwertell, part of Cargotec, has received an order from Jaewoo Industries Co Ltd for the sixth Siwertell screw-type ship unloader at Taean Power Station in Korea. Due to be installed in December 2015 at the Taean power plant in Korea, the unloader will form part of the plant's 2,100MW expansion project, which is scheduled for completion in 2016.

The rail-mounted F-type ship unloader will discharge limestone at a rate of 200tph (tonnes per hour). Incorporating key components manufactured in Sweden, much of the steel fabrication will be carried out locally in Korea, with the final mechanical assembly and electrical installation taking place on site at the power plant.

The limestone unloader will join an existing Siwertell limestone unloader and four Siwertell coal unloaders at Taean Power Station. "Jaewoo made the decision to place this order primarily based on the benefits they have noticed with our totally enclosed screw-type unloaders already installed on site, one of them which has been in operation for more than ten years," said Ola Jeppsson, sales manager at Siwertell. "Jaewoo considers the unloaders' low environmental impact, their reliability, efficiency and quality of design being great advantages."

"Customer satisfaction with Siwertell's solutions is driving an increasing volume of repeat business," said Jeppsson. "In fact, this will be the thirteenth Siwertell unloader for Korea Electric Power Corporation (KEPCO), the owners of the Taean Power Plant."

Taean is a 4,000MW coal-fired power station located about 60 miles (100km) southwest of Seoul. Limestone is used to reduce the levels of sulphur dioxide emissions produced when burning fossil fuels. In a process known as flue gas desulphurization (FGD), limestone is injected into the flue gases in order to neutralize much of the sulphur dioxide. A solid compound is formed - in this case calcium sulphate — that can be removed safely.

Siwertell ship unloaders and loaders are based on unique screw conveyor technology, in combination with belt conveyors and aeroslides, and can handle virtually any dry bulk cargo, such as alumina, biomass, cement, coal, fertilizers, grain and sulphur. Siwertell's product portfolio includes ship unloaders, mobile ship unloaders, ship loaders, conveying systems and complete bulk terminal solutions, all of which are designed to ensure environmentally-friendly and efficient cargo operations.

Siwertell AB, formerly Cargotec Sweden Bulk Handling AB, is part of Cargotec. Cargotec's sales totalled approximately €3.4 billion in 2014 and it employs approximately 11,000 people. Cargotec's class B shares are quoted on NASDAQ OMX Helsinki Ltd under symbol CGCBV.

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FLSmidth stockyard equipment provides state-of-the-art systems for efficient material handling.

For more information, visit us at www.flsmidth.com/dcibe

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Smooth-running stockyards

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A typical bucket wheel reclaimer used in dry bulk operations. (© FLSmidth)

Louise Dodds-Ely

Unleash the potential of stockyard equipment with state-of-the-art automation

The most important trend for stockyard operations today is to utilize already installed equipment at a maximum, and to keep capital expenditures at a minimum. The common goal whether it is a green-field or already operating stockyard is to work towards the 'lower cost tonne'. For a dry bulk export or import terminal, a higher stockyard throughput means that a bulk carrier will be loaded or unloaded faster, contributing to significant savings by allowing a smaller 'slot' for the loading or unloading sequence or by avoiding demurrage fees when the carrier is not loaded/unloaded timely. *Ole Knudsen of FLSmidth* gives his opinion on how this can be done by smart automation.

The mechanical design behind any stacker/reclaimer has not changed dramatically the last many years. However, improvements in automation technologies have to a great extent created opportunities for advancement. System automation of stockyard equipment offers productivity increases and adds further benefits in terms of lowering operating costs, improving safety, flexibility, longevity, reliability and predictability.

Different operating methods combined with the multiplicity of materials have traditionally made it difficult to rely on anything but highly skilled operators and to some extent, semi- or conventional automated systems for transporting dry bulk material. Even so, these methods result in uncaptured potential due to variations in operator performance, operational errors (expressed in unplanned machine downtime) and insufficient or inconsistent availability of stockyard information.

Technology overview

Stacker/reclaimers were originally manually operated machines with no remote control. Modern machines are often automated to some extent. The machine control system is typically a programmable logic controller (PLC), with a human-machine interface for display and a connection to a central control system providing the set-points which the onboard operator has to follow as close as possible.

Where it is possible to automate many stackers with conventional PLC equipment and basic instrumentation such as radars or other sensors, it is another case with reclaimers where a majority still is manually operated. Reclaiming is more difficult to automate than stacking, as the material surface in a stockyard continuously keep changing shape, either due to mobile equipment such as dozers or front loaders, or material settlement as a result of rain or time. When automating a bucket wheel reclaimer, it is very important to know within

centimeters accuracy how the pile surface is shaped and where the machines are positioned relatively to each other. A reclaimer operates inside the pile and not above as a stacker does. An inaccuracy on either machine position or surface will have great impact on performance, or in the worst case, it will result in compromised machine safety.

The market today offers a broad range of sensor technologies suitable for equipping the stacker/ reclaimer with the necessary 'eyes' to obtain data to build a real-time 3D stockyard terrain model. In particular, radar and laser technologies are competing to be considered as the bulk industries preferred solution. Key elements to consider is the ability of the scanning equipment to work in a very harsh environment with high dust and dirt concentrations, heavy rain and fog, as well as the accuracy of the 3D terrain model, in order to optimize reclaiming efficiency and stabilize reclaiming feed. An advantage with laser scanners is accuracy and range. A premium laser scanner provides an accuracy of 10 centimeters for a range of up to 500 meters, and can pass even the worst air contamination using multiple echoes and intelligent image filter algorithms. This allows a full stockyard overview and thereby a good basis for decision-making in the central control room. The range of a radar system is typically down to 30 metres, suitable only for providing surface detection around the bucket wheel. This basically means that a radar solution can be compared with giving a horse blinkers — you have to lead it in the right direction.

One operator to control an entire stockyard

FLSmidth has made substantial improvements for stockyard automation with the BulkExpert™ system. The basic principle behind BulkExpert is to complement the conventional PLC control on a stacker/reclaimer with a dedicated, industrial control computer, a high precision RTK-GPS system and a 3D laser scanner. This computer continuously executes advanced mathematical algorithms, making it possible to not only have unmanned operation, but also achieve better daily average throughput compared to human operators. The 3D-laser scanner scans pile surfaces, with centimetre accuracy, while actual machine positions are known with centimetre accuracy obtained from the RTK-GPS system.

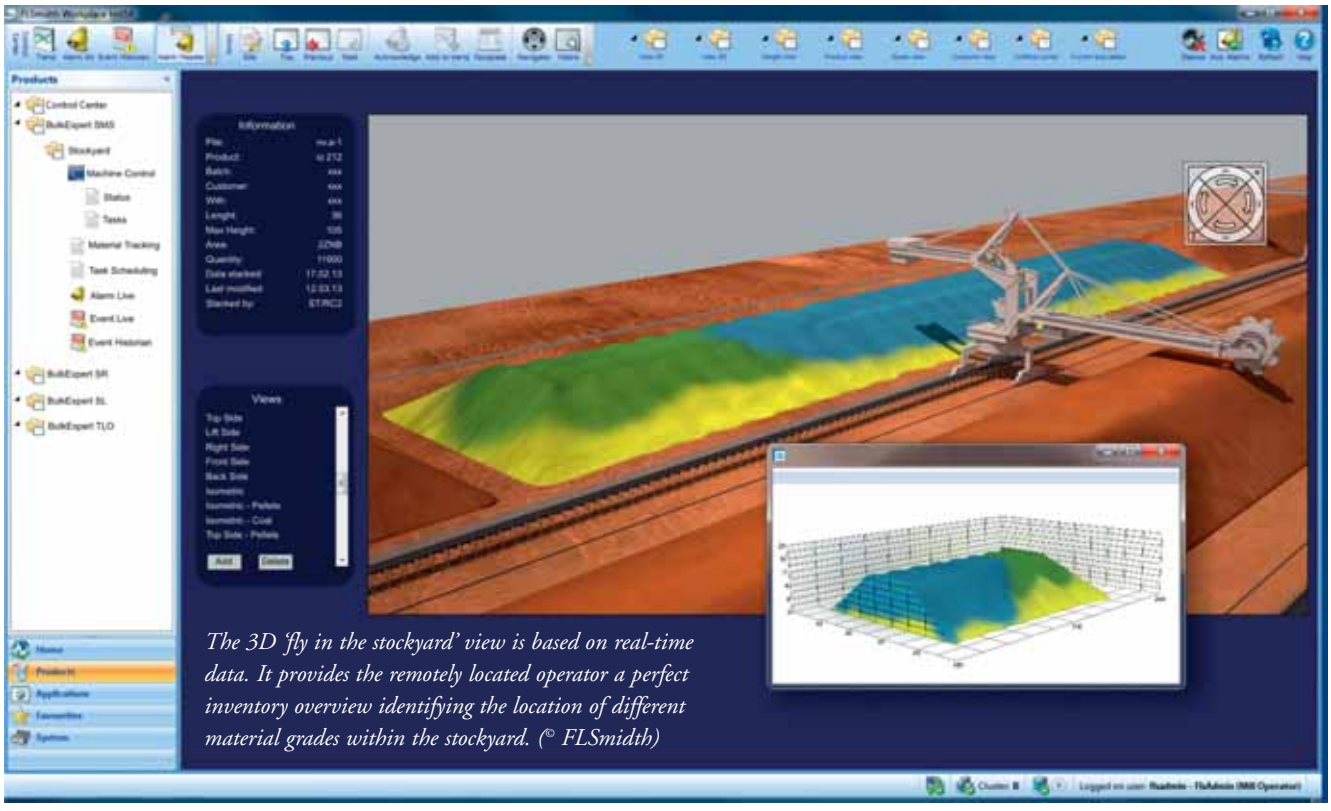
The solution makes it possible for handling the entire stockyard operation with only one operator per shift, including all stacking and reclaiming and any unloading or loading if these are also automated. The operator simply enters the different job parameters for each machine into the system. The machine moves to a starting point and selects the most optimal position before commencing operation.

The system's complex algorithms will focus on optimized throughput unless the central control room operator enters new job commands, for example to clean up residues in the pile. A system should always take the operational real-time picture into consideration, so a reclaimer automatically adapts to any stockpile variations during reclaiming, for example where ground level difference, compacted material or sliding materials requires predictive actions.

Another benefit of automating stockyard machines is that operators are removed from the vicinity of the machine and placed safely in a control room. Even though precautions are taken to protect operators on machines, mistakes do occur and things can go wrong. If an incident does occur, the entire stockyard must typically be shut down for half a day while an investigation takes place, so removing operators from the machines ensures both safety and efficiency.

Automation benefits

The market offers several products for stockyard management. Most are built on mathematical modelling, where a belt scale typically will identify the material going to the stacker, and a piece of software will, by looking at the material flow and the stacker position, modulate the physical dimension of the pile. However a mathematical modelled pile is not always showing the correct picture, due to manual intervention (dozers etc.) or material settlement. A system to provide stockyard operations with the full palette of operational benefits will often require a real-life



The 3D 'fly in the stockyard' view is based on real-time data. It provides the remotely located operator a perfect inventory overview identifying the location of different material grades within the stockyard. (© FLSmidth)

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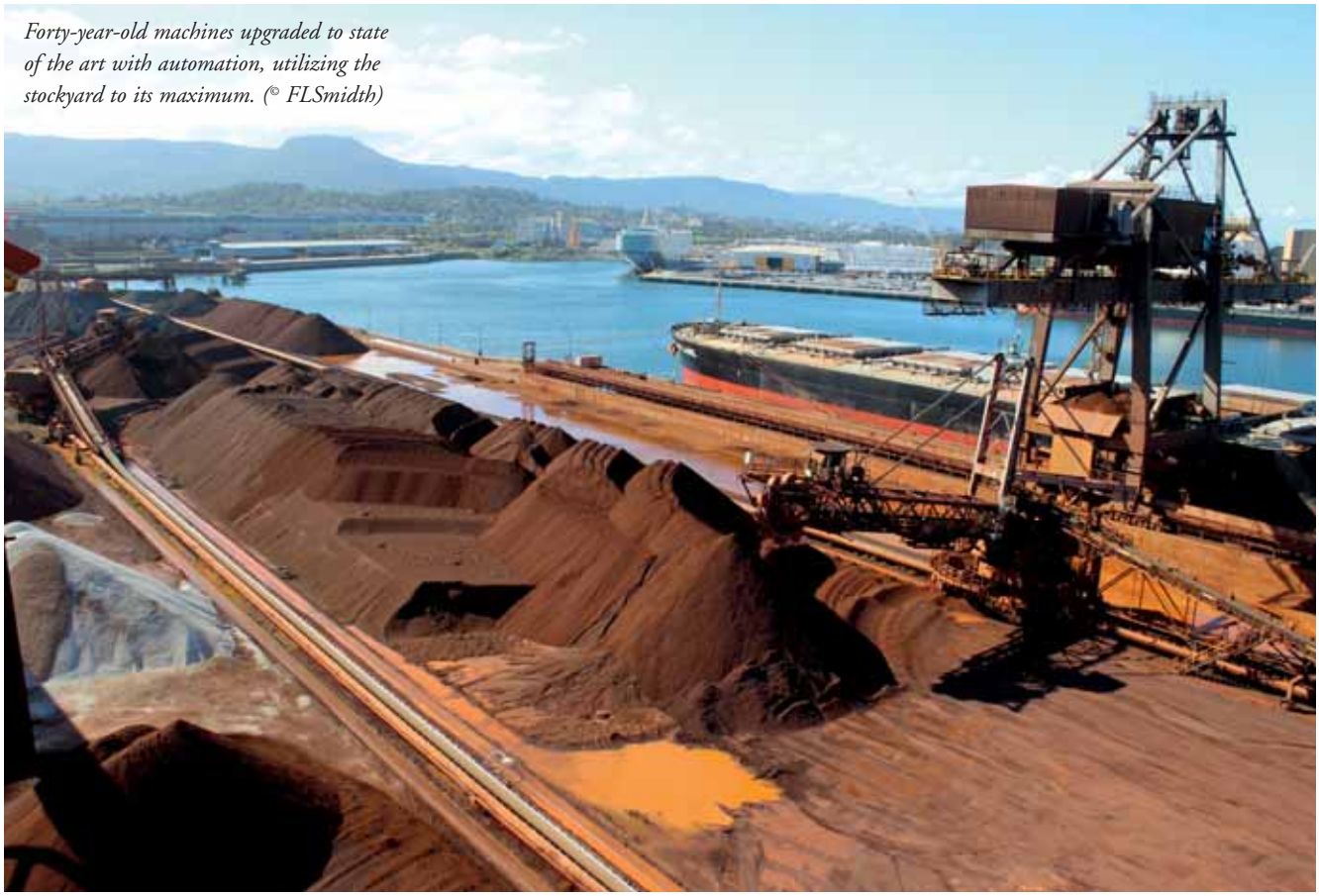

Forty-year-old machines upgraded to state of the art with automation, utilizing the stockyard to its maximum. (© FLSmidth)

picture of the stockyard inventory. The system must efficiently adapt to any change that can occur in a live environment and provide a full overview to both the remotely located operator and the "robotized" machine.

The BulkExpert solution FLSmidth offers for unmanned machine operation can be extended with a variety of add-on systems, such as real-time synchronization between mathematical modelling and real time scanner data, material tracking between stockyard and loading/unloading facilities, and 3D visualization of multiple material types in the stockyard represented by colour-coded cubes that can be viewed in various 3D, 2D or cross-sectional views.

The system can also provide volume/tonnage data to be used for survey reporting, replacing expensive and time-consuming manual and/or aerial stockyard surveys. The 3D stockyard terrain model provided, combined with the material-tracking feature, permits material blending as well as interfacing with third-party stockyard-management systems.

Recent projects

FLSmidth has invested more than ten years of research and development in finding the optimum solution to ensure that the customer's expectations of maximum utilization of their capex investments are fulfilled. This work has resulted in FLSmidth obtaining the intellectual property rights and patents on an advanced automation solution containing 3D terrain mapping technologies and GPS, allowing for unmanned and optimized control of dry bulk reclaimers and stackers.

The highlights for the 2014 projects have been:

Steel mill operation — import terminal.

The two combined bucket wheel stacker/ reclaimers were commissioned in the 1970s. The facility is relatively small and there are lots of different materials stored in a relatively limited space. The main goal was to utilize the yard to its full potential. Benefits documented by adding the BulkExpert automation.

- the company has seen its throughput almost double from 10,000tpd (tonnes per day) to 19,000tpd.
- due to a stable reclaiming flow (limited flow variances) it is now possible to control the mix of ore being reclaimed from two reclaimers on the same conveyor. Mixing downstream has been reduced;
- speeding up production has created more time for equipment maintenance as the same amount of work can be done in a shorter timeframe; and
- the operational team can now plan operations days in advance by running simulations of machine movements i.e. space required for planned material arriving etc., before executing the order.

Coal export terminal US

The terminal is equipped with six stacker/reclaimers, and one shiploader. The main objective with automation was to increase material throughput as well as to archive operational cost savings.

- more than 20% increase in vessel loading; and
- considerable increase in train dumping times due to optimized stacking

There are currently more than 40 BulkExpert systems in operation globally, and with various combinations of different stockyard equipment. Customers has reported a wide range of achievements, such as improved equipment efficiency, operational cost savings, increased quality prediction and more homogeneous flow rates. The typical payback time is one to two years, but it can be as low as months.

Ole Knudsen, Global Manager, BulkExpert, FLSmidth, heads a global business unit focusing on advanced automation technologies in the mineral business.

The technological choice

Hitachi is renowned for the reliability and versatility of its wheel loader range. The new ZW-5 models benefit from several technologically advanced features that deliver unrivalled levels of availability and efficiency. Take the quick power switch: it boosts the machine when travelling uphill with a full load or when greater digging force is required. This has a huge impact on productivity to prove that Hitachi is the technological choice.

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CKIC: more than just the right results

China-based Changsha Kaiyuan Instruments Co., Ltd (CKIC) is a major global supplier of analysis services to the bulk industry. The company is at the forefront of research, development, manufacture and marketing of coal sampling, sample preparation and sample analysis. It also provides complete coal quality control solutions for global users. CKIC's systems are widely used in bulk handling stockyards.

CKIC's equipment includes:

- **stockpile inventory instruments:** these are used to measure and quantify dry bulk inventory stockpiles;
- **calorimeters:** to determine the calorific value of solid and liquid combustibles;
- **elemental analysers:** to determine carbon, hydrogen, nitrogen, sulphur, fluorine, chlorine and mercury content;
- **proximate analysers:** to determine the moisture, ash, volatile matter and fixed carbon in coal and coke;
- **sample preparation equipment**; and
- **mechanical samplers:** for random sampling of bulk materials from wagon and cross belt.

As well as coal, commodities handled by CKIC's equipment include coke, biomass, food stuffs and more. The company's systems have been exported to over 40 countries, and are in use in more than 1,000 laboratories in power plants, coal mines, metallurgy, the chemical industry, commercial inspections, scientific research projects and so on.

CKIC is a preeminent supplier in Asia, and boasts over 23 years' experience in coal quality analysis. It uses its optimum integrated solutions on its samplers, sample preparation, coal

Stockpile inventory instrument used in India.

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analysis and fuel information management systems. The company has an experienced training system that provides professional training and after-sales service. It has 14 agents worldwide for local support, and always keeps an abundant stock of spare parts to keep lead times to a minimum.

Technological developments

Among recent notable technological developments at CKIC are:

- **Fuel Intelligent Control System:** to monitor all systems from receiving sample to consumption, including coal truck, coal yard and equipment of sampling, sample preparation and analysis for fuel.
- **Fully Automatic Sample Preparation System:** a true intelligent system without human participation, with strong adaptability of coal types and stable performance.
- **Trace Elements Analyser:** to analyse the fluorine, chlorine and mercury content in Coal in order to conform to China's regulations relating to coal imports.

Recent contract awards

Contracts awarded to CKIC include:

- CKIC successfully won the bid for the intelligent fuel control project for five major national power groups — China Huaneng; China Huadian; China State Grid; China Power Investment Corporation; and China Datang Corporation.
- CKIC successfully won the bid for the national ministry of environmental protection construction project for the supervisory monitoring of pollution sources. The coal quality testing equipment manufactured by CKIC will play an important role in the national environmental protection project.

CKIC product – proximate analyser.

CKIC product – Calorimeter.

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Targeted dust control for low-turbulence applications

The DB-M Mini is designed to deliver point-specific dust control without material disruption or saturation.

A global innovator in dust suppression technology has engineered a smaller version of its low-turbulence atomized mist unit for applications that require precision particle control without the disturbance of a fan-driven design. Developed for applications such as conveyor unloading points and other limited-space dust-producing areas, the DustBoss® DB-M Mini is built to provide effective suppression without material disruption or saturation. Generating a cascading mist of atomized droplets averaging 50-200 microns in size, the unit has a throw of about 10 feet (3.04 metres) under calm conditions. The result is effective fugitive particle management at the source of the problem, with little pooling or runoff.

"We've found suppression is best achieved by controlling dust at the source whenever possible," said dust control specialist, Carl Harr, from Dust Control Technology (DCT). "We designed this compact version of the DB-M to fit into smaller spaces to directly address those specific problem areas. It's well suited to applications involving very fine dust particles, such as slag dust or fly ash," he added.

The standard boom length is 2 feet, but can be specified anywhere from 1 to15 feet (0.3 to 4.57m). It is fitted at the end with a misting head featuring nine atomizing nozzles. With a minimum required pressure of just 10psi (.69 bar) and a maximum of 100psi (6.89 bar), water is fed through a standard 3/4" swivel hose coupling or an optional 1-1/2" NPT connection. The water travels through an in-line 75 mesh (200 micron) filter, up the boom and to the head, where the atomizing nozzles fracture the flow into millions of droplets, which are distributed evenly across the target area.

Atomizing nozzles fracture the flow into millions of droplets, which are distributed evenly across the target area.

According to Harr, every operation is unique, which may require a high level of customization. "Dust particles vary widely in both composition and size," he said. "These differences require droplet sizes that match the particle sizes in order to be most effective, and in some cases chemical treatments are needed, as well."

Along with the customizable boom length, proprietary Variable Particle Sizing (VPS) Technology allows specialized nozzles to be added, removed or replaced on the head in order to customize droplet sizes for optimum suppression. If using potable water, nozzles need only be inspected once per year.

An optional dosing pump can be attached for accurate metering of odour-control additives, surfactants to improve binding to particles, or tackifying agents to help seal ground-level dust and prevent it from becoming airborne. The unit runs an water pressure alone, requiring no electrical hookup.

"This is an important addition to our product line, because operators now have a compact point-of-emission solution," Harr concluded. "Along with less fugitive dust, when added to a workplace air quality control plan, operators may find a lower burden is placed upon their other dust suppression methods and air filtration systems."

Dust Control Technology is a pioneer in dust and odour control solutions for coal handling, demolition, mining, rock/aggregate, recycling, scrap processing and slag handling. The company's DustBoss® product line helps reduce labor costs vs. manual sprays, freeing up manpower to concentrate on core business. The automated units also use less water than fire hoses and sprinklers, while avoiding over-saturation, with some customers realizing payback in less than six months.

Stacker-reclaimers: proper application for thermo coal-fired power plants

Metso has recently supplied three stacker-reclaimers for thermo coal-fired power plants as follows: Energia Pecem (720MW), UTE Pecem II (365MW) and UTE Itaqui (360MW). These are used to stack and reclaim quantities of the pulverized coal which is burnt as a fuel in the power plants.

The thermoelectric power plant Pecém II is located in the Pecém Industrial and Port Complex CIPP in the city of São Gonçalo do Amarante – Ceará States Brazil. The power plant aims to supply the growth of the demand in the consumption of electric energy of the Brazil Northeast region. With a power installed of 720 megawatts and a maximum capacity of energy generation about 6.307 gigawatts-hour, it is enough to more than supply a city with five million habitants. The Pecém plant is composed by two coal stockyards, two boilers for generation of vapour, beyond two turbo-generating, driving by turbines.

The solution with a combined yard machine for stacking and reclaiming has demonstrated the best and most efficient way to handle coal in storage yards. The constructive conception of the machines with cantilever boom type, without mast and holding ties, and cell-less bucketwheel balanced by a counter-weight, has shown the right way to work with this kind of operation. The stacker can also discharge the coal into the boom as well as on the yard conveyor by means a bypass installed in the centre of the machine gantry.

The machine is equipped with a frequency inverter for adjustable speed and torque-controlled operation of slew and travel drives. The drives control acceleration and deceleration, softening impacts that occur during speed changes and increase the life of gearing, brakes, and motors. Maintenance is reduced and system reliability is enhanced.

Nominal reclaiming capacity is maintained at 1,250tph (tonnes per hour), by controlling the bucketwheel's motor current feedback loop against the slew speed, i. e. slew speed decreased if the tph/motor amps are high. Advance 0.75m; slew speed 8–24m/min.

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Metso stacker reclaimers make extensive use of heavy-duty 'non-moment — no uplift' style slew bearing, called cannon ball slew bearing, featuring hardened steel balls and through hardened races. These bearings offer the advantage of longer life, reduced maintenance cost and predictable wear behaviour, compared to bearings having 'moment resisting' capacity.

Metso stacker-reclaimers are designed for fully automatic operation. Features of this system include: automated bucketwheel feedback logic to prevent over-digging, slew speed algorithm logic to achieve constant digging rates, selectable pile geometry limits for multiple stacking and reclaiming configurations, and automatic machine advance to ensure the same depth of cut on each slewing pass. Slewing limits can also be controlled manually by an operator through the HMI display. The automated control system has been designed with minimal operator interaction required.

The machine is completely controlled and operated from the control cabin placed on the tip of the boom using Metso DNA which is an automation and information platform for process control. The automation scope included redundant process controller, IOs (input/output), intrinsically safe IOs and frequency converters connected with PROFIBUS, redundant PROFIBUS interface to the main plant automation system as well as training and commissioning. History data and events are collected to the Trend and Event Archive for better operation and analysis.

The Metso DNA system architecture is designed to meet the following requirements:

- high system reliability, achieved by using proven system components;
- friendship usage, achieved by operational functions in various locations;
- proper operation analysing and complete reporting of the functionalities; and
- advanced control tasks and algorithms.

Stacker-reclaimer flow rate control for coal plants.

In bulk material storage yards, one of the biggest concerns is the large variation of the reclaim capacity of the bucketwheel reclaimers. With the pile method of reclaiming by benches, the yard belt conveyor receives a variable amount of material and in some conditions in a discontinuous way. In these conditions, the conveyor needs to be sized properly to absorb the peaks of reclaiming capacities.

The correct solution to prevent this problem is to install in the gantry a surge bin to provide the regularization of flow, which will make it possible to feed the yard conveyor at constant and continuous rate. Taking this into consideration, the sizing of this equipment will be done under defined parameters and consequently a less costly and more efficient operation will be reached.

The bucketwheel reclaimers supplied to Paradip in India have a surge bin located in the gantry structure to stabilize the flow of material (coal) to the yard belt. On this machine were installed belt feeders directly under the silo feeding the material to the yard conveyor. The belt feeders were positioned at 90° to the direction of long travel and the centre line of the yard belt was offset from the centre line of slew.

The design of the closed loop control system make it possible to adjust continuously the gates (opened and closed) to achieve the required rate. The clamshell was designed for choking/reducing the flow of material from the higher values down to something lower. Due to high rates of wear at the clamshell lips from the flow of material, replaceable lips were provided.

In the regularization surge bin installed inside the machine, two belt feeders will control the flow of material for feeding the yard belt conveyor, through the draining of the material from the discharge chute into the belt conveyor yard.

For maintenance of the feeders, or when it is necessary to

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interrupt operations, the system will alert when it is necessary to change the direct feeding of the boom conveyor; this emergency condition will be executed by the opening of central base of the surge silo, bypassing the belt feeders.

The surge bin will be equipped with load cells linked to the control of speed of the feeders and the reclaiming speed of the bucketwheel (boom slew speed and bucket wheel speed); the bin will operate with minimum and maximum level to execute this control.

Through the use of Discrete Element Modelling (DEM), Bulk Flow Analyst™ software, the material motion inside the surge bin was simulated, through loading and unloading conditions, to optimize the material flowability. The great benefits of this study are: prevent bin plugging, minimize belt wear, minimize bin surface wear, minimize dust, avoid material spillage and minimize material degradation.

Taking into account the surge bin will provide a fixed flow rate to discharge into the yard conveyor and also the other conveyors downstream of the bucketwheel reclaimer. This device will make it possible to apply narrower belt widths for these conveyors, because the reclaim peak has been eliminated. In this case, the investment on the conveyor system will be lower, and consequently smaller CAPEX.

The same surge bin solution was applied on the stacker-reclaimer for Samarco pellet plant at Ubu in southeastern Espírito Santo state – Brazil to expand pellet production capacity by 54% to 20.6 million tonnes a year, which is part of project that also includes an iron ore processing plant in Minas Gerais state.

Metso Corporation

Metso Corporation has decided on a new strategy and a new operating model, designed to drive growth in the company's core businesses and strengthen its financial performance and value creation. This will also help Metso continue its transformation into a services and products-focused industrial player with attractive structural growth and high margin opportunities across its portfolio of services, products, and system deliveries.

Under the new strategy, Metso's core customer industries will be mining, oil & gas, and aggregates. Metso's goal is to strengthen its position as a prominent technology and services provider for end-to-end minerals processing and to become a leader in flow control within the oil & gas and mining industries.

Metso operates in an environment with very strong competition from major companies such as ThyssenKrupp, Tenova TAKRAF, Bardell and Sandvik.

The equipment manufactured by the company's Brazilian facility in Sorocaba includes: crushers: cone and jaw; vibrating screens: horizontal and elliptical movements; and grizzly and vibrating feeders. The main mechanism of the company's stockyard machines can also be manufactured here.

Metso is keeping on top of its game by developing and offering high-quality, expertly-manufactured machines. The company has a global supply chain, and also offers its LCS Life Cycle Services and spare parts. The LCS cover all areas of the crushing, size reduction and classifying process, and are aimed at improving the customer's end products. The main basis for all this is ensuring the operational reliability and equipment availability.

Recent deliveries by Metso include:

- **VALE Pelletizing Plant 8 – Vitoria City, Espirito Santo state**: one twin-boom travelling stacker, boom length 36m, capacity 1,800tph; one twin bucketwheel on bridge reclaimer, bridge length 36m, capacity 3,200tph, one bucketwheel on boom reclaimer, boom length 57m, capacity 5,300tph; and
- **ENEVA and E.ON Power Plants – Energia Pecem, UTE Pecem II and UTE Itaqui:** three stacker-reclaimers, boom length 30m, stacking capacity 2,700tph, reclaiming capacity 1,350tph.

Metso Minerals is a global supplier of solutions, equipment and services for rock and minerals processing. Its expertise covers the production of aggregates, the processing of ores and industrial minerals, as well as construction and metal recycling.

Perubar mineral concentrates unit benefits from TAIM WESER stockyard solutions

By the end of 2014, the new units for mineral concentrates logistics supplied by TAIM WESER to the company Perubar had come into operation. The project consisted of the expansion, revamping and integration of the Perubar's mineral concentrates logistics unit at Callao's Port Terminal, located 15km from the city of Lima.

The main purpose of the new installation is the reception of mineral concentrates, copper, zinc and lead, produced in the Central Andes of the country, its sending to and storage in a pre-shipment warehouse and its subsequent reclaiming and conveying to the open access area of the port terminal, for its final transfer and loading into the ships holds.

TAIM WESER's scope of supply included a package of five belt conveyors, 600tph (tonnes per hour) capacity and 367m total length. These conveyors are to receive the minerals concentrates and send them to the pre-shipment warehouse. Also included is a filling system made up of a transverse travelling bridge and a discharge tripper equipped with telescopic chutes for dust control.

In addition, the project included a package of four belt conveyors, 2,400tph capacity and 373m total length, for the minerals concentrate conveying and sending from the warehouse to the port terminal's open access area, travelling hoppers equipped with belt feeders in order to cope with the material reclaimed from the stockyard by means of payloaders, as well as the required transfer towers, conveyor feeders, metals detectors and electrical equipment. A few months ago in the same Callao's Port Terminal and directly linked to this project, TAIM WESER also supplied a new mineral concentrates loading terminal with 3.5 million tonnes capacity per year to the company Consorcio Transportadora Callao.

TAIM WESER's scope of supply comprised a belt conveyor measuring 490m length with a capacity of 2,400tph that links the conveyor transporting concentrates from the open access to the wharf, where a loading gallery and a rail-mounted shiploader, also supplied by TAIM WESER with a capacity of 2,400tph, were installed and are able to service ships with capacities ranging between 15,000 and 60,000dwt.

Thanks to those new facilities, the conveying and loading capacity for mineral concentrates will be quintupled, from the previous 400tph to more than 2,000tph, for which the new terminal has been designed. Thus, vessels lay times in Callao will be significantly shortened, decreasing process costs.

Both projects were designed to fulfill the most stringent standards in safety and protection, with regards to the working area and the environment since facilities are totally covered, protected and automated, which will eliminate the need for approximately 150,000 truck trips per year and will reduce substantially the pollution levels previously existing in the area.

Those facilities will also make the Port of Callao the largest, most modern and competitive mineral-handling wharf in the country, which will allow increasing substantially the export of mineral concentrates to international markets. And TAIM WESER is proud of having been chosen by its customers to provide a quite relevant part of the project.

TAIM WESER specializes in the development of turnkey solutions in the bulk handling sector, providing the best response to the needs of its clients within the framework of the industrial sectors that require this type of equipment, such as energy, port, mining, oil and gas, steel and cement sectors, and that cover a

wide variety of materials, which include all types of ore: coal, petroleum coke, phosphates, grain, fertilizers, cement and other minerals.

TAIM WESER supplies from individual specialized equipment to complete turnkey installations, which make up all of the main elements and auxiliary equipment, providing its clients with specific solutions for each case.

TAIM WESER's product range covers all the necessary equipment for unloading, conveying, storing, reclaiming and loading of bulk materials, having supplied equipment and turnkey plants in more than 60 countries worldwide.

TAIM WESER's broad and intensive experience on large international projects has helped strengthen and consolidate its presence in the bulk handling sector at the worldwide level.

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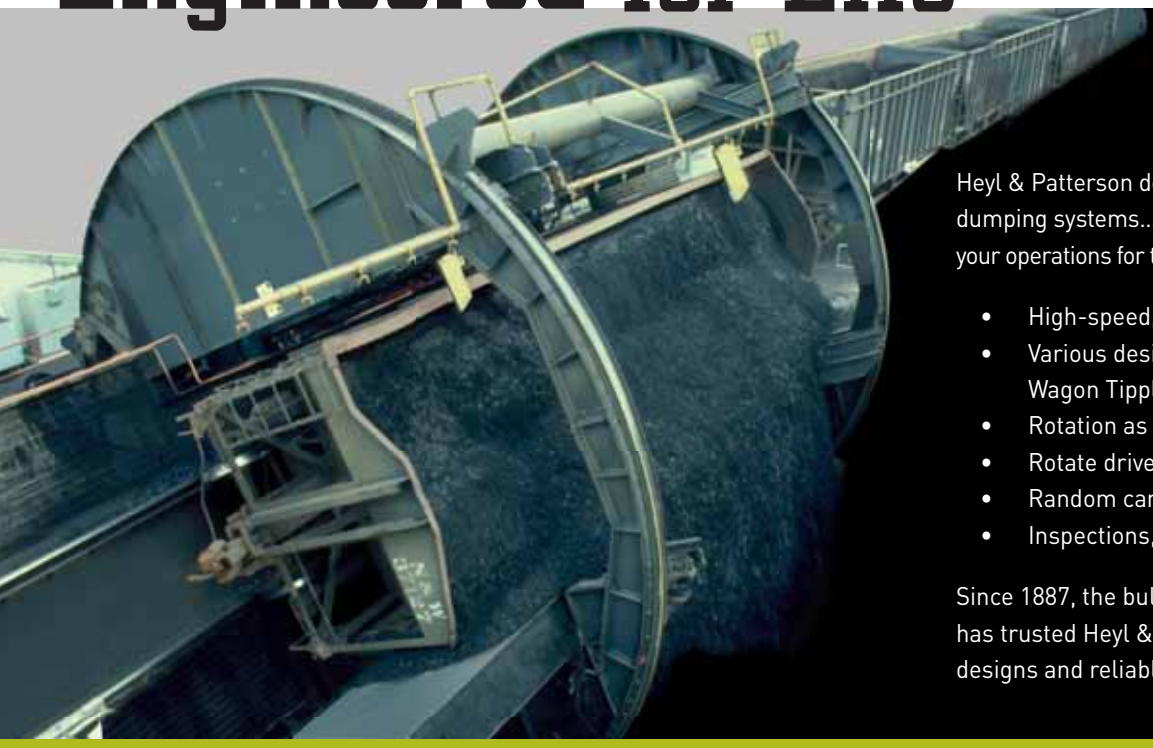

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Advanced technology and experience support HHI handling equipment

Huadian Heavy Industries Co.,Ltd.(HHI) is a joint-stock company. It was formed after restructuring and recombining the excellent assets of China Huadian Engineering Co.,Ltd.(CHEC). In December last year, HHI was successfully listed on the Shanghai Stock Exchange. Bulk Material Handling Business Unit is the core of HHI.

The main business of the Bulk Material Handling Business Unit includes: engineering and design, manufacturing, equipment supply, installation, commissioning, technical service and EPC services for bulk material handling systems. HHI can also provide solutions based on customized requirements, such as: feasibility study,R&D of new featured equipment and system, scheme and budgeted proposals, and so forth.

Since 2001, HHI has designed and developed a series of bucketwheel machines with capacities ranging from 300tph (tonnes per hour) to 10,000tph, slewing radius from 25m to 56m. Models include boom-type bucket wheel stacker reclaimers; portal-type bucket wheel stacker reclaimers; boom-type bucket wheel reclaimers; boom-type stackers; drum blending-type reclaimers; twin-boom stackers; bridge-type bucketwheel reclaimers; bridge-type scraper reclaimers; and herringbone-type scraper reclaimers. Moreover, HHI has delivered more than 200 machines with design, fabrication, installation, commission and commercial operation covering over 20 provinces, municipalities and a number of countries. Among them, dozens of heavy machines have been exported to Australia, Indonesia,Vietnam, India, Sri Lanka, Philippines,Thailand, and Cambodia.

HHI's Bucket Wheel Stacker Reclaimer has unique advantages in system integration and design, fabrication, installation and commission of single unit device.

System Integration

HHI has strong process design abilities in heavy bulk material handling systems for power plants, ports, mines, etc. The company is also experienced in the design, fabrication, installation and commission of single unit devices, such as long-distance belt conveyors (curve and pipe), bucketwheel machines, and ship-unloader. Moreover, HHI is highly competent and experienced in system integration of technology and equipment, which makes it capable of providing complete processing solutions to bulk material yards and ensure the feasibility and efficiency of the whole process. One notable contract is the Shenhua Tianjin Coal Jetty Project constructed by HHI with throughput of 35 million tonnes annually, which ranked second in Huadian Group's Science and Technology Progress Award. HHI has demonstrated comprehensive construction abilities.

Technology software

HHI has made huge investments in purchasing legitimate INVETER 3D design software and ANSYS software, and independently developed the Stacker Reclaimer Design and Calculation System, which won Huadian Group's Science and Technology Progress Award. Currently, the 3D software is being used in the design of a bucketwheel stacker reclaimer which can realize the simulation movement and parameter design. The safety and reliability of main steel structure can be improved through finite element analysis. All drive mechanism and overall performance parameters are calculated and optimized with this expert system, which makes the product more reliable and more secure. The quality and efficiency of design mean that HHI is able to offer superior solutions.

New technology

Relying on the advantage of technology and talent, HHI has developed new machines like closed circular stockyards, dumping ploughs and reversed loaders, which have been well received by users. Unattended operation stacker control system developed by HHI has been applied in the Shenhua Tianjin Coal Jetty Project, and this technology is very suitable for freight yards and power plant projects.

Stacker/reclaimer (7,500/3,600tph) for Jingtang Port in China, which has an annual capacity of 30mt of ore. This unit has a 50m boom.

Innovative mobile solutions for stockyard management

Telestack mobile bulk handling solutions take into consideration the day-to-day operational capabilities of any stockyard management system from stacking to reclaiming. The unrivalled ability and flexibility of Telestack's equipment offer the operator cost-efficient solutions for any stockyard system.

Whilst there will always be a need for the more traditional methods of stacker/reclaimer systems, Telestack mobile solutions are becoming more popular as the industry becomes more familiar with the innovative technology that the company can offer.

Telestack offers a wide range of mobile conveying solutions that can work in conjunction with stacker/reclaimer systems already in place in many stockyards. In the event of a failure or planned maintenance of the traditional stacker/reclaimer system, the Telestack equipment can be used as an emergency back-up system to maintain the production rates either stockpiling or reclaiming the material. This is also beneficial as the fully mobile units can be utilized to service the small areas in the stockyard that the stacker/reclaimer cannot reach; the Telestack equipment can collect this material and reclaim it back into the system reducing the need for wheel loaders and trucks on site.

Mobile truck unloader reclaiming coal stockpiles to existing stacker/reclaimer.

Mobile hopper feeder and radial telescopic stacker stockpiling coal at up to 500tph.

For those developing new greenfield sites, Telestack mobile solutions are perfect for the initial start-up phase of the project, as they allows the operator to begin phase one of the stockyard very swiftly with lead times on Telestack equipment as short as 12 weeks from order.

The multi functionality of Telestack's mobile solutions limits the capital expenditure while still maintaining the production capacities needed. The mobility and flexibility of the units allows the adjustment from stockpiling mode to reclaiming mode effortless. This is illustrated in the following case study.

AES Kilroot power station

Telestack commissioned a stockyard management system for stockpiling and reclaiming at the AES Kilroot coal-fired power station in Northern Ireland. The fully mobile system consists of a mobile radial telescopic conveyor and a tracked mobile hopper feeder. Prior to the Telestack system, AES used wheel loaders to haul the coal to the fixed conveyor to feed the power station and to build strategic stockpiles in the stockyard. AES chose the Telestack system as it wanted principally to increase its tonnages, but also in order to reduce operating costs.

Stacking

Now, wheel loaders carry the coal to the Telestack tracked mobile hopper feeder which then feeds onto a radial telescopic stacker which stockpiles the coal at throughputs of 500tph (tonnes per hour) at a density of 1.0t/m^3. With the new Telestack conveyor technology now in place, the wheel loader use is limited. Therefore, there are no wheel loaders

Radial telescopic stacker stockpiling coal from tracked mobile hopper feeder, loaded from wheel loaders.

Radial telescopic conveyor stockpiling coal at up to 500tph.

driving over the product which means there is no degradation or compaction of the coal, leaving a higher-quality product to fuel the power station. The end product quality is further improved by the steeper angle of storage and consequent improved water drainage.

The tracked mobile hopper feeder has a hopper capacity of 18m^3 and 21m incline conveyor. The hopper feeder is very versatile and, with the luffing (up/down) facility, it allows the operator to use the unit as a link in the feed system to the TS542 telescopic conveyor to gain distance. It also allows AES to use it as an independent stacker on its own, with a maximum stockpile height of 9m.

The radial telescopic stacker allows AES to stockpile to a maximum height of 12.3m, which enables it to differentiate between the different types of coal better. Also, as coal from different countries, vary in quality and BTU levels; it is important that the stockpiles are segregated to improve the efficiency of the power station. The Telestack system also allows the power station to blend various grades of coal if it desires. The radial telescopic stacker has an onboard generator (fully sound-proofed), which effectively leaves it totally self-powered. It has crawler tracks for easy manoeuvrability around the site. Also, the automatic stockpiling system reduces the labour required to operate the equipment.

Reclaiming

Before the Telestack system, wheel loaders had to carry the material to the fixed conveyor system. Now, the wheel loaders carry the material over a much shorter carry distance as the new Telestack system makes up a length of 66 metres. This has increased productivity and reduced the downtime necessary to manoeuvre into position.

With fewer loader movements in the stockyard, the site has become a safer site to work on with less noise pollution. With the new Telestack mobile solution in place, it also leaves the site, more environmentally friendly as it reduces the carbon footprint. In addition, with Telestack's fully mobile system, AES is able to quickly and easily relocate the equipment around the site.

Radial telescopic and mobile hopper feeder reclaiming from stockpiles.

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New powerful JCB 457 wheeled loader is ideal for port stockyards

JCB's brand new 457 wheeled loading shovel — the flagship of the range — is offering ports a powerful solution to demanding bulk handling applications.

Firstly, the new machine comes complete with the 'JCB CommandPlus' cab which provides users fantastic visibility, lower noise levels, increased internal space and an enhanced working environment for the operator together with improved maintenance, reduced dust ingress and enhanced safety and productivity.

In addition, the 457 is the first large JCB wheeled loader to meet Tier 4 Final emissions standards, with the adoption of a powerful MTU diesel engine that is perfectly matched to the machine's operating duties. The engine contributes to a massive fuel saving of around 16% compared to the previous model. As with other JCB machines, the engine in the 457 meets Tier 4 Final without the need for a costly and complex diesel particulate filter (DPF), relying on an efficient combustion process, with a selective catalytic reduction (SCR) system and an exhaust fluid additive to meet the regulations.

This reduces cost and service time for customers, increasing uptime and profitability and minimizes the fire risk through the regeneration process. No DPF results in reduced under bonnet temperatures. A key benefit for ports is the wide core cooling pack with epoxy coating, which protects against corrosion and minimizes debris build up and dust accumulation in the cooling pack. This allows the machine to cool efficiently in dusty conditions and is extra effective with the reverse fan. The reverse fan can be hinged away from the machine for easier cleaning and can be set to faster or slower intervals allowing customers to tune the machines to their specific application.

Optional extras include factory fitted fire suppression kits (wet and dry combination) and lagging to insulate hot components in the engine bay. These have been rigorously tested and meet the high standards expected by ports where highly combustible materials are regularly handled, giving peace of mind and ensuring that operative's safety is maximized.

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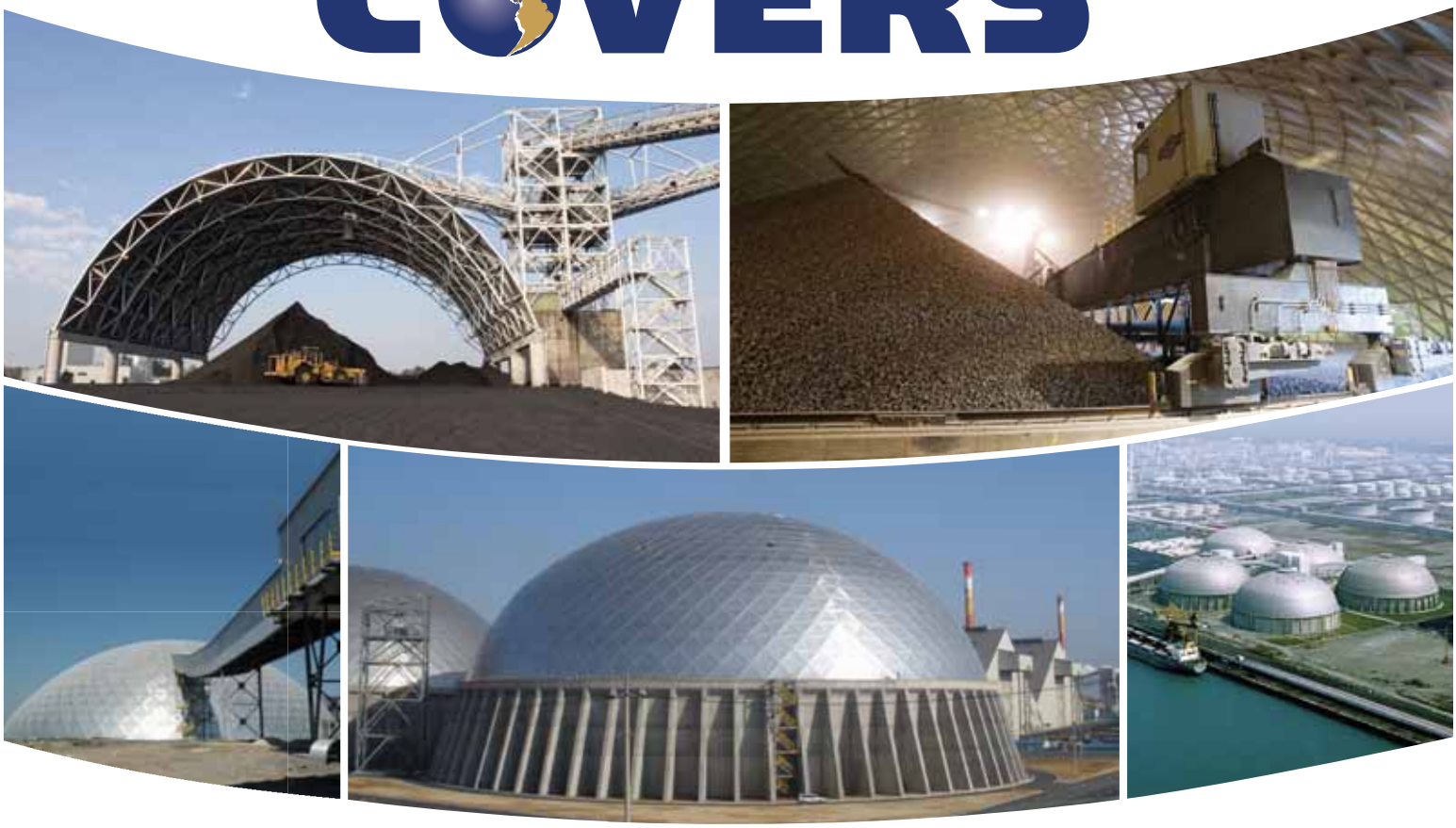

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New JCB CommandPlus cab

The 457 is the first machine from JCB to utilize the company's next-generation JCB CommandPlus cab, offering operators the ultimate in comfort. The 457 has two full colour LCD screens, one in the central console and a second at the top of the right hand cab pillar. This second screen incorporates access to the loader's operating menus and acts as a monitor for the machine's rear view camera. The operator can now benefit from 'in-cab' daily checks using the CommandPlus LED menu and monitor.

The JCB CommandPlus cab delivers increased internal space as the heating, ventilation and air conditioning system has been repositioned outside the main cab structure. The cab door is hinged at the front, allowing easier access and exit from the machine for the operator from the steps. There is additional storage for the operator, both behind the seat and in pockets in the front and side consoles. The new cab gives a huge reduction in internal noise levels, from 71dB(A) to a class-leading 68dB(A). A positive cab pressure and improved sealing ensures the operator benefits from noise and reduction in dust ingress.

Operators also benefit from LED lighting all round and the option of electrically adjustable and heated mirrors, for maximum visibility in all operating conditions. The rear view mirrors are now repositioned, making it easier for the operator to see all around the machine teamed with the rear object detection system which gives a warning to the operator when in close proximity to personnel and hazards. This was an important requirement for improved safe working particularly in confined spaces such as ship trimming or inside storage sheds.

The most visible change to the 457, aside from the new cab, is the adoption of a sloping one-piece engine canopy. This engine cover can be electrically raised away from the cab to provide improved access to the engine and drivetrain for regular maintenance. The machine has a specially sealed bulk head which prevents dust settlement onto engine components reducing combustion risk in the engine bay and reducing the need for regular cleaning.

More power, lower emissions

The JCB 457 is powered by a 7.7-litre MTU Tier 4 Final engine, delivering 193kW (258hp), up from 186kW (250hp) on the previous machine, despite the smaller engine capacity. More importantly, the engine delivers this increased output at lower rated engine revs, cutting fuel consumption, noise and emissions. JCB has also fine-tuned the match between engine, torque converter and transmission, to perfectly match the engine with both the standard four-speed and optional five-speed transmissions.

The Tier 4 JCB 457 will come as standard with JCB's LiveLink telematic system. This provides fleet managers and owners with remote access to real-time fuel consumption and machine working data, including operating hours and fault codes. JCB LiveLink also allows customers to set working hour curfews, outside of which the machine will not function, along with geofencing. This permits the owner to set a geographical area in which the machine can work. If the loader is taken out of this area it will not start, preventing theft from site.

Heavy duty encoder solutions for the dry bulk industry

The extreme conditions in the heavy industry require reliable and safe industrial applications. Individual customer solutions and all-round service also play an important role in this context. As a leading supplier, Johannes Huebner Fabrik elektrischer Maschinen GmbH offers encoder systems for heavy duty applications. The company is also widely recognized as a industry leader in the fields of measurement, encoder and drive technologies. In more than 80 years Johannes Huebner Giessen has installed several thousand applications in the mining and dry bulk industry. For example the company's products in great demand for use in stackers, reclaimers, shovels, belt conveyors, shiploaders and unloaders, cranes and hoist systems. Reference projects worldwide in countries such as Canada, China, Russia or the USA demonstrate the comprehensive track record of Johannes Huebner Giessen. The company's scope of supply includes incremental and absolute encoders, universal encoder systems, overspeed and position switches, SIL certified systems, magnetic encoder systems, fibre-optic components, output multipliers and pulse converters, tacho generators as well as mechanical accessories like couplings, adapter shafts and torque brackets. The specialist from Giessen offers an all-round complete service from determining on-site installation conditions through to installing the complete encoder systems.

Guaranteeing the safety of both humans and machines is an extremely important factor in heavy duty applications. And it is not only the environmental conditions that can cause dangerous situations. The equipment needs to be protected in some applications should dangerous situations arise, for example as a result of overspeed.

SIL 2 certified overspeed switch.

SIL 2 certified overspeed switch

Due to the extreme conditions faced by humans and machines alike, particularly stringent safety regulations apply to plants and systems operated in heavy industry. To fulfill these requirements the specialist from Giessen offers the electronic overspeed switch EGS(H) 41 that operates independently from the closed-loop speed control system. The EGS(H) 41 is certified up to Safety Integrity Level (SIL) 2 in accordance with the international standard IEC 61508 as well as up to Performance Level (PL) d to DIN EN ISO 13849. It is also the only overspeed switch worldwide certified to this standard. Consequently, it guarantees the operator the highest level of plant safety and serves to protect personnel.

Johannes Huebner Giessen developed the SIL 2 certified overspeed switch EGS(H) 41 specifically to meet the challenges and safety requirements of heavy industry.

Monitoring speed and safety functions

With an integrated sensor, logic circuitry and an actuator the EGS(H) 41 functions as a complete system. The speed is sensed, evaluated and switched in sequence. The safety device is equipped with two separate, electrically isolated and, as a consequence, complete switches to monitor speed that can be programmed independently from one another to monitor overspeed and underspeed from 0.5rpm. In this instance the

Hoist and winder systems can be protected against overspeed risks with the SIL certified overspeed switch EGS(H) 41.

electrical insulation generates a huge advantage in comparison with mechanical centrifugal switches, which would need a second device for the same function. A further switch automatically monitors safety functions relevant to the hardware and software modules (diagnostics). The EGS(H) 41 also features integrated overcurrent detection and monitors the status of the wear-free, electronic switching contacts as well as optional standstill and slip monitoring.

High levels of safety for heavy industry

Johannes Huebner Giessen developed the device specifically for use in heavy industry, such as steel and rolling mills, crane systems and the mining industry. The protective measures put in place in those fields within the concept of 'functional safety' are responsible for the proper functioning of safety-related systems to reduce risks. Hence, according to international standards, the systems must carry out their functions under defined fault conditions with a defined high degree of probability.

Ideal combination: ASPAH 60 and EGSH 41 mounted securely up to PL e

Johannes Huebner Giessen offers suitable accessory components to securely mount the EGSH 41 up to Performance Level (PL) e. The components with failure exclusion guarantee are available to securely mount an individual device as well as a combination of the EGSH 41 and the new absolute encoder ASPAH 60. This compact and robust combination of devices is often deployed on main drives in heavy industry applications. The ASPAH 60 automatically provides an absolute value (parallel interface) at the first terminal box to control the position of the pulse wheel as well as two electrically isolated signals in the second terminal box to control the speed and for higher level automation purposes. Equally equipped with two terminal boxes, the EGSH 41 has four programmable safe switching outputs; these can be used, for example, to monitor standstill status, safely-limited speed and impose overspeed protection requirements.

As the specialist for individual encoders Johannes Huebner Giessen offers many possibilities for customized solutions. Both incremental and absolute encoders are part of the wide range of Huebner products. Design engineers are given the freedom to implement the ideal and robust design solution for applications in challenging installation environments.

Modular encoder system MAG

The bearing-free magnetic encoders within the modular MAG system offer a flexible mechanical design. This makes it possible to individually adapt the encoder system to the installation situation on-site at customer applications. That not only facilitates tailor-made solutions, but most of all it offers a huge amount of design freedom. Design engineers as well as mechanical and systems engineers are able to implement encoder solutions in situations where it is not possible to use standard encoders. For instance, it is possible to design extra slim encoders for confined spaces or with additional wide magnetic tracks for applications involving large axial shaft movements. "Most importantly, the safety and reliability our encoders offer is decisive," emphasizes Thomas Brandenburger, head of technical project management at Johannes Huebner Giessen.

The bearing-free magnetic encoder system MAG offers breathing space for design engineers to customize encoder solutions.

The modular MAG system includes both incremental and absolute encoders. They provide the user with high-precision signals thanks to special multiple scanning technology. And in addition to special pulse-wheel constructions for high-speed ranges they boast robust mechanical properties and fastening elements designed for heavy-duty applications. The magnetic encoders are suitable for applications with shaft diameters up to 1,500mm, with or without a free shaft end. That opens up new options for designers to create solutions, for example for applications where there is a large shaft diameter or no free shaft end available to attach the encoder. Moreover, systems with a split pulse wheel are ideal for possible retrofitting solutions. The MAG system is also optionally available with a speed switch as well as an integrated FOC transmitter for signal transmissions via fibre optic cables.

Individual customer solutions and all-round service

Encoder concepts from Johannes Huebner Giessen are customized to meet individual customer requirements. Design engineers determine the installation conditions on-site and support the customer throughout the calculation and design phases, during production and delivery through to final assembly and installing the encoders. High resistance to external loads such as vibration, shock and dust as well as robust, fully encapsulated electronics mean the encoders are predestined for deployment in heavy industrial applications such as rolling mills, in the mining industry and harbour cranes. Their high degree of protection from IP66 to IP69 is a further distinguishing feature that also underlines their suitability for applications in heavy industry.

Conveyor belts need robust encoder systems for speed control and overspeed protection.

TAKRAF India supplies two giant bucketwheel excavators to NLC

Neyveli Lignite Corporation Ltd (NLC) has installed two state-of-the-art bucketwheel excavators with an operating capacity of up to 6,800 cubic metres per hour for its Mines-II Project.

The new bucketwheel excavators were inaugurated on Thursday 5 February in the Mine-II site by Shri B. Surender Mohan, chairman *cum* managing director of NLC, in the presence of other NLC directors, officials and employees.

The two bucketwheel excavators of 1,400-litre capacity were erected and supplied by TAKRAF INDIA LTD., Chennai, in collaboration with M/s TAKRAF GmbH, Germany.

These giant crawler mounted excavators, each of them weighing close to 2,600 tonnes, will be used in the NLC Mines-II area for removing the overburden or top soil over the lignite deposit. The maximum cutting height of the machine is 30 metres.

This is the first time in the NLC history that two excavators of such large size were put to service at the same time. It is also to the credit of the project officials from NLC and their contractors with their workforce that they were able to complete the project five months ahead of the tight schedule.

TAKRAF India executed the project on a turnkey basis utilizing the trusted technology of its principals TAKRAF GmbH from Germany. The continuous mining technologies for open pit mines developed by Germans have been successfully used by NLC for several decades now, besides providing the advantage of low cost of lignite mining.

Bulk Material Handling Equipment for the Iron Ore Industry

Tenova TAKRAF is a key supplier of individual machines and integrated systems for handling bulk materials in mine stockyards, ports, power stations and metallurgical plants. Each project is approached from the end-user‘s viewpoint in order to deliver optimized solutions that meet and exceed requirements and expectations.

Complex material handling operations starting from train unloading via stockyard handling and blending to ship loading are handled on the basis of extensive experience and know-how in bulk handling. Stackers, Reclaimers, Stacker/Reclaimers, Scrapers, Ship Loaders and Ship Unloaders are reliably in operation all over the world.

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DemcoTECH project includes stockyard equipment

Bucketwheel stacker reclaimer at Vale's Teluk Rubiah maritime terminal in Malaysia.

DemcoTECH helps deliver major iron-ore distribution centre

South Africa-based materials handling specialist, DemcoTECH Engineering, continues to add international projects to its reference list — one of the most recent being its involvement, from concept to completion, in the major Teluk Rubiah maritime terminal, established by Vale in Malaysia and commissioned in 2014.

The US$ 1.37 billion Vale iron ore distribution centre was a four year involvement for DemcoTECH, following its appointment as engineering contractor on the project in 2010.

"This was without doubt one of the most important projects the global iron ore and materials handling industry has recently seen," says Paul van de Vyver, general manager of DemcoTECH Engineering. "We were privileged to play an integral role in this strategic distribution hub For Vale's customers in Asia".

"As engineering contractor on the project, we provided the conceptual design of the terminal and the initial plant layouts, as well as the design and basic engineering for the materials handling portion of the project. We also specified the mechanical equipment for the project and adjudicated the suppliers technically."

Design reviews then performed by DemcoTECH involved both static and dynamic analysis on the high-capacity conveyors, design and engineering reviews on the port and yard machines, comprising nine port and yard machines of which there are bucketwheel stacker-reclaimers, a shiploader, a yard stacker and three grab-type ship-unloaders. DemcoTECH also completed structural Finite Element Analysis (FEA) on each type of port and yard machine.

DemcoTECH is one of the few bulk materials handling specialists able to provide comprehensive operational readiness services. "As a result we were well positioned and experienced to also provide operational readiness services for the terminal through a separate team of engineers. We produced a full suite of operational and maintenance manuals and procedures as well as training modules, aimed at enhancing workforce capability and optimizing the efficiency of the terminal's maintenance and operational readiness activities," notes van de Vyver.

Working on such an international project involved performing and managing tasks all taking place simultaneously countries as far afield as Malaysia, South Africa, India, Brazil and China.

"This required working within the different time zones and languages, and accommodating different cultural and engineering working methods and approaches," adds van de Vyver. "But, as much as there were challenges, there were as many milestones to celebrate.

"These included the satisfaction of seeing the conveyor, port and yard machine equipment design loads that we initially estimated three years earlier for the quayside and jetty, closely matching the final design loads. Observing the progress during the construction phase and seeing the plant being completed in accordance with the original concept and designs was rewarding as well as observing the ongoing progress on site. This included the intricate operation involved in the delivery of these enormous port machines, which operated well according to the design standards."

Teluk Rubiah has a capacity to handle 30mt (million tonnes) a year of iron ore, and comprises a deep water wharf and five stockyards where different types of iron ore can be blended and customized to the needs of regional steelmakers.

Equipped with an import system with the ability to unload vessels of up to 400,000dwt and an export one with the capacity of loading vessels up to Capesize, the distribution centre's

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operations are fully automated ensuring optimum efficiency in the process.

Located in the Straits of Malacca, about ten days' from other ports in the region, the distribution centre allows the company to reduce the iron ore delivery time to its clients in Asia and Southeast Asia and increase its competitiveness.

Teluk Rubiah gives Vale the opportunity to blend ores with different grades from its production systems, which were always sold on the market separately, each one with different specific features, providing greater flexibility for supplying iron ore. Furthermore, the distribution centre, combined with a fleet of very large ore carriers, represents a more sustainable solution, contributing to a reduction in GHG emissions for iron ore delivered in Asia. Teluk Rubiah is capable of receiving Valemax vessels, which allow for a 35% reduction in carbon emissions per ton of ore transported. From there, the iron ore is transported in Capesize vessels to its port destinations.

"The successful completion of the Malaysia terminal is a proud addition to our track record, which includes bulk materials handling facilities for terminals such as Grindrod's Richards Bay and Maydon Wharf in South Africa," says van de Vyver.

DemcoTECH has supplied a mobile ship offloading and warehouse distribution system for Grindrod Terminal's fertilizer storage facility at Maydon Wharf in Durban, South Africa replacing a trucking system with associated improvement on the productivity of the operation.

At Grindrod Terminals, DemcoTECH was responsible for the materials handling portion of the expansion to its multi product terminal at the deep-water port of Richards Bay, on the east coast of South Africa. The scope of the contract included the provision of the materials handling plant to convey various

Shiploaders arriving at Vale's Teluk Rubiah maritime terminal in Malaysia, having been transported by sea.

materials, but mainly rock phosphate and coal, from the three Richards Bay terminal sites: Navitrade, Kusasa and Valley.

"These projects showcased our expertise in design and supply for bulk materials handling in the port industry. Equipment and technologies we offer range from conveyors through to moving head systems, tripper systems, stackers and reclaimers, sampling plants, storage facilities, loading stations and bulk storage silos," says van de Vyver.

DemcoTECH services are offered through various contracting mechanisms ranging from EPCM to lump-sum turnkey including studies and from concept design through to detailed feasibility studies. After-sales services include spares, maintenance, refurbishments and operational readiness packages covering procedures, systems and workplace tools required to successfully operate and maintain a new or upgraded plant. DCi

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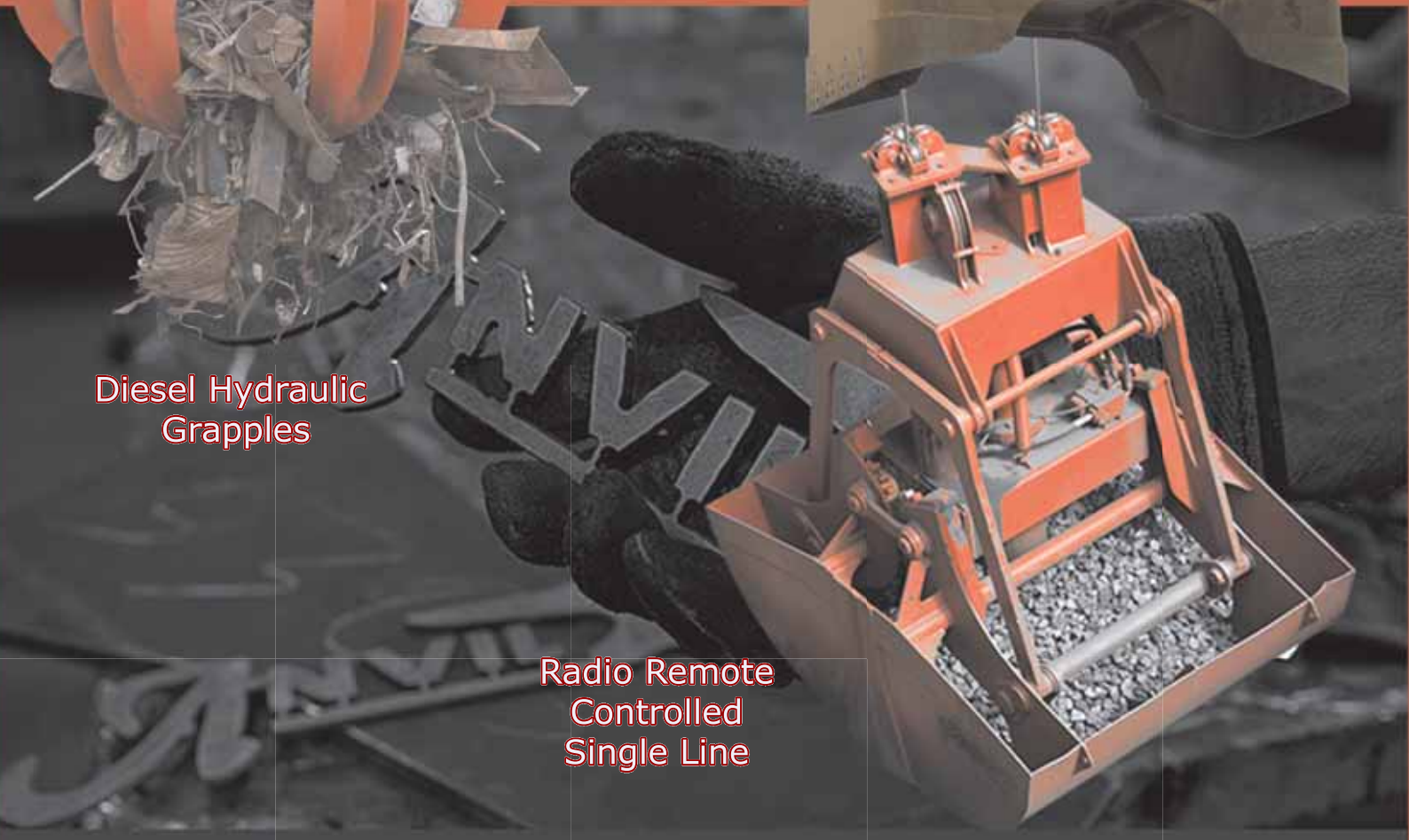

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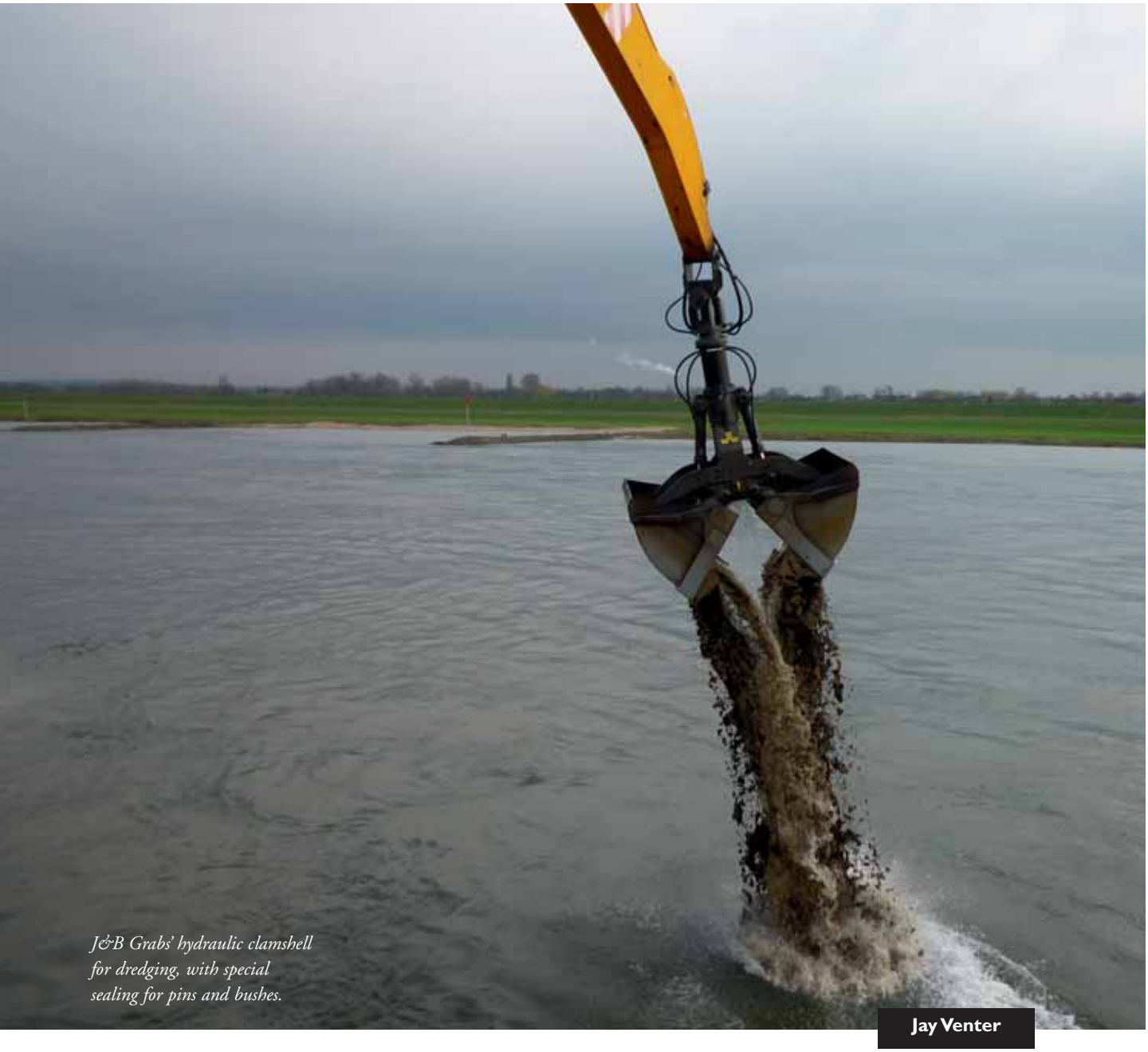

J&B Grabs' hydraulic clamshell for dredging, with special sealing for pins and bushes.

Jay Venter

J&B Grabs to celebrate 70th anniversary

J&B Grabs B.V. is a holding company engaged primarily in the development, manufacture and reconditioning of hydraulic and wire rope grabs. The company started in 1945 in the manufacture and overhauling of re-handling grabs.

J&B Grabs use 3-D solid modelling and FEA (finite element analysis) in the design of its grabs. This means that customer-specific requirements can be implemented in the design and production process.

The company has a wide range of standard type grabs, all of which are readily available.

J&B's grabs are used among many brands and types of available cranes; some examples include Sennebogen, Caterpillar, Hitachi, Liebherr, Volvo, Fuchs and more.

Due to the many brands and types of cranes using different connecting systems, J&B Grabs has developed a number of quick-change connectors. Mechanical and hydraulic systems meant that it is possible to change between grabs within ten minutes. The company delivers grabs and parts internationally.

This year, J&B Grabs will celebrate its 70th anniversary. Located in the centre of The Netherlands, it is a great base for


35-tonne coil clamp.


12m³ hydraulic clamshell, available up to 45m³.


The hydraulic round-nose bucket to dig extremely hard layers of clay.


Special hydraulic clamp for aluminium t-bars.

its customers, offering ideal solutions for handling all kinds of bulk material.

Over time, J&B has become a solid partner for bulk handling companies for not only offering the standard range of products, but also creating ideal solutions for its customers' needs. This means the optimum ratio of grab weight and capacity without compromising customers wishes.

Besides the regular clamshells and orange peel grabs, J&B engineers and builds special equipment for bulk handling and other cargo handling.

Also, in the dredging industry, J&B is well represented. Its dredging grabs include:

- hydraulic clamshell for dredging with special sealing for pins and bushes; and
- the hydraulic round nose bucket to dig extreme hard layers of clay.

J&B products will be exhibited during E-Crane's 'Demo Days', which will take place at E-Crane's European headquarters in Adegem, Belgium, from 26–30 May this year. Here, customers can see what J&B's 70 years of experience can achieve.

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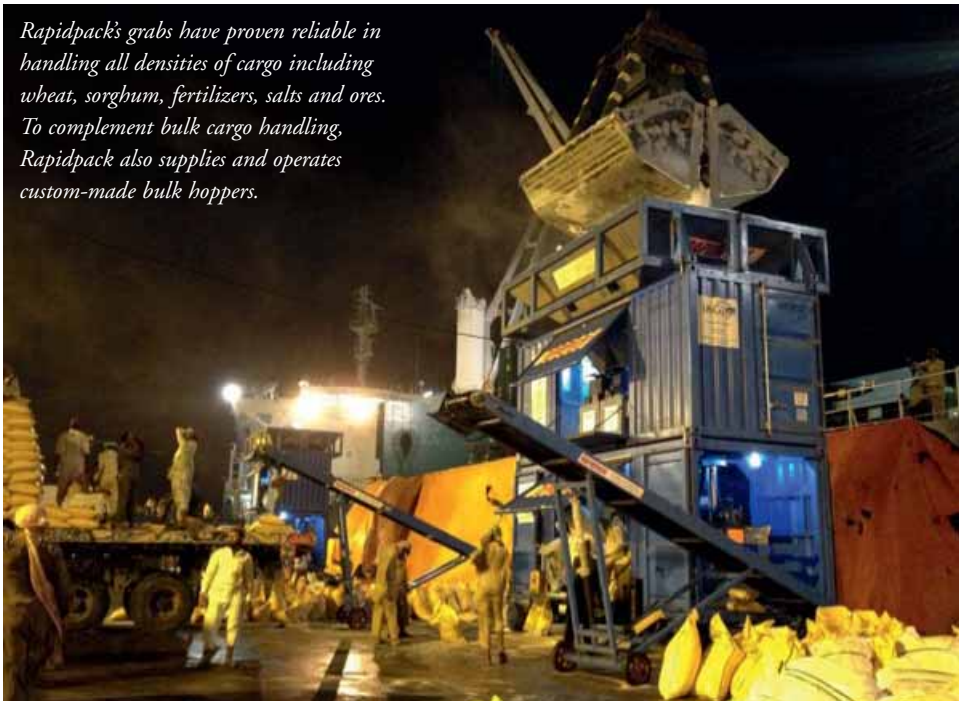
Rapidpack grabs and bulk hoppers made to customers' specifications

Rapidpack manufactures a range of both mechanical and hydraulic grabs to assist in the loading and unloading of bulk cargoes from ships, rail-cars and cargo holding areas. Upon order specification, Rapidpack's grabs have proven reliable in handling all densities of cargo including wheat, sorghum, fertilizers, salts, ores, etc.

To complement bulk cargo handling, Rapidpack also supplies and operates custom-made bulk hoppers that are designed for a variety of bulk cargoes such as aggregates, cement, fertilizers, grains, sugar and more. Rapidpack grabs or vacuvators can be used to discharge into these bulk hoppers, which in turn can transfer cargo into trucks, trains and fixed conveying systems.



Rapidpack's grabs have proven reliable in handling all densities of cargo including wheat, sorghum, fertilizers, salts and ores. To complement bulk cargo handling, Rapidpack also supplies and operates custom-made bulk hoppers.

Rapidpack makes sure that all of its products are built tough and with tough features. The company has specifically designed this range keeping the marine specifications and clients' needs in mind. These grabs have an excellent loading and unloaded weight efficiency.

Rapidpack's extensive experience as manufacturers and suppliers of various marine handling equipment has enabled it to offer its grabs for ensuring flawless material transfer. These are extensively used for their dependability and highly appreciated for their sound performance of carrying bulk material from one place to another. The finest grades of components are used to fabricate these in its modern facilities and produce these by using cutting edge technologies.

Rapidpack grab features:

- dimensional accuracy;
- precision engineering;
- compact design;
- variable capacity; and
- easy maintenance.

Specifications:

- support tonnes: 0.5–25 tonnes; and
- volumes: 0.7-10m^3.

Features of grabs for bulk cargo, grab bucket, grabs for cranes

- suitable to grab wheat, sorghum, fertilizer, salt, ores etc.;
- through-beam is shortened, high strength, light self weight;
- main shaft sleeve is of bearing steel, pin shaft material is 40Cr;
- high temperature-resistant bearing for pulley;
- knife edge plate adopts wear-resistant steel plate, adopts multilayer sealing craft;
- dirt- proof and waterproof and suitable for underwater operation;
- clearance of two knife edge plate is very small, 0.3mm, good sealing, keep working site clean; and
- whole structure is strong with no distortion; good sealing.

Key benefits of Rapidpack grab:

Smooth operations — experienced grab technicians employed by Rapidpack will be present at all times to monitor the equipment from delivery of the grabs through the operation until redelivered at the storage point. The technicians will prepare, rig, grease and service the grabs around the clock as required to secure optimum cargo production.

Easy maintenance — all grabs are serviced and maintained to the highest standards. Rapidpack's skilled workforce performs overhaul and programmed maintenance. As a result, the company can offer fully serviced grabs to its customers for non-stop cargo operations.

Skilled operators — in many ports of the world, Rapidpack, in addition to the grabs, also offers highly efficient and qualified crane operators to customers' loading or discharging requirements.

Rapidpack also manufactures the following:

- mobile bulk bagging machines (ship side or warehouse portable bagging machines);
- bulk discharge hoppers (to feed trucks, rail cars, etc.);
- shiploading telescopic conveyors (loading ships at up to 1,500 metric tonnes per hour each); and
- pneumatic conveyors (Vac-u-vators).

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Credeblug anticipates record year with recent orders

Credeblug recently provided four 10m³ electro-hydraulic orange peel grabs for the European steel industry .

Credeblug has many examples of its handling solutions working successfully in 52 countries. In the last few years, the company has completed its international expansion — a staggering 80% increase in international turnover in 2014.

The year 2015 will be an important one for the company, due to the celebration of its 50th anniversary.

Recent orders

In the last few months, Credeblug's activity has been related to scrap, biomass and coal handling applications, providing four electro-hydraulic orange peel grabs of 10m³ capacity for the European steel industry (see image above) and three more 15m³ capacity cereal handling rope-operated clamshell grabs for the Chilean market. Some important orders related to coal and biomass handling grabs for the American and European port markets will be manufactured in the next few months, which should result in a record year for the company.

Environmental care

Credeblug's ecologically friendly range has been specially developed during recent years as electrical efficiency has become very important in reducing customers' operating costs and the environmental impact of the grabs. Blug's electro-hydraulic range by default includes a variable-flow piston pump-operated hydraulic unit. This kind of system continuously adapts and optimizes the grab's developed power during opening and closing operations and reduces the electrical demand by more than 40% compared with fixed-flow hydraulic systems. According to Blug's estimations based on its grabs' electric demand certified measurements, 25 tonnes of CO_2 emissions are saved per medium-size grab in a working year.

Credeblug has been continuously adapting and developing its rope-operated product range to progress on their loading capacity and environmental impact. One of the aspects that have been specially developed during the last few years has been the ecologically friendly grab range. Due to the pollution that bulk material loading can produce, Blug products include dust-proof closed valves structures.

Bulk handling

Blug bulk handling applications offer a wide range of solutions depending on the production requirements. From closed design orange peel grabs to CM4, CV2 or C4 type clamshell grabs, different solutions could be used to handle a reference material density value from 0.15 to 5t/m³ which can vary depending on moisture, size and compaction factors.

Based on a 0.8–0.9t/m³ average density, the Blug range for coal handling offers a wide variety of options depending on the crane and capacity requirements. The key factor to obtaining a fast return on investment for these kinds of applications is to optimize the grab's capacity/self weight ratio and offer the highest lifetime versus purchase, start-up and maintenance costs.

Harbour and shipboard grabs

Harbour and shipboard cranes are designed to achieve a short-term payback based on a high production speed and working flexibility. Grabs are adapted to this scenario where crane and grab availability during port cargo loading and unloading should be maximum.

Due to berthing fees, the maximum tonnage per hour should be achieved to improve overall operation costs and benefits.

In order to meet market demands, Blug grabs offer these important benefits on its product range:

Experience: Blug has more than 3,000 working grabs present in 52 countries, and considerable experience gained during 50 years, so it can offer a long-term warranty grab solution.

High-capacity: the Blug bulk handling clamshell grab range goes up to 45m³ nominal capacity, so that vessel loading and unloading times can be minimized. The grabs' own weight is minimized due to Blug design patents, computer-aided design tools and finite elements analysis optimization. In this way, grab capacity can be increased for a certain crane lifting capacity.

Cycle time reduction: in combining the highest grab capacity for each project/crane's requirements, cycle time should be minimized to improve overall production speed. The current market demands fast loading-unloading cycles to minimize docking costs. That's why Blug grabs are always designed with a focus on prioritizing the reduction of opening and closing operation times.

Working flexibility: within bulk handling applications, there are several materials with very different material properties that need to be considered when designing the grab geometry and power features. A perfect balance between capacity and self-weight should be defined to avoid any inefficiency during grabs loading.

Operational costs: current market demands overall cost-effective solutions that combine a competitive purchase/rental price but also to remain effective over grab working years. Blug grabs offer low maintenance costs over the time based on a high-quality steel properties that prevent the wearing/deformation to appear and increase grabs' working performances. These properties are also combined with Parker brand hydraulic components for the motor grab range. The electric efficiency is one of the aspects that have been developed during the last few years so that oil heating and grab power consumption could be minimized.

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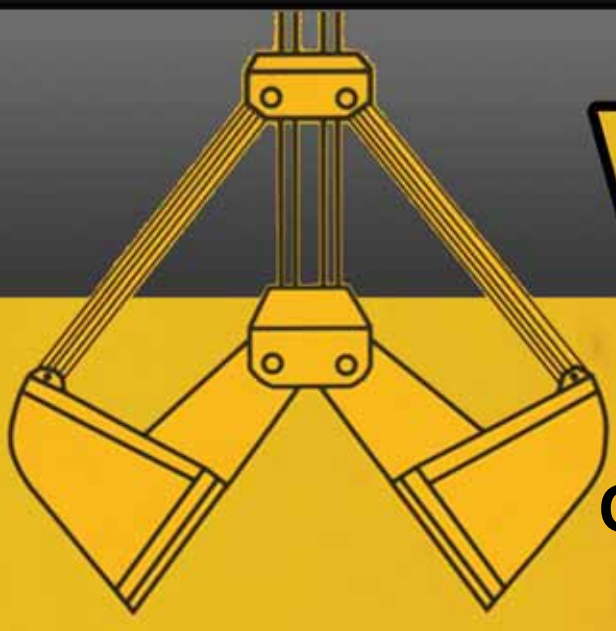

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The Grab Specialist B.V. reports on recent bulk handling projects

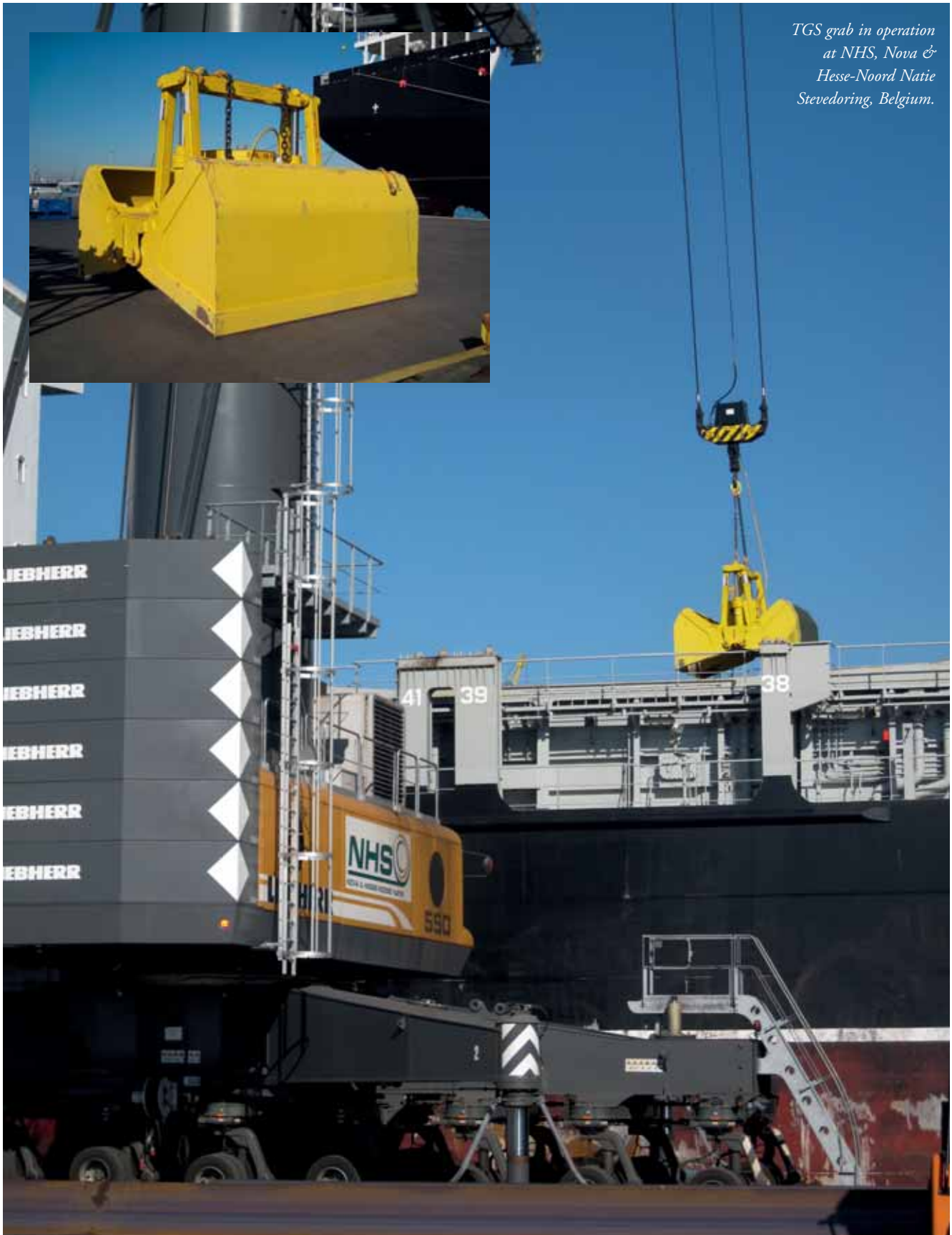
The Grab Specialist B.V. (TGS) designs, develops and manufactures grabs for the dry bulk cargo-, dredging- and recycling industries. The company's main objective is to ensure that all products supplied add value for clients. Product development is guaranteed, solving specific problems for clients is the cornerstone of TGS's business philosophy.

TGS's strategy is built upon 50 years' experience in the 'grabbing' business which ensures that the end product offers favourable operating expenses of the grab, due to an excellent price-quality ratio, and low maintenance costs. TGS's engineers pay close attention during the early design and development stage of the grab to ensure that customers are fully satisfied. TGS ensures the productivity of its customers' machines.

TGS has given *Dry Cargo International* details of some of its recent contracts/sales, as detailed below.

NHS, Nova & Hesse-Noord Natie Stevedoring, Belgium

Within a period of just six weeks, TGS manufactured and delivered a 17m³ electro-hydraulic clamshell grab for use on NHS's Liebherr 550 MHC, to load and unload bulk cargoes.



TGS grab in operation at NHS, Nova & Hesse-Noord Natie Stevedoring, Belgium.

Sotramab, France

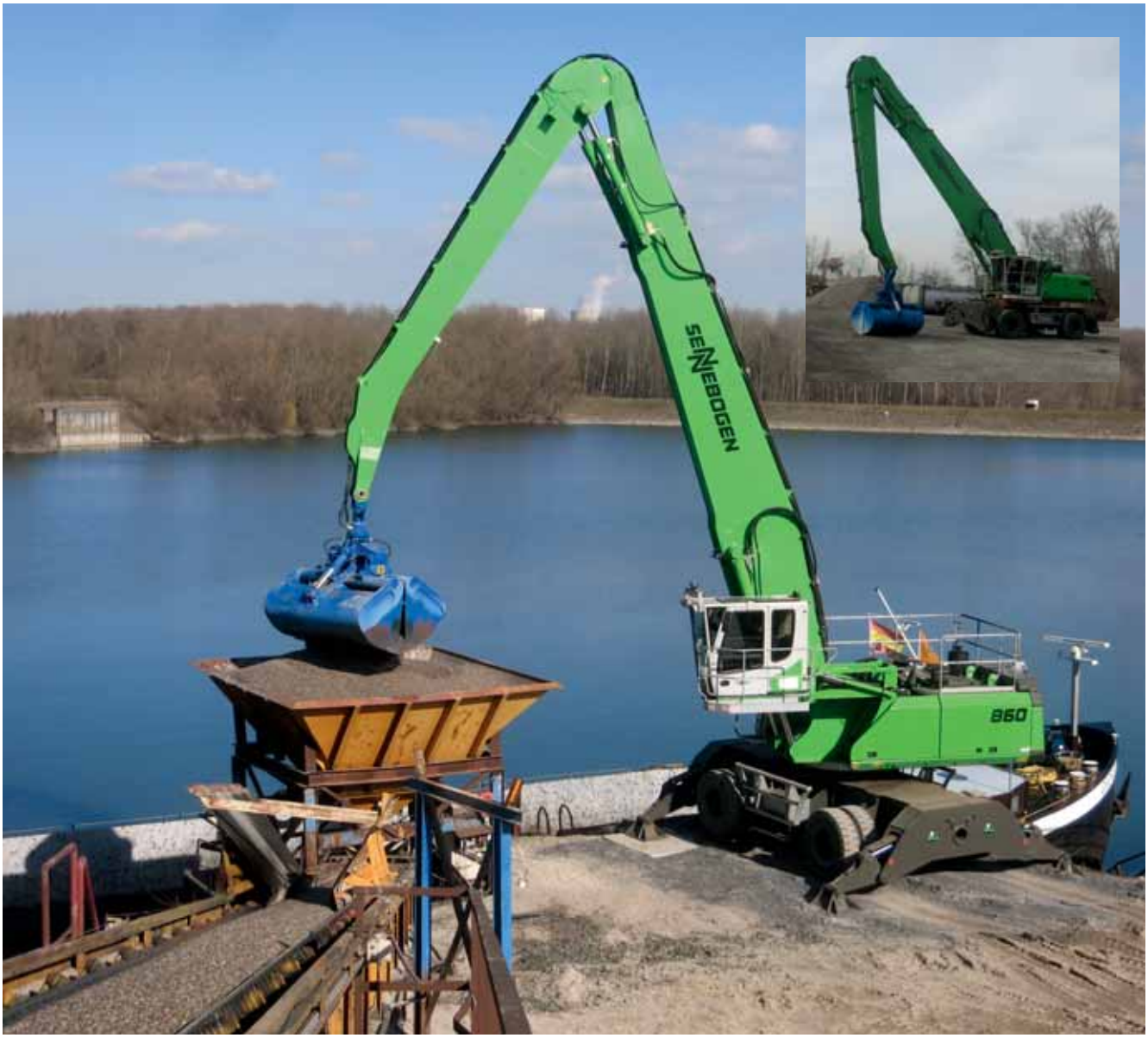
TGS manufactured and delivered a special designed electro-hydraulic bulk grab for handling heavy sized rocks. The capacity is 14m³ with a safe working load of 40 metric tonnes.

Qube – Australia

TGS manufactured and delivered two 12m³ bulk grabs for handling rock phosphates. These grabs were fitted with a diesel engine and are radio remote controlled.

Freyer Hafenlogistiek – Germany

TGS manufactured and delivered a hydraulic clamshell grab for handling bulk cargo with a capacity of 4.3m³. This is the second grab that TGS has delivered to Freyer Hafenlogistiek.



Beco supplies round-nose grab to US client

For a customer in the USA, BV Beco has manufactured a mechanical two-rope round nose grab. The grab has a capacity of 5,000 litres, weighs 13.8 tonnes and exchangeable teeth; it will be used for dredging and digging purposes.

The round nose grab has been made of high tensile steel 690 and wear-resistant material, hardness HB400 and S355.

Beco is a company with a broad assortment of products and services. The company has a high-quality manufacturing plant in Vianen. Beco is an experienced supplier of equipment for national and international material handling for bulk cargo, dredging and earth-moving activities.

For more than 80 years Beco has been providing high-end, ready-to-use technological solutions. It manufactures solid, uncompromising products. Beco offers sturdy solutions to taxing technical challenges, showing the customer an effective way forward. The company provides tailor-made solutions for every situation — custom work in every imaginable format and finish.

Other Beco Group products include tippers, attachments, fronts and trailers.

Negrini designs hydraulic clamshell grab for BAUER Group Company

Two- or four-rope orange peel grab:
Clamshell grabs are can be used for any bulk material, that can be used on all hoisting devices two- or four-rope or crawler cranes.

The Negrini company, which specializes in engineering and manufacturing a comprehensive range of grabs and buckets for rope machines and crawler-mounted cranes, has been active in the market since 1967.

Negrini supports its clients by analysing the job to be done and, if needed, by adjusting the standard design of grabs and buckets to enhance their performance once in operation.

Negrini products

Electro-hydraulic and hydraulic orange peel grabs to handle rocks, waste for recycling and loose material. To be operated, they require crawler-mounted cranes and, in general, boom lifting machines.

Two- or four-rope orange peel grabs to handle rocks and waste to be recycled. To be operated, they require crawler-mounted cranes or, in general, boom lifting machines.

Electro-hydraulic and hydraulic clamshell grabs for the handling of any loose material as well as for dredging work in confined areas such as near jetties or quays.

Dual-scoop grabs to handle loose material, including the load inside ship cargo holds. For operation they require two- or four-rope boom lifting machines or crawler mounted cranes.

Radio-controlled single-rope grabs meant to handle any loose material. The dust-proof and waterproof radio controls opening of the bucket. They can be operated by any kind of crane.

Environmental hydraulic clamshell bucket to load polluted mud especially for the sea or river ground. The two peculiarities of this range of buckets are that at lifting the two sides copy the ground they contact with, hence leaving it flat so the digging depth is automatically controlled. The second are the valves on the upper part that allow water to flush away without releasing polluted mud in the water.

Equipment under construction:

Between the various equipment that Negrini has been building from the beginning of the year, this month it finished the design and manufacture of an hydraulic clamshell grab and a hydraulic orange-peel grab for the BAUER Group Company in Germany. DCi

Negrini manufactured an hydraulic clamshell grab and a hydraulic orange-peel grab for the BAUER Group Company in Germany this month.

Radio controlled single rope grab:
Negrini's radio controlled single rope grabs are ideal for handling all loose materials. They do not require any external power supply, are universal and applicable on all cranes. The radio control manages the opening of the clamshell.

Raising the bar

AUMUND refines belt bucket elevator to enable handling of grain sizes up to 80mm

The AUMUND belt design for reliable bucket attachment.

Bucket elevators play a standard equipment role in bulk material conveying technology wherever vertical conveying is involved. In more than 30 years, AUMUND has continuously refined bucket elevator technology and nowadays offers strong and capable solutions for the vertical transport of bulk material. The standards forged by AUMUND have been proven in practice a thousand times over. AUMUND belt bucket elevators are characterized by large conveying heights of up to 200m and conveying capacities up to 2,500tph (tonnes per hour). The AUMUND Belt Bucket Elevator BWG-GK for coarse grain makes it possible to transport material of grain sizes up to 80mm.

The main task during the development of a belt bucket elevator for coarse material is the protection of the belt from damage by the conveyed material. AUMUND therefore follows a new path: the narrow, overlapping bucket configuration permits the belt to disappear entirely behind the buckets. It is thus protected and no coarse material can become jammed between the backs of the buckets and the belt. The outer edges of the belt are simultaneously protected. Even in the case of a stoppage with filled buckets, no coarse material will be thrown behind the backs of the buckets (see pictures on p111).

Another task is to ensure a safe bucket attachment and, considering the loading conditions of the buckets, even in case of scooping. Here, the design of the AUMUND steel cord belt with transversal steel cord reinforcement provides high pull-out strength and a reliable fixing for the bucket fastening. These plate screws can be used exclusively for fitting the buckets (see picture above).

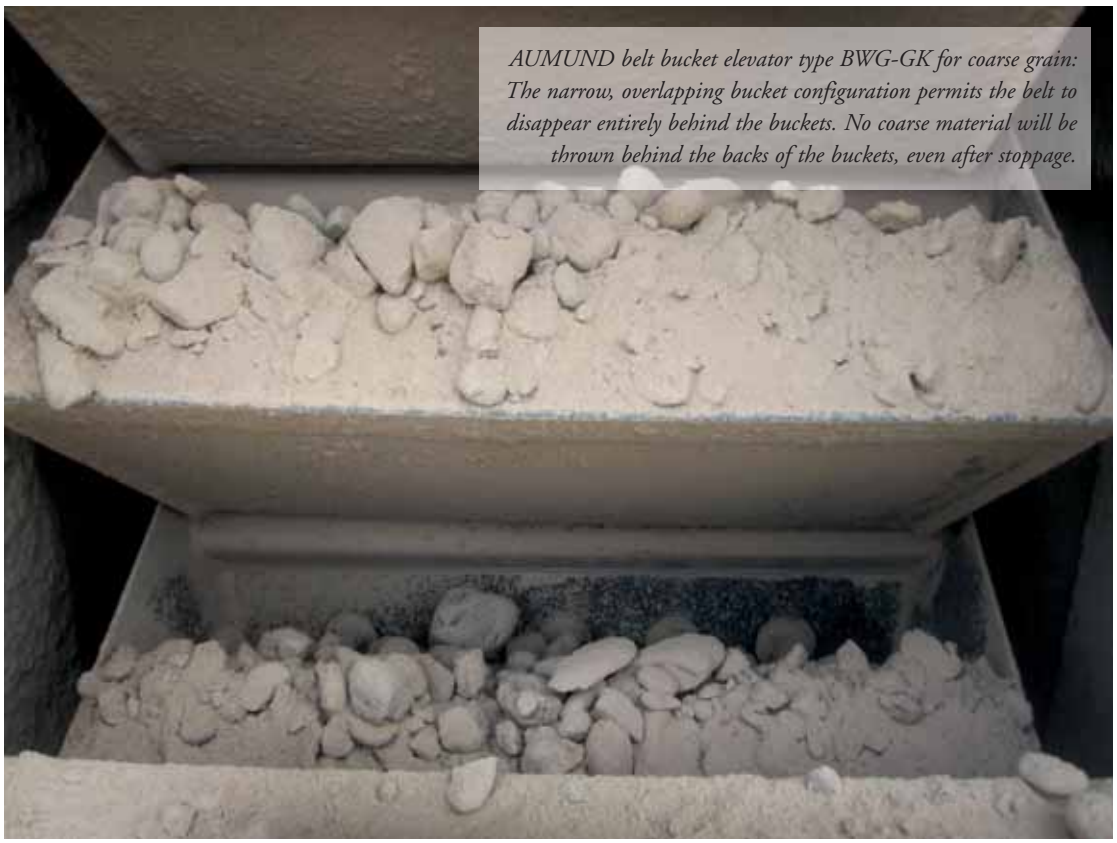
The plate screws developed by AUMUND differ significantly from conventional DIN plate screws and have been designed for a longer belt service life and higher carrying capacity. Therefore, further attachments to increase the clamping force at the bucket fastening are not necessary. The advantage: the belt runs smoothly and without high abrasion on the drive pulley. Only small dead loads have to be transported.

Furthermore, the belt of a bucket elevator needs to provide a high tensile strength, a low net weight and a low elongation, while simultaneous running in good alignment is demanded. This is achieved by a specialized production process and most of all by a high transversal rigidity. The bucket elevator belt has to be optimally designed for its attachments like buckets, rubber seals and endless splices in order to function as a reliable complete system in daily operation, even after many years. All this is ensured by the carcass construction of the AUMUND Bucket Elevator Belts in combination with the AUMUND bucket fastening system. Closely spaced high-tensile steel cords act as continuous tensile members.

This allows belt strengths up to 4,200N/mm for lift heights of more than 200m. On the front side as well as on the back side of the tensile members steel cord transverse reinforcements strengthen the belt. In contrast to reinforcements with textile fabric inlays, the advantage of steel cord transverse reinforcements is the higher adhesion of the rubber. This higher

adhesion ensures a permanent connection of the individual belt layers, even under the influence of temperature.

Newly developed rubber compounds based on ethylene propylene diene monomer (EPDM) allow operational ranges up to a material temperature of 150 °C for AUMUND belt bucket elevators. Even peak temperatures up to 170°C may be reached. Load tests under industrial daily routines proved that EPDM-belts are much more resistant to ageing than belts made of styrene-butadiene rubber (SBR).



AUMUND belt bucket elevator type BWG-GK for coarse grain: The narrow, overlapping bucket configuration permits the belt to disappear entirely behind the buckets. No coarse material will be thrown behind the backs of the buckets, even after stoppage.

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 renowned expert 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 Logistic GmbH (Rheinberg, Germany) are consolidated under the umbrella of the AUMUND Group.

In conjunction with the headquarters of the manufacturing companies, the global conveying and storage technology business is spearheaded through a total of eight locations in Asia, Europe, North and South America. DCi

Telestack equipment for Ukraine

Telestack TS 550 rail-mounted shiploader in operation at Illichivisk Port, Ukraine.

unique radial telescopic shiploader delivered to Illichivisk Port in the Ukraine

Telestack has recently delivered a new TS 550 radial telescopic shiploader to Ukrainian stevedoring company Transervic, which operates in the port of Illichivisk.

"The machine, which was ordered in November 2013, was despatched in August 2014 and commissioned in November 2014," recalls Telestack sales manager Philip Waddell.

Quizzed as to why Telestack had secured the order, Waddell notes that there were several reasons. "First up, they liked Telestack's ability to design and supply a machine to suit their individual application and site parameters. However, we were also able to offer local service and after-sales back-up via our Ukrainian dealer YTS, which was certainly well appreciated. Last, but not least, we demonstrated to the client that we already had a significant number of machines handling grain in Ukraine, with large grain-producing companies such as Nibulon," he says.

Indeed, Telestack had supplied 13 of these customized units to Nibulon in 2010 and 2011. They were also awarded 'Best Shiploading System in 2010' by International Bulk Journal magazine.

"All these factors were key in Telestack winning the Transervic contract and also played a significant role in a subsequent sale, encompassing a further shiploader for the loading of grain at the Nika Tera grain loading terminal in Nykaleav, Ukraine," says Waddell.

Prior to the arrival of the TS 550, Transervic had been using old Russian gantry cranes, which were very slow in terms of loading capacity. They also were highly costly to maintain and were unreliable due to their age. In contrast, the Telestack system will give them better reliability, increased capacity and also lower operating and maintenance costs, stresses Waddell.

The TS 550 shiploaders that Telestack produces are all custom-designed machine, reflecting the individual applications they are required to fulfil and also prevailed site parameters. Nevertheless, Waddell concedes that there were certain challenges in respect of the Transervic order that the company's Sales & Engineering team had to overcome.

Innovative technology

The most significant challenge was that, although the TS 550 needed to be designed to travel parallel on rails at the front end, there were no rails available at the back end. Telestack engineers had to come up with a parallel travel system with rail bogies at the front — on which ultimately the main weight of the machine would rest — and also pneumatic wheels at the rear.

"Furthermore, the rail bogies and wheels had to be synchronized to move in parallel along the jetty," said Waddell.

Grain being fed to the custom-designed Telestack TS 550 rail-mounted shiploader.

The machine also had to have a radial function for trimming. This meant that the design had to reflect a need for the front rail bogies to be raised off the ground to, in turn, allow the radial wheels to engage with the ground, so that the machine could radial for purposes of trimming the vessel.

"This is a unique design, which Telestack has only supplied previously on units bought by Nibulon," he said.

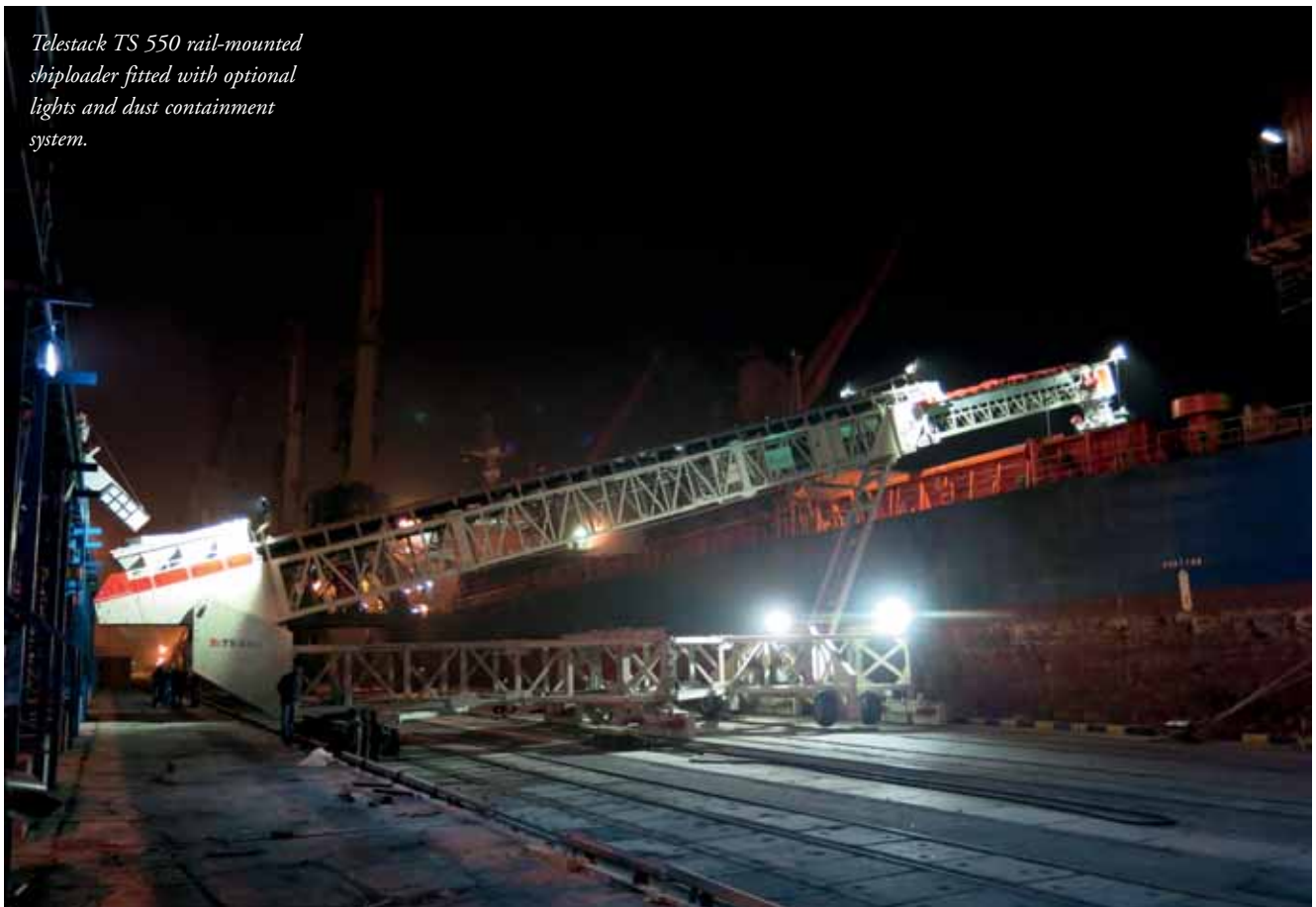
Another challenge was that the berth on which the TS 550 was to be deployed handles a variety of cargo, much of which arrives by rail. The TS 550 therefore had to be designed to be easily and quickly moved out of the way of inbound rail wagons.

A GREEN MACHINE

"The Transervic machine also incorporates a dust containment system, meaning it is totally enclosed, which was specified for environmental reasons," says Waddell.

Another important environmental factor is that the TS 550 is electrically powered, driven by a three-phase mains power supply from the jetty via cable reel, thereby cutting out unnecessary diesel fumes.

In terms of productivity, it can load up to 600tph (tonnes per hour) of grain at a density of 0.7 tonnes per cubic metre. The TS 550 will mostly be handling grain, but also some soya bean



Telestack TS 550 rail-mounted shiploader fitted with optional lights and dust containment system.

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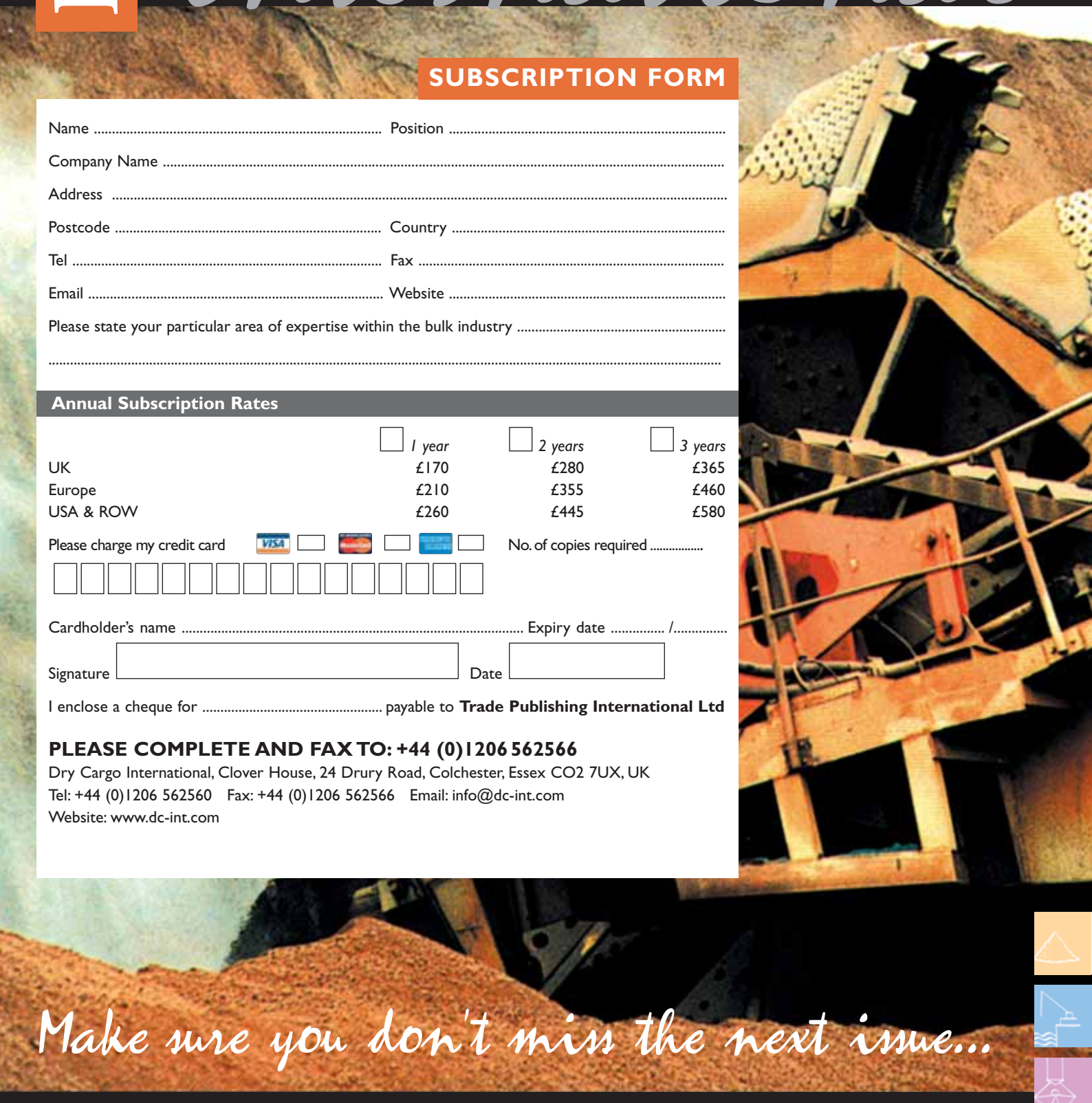

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Telestack TS 550 rail-mounted shiploader loading grain at up to 600tph.

traffic, as well as cake and meal for animal feed.

Local after-sales agent and Telestack distributor YTS is providing all future service and maintenance back up on the TS 550, which has been designed to be as easily maintained as possible.

In summary, Waddell points out that the TS 550 as delivered offers a parallel travel facility utilizing existing jetty rails; incorporates a radial facility for the trimming of hatches; provides luffing from 14° to 27°, thereby allowing it to work hatches on board a Panamax vessel; and boasts near perfect dust containment thanks to the use of dust covers, enclosed transfer points and through the incorporation of a Cleveland Cascade chute with a 360° trimmer.

"There are no other radial telescopic ship loaders on the market that are remotely similar to the TS 550, which is a wholly unique design. The unit we have sold to Transervic will remain in service at the port for foreseeable future and will probably stay there for its entire career, since it has been designed specifically to work on the jetty where it is deployed. And that is why Telestack gets orders: we provide the customer with the exact design that suits their, sometimes, highly individual needs," he says.

Telestack TS 550 rail-mounted shiploader with 360° trimmer for optimum hatch loading and dust containment.

Background

Telestack specializes in the complete design, manufacture, installation and commissioning of mobile, bulk material handling systems.

Telestack has a global proven record in a range of applications including the coal, mining and quarry industries, stockyard management, ports and inland terminals, power stations, rail yards, steel mills, cement kilns and many other bulk material handling industries.

Telestack's mobile solutions offer significant operating cost savings compared to traditional methods of material handling (wheel loaders, haul trucks, static conveyors), as well as providing environmental, health and safety and other benefits. Other significant benefits include not requiring planning permission due to product mobility and flexibility to move Telestack products to work on other projects.

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Corporation de Gestion de la Voie Maritime du Saint-Laurent

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Scrap handling at the Port of Montreal (©Logistec).

Bulk handling on North America's vital waterway

The Great Lakes St. Lawrence Seaway System is a deep draught waterway extending 3,700km (2,340 miles) from the Atlantic Ocean to the head of the Great Lakes, in the heart of North America. The St. Lawrence Seaway portion of the System extends from Montreal to mid-Lake Erie. Ranked as one of the outstanding engineering feats of the twentieth century, the St. Lawrence Seaway includes 13 Canadian and 2 US locks.

The Great Lakes and St. Lawrence River have been major North American trade arteries since long before the US or Canada achieved nationhood. Today, this integrated navigation system serves miners, farmers, factory workers and commercial interests from the western prairies to the eastern seaboard.

Virtually every commodity imaginable moves on the Great Lakes Seaway System. Annual commerce on the System exceeds

180mt (million metric tonnes), and there is still ample room for growth. Some commodities are dominant:

- iron ore for the steel industry;
- coal for power generation and steel production;
- limestone for construction and steel industries;
- grain for overseas markets;
- general cargo, such as iron and steel products and heavy machinery; and
- cement, salt and stone aggregates for agriculture and industry.

Shiploading at Toronto (©Logistec).

The primary carrier vessels fall into three main groups: the resident Great Lakes bulk carriers or 'lakers'; ocean ships or 'salties'; and tug-propelled barges. US and Canadian lakers move cargo among Great Lakes ports, with both nations' laws reserving domestic commerce to their own flag carriers. Salties flying the flags of other nations connect the Lakes with all parts of the world.

To realize the magnitude of this commerce, consider the impact of some typical cargoes:

- one 1,000ft-long Great Lakes vessel carries enough iron ore to operate a giant steel mill for more than four days;
- a similar 'super laker' carries enough coal to power Greater Detroit for one day; and
- a Seaway-size vessel moves enough wheat to make bread for every resident of New York City for nearly a month.

For every tonne of cargo, there are scores — often hundreds — of human faces behind the scenes. On board, there are the mariners themselves, while shore side there are lock operators and longshoremen, vessel agents and freight forwarders, ship chandlers and shipyard workers, stevedores and terminal operators, Coast Guard personnel and port officials, railroad workers and truck drivers — a wide web of service providers.

Opened to navigation in 1959, the St. Lawrence Seaway part of the system has moved more than 2.5 billion metric tonnes of

Seaway traffic 2014

TRAFFIC AND REVENUE	ST. LAWRENCE SEAWAY			MONTREAL - LAKE ONTARIO SECTION			WELLAND CANAL SECTION		
TRAFFIC	**Tonnes and Transits**	**% of Total**	**Variance 2013%**	**Tonnes and Transits**	**% of Total**	**Variance 2013%**	**Tonnes and Transits**	**% of Total**	**Variance 2013%**
Cargo Tonnes by Toll Classification:									
Bulk *(1)*	20,629,092	51.7	- 9.6	13,349,516	44.4	- 21.7	14,706,279	46.3	- 11.5
Coal	4,204,227	10.5	- 5.6	2,031,888	6.8	3.1	4,204,227	13.2	- 5.6
Grains	12,100,960	30.3	44.5	11,737,447	39.0	44.1	10,666,290	33.6	50.7
Government Aid	-	-	-	-	-	-	-	-	-
Containers	44,073	0.1	20.2	44,073	0.1	20.2	7,554	0.0	2,578.7
General Cargo	2,554,080	6.4	90.2	2,554,080	8.5	90.2	1,924,037	6.1	77.6
Steel Slabs	354,610	0.9	1,577.3	354,610	1.2	1,577.3	248,585	0.8	40,785.7
Total Cargo Tonnes	39,887,042	100.0	7.6	30,071,614	100.0	5.3	31,756,972	100.0	8.6
Gross Registered Tonnage:									
Cargo Vessels	48,689,686	99.2	8.7	35,579,126	99.4	4.8	42,214,538	99.2	8.6
Non-Cargo Vessels	271,758	0.6	- 9.5	155,890	0.4	- 17.3	247,813	0.6	- 4.7
Passengers	111,056	0.2	152.6	58,220	0.2	174.3	94,778	0.2	227.2
Total Gross Registered Tonnage	49,072,500	100.0	8.7	35,793,236	100.0	4.8	42,557,129	100.0	8.6
Vessel Transits:									
Loaded Cargo Vessels	2,293	58.2	7.7	1,776	66.8	5.5	1,759	53.8	9.8
Ballast Cargo Vessels	1,071	27.2	- 1.4	600	22.6	- 13.8	1,059	32.4	1.0
Non-Cargo Vessels	573	14.6	- 16.4	281	10.6	- 27.6	454	13.9	- 6.0
Total Vessel Transits	3,937	100.0	0.9	2,657	100.0	- 4.0	3,272	100.0	4.4
Additional Information:	**Number**			**Number**			**Number**		
Passengers (Number)	4,967	-	57.5	3,003	-	84.3	3,059	-	65.7
Pleasure Craft Lockages	10,200	-	- 2.1	6,792	-	- 4.4	3,408	-	2.9
REVENUE *(2)*	**Revenue**	**% of Total**	**Variance 2013%**	**Revenue**	**% of Total**	**Variance 2013%**	**Revenue**	**% of Total**	**Variance 2013%**
Traffic Revenue ($) by Toll Classification	$			$			$		
Bulk *(1)*	23,408,293	32.7	- 16.9	13,117,767	40.2	- 21.2	10,290,526	26.4	- 10.7
Coal	4,337,557	6.1	7.9	1,304,207	4.0	21.1	3,033,350	7.8	3.1
Grains	15,162,906	21.2	51.2	7,572,031	23.2	48.7	7,590,875	19.5	53.9
Government Aid	-	-	-	-	-	-	-	-	-
Containers	31,147	0.0	61.2	26,787	0.1	39.8	4,360	0.0	2,645.9
General Cargo	8,478,679	11.8	89.4	6,318,467	19.3	92.7	2,160,212	5.5	80.4
Steel Slabs	932,096	1.3	1,840.5	750,573	2.3	1,478.7	181,524	0.5	36,923.8
Gross Registered Tonnage	10,462,604	14.6	9.2	3,544,207	10.9	6.9	6,918,397	17.8	10.5
Passengers	58,348	0.1	117.3	19,594	0.1	84.7	38,754	0.1	138.6
Lockage Fees	8,710,882	12.2	9.9	-	-	-	8,710,882	22.4	9.9
Total Tolls - Current Shipping Season	71,582,512	100.0	11.3	32,653,634	100.0	10.7	38,928,878	100.0	11.8

cargo in 50 years, with an estimated value of more than $375 billion. Almost 25% of this cargo travels to and from overseas ports, especially Europe, South America, the Middle East, and Africa. From Great Lakes/Seaway ports, a multi-modal transportation network fans out across the continent. More than 40 provincial and interstate highways and nearly 30 rail lines link the 15 major ports of the system and 50 regional ports with consumers, products and industries all over North America.

A shared resource facing multiple demands

Since its inception in 1959, over 2.5 billion tonnes of cargo valued in excess of $375 billion has been transported via the Seaway. The St. Lawrence Seaway Management Corporation (SLSMC), on behalf of the Government of Canada, and the Saint Lawrence Seaway Development Corporation (SLSDC), on behalf of the United States Government, are dedicated to managing the Seaway channels and locks based upon the precepts found in the three 'pillars' of sustainability:

- **environmental** – the SLSMC and SLSDC work diligently in overseeing transits into their waters, such that marine carriers move cargo in a manner that minimizes their environmental footprint;
- **economic** — the SLSMC and SLSDC adapt new work practices and procedures and leverage technology to further refine their operations. The end result is a transportation system that moves tonnage cost effectively, reinforcing stakeholders' economic competitiveness.
- **social** — the SLSMC and SLSDC continue to advocate the advantages of moving cargo via the Great Lakes Seaway System, recognizing that marine transportation is the most energy efficient mode, having a very advantageous greenhouse gas footprint.

Superior fuel economy

The marine mode of transportation exhibits the best fuel economy of any mode. When compared to transportation by rail and truck, the marine mode can move a tonne of cargo much further on a single litre of fuel. Given the design characteristics of a vessel's hull, vessels actually operate more efficiently when loaded to capacity.

Reducing greenhouse gas emissions

Superior fuel economy also plays a key role in explaining the marine mode's advantageous performance in terms of greenhouse gas emissions. As we face the challenge of lowering our carbon footprint and reducing the level of greenhouse gases emitted each year, the marine mode provides a unique opportunity thanks to its superior fuel economy.

Marine fuels

Vessels sailing within the St. Lawrence Seaway and the Great Lakes use a wide variety of fuels. The actual fuel used depends upon the type of engine and auxiliary power units installed in the vessel, and the vessel's trading pattern. Most vessels, whether oceangoing or dedicated to the lake trade use heavy fuels varying from Intermediate Fuel 60 to Intermediate Fuel 700. The number indicates the viscosity or thickness. Vessels with steam propulsion normally use heavy fuels in the Intermediate Fuel 380 to Intermediate Fuel 700 range in their boilers whereas diesel-propelled ships consume lighter blends between Intermediate Fuel 60 and Intermediate Fuel 320. Marine diesel oil is also consumed by some vessels, and this fuel consists primarily of distillate fuel with a very small quantity of heavy fuel added or gas oil which is pure distillate available in several grades. Heavy fuel supplies bunkered (sold) on the Great

Commodities through the system in 2014

SUMMARY OF MAJOR COMMODITIES	ST. LAWRENCE SEAWAY			MONTREAL - LAKE ONTARIO SECTION			WELLAND CANAL SECTION		
	Tonnes	% of Total	Variance 2013%	Tonnes	% of Total	Variance 2013%	Tonnes	% of Total	Variance 2013%
Agricultural Products:									
Wheat	7,229,461	18.1	37.1	7,218,060	24.0	38.8	7,013,726	22.1	41.1
Corn	1,069,135	2.7	279.2	990,804	3.3	251.4	553,415	1.7	494.1
Rye	-	-	-	-	-	-	-	-	-
Oats	54,153	0.1	2,381.8	54,153	0.2	2,381.8	54,153	0.2	2,381.8
Barley	14,096	0.0	n/a	14,096	0.0	n/a	14,096	0.0	n/a
Soybeans	2,167,232	5.4	21.0	2,060,824	6.9	15.7	1,464,017	4.6	48.1
Flaxseed	159,719	0.4	40.7	159,719	0.5	40.7	159,719	0.5	40.7
Canola (Rapeseed)	922,316	2.3	84.4	754,923	2.5	111.1	922,316	2.9	84.4
Other Grains	484,848	1.2	18.2	484,848	1.6	18.2	484,848	1.5	18.2
Total Grains	12,100,960	30.3	44.5	11,737,447	39.0	44.1	10,666,290	33.6	50.7
Other Agricultural Products	7,128	0.0	0.2	7,128	0.0	0.2	59	0.0	-
Total Agricultural Products	12,108,088	30.4	44.5	11,744,575	39.1	44.1	10,666,349	33.6	50.7
Mine Products:									
Iron Ore	6,858,302	17.2	- 30.9	4,932,611	16.4	- 43.6	4,517,320	14.2	- 33.5
Coal	4,204,227	10.5	- 5.6	2,031,888	6.8	3.1	4,204,227	13.2	- 5.6
Coke	1,603,484	4.0	9.3	1,189,871	4.0	- 7.4	1,487,269	4.7	5.1
Stone, Ground, Crushed, or Rough	366,815	0.9	16.2	6,405	0.0	- 93.6	360,410	1.1	14.2
Salt	3,480,450	8.7	44.3	1,554,284	5.2	74.2	3,012,803	9.5	32.9
Other Mine Products	1,084,173	2.7	- 18.9	782,037	2.6	- 20.8	630,815	2.0	- 20.0
Total Mine Products	17,597,451	44.1	- 11.6	10,497,096	34.9	- 24.9	14,212,844	44.8	- 11.4
Processed Products:									
Iron and Steel	2,499,908	6.3	93.6	2,499,908	8.3	93.6	1,885,075	5.9	80.8
Steel Slabs	354,610	0.9	1,577.3	354,610	1.2	1,577.3	248,585	0.8	40,785.7
Petroleum Products	2,313,591	5.8	- 4.8	2,169,768	7.2	- 7.1	1,687,600	5.3	- 12.3
Chemicals	893,399	2.2	19.1	861,020	2.9	19.6	325,457	1.0	27.0
Other Processed Products	4,119,995	10.3	- 3.5	1,944,637	6.5	- 5.2	2,731,062	8.6	- 5.9
Total Processed Products	10,181,503	25.5	16.2	7,829,943	26.0	22.0	6,877,779	21.7	12.2
Miscellaneous Cargo:									
Forest Products	-	-	-	-	-	-	-	-	-
Animal Products	-	-	- 100.0	-	-	- 100.0	-	-	-
Total Miscellaneous Cargo	-	-	- 100.0	-	-	- 100.0	-	-	-
GRAND TOTAL	39,887,042	100.0	7.6	30,071,614	100.0	5.3	31,756,972	100.0	8.6

Lakes typically has a sulphur content ranging from 1.5% to 2%. In comparison, distillate fuels usually have .005% sulphur content.

Environmentally friendly technologies

According to Ken Westcar, marine market manager with Toromont Marine Power Systems located in Toronto, Ontario, new or repowered vessels on the Great Lakes Seaway System are fitted with engines having exhaust emission limits in compliance with International Maritime Organization (IMO) or US Environmental Protection Agency (EPA) rules. These rules are increasingly stringent, and revised International Maritime Organization standards coming into effect on 1 January 2011 (IMO II) require a significant reduction in nitrogen oxide emissions from engines installed after that date. Most shipowners are now specifying IMO II/Environmental Protection Agency Tier 2 compliant engines well in advance of the deadline.

For vessels that were once powered by steam, engine replacements featuring modern marine diesels combined with the installation of exhaust gas heat recovery devices and shaft driven alternators has, in some cases, reduced the vessels' nitrogen oxide emissions by 75% or more. Most fleets have engine update programs that will substantially reduce nitrogen oxide and particulate emissions on the Great Lakes when burning traditional fuels.

Improving air quality

Air quality is an important factor in determining quality of life. The simple fact is that ships move a lot more cargo per unit of horsepower. Even if ships are not quite as clean per unit of horsepower, they burn much less fuel to move a tonne of cargo.

Bulk at the Port of Montreal (©Logistec).

When viewed from this perspective, the marine mode once again becomes the transportation mode of choice, as burning less fuel equates to fewer emissions being vented into the air.

Reducing congestion on land

A single Seaway-sized laker can carry about 25,000 tonnes of cargo. To carry an equivalent amount of cargo, you would need to assemble a fleet of 870 large trucks or 225 rail cars.

Moving more cargo via the marine mode provides the opportunity to reduce the amount of congestion on our busy highways and railroads.

Moving cargo safely

The marine mode of transportation is the clear winner when it comes to safety. Accident definitions and reporting criteria differ somewhat by mode as well as in the reporting methods employed in Canada and the United States. However, estimates of standardized frequencies of accidents and their consequences in terms of deaths and injuries are published by the US Bureau of Transportation Statistics (National Transportation Statistics Report). These statistics show that moving cargo via the marine mode is the safest means available.

Minimizing spills, noise, and congestion

Quality of life cannot be defined strictly by the price of goods on a supermarket shelf. It is important to consider what it takes to get the goods to market. These factors include not only energy efficiency, emissions, and safety, but also factors such as spills, noise and congestion that the movement of goods brings about.

'Spills' in this context refers to harmful discharges into the environment occurring as a consequence of freight transportation. Within this definition, are included cargo leakages, accidental or deliberate spills, and discharges of materials used in the transportation process — most prominently fuels or lubricants used by vehicles or vessels.

Noise from transport is commonly held to be a nuisance, particularly by those living near airports, rail marshalling yards, and highways. Noise is difficult to measure in ways which represent the nuisance that it produces.

In the absence of any quantitative evidence, it can only be conjectured how noise nuisance differs among the three freight modes. However, in view of the relative proximity of transport operations to residential areas, as well as the inherent nature of the transportation equipment and engines, it is proposed that trucks impose the greatest noise nuisance per tonne-km while vessels impose the least amount of noise nuisance.

Traffic congestion impacts a number of factors, including delays in shipments, increased greenhouse gas emissions, higher air contamination, and increased noise. In the absence of quantified estimates for traffic conditions in the region bordering the Great Lakes and the St. Lawrence Seaway, only conjecture of qualitative rankings is possible. It is clear from the nature of marine traffic that there are few, if any, delays on the water.

In terms of rail, some serious congestion occurs around Chicago, the largest US rail hub, and the location of substantial transshipment activity. Considering truck traffic, there is severe congestion during rush hours in all of the major cities, and some cities such as Toronto are experiencing increasing congestion even within the daytime period between rush hour peaks.

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Experience is the byword of Federal Marine Terminals

There's one word that best describes Federal Marine Terminals: **experience**. FMT started as a small operation in Chicago in 1965 and in 50 years, has grown into a multi-terminal cargo-handling company with a sterling reputation in North America.

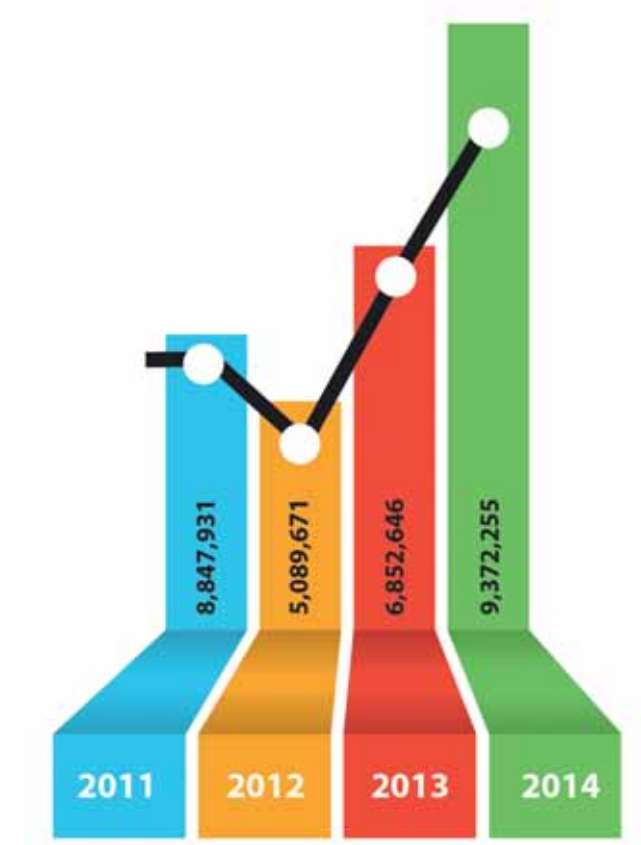
Back then, land at 95th Street on the Calumet River was purchased, an old coal dock was resurfaced, sheds were refurbished, forklifts and mobile cranes rented, and in no time, FMT Chicago was born. The company, a division of Fednav Limited headquartered in Montreal, has a sales office in Charlotte, and operates twelve facilities in the US and Canada in the Great Lakes and East and Gulf Coast areas, employing 65 management and administrative employees and 800 to 1,200 longshore employees. FMT handles various commodities that include general cargo, dry bulk, various steel products, wind components, alloys, forest products, and project cargo.

Aside from its 50-year history, several other factors distinguish FMT and have facilitated its growth. Strategic locations of FMT terminals allow for its presence in ports where the Fednav suite — including its shipowning and chartering, liner, and logistic services — do business. FMT offers stevedoring and terminal handling for all types of dry cargo, employing specialized and efficient equipment and proprietary software for cargo and terminal management. A strong management team is supported by a well-trained and safety-oriented labour force that cares for the cargo in its custody. With solid values, award-winning environmental excellence recognition, and a focus on customers, employees, and the community, FMT has lived up to its high standards in reliable, safe, and efficient cargo handling for five decades.

The cornerstone of the company's operations is built on the establishment of long-term relationships with business partners and with its labour force. The guiding principles that have led to the success of FMT are tried and true: concentrating on niche markets, providing consistently excellent service, and maintaining strict safety norms and guidelines.

These enduring values are paying off. 2014 proved to be an outstanding year with over 9.3mt (million tonnes) of cargo handled by FMT.

Other recent newsworthy mentions include an anniversary trio of celebrations in Cleveland last November for FMT (50 years), FALLine, the company's liner service (55 years), and Fednav (70 years). Additionally, the Port of Indiana-Burns Harbor recently recorded the highest shipments in its 44-year history where FMT is the port's terminal operator.



Federal Marine Terminals Tonnage from last four years

Looking forward, FMT will continue to actively seek opportunities for growth, whether by increasing business in current locations or adding new ones, while falling back on its exemplary operating principles, remaining flexible and versatile, and ensuring that its work force stays current with safety and security procedures and technological improvements.

According to its chairman, Paul Pathy, FMT shows its commitment to servicing the ports in which each terminal operates, be it on the Atlantic coast or the heartland of America. "Each FMT terminal is an integral part of the services that the company offers. Together, delivering a higher standard is not only a promise, but the hallmark of the Fednav group of companies."

Although experience defines Federal Marine Terminals, its mission is to continuously look for new growth opportunities while improving procedures and services. By increasing its presence in North American ports and treating customers like business partners, FMT looks forward to the next 50 years of handling cargo.



THE PORT OF MILWAUKEE

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Port of Milwaukee: flexibility in cargo handling and onward transportation

The 'Laker' Algoma Enterprise *seen unloading salt into the Kinder Morgan-operated Terminal 4. The sifting machine inside the building will separate the untreated salt into several different sizes. It is then shipped in bulk by rail or bagged as ice melting salt for private sidewalks and driveways. The vessel is 222.50m long and 23.12m wide, with a 76m-long boom. Lakers, which are ships designed to stay within the Great Lakes/St. Lawrence Seaway region, can move between Milwaukee, located on the Southwestern shore of Lake Michigan, and the salt mines in Lake Huron and Lake Erie late into February. During mild winters, these vessels have navigated between these lakes all year long.*

The Port of Milwaukee offers an operational flexibility unique to the western Great Lakes and the inland waterway system. Terminals designed for the efficient handling of general and project cargoes, roll on/ roll off, containers, dry and liquid bulk and heavy lifts in excess of two hundred tonnes, provide vessel owners and cargo interests with safe, efficient and cost effective cargo handling services.

City Heavy Lift Dock: The Port of Milwaukee has sixteen berths for vessels, each capable of handling vessels with a Seaway Maximum draught of 8m at normal water conditions, with a length of 304.8m.

Port of Milwaukee personnel are thoroughly trained and experienced transportation and distribution professionals, capable and willing to develop complete handling and transportation packages for port clients.

The Port of Milwaukee is located on the western shore of Lake Michigan, 1,021 nautical miles from Montreal with a transit time by water from Montreal of about 4.5 days.

The Port of Milwaukee serves as a regional transportation and distribution centre with a primary market including the State of Wisconsin, northern and western Illinois (including the city of Chicago) and eastern Minnesota including the 'Twin Cities' of Minneapolis/ St. Paul. The port is also capable of cost effectively reaching Iowa, the Dakotas, Nebraska, Missouri and Indiana; and the western Canadian Provinces of Alberta, Saskatchewan and Manitoba.

Inland connections

The Port of Milwaukee is served by two Class I railroads, the Union Pacific Railroad and the Canadian Pacific Railway. Both railroads provide direct pier delivery at all port facilities as well as necessary switching services. Within the port proper, the port owns and maintains 13.5 miles of rail track, which connects with the Class I's main lines at the port property edge.

Federal Interstate Highway System I-94/794 leads directly into the Port of Milwaukee, assuring delay-free pickup and delivery of commodities by truck. There are exit/entrance ramps direct to port service roads. Transits to/ from the Interstate to major port terminals take less than five minutes. Highway connections to cities within a 350-mile radius (Chicago, Minneapolis/ St. Paul, Peoria, Des Moines, Moline, and Indianapolis) are accomplished within a few hours. Public truck scales are available in the port.

The Port of Milwaukee is capable of serving river areas as far as the US Gulf by inland river barges. Transits cross lower Lake Michigan to the Illinois River and thence to the Mississippi River at St. Louis to the US Gulf. Transit times by barge to the US Gulf average about 30 days in a combined tow, or approximately 10 days with a dedicated tow.

General cargo

The port provides over 330,000ft^2 of covered warehouse space for bulk, steel and general cargoes, including 30,000ft^2 (2,800m^2) of heated space. All facilities are steel frame buildings with brick/aluminium exteriors. All general cargo piers are paved with concrete and asphalt and each is rail served. Total general cargo facility exceeds 20 acres (8.1 hectares), plus additional backup storage as needed. Federal Marine Terminals is the port's general cargo stevedore.

The port is well known for its heavy lift capability. Its stiff leg derrick is capable of lifting a total of 440,000 pounds (200,000kg) at a 52ft (16m) radius.

Milwaukee handles a diverse mix of general cargoes including steel, wind turbine components, forest products, bagged materials, heavy machinery, farm and construction machinery, and project cargoes.

A full roster of distributive services can be provided including but not limited to warehousing, sorting, recouping, decanning, palletizing and container stripping and stuffing.

Dry bulk

The Port of Milwaukee has devoted over 50 acres (20.24 hectares) to dry bulk storage and handling facilities, including four storage domes totalling 50,000 tonnes of storage. Much of the ground storage is paved. Additional acreage is available for dry bulk storage.

Dry bulk handling services include storage and stock piling, direct transfer truck/rail/barge, vessel loading and unloading, packaging, palletizing and processing.

Kinder Morgan is the port's bulk stevedore and handles a wide variety of dry bulk materials including salt, construction aggregates, coal, and fertilizers.

Liquid bulk

The Port of Milwaukee has about 300,000 barrels of bulk liquid storage capacity with the capability of service by vessel, pipeline, rail and truck. Products handled include clean petroleum, heavy oils and lubes, asphalt and vegetable oils. Both US Oil and South Harbor (Tanco Terminals) are port tenants.

Marketing services

The Port of Milwaukee's marketing group are transportation professionals who work with vessel owners, freight forwarders and cargo interests to design high quality, cost effective transportation and distribution programmes for domestic and international cargo streams. Representatives track cargo opportunities while developing waterborne and inland freight routes via Milwaukee. The port maintains direct contact with vessel owners, rail, truck and freight interests. The port works with interested parties to ensure they have proper and accurate information on the costs and opportunities for using the port/St. Lawrence Seaway and the US inland waterway system.

In addition to freight and handling consultancy, the port also develops special or single use facilities such as warehousing, storage terminals and industrial facilities needing waterfront or near waterfront locations. The port has access to industrial revenue bonding through the City of Milwaukee and other incentive programs. The port has an inventory of property under its control for development purposes.

Port of Indiana-Burns Harbor records highest shipments in 44-year history

The bulk carrier Rhine *sitting at the dock of Ports of Indiana-Burns Harbor.*

The Port of Indiana-Burns Harbor handled more shipments in 2014 than any year since the port opened in 1970. Total tonnage was up 30 percent over 2013 driven by strong shipments of steel, grain and salt.

"It was a terrific year thanks to our port companies, steelmakers and businesses that use our port," said Rich Cooper, CEO for the Ports of Indiana. "Federal Marine Terminals, the port's terminal operator, and its labour force did a tremendous job handling the significant cargo increases that arrived at the port by ship and barge. They extended their work hours and even worked weekends on a number of occasions to meet customer expectations."

The port also had a 35% increase in ocean vessels over 2013 and nearly a 25% increase in river barges moving through the Illinois/Mississippi river system.

"Steel going into the manufacturing sector was a key driver for the increase in port shipments," said Port Director Rick Heimann. "In 2013, the port handled its highest steel volume since 2006 and 2014's steel tonnage more than doubled the previous year's total. The port also handled over 500 barges in 2014 for the first time in several years."

River barges provide a vital link for the port to over 20 states, 12,000 miles of rivers and ocean vessels in the Gulf of Mexico that provide year-round access to world markets when the St. Lawrence Seaway is closed for the winter. This port's strategic location at the intersection of two of the world's busiest waterways and all of the nation's Class I rail lines provides significant competitive advantages for multimodal companies who locate at the port.

The port continues to serve as a preferred inland hub for large dimensional specialty cargoes, including beer tanks, wind turbines and fuel processing equipment. In 2014, 29 beer fermentation tanks, each with over 20,000-gallon capacity, were shipped from Germany through the port to Lagunitas Brewing Co. in Chicago — one of the largest craft breweries in the U.S.

The port also received an 885,000-pound project cargo shipment via barge that contained a fuel processing unit being transported from Oklahoma to Ohio. The entire unit was off-loaded at the port's specialized Ro-Ro dock, which is used to roll-on and roll-off specially-designed trailers that are too large or cumbersome for cranes.

Two port companies announced major expansions in 2014 as NLMK invested $8 million to expand its steel mini-mill operation and Carmeuse Lime & Stone pumped $11 million into its limestone processing facility.

Maritime operations at the Port of Indiana-Burns Harbor generate $4.3 billion per year in economic activity and support 33,000 total jobs.

About the Ports of Indiana

The Ports of Indiana is a statewide port authority operating three ports on the Ohio River and Lake Michigan. Established in 1961, the Ports of Indiana is a self-funded enterprise dedicated to growing Indiana's economy by developing and maintaining a world-class port system.

UWL: delivering expert service to existing and emerging markets

UWL, a third-party logistics provider, licensed non-vessel operating common carrier (NVOCC) and freight forwarding company, is operational in the Great Lakes region and around the world. The company, which believes in innovation and client-centricity, has a world-class, team approach and has been at the forefront of its market since its inception. By leveraging 50+ years of industry experience on the part of parent company World Shipping, Inc. (WSI), UWL has helped clients to realize success in the Great Lakes as well as markets around the globe. Areas of expertise include: custom house brokerage, ocean freight, air freight, chemical logistics, project cargo logistics, warehousing, transloading and distribution, road and rail, bulk liquid logistics and customs compliance consulting.

As UWL's customer base has widened, the need to expand the team has grown as well. To accommodate customer demand, UWL has doubled the size of its customer service team since the beginning of Q4 2014. According to UWL senior vice president, Jane Colazzo, "We have brought on managers and support professionals to ensure that our clients' needs are not only tended to, but anticipated. Our goal is to have the support in place to allow for the company to remain agile, always looking for creative ways to solve our customers' toughest challenges."

This growth has been evident in UWL's offices internationally — Sao Paulo, Rio de Janeiro; Itajai, Brazil; and Rotterdam, the Netherlands — however, it is also being felt most significantly within the Great Lakes region, given the company's headquarters' location in Cleveland, Ohio. "We are the largest provider of international logistics in Northeast Ohio," states Colazzo. Given its location and relationship with the shipping companies serving the all-water route into the US Great Lakes, UWL is able to leverage its position in the St. Lawrence Seaway for the benefit of many shippers and receivers of project cargo. UWL is proud to support these customers as well as the local economies of many port cities throughout the Great Lakes with decreased cost and time of transport that these routes provide.

Major successes have been realized in the past year by UWL and its parent company World Shipping, Inc (WSI). Shipments via the St. Lawrence Seaway set records for inbound cargoes at US Great Lakes Ports in 2014. World Shipping was also involved with the inbound shipments of bulk cargo road salt (a much-embraced service given the extreme winter conditions that this region has experienced this year). And in the early part of 2015, UWL and WSI are already seeing a tremendous increase in the way they are servicing the burgeoning pipeline and wind energy business. These types of projects are a point of pride for the company as they not only improve the Midwest economy, but also the quality of the lives and the sustainability initiatives of people that reside in the Midwest.

VERSATILE ASSETS CUSTOMIZED TO YOUR NEEDS.

Experienced and adaptive, we deliver turnkey solutions that support customer success in a wide range of transportation and project challenges.

Safety, quality and respect for the environment are at the heart of our operations. Manned by highly skilled sailing crew, our ever-growing diverse and versatile fleet of tugs, barges and workboats, operate throughout the Great Lakes, St. Lawrence River, east coast and Canadian Arctic.

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McKeil Marine's tug and barge units: a familiar sight on the Seaway System

McKeil Marine has a rich history in Canada's maritime industry. Since 1956, the company has provided transportation and project services for a wide range of customers and industry sectors.

The last five years have seen unparalleled growth, with fleet expansion and renewal including five new tugs and more than a dozen new barges. McKeil's passion remains in delivering the next innovative solution and works collaboratively with customers and project managers to devise more efficient cargo handling methods.

McKeil Marine is very active in the Great Lakes Seaway System, operating the largest fleet of tug and barge units in the Seaway and in eastern Canada. At present, the company has three primary tug and barge units in the Seaway System that carry a range of bulk cargoes for customers in the aggregate, grains, road construction and maintenance and steel industries.

Major dry bulks carried aboard the fleet include sand, stone, coke and grain. In addition, semi-finished steel products are shuttled between production facilities and a range of ports on the Canadian and US side of the Great Lakes.

Upgrades to tugs in the fleet ensure that McKeil is capable of supporting construction projects in the oil and gas and mining sectors.

In winter 2014, a new retractable roof was installed on the barge *Alouette Spirit*, which now offers greater cubic capacity and ensures safe stowage of weather sensitive cargoes. McKeil began 2014 carrying grain aboard this barge and expects to commence the 2015 season with a mix of dry bulk and breakbulk loads.

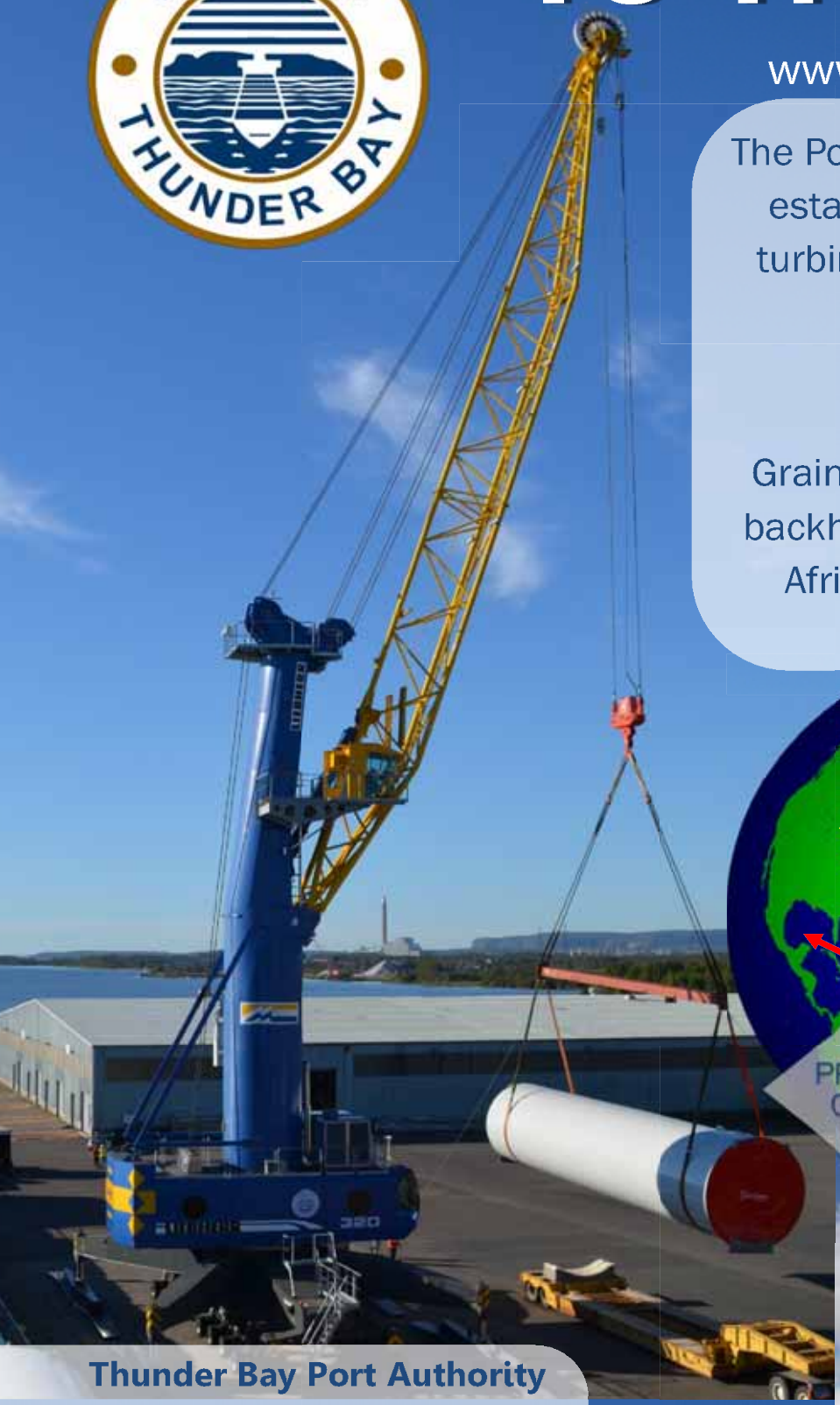
The barge *Lambert Spirit* continues to be a versatile piece of gear, capable of switching between liquid cargo in ballast tanks and dry bulk on deck for a variety of regional customers in Lake Erie, Lake Huron and Lake Ontario.

CANADA'S GATEWAY TO THE WEST

www.portofthunderbay.ca

The Port of Thunder Bay is a well-established gateway for wind turbines and oversized project cargo destined for Western Canada.

Grain, coal and potash exist as backhaul cargoes for European, African and Latin American destinations.

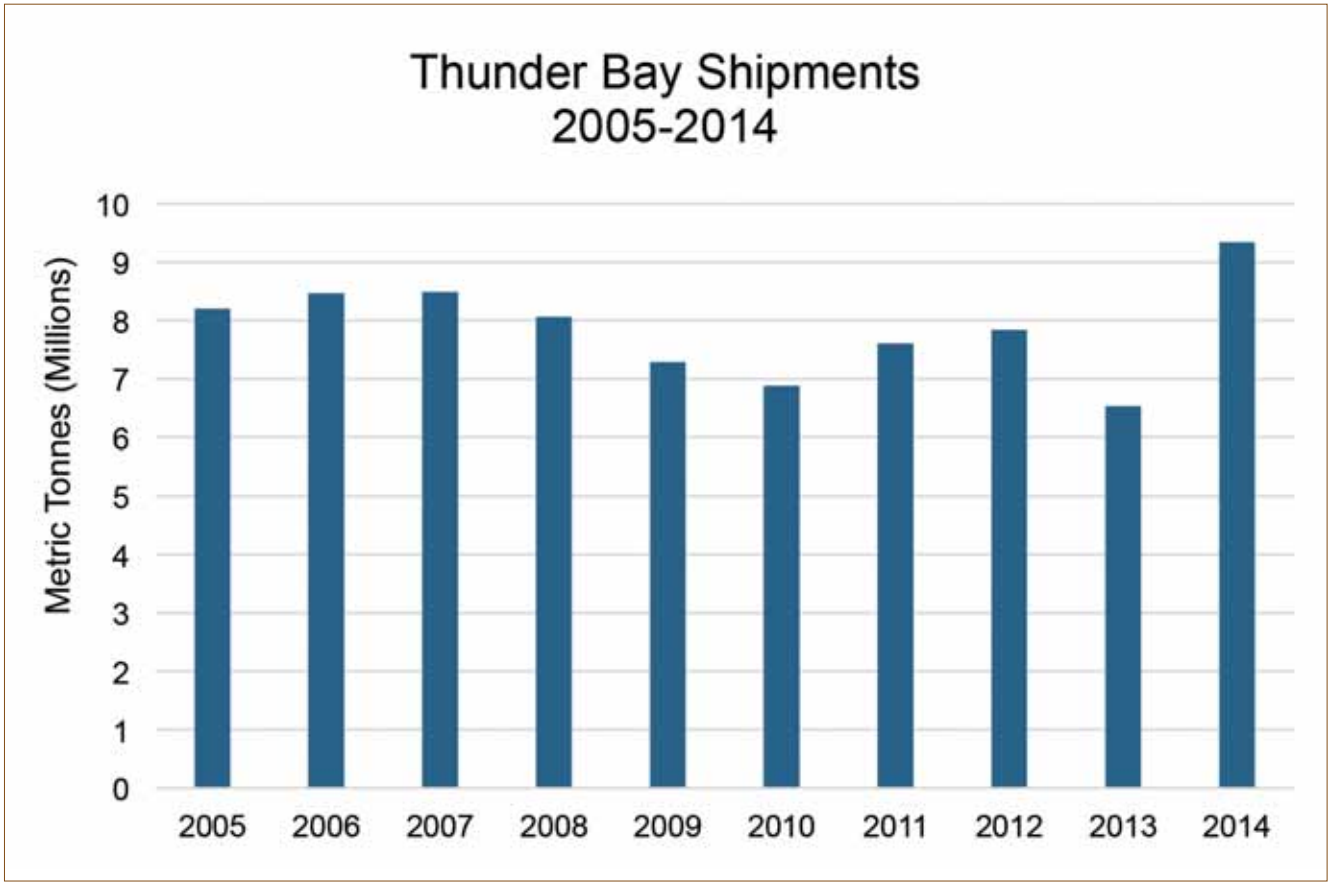


Thunder Bay Port Authority
100 Main Street
Thunder Bay, ON P7B 6R9
T (807) 345-6400
F (807) 345-9058
@ThunderBayPort

Western Canadian grain surge drives Thunder Bay's best results in 16 years

The Port of Thunder Bay is Canada's Gateway to the West, built as a crucial transportation link connecting the western provinces of Alberta, Saskatchewan and Manitoba with the world.

Thunder Bay is a diverse port, serving as both an export point and inbound hub, linking to the marine highway known as the Great Lakes–St. Lawrence Seaway System. In addition to Canada's largest grain storage capacity, Thunder Bay is home to substantial cargo handling infrastructure. The following



operational terminals are located in the port:

- eight grain elevators (all grain varieties);
- three dry bulk facilities (coal, potash, salt, urea, grain, etc.);
- two liquid bulk facilities (petroleum, liquid chemicals);
- one aggregate facility (stone, sand);
- one general cargo facility (project cargo, forest products); and
- a full-service cruise ship terminal connects tourists to the picturesque port city.

CARGO STATISTICS - 2014
With Comparative Figures in Metric Tonnes for 2013
Period From December 01 to January 15, 2015

	Month Totals 2014	Month Totals 2013	Year to Date 2014	Year to Date 2013
COAL	23,140	54,504	467,639	603,814
GRAIN	1,164,557	856,642	8,325,099	5,403,460
POTASH	31,242	55,147	290,853	317,170
DRY BULK	12,658	21,908	191,400	134,269
LIQUID BULK	7,140	0	55,854	69,840
GENERAL CARGO - KEEFER	0	0	5,448	1,651
GENERAL CARGO - OTHER	0	0	4,957	0
TOTALS	1,238,737	988,201	9,341,250	6,530,204

CEO of Thunder Bay Port Authority. According to Heney, shippers are taking notice of the capacity of Thunder Bay and the Seaway to handle the sudden rise in grain cargo, "The efficiency of the port's grain elevators is key. An average of 1mt [million tonnes] of grain were loaded in Thunder Bay every month of the 2014 season."

The furthest inland port in Canada, Thunder Bay is the Canadian terminus of the Seaway System. The Seaway is the largest inland waterway in the world, and efficiently handles 40mt of cargo annually, with capacity to grow. The marine industry is investing over $7 billion in the future of the Seaway, including major infrastructure upgrades and fleet renewal.

2014: STRONGEST SEASON SINCE THE 1990S

The Port of Thunder Bay has entered the 2015 shipping season amidst optimism, buoyed by the strong results of the 2014 shipping season which wrapped up in January. The port recorded its highest cargo volumes in 16 years due to a surge in shipments of western Canadian grain.

Thunder Bay's grain volumes in 2014 were 43% higher than the five-year average. Among the increases in grain shipments, the port shipped its second highest volume of canola on record, and its highest volume of wheat since 1997.

"Canadian grain companies are demonstrating their confidence in the Seaway supply chain with the tremendous volumes," remarks Tim Heney,

VESSEL REPORT

	Current Month	Same Month Last Year	Year to Date Totals	Last Year Totals
DOMESTIC	42	43	308	250
FOREIGN	18	7	127	77
AMERICAN	1	1	3	4
TOTALS	61	51	438	331

US Port of Duluth just got a whole lot closer to Europe

Offloading wind turbine components that originated in Denmark from the first Spliethoff vessel to arrive in the Port of Duluth on 4 August 2014; the components were later delivered by truck to a wind energy installation in North Dakota.

This huge piece of machinery arrived in the Port of Duluth from Europe on 11 November, 2014, aboard the Muntgracht*; it was stored at Lake Superior Warehousing for a month, then trucked to a job site in southern Minnesota.*

The transportation logistics of shipping smaller lot cargoes on a regular basis to/from Europe from deep within the heartland of North America have always posed challenges, until now.

An exciting new dimension has been introduced to the Great Lakes and to the Port of Duluth to enhance the area's freight handling capacity and further expand its global transportation network. Now, smaller-volume shippers and manufacturers have a way to consolidate freight — to streamline their supply chains by taking advantage of direct, all-water sailings between Europe and Duluth being offered by the Dutch-based Spliethoff Group.

In seeking to expand its international network of parcel sailings, Spliethoff looked to the Duluth Seaway Port Authority and its terminal operator, Lake Superior Warehousing Co. Inc, to forge a unique alliance that could offer greater flexibility and capacity for shippers looking for cost effective alternatives/faster transit times to accommodate consolidated shipments of 'small lot' cargoes.

Find your niche

Three Spliethoff vessels arrived in Duluth last year with an array of unique project cargoes destined for final delivery to customers in the Upper Midwest and Canada; additional ships are being scheduled for the upcoming 2015 shipping season on the Great Lakes St. Lawrence Seaway. These direct sailings between Antwerp and Duluth offer customized shipping solutions that better align supply chains for companies in a wide variety of niche markets.

Working closely with the Port Authority and Lake Superior Warehousing, these sailings can accommodate everything from smaller lots of breakbulk, heavy lift and project cargoes to speciality agricultural products, containerized freight, machinery, manufacturing components, iron and steel, and more.

"We are establishing this service as the next step in our growth strategy in the US and Canada," said Bart Peters, director Atlantic Department, Spliethoff Group. "This is a concept which has been proven before in our cross Atlantic trades, and now we bring this all the way to Lake Superior. Our Great Lakes-fitted vessels are well equipped for this, and the flexibility of the vessels in our fleet allows for many types of cargo to be carried on the same voyage."

The Merwedegracht *arrived in the Port of Duluth on 10 September, 2014, with a consolidated shipment of two sets of project cargo aboard – smoothing reactors bound for Manitoba, Canada, and wind turbine components for a customer in North Dakota.*

Door-to-door service

In addition to expanding trade development opportunities here in the Upper Midwest and along the Great Lakes–Seaway system, having regular sailings this far inland also will ease pressure on existing road/rail routings to and from coastal ports. Users will be able to avoid the congestion, higher costs and delivery delays experienced at terminals along the Eastern coast.

"With approximate 20-day transit times, these new sailings offer to the market compelling service options from a door-to-door perspective — meeting delivery schedules for companies and customers alike across multiple industries here in the Upper Midwest and abroad," said Vanta Coda, executive director, Duluth Seaway Port Authority. "Location. Connectivity. Intermodal service to and from inshore hinterlands. These are all crucial elements to transportation logisticians trying to streamline supply chains."

Anchoring the western terminus of the entire Great Lakes St. Lawrence Seaway, with direct access to interstate highways and four Class I railroads, the Port of Duluth is an integral cargo hub to relevant energy, mining, agricultural and manufacturing markets. In particular, Duluth provides the best connection to developing energy field growth in North Dakota and Canada.

Likewise, positioned at the heart of the European project cargo sector, the Port of Antwerp remains one of the world's busiest gateways – a prime transload hub for those same industries. While the primary overseas market for these new Great Lakes sailings is the European Union, there is potential for cargo movement to and from nearby regions, as well, including North Africa, the Middle East and points beyond. All around, this is an exciting new global alliance for the Port of Duluth and Spliethoff, which dovetails well with established service routes.

Major increase in overseas vessel calls contributes to good year for Canada's

Loading grain for export.

As the largest Canadian port on the Great Lakes, the Port of Hamilton is located within reach of major North American consumer markets, and provides access to shipping destinations around the globe.

Hamilton's port partners offer specialized expertise and equipment for any import or export shipment. Port of Hamilton's terminals can provide loading, unloading, storage and transloading of a wide range of commodities. These

Unloading liquid asphalt.

Port of Hamilton

commodities include:

- dry bulk
- liquid bulk
- breakbulk
- project cargo & containers

2014 highlights

The year 2014 was a very strong one at the Port of Hamilton. A total of 10.5mt (million tonnes) of cargo came through the port in 2014, an increase of 5% over 2013.

One in five of the vessels that called at the port last year was making an overseas voyage; this is the highest number of overseas vessels in a decade. The drivers of this overseas activity included agricultural commodities and finished steel.

Agricultural

Over the last few years, agricultural cargo has grown from 12% to 19%. Ontario corn, wheat and soybeans grown on Ontario farms are brought to the port, loaded onto ships, and delivered to markets all around the world, where the quality of Ontario grain is highly valued.

Steel

Two-thousand-and-fourteen was a big year for finished steel, imported from Europe, Asia and South America. More than half a million tonnes of finished steel came through the port in 2014. This figure is more than 200% higher than in 2013, and 68% higher than the five-year average.

There is strong demand from regional manufacturers, including automotive, and the construction sector. This says good things about the Ontario economy, that we are seeing this demand for manufacturing inputs like finished steel.

Multimodal

The Port of Hamilton's multimodal services are part of what makes it an important transportation hub in Ontario. Not only does the port have direct access to global markets by marine — it also has two Class-1 railways and direct highway access.

In 2014, the number of rail cars coming through the port increased by 14% to just over 4,300.

Diversification

Just a few years ago, Hamilton was almost exclusively a steel port. Today, more than 30% of the port's cargo is made up of diversified commodities that reflect the wider Ontario economy — grain, fertilizer, manufactured goods, petroleum products.

Recent acquisition

In 2014, Hamilton Port Authority added a valuable warehousing asset to its portfolio of logistics-focused real estate. The 500,000ft^2 former Westinghouse plant is a strategic addition because it features excellent road and rail access, ceiling heights up to nine storeys, and overhead cranes capable of handling up to 180 tonnes. This complex offers some of the heaviest crane capacity in southern Ontario.

The facility has indoor rail transload capabilities that are in high demand by manufacturers and other shippers. It is a strategic acquisition that will help the port attract new business, and also improve the service offering to existing customers.

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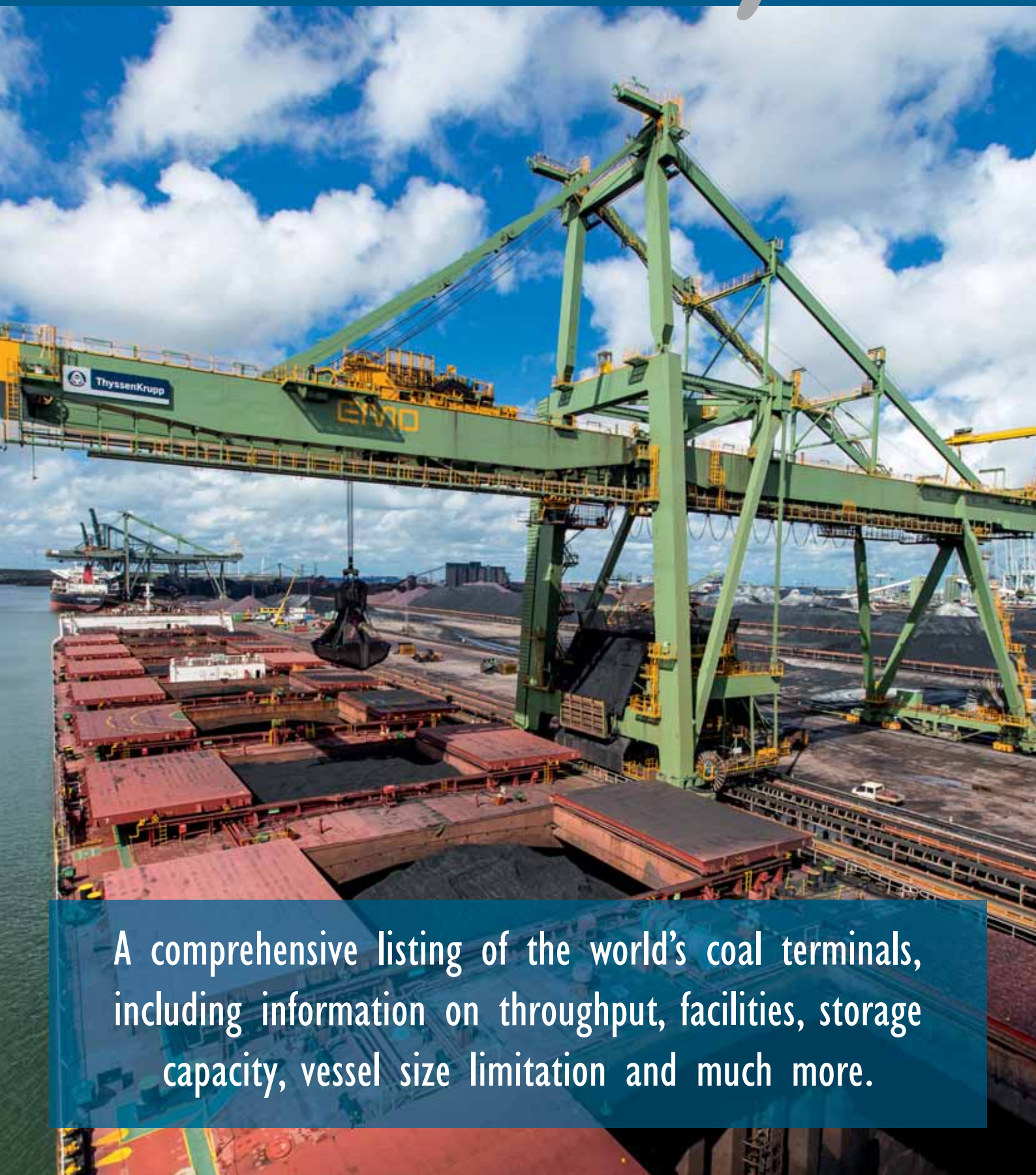
COAL TERMINAL directory

2015



A comprehensive listing of the world's coal terminals, including information on throughput, facilities, storage capacity, vessel size limitation and much more.

FAM

Förderanlagen Magdeburg www.fam.de

FAM Shiploaders for Coal 3000 t/h

FAM – The manufacturer of material handling systems

FAM successfully designs and manufactures turnkey installations and systems for mining, conveying, loading and stockpiling of minerals, raw materials and goods. FAM offers the complete range of engineering and manufacturing services including after-sales services. For more than 20 years FAM combines serial and customized solutions and has proven to provide the highest level of technical expertise, engineering and project management competence as a global solution provider.

FAM
Förderanlagen Magdeburg
Sudenburger Wuhne 47
39112 Magdeburg - Germany

Phone +49 391 / 6380-0
Fax +49 391 / 6380-10 0 99
E-Mail sales@fam.de

EMO: Full service gateway for coal and iron ore. EMO responds fast and flexibly to delivery requirements transshipped through the Port of Rotterdam — from countries around the world to destinations throughout Europe.

EMO
Missouriweg 25
3199 LB Maasvlakte Rotterdam
W: www.EMO.nl

AUSTRALIA

BRISBANE
North Queensland Bulk Ports Corporation Limited
GPO Box 409
Brisbane
Queensland
4001
Australia
Contact: Mr Steve Lewis
Job Title: CEO
T: + 61 7 3011 7900
F: + 61 7 3011 7997
E: info@nqbp.com.au
W: www.nqbp.com.au
Export: yes
Location: Port Authority for the trading ports of Weipa, Abbot Point, Mackay, Hay Point & the non trading port of Maryborough
Ownership: Queensland Government Owned Corporation
Name of Port Authority: North Queensland Bulk Ports Corporation Limited
Throughput Capacity: Please see the Port Handbooks located on our website for details of each of these ports.
Total Storage: Please see the Port Handbooks located on our website for details of each of these ports.
Vessel Size Limitation: Please see the Port Handbooks located on our website for details of each of these ports.
Additional Information: Abbot Point is Australia's most northerly coal port.

BRISBANE
Queensland Bulk Handling Coal Export Terminal
3 Bulk Terminals Drive
Port of Brisbane
Brisbane
Queensland
4178
Australia
Contact:
Job Title: Terminal Manager
T: + 61 7 3895 6500
F: + 61 7 3895 1170
E: qbhlogistics@qbh.com.au
W: www.qbh.com.au
Export: yes
Location: Australia, East Coast, Queensland, Brisbane
Ownership: Queensland Bulk Handling Pty Ltd
Name of Port Authority: Port of Brisbane Corporation
Throughput Capacity: 8 million tonnes potential per annum
Total Storage: 377,000 tonnes
Vessel Size Limitation: 90,000dwt, length 317m, draught 13.5m

CARRINGTON
Port Waratah Coal Services Limited (PWCS)
PO Box 57
Carrington
New South Wales
2294
Australia
Contact: Mr Hennie du Plooy
Job Title: Chief Executive Officer
T: + 61 2 4907 2000
F: + 61 2 4907 3000
E: contact_us@pwcs.com.au
W: www.pwcs.com.au
Export: yes
Location: New South Wales, Australia
Ownership: Coal Industry & Japanese Customers
Name of Port Authority: Port of Newcastle
Throughput Capacity: 145 Mtpa
Total Storage: Kooragang: 560,000 sqm
Carrington: 164,000 sqm
Vessel Size Limitation: Kooragang: Max LOA 300m, Max Beam 50m, 40,000 – 232,000 dwt.
Carrington: Max LOA 300m, Max Beam 47m, 20,000 – 180,000 dwt.
Additional Information: Port Waratah operates Kooragang and Carrington Coal Terminals in the Port of Newcastle, Australia.

DARWIN
P&O Automotive and General Stevedoring
PMB 23
Berrimah
Darwin
Northern Territory
0828
Australia
Contact: Mr Michael Van Brederode
Job Title: Regional Manager
T: + 61 8 8922 2300
F: + 61 8 8941 0604
E: craig.doudle@poags.com.au
W: www.poags.com.au

GLADSTONE
Gladstone Ports Corporation
PO Box 259
Gladstone
Queensland
4680
Australia
Contact: Ms Dayna Burns
Job Title: Media & Communications Officer
T: + 61 7 4976 1624
F: + 61 7 4976 3045
E: burnsd@gpcl.com.au
W: www.gpcl.com.au
Export: yes
Location: Australia
Ownership: Government Owned Corporation
Name of Port Authority: Gladstone Ports Authority
Throughput Capacity: 80mtpa
Vessel Size Limitation: 220,000dwt

GLADSTONE
Barney Point Coal Terminal
Central Queensland Ports Authority
PO Box 259
Gladstone
Queensland
QLD 4680
Australia
Contact: Mr Peter O'Sullivan
T: + 61 74 976 1471
F: + 61 74 972 3045
E: osullivanp@cqpa.com.au
W: www.gpa.org.au
Export: yes
Ownership: Central Queensland Ports Authority (CQPA)
Name of Port Authority: Central Queensland Ports Authority (CQPA)
Throughput Capacity: 4 million tonnes per annum (2004/05)
Vessel Size Limitation: DWT 90,000 (fully loaded)

HAY POINT
Hay Point Coal Terminal (HPCT)
MS 283
Hay Point Road
Hay Point
Queensland
4740
Australia
Contact: Mr Peter Hanrahan
Job Title: General Manager
T: + 61 7 4943 5201
F: + 61 7 4956 3421
E: peter.f.hanrahan@bhpbilliton.com
W: www.bhpbilliton.com
Export: yes
Location: 40km South of Mackay, Central Queensland, Australia
Ownership: Hay Point Services
Name of Port Authority: Ports Corporation of Queensland
Throughput Capacity: 44 million tonnes per annum
Additional Information: Wharves 1.8km offshore serviced by conveyor systems supported on jetties. 2 shiploaders.

KOORAGANG ISLAND
Newcastle Coal Infrastructure Group
Locked Bag 6003
Hunter Region Mail Centre
Kooragang Island
NSW
2310
Australia
Contact: Mr Paul Beale
Job Title: General Manager
T: + 61 2 4920 3900
E: enquiries@ncig.com.au
W: www.ncig.com.au
Export: yes
Location: Kooragang Island, Australia
Throughput Capacity: May 2010 - Jan 2011: 8.4Mt
Additional Information: 1st stage opened in May 2010 with export capacity of 30Mtpa. 2nd stage due for completion August 2011 - boosting capacity to 53Mtpa.

MACKAY
North Queensland Bulk Ports Corporation (NQBP)
Registered Office
Level 1 Wellington House
181 Victoria Street
Mackay
Queensland
4740
Australia
Contact: Mr Rob Watkins
Job Title: Commercial Manager
E: rwatkins@nqbp.com.au
W: www.nqbp.com.au
Export: yes
Location: North East Coast of Australia
Ownership: Terminal (HPCT) is owned by BHP Billiton Mitsubishi

Alliance-owned and operated by Hay Point Services.
Dalrymple Bay Coal Terminal (DBCT) is leased from the State Government by DBCT Management Pty Ltd.
Name of Port Authority: North Queensland Bulk Ports Corporation (NQBP)
Throughput Capacity: 85mtpa
Vessel Size Limitation: DBCT: Design Vessel minimum 20,000t, maximum 220,000t
Minimum depth at berth 1; 18.0m
Minimum depth at berth 2; 18.1m
Minimum depth at berth 3; 18.7m
Minimum depth at berth 4; 18.6m
HPCT: Berth 1: 16.5m depth; 180,000dwt
Berth 2: 16.7m depth; 200,000dwt
Additional Information: Both terminals have purpose-built, rail inloading facilities, onshore stockpile yards and offshore wharves. The offshore wharves are serviced by conveyor systems, supported on jetties, which run out to sea and allow loading in deep water.

Mackay
Dalrymple Bay Coal Terminal (DBCT)

Martin Armstrong Drive
Hay Point
Mackay
QLD
4740
Australia
Contact: Ms Sharon Johnston
Job Title: Senior Specialist Public Relations
T: + 61 7 4943 5645
F: + 61 7 4943 8466
E: sharon.johnston@dbct.com.au.
W: www.dbct.com.au
Export: yes
Location: 40km South of Mackay, Queensland, Australia
Ownership: Queensland Government - leased by Prime Infrastructure (private company)
Name of Port Authority: Ports Corporation of Queensland
Throughput Capacity: 85 million tonnes
Vessel Size Limitation: Max draught 17.5m, Max dwt 230,000
Additional Information: Services 18 Bowen Basin Coal mines.

Wharves 3.8km offshore serviced by conveyor system supported on jetties. 3 shiploaders.

Wollongong
Port Kembla Coal Terminal Limited

Port Kembla Road
Wollongong
New South Wales
NSW 2520
Australia
Contact: Mr Peter Green
Job Title: General Manager
T: + 61 2 4228 0288
F: + 61 2 4228 7605
E: peter.green@pkct.com.au
W: www.pkct.com.au
Export: yes
Location: Port Kembla is located 80 km south of Sydney on the East Coast of Australia
Name of Port Authority: Port Kembla Port Corporation
Throughput Capacity: Nameplate = 17.5 Mtpa
Total Storage: Coal stockyard 850,000sqm
Bulk Products stockyard 250,000sqm
Vessel Size Limitation: Up to and including Cape size (nominally 190,000 DWT). The air draught of 22.4 m
Max LOA 285m
Additional Information: Port Kembla Coal Terminal serves the Southern and Western coalfields of New South Wales Australia.

Belgium

Antwerpen
Antwerp Bulk Terminal (ABT)

Haven 750, Delwaidedok
Nieuwe Westweg 14
Antwerpen
B-2040
Belgium
Contact: Mr Michel Moons
Job Title: Manager ABT
T: + 32 9 255 02 51
F: + 32 9 259 08 94
E: michel.moons@sea-invest.be
W: www.sea-invest.com
Import: yes
Export: yes
Location: Port of Antwerp, Belgium.
Ownership: SEA-invest NV
Name of Port Authority: Antwerp Port Authority, www.portofantwerp.be
Throughput Capacity: 40 million mt (in and out)
Total Storage: 126 ha
Vessel Size Limitation: LOA is limited by the Zandvliet and the Berendrecht locks. Their length is 500 m, and vessels with LOA of 360 can enter the port. For vessels with a LOA exceeding this, an authorisation is possible. Maximum draught : 15,56 m F.W.. 2 Capesize bulk terminals and 3 Panamax bulk terminals.
Additional Information: Antwerp Bulk Terminal handles, on its 5 bulk terminals in Antwerp, everything which can be handled by grab, ranging from ores, solid combustibles, minerals, to agribulk. It offers covered storage in dedicated bulk warehouses of more than 83.000 m2.

Gent
Ghent Coal Terminal NV - GCT

Skaldenstraat 1
Gent
9042
Belgium
Contact: Mr Bart Laureys
T: + 32 9 255 02 11
F: + 32 9 259 08 94
E: Bart.Laureys@sea-invest.be
W: www.sea-invest.com
Import: yes
Export: yes
Location: Alongside the sea canal in the Port of Ghent at berth 2320.
Ownership: GCT, 100% daughter of Sea-invest with head office in the Port of Ghent.
Name of Port Authority: Ghent Port Company AMC
John Kennedylaan 32
9042 Gent - Belgium
Throughput Capacity: 2*25 metric tonnes cranes + 1 ship's loader
Total Storage: 85 ha – 3 million tonnes storage capacity.
Vessel Size Limitation: LOA 265m, Draught 12,50m (FW), Beam 37m.
Additional Information: GCT is the biggest solid fuel terminal in Belgium with open air and covered storage facilities, equipped with several screening, crushing, blending and drying installations.

Gent
Arcelor Steel Belgium NV

Arcelor Gent
John Kennedylaan 51
Gent
9042
Belgium
Contact: Mr Koen De Coster
Job Title: Maintenance manager railway and locomotives
T: + 32 9347 2670
F: + 32 9347 4916
E: info.sidmar@arcelormittal.com
W: www.sidmar.be
Import: yes
Location: Ghent, Belgium
Ownership: Privately owned port, serving Sidmar Steelworks.
Name of Port Authority: Sidmar
Throughput Capacity: 2.6 mtpa
Total Storage: 1.15 mt
Vessel Size Limitation: Panamax. Max DWT 65,000t, Max LOA - 265m, Max beam - 34m, Max draft - 13.5m

Liege
Terval S.A.

Ile Monsin, Route 10
Liege
B-4020
Belgium
Contact: Mr Dirk Schmidt-Holzmann
Job Title: Administrator
T: + 32 4256 9340
F: + 32 4264 0835
E: dsh@terval.com
W: www.terval.com
Import: yes
Export: yes
Location: Liège is situated in the crossing of Belgium, Germany , The Netherlands and France.
Ownership: Privately owned
Name of Port Authority: Port Autonome de Liège
Throughput Capacity: 1.5 mio tonnes
Total Storage: 14 hectares
Vessel Size Limitation: Barges 3.000 mt

Oostende
Ter Polder

Zwaaidok 2
Oostende
B-8400
Belgium
Contact: Mr Steven Verhelst
Job Title: Shipping Manager
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F: + 32 59 331 433
E: steven.verhelst@verhelst.be
W: www.verhelstlogistics.be

Seraing
CTB Logistics SA

Rue du Pont du Val
Seraing
B-4100
Belgium
Contact: Mrs Muriel Baugnee
Job Title: Marketing
T: + 32 4240 7802 / +32 424 7814
F: + 32 4337 1008
E: muriel.baugnee@euroports.com
W: www.ctblogistics.com

Brazil

Itaguaí
CSN – Terminal de Carvão e Minério TECAR

Estrada da Ilha da Madeira
s/no, Porto de Itaguaí
Ilha de Madeira
Itaguaí
Rio de Janeiro
23826-600
Brazil
Contact: Mr Luiz Renato Torres
Job Title: TECAR General Manager
T: +55 21 8111 9066
F: +55 21 2688 9209
E: renato.torres@csn.com.br
W: www.csn.com.br/tecar
Import: yes
Location: Sepetiba´s Bay, Madeira island, Itaguaí, RJ
Name of Port Authority: Companhia Docas do Rio de Janeiro
Throughput Capacity: 4 million MT per year
Total Storage: 3 stockyards. Year capacity: 8 million tonnes
5 Stockyards. Year capacity: 5.2 millions tonnes
Vessel Size Limitation: Depth 18.5 m – Panamax (until 75,000 tpb) – Cape Size (until 180,000 tpd)

Santos
Companhia Docas do Estado de São Paulo - CODESP

Avenida Conselheiro Rodrigues Alves, s/nº - Macuco
Santos
São Paulo
CEP 11015-900
Brazil
Contact: Mr José Di Bella Filho
Job Title: Director-President
T: + 55 13 3222 5485
F: + 55 13 3222 3068
E: di_bella@uol.com.br
W: www.portodesantos.com.br
Import: yes
Location: East Coast of South America
Name of Port Authority: Companhia Docas do Estado de São Paulo - CODESP
Total Storage: 1,000,000 sqm storage patios. 500,000 sqm warehouses.
Length of received ships, 270m. Ship capacity 70t. The canal of the Port of Saints has depths that vary from 5 to 14 metres.

Bulgaria

Bourgas
Bulk Terminal 2A

Port of Burgas JSC
1 Al. Battenberg Str.
Bourgas
8000
Bulgaria
Contact: Mr Dimitar Terziev
Job Title: Manager
T: + 359 56 822 400
F: + 359 56 822 156
E: headoffice@port-burgas.com
W: www.port-burgas.com
Import: yes
Location: South East of Bulgaria - south part of Bulgarian Black sea coast.
Ownership: Bulgarian state owned company
Name of Port Authority: Burgas Port Administration Agency
Throughput Capacity: 6,000,000 tpa
Total Storage: 108,000 sqm
Vessel Size Limitation: Draught - 15.5m

Canada

Belledune
Port of Belledune

112 Shannon Drive
Belledune
New Brunswick
E8G 2W2
Canada
Contact: Mr Rayburn Doucett
Job Title: President & CEO
T: + 1 506 522 1203
F: + 1 506 522 0803
E: info@portofbelledune.ca
W: www.portofbelledune.ca
Import: yes
Location: South shore of the Chaleur Bay in northeastern New Brunswick, Canada.
Vessel Size Limitation: The wharf is capable of accomodating "Cape Size" ships up to 100,000 DWT. However, due to the KONE ship loader limitations, and from operational experience, mostly 80,000 DWT Panamax ships are serviced.
Additional Information: Terminal 2 allows for the import of coal to supply the adjacent NB Power Belledune Generating Station.

Contrecoeur
Terminal Maritime Contrecoeur Inc

1920 Marie Victorin
Contrecoeur
Quebec
JOL 1CO
Canada
Contact: Mr Norman Desjardins
Job Title: General Manager
T: + 1 450 587 2073
F: + 1 450 587 8570
E: ndesjard@logistec.com
W: www.logistec.com

Delta
Westshore Terminals

1 Roberts Bank
Delta
British Columbia
V4M 4G5
Canada
Contact: Mr Glenn Dudar
Job Title: Vice President and General Manager
T: + 1 604 946 3494
F: + 1 604 946 1388
E: gdudar@westshore.com
W: www.westshore.com
Export: yes
Location: Vancouver, British Columba, Canada
Ownership: Westshore Terminals Limited Partnership
Name of Port Authority: Vancouver Fraser Port Authority
Throughput Capacity: 33 million tpa
Total Storage: 315,000 sqm
Vessel Size Limitation: Berth 1: 350m long, 22.9m draught, 260,000 dwt

Berth 2: 263m long, 20.8m draught, 180,000 dwt

Montreal
Logistec Corporation

360 St Jacques
Suite 15000
Montreal
Quebec
H2Y 1P5
Canada

Contact: Mr George di Sante
Job Title: Vice-President, Market Development
T: + 1 514 844 9381
F: + 1 514 842 1262
E: gdisante@logistec.com
W: www.logistec.com
Import: yes
Name of Port Authority: Various ports in eastern North America
Additional Information: Logistec provides close to 60 years of experience in stevedoring and terminal operations at its facilities located in 26 ports.

Montreal
Strudes Inc
1440 Sainte Catherine St
Suite 905
Montreal
Quebec
Canada
Contact: Mr Henry Nowodworski
Job Title: President
T: + 1 514 731 6951 x 123
F: + 1 514 737 4146
E: h.nowodworski@strudes.com
W: www.strudes.com

Montreal
Federal Marine Terminals
Suite 3500
1000 de la Gauchetiere Street West
Montreal
Quebec
H3B 4W5
Canada
Contact: Mr Mike Kirkpatrick
Job Title: Vice President Sales & Marketing
T: + 1 905 528 8741
F: + 1 905 528 9332
E: mkirkpatrick@fedmar.com
W: www.fmtcargo.com

North Vancouver
Neptune Bulk Terminals (Canada) Ltd
PO Box 86367
North Vancouver
BC
VL 4K6
Canada
Contact: Mr Tony Nardi
Job Title: VP Logistics and Community
T: + 1 604 985 7461
F: + 1 604 985 8941
E: tnardi@neptuneterminals.com
W: www.neptuneterminals.com
Export: yes
Location: West Coast of Canada, Southwest Coast of the Province of British Columbia in the Port of Vancouver
Ownership: Canpotex Bulk Terminals Limited (50.17%), Elk Valley Coal Partnership (46.35 %), Bunge Canada (3.48%)
Throughput Capacity: 9,000,000 MTPA Coal
Total Storage: 625,000 MT 50,000 metres squared
Vessel Size Limitation: Max LOA 285 Metres
Draft 16.7 Metres
DWT 175,000 MT
Beam 45 metres
Can accept larger to 295 LOA, 50 Beam but not load to full DWT

Prince Rupert
Ridley Terminals Inc
2110 Ridley Island
PO Bag 8000
Prince Rupert
BC
V8J 4H3
Canada
Contact: Mr Dennis Blake
Job Title: Senior Manager
T: + 1 250 624 9511
F: + 1 250 624 2389
E: dblake@rti.ca
W: www.rti.ca
Export: yes
Location: North Coast of British Columbia, Canada
Ownership: Canadian Government
Name of Port Authority: Prince Rupert Port Authority
Throughput Capacity: 18 million tonnes per year
Total Storage: 2 million tonnes
Vessel Size Limitation: LOA - 325 metres, Draught - 22 metres, DWT - 250,000
Additional Information: Terminal has blending capabilities and is known for its fast loading rates and rapid turnaround of vessels.

Quebec City
St Lawrence Stevedoring
Div of Quebec Stevedoring Company Ltd
961 Boulevard Champlain
Quebec City
Quebec
G1K 4J9
Canada
Contact: Mr Geoff Lemont
Job Title: Vice-President
T: + 1 418 522 4701
F: + 1 418 522 9770
E: glemont@qsl.com
W: www.qsl.com
Import: yes
Export: yes
Location: 1300 km from Atlantic Ocean along the St.Lawrence River
Ownership: Quebec Stevedoring Company Ltd
Name of Port Authority: Québec Port Authority
Total Storage: Unlimited open storage and warehouse space
Vessel Size Limitation: 200,000 dwt. 15m of water at low tide.
Additional Information: 1055 metres of berth space with a water depth alongside of 15.5 metres. Equipped with bridge, revolving and mobile cranes, as well as ship loaders, automated conveyors and stackers.

Sept-Iles
Porlier Express Inc
315 Ave Otis
Sept-Iles
Quebec
G4R 1K9
Canada
Contact: Mr Michael Lachance
Job Title: Vice-President
T: + 1 418 962 3073
F: + 1 418 962 3067
E: mlachance@porlier.com
W: www.porlier.com
Location: Quebec, North Shore, St-Lawrence River
Name of Port Authority: Port of Sept-Îles, Port of ArcelorMittal in Port-Cartier
Throughput Capacity: 3.0 Mtons/year
Total Storage: Upon request
Vessel Size Limitation: 14 meter draught, 16 meter draught
Additional Information: We are a stevedore and bulk material handler. We provide multimodal tailor made solutions for any special cargo projects for the mining industry.

Sept-Iles
Sept-Îles Port Authority
1 Quai Mgr- Blanche
Sept-Iles
Quebec
G4R 5P3
Canada
Contact: Ms Patsy Keays
Job Title: Director of Corporate Affairs
T: + 1 418 961 1235
F: + 1 418 962 4445
E: pkeays@portsi.com
W: www.portsi.com

Thunder Bay
Thunder Bay Terminals Ltd
McKellar Island
PO Box 1800
Station 'F'
Thunder Bay
Ontario
P7C 5J7
Canada
Contact: Mr John Kepes
T: + 1 807 625 7800
F: + 1 807 623 5749
E: j_kepes@tbaytel.net
W: www.portauthority.thunder-bay.on.ca
Export: yes
Location: At the head of the Great Lakes/St. Lawrence Seaway System
Name of Port Authority: Thunder Bay Port Authority
Throughput Capacity: 12 million tonnes.
Additional Information: A 262 metre berth is available for ships. The site is serviced by road and CP Rail, with CN Rail access for all commodities.

Valleyfield
Valport Maritime Services Inc
Port de Valleyfield
Boul. Cadieux
Valleyfield
Quebec
J6T 6L4
Canada
Contact: Mr Frank Dunn
Job Title: Partner
T: + 1 450 377 6686
F: + 1 450 337 2521
E: frank@valport.ca
W: www.valport.ca

Chile

Castilla
Tocopilla
c/o Servicios Integrales de Transitos y Transferencias
Arturo Prat No 1060
Castilla
Tocopilla 2098
Chile
Contact: Mr D Daniel Zarzosa
Job Title: Captain Port Authority
T: + 56 55 813 279
E: cptocopilla@directemar.cl

Concepcion
Neuling Graneles SA
San Martin
553 Oficina
Concepcion
805
Chile
Contact: Mr Sergio Ulloa
Job Title: General Manager
T: + 56 41 2254 205
E: sergio.ulloa@neulingsa.cl

Mejillones
Terminal Graneles del Norte S.A. ,
Calle Puerto Uno N°7100
Barrio Industrial
Mejillones
Chile
Contact: Mr Boris Behrens S.
Job Title: Terminal Manager
T: + 56 055 2883761
E: bbehrens@puertotgn.cl
W: www.puertotgn.cl
Import: yes
Location: North of Chile, Pacific Coast
Ownership: See website www.puertotgn.cl
Name of Port Authority: Capitanía de Puerto de Mejillones
Throughput Capacity: 2,120tph
Total Storage: 15,000,000sqm
Vessel Size Limitation: LOA: 250m, Beam: 32.5m, Draught: 14.4m, DWT: 95,000 total loaded

Tocopilla
Central Termoelectrica Tocopilla
Avda Dr Leonardo Guzman 0780
Tocopilla
Casilla 1999
Chile
Contact: Mr Andres Tornquist Fernandes
T: + 56 55 813279
F: + 56 55 813279

China

Dalian
Dalian Bay Coal Terminal
1 Gangwan Street
Zhongshan District
Dalian
Liaoning Province
116004
China
Contact: Mr Zang Feng Chiang
T: + 86 411 8263 7873
F: + 86 411 8280 7148
W: www.chinaports.com.cn/dalian.htm
Export: yes

Dalian
Ganjingzi Coal Terminal
1 Gangwan Street
Zhongshan District
Dalian
116004
China
Contact: Mr Zang Feng Qiang
T: + 86 411 8263 7873
F: + 86 411 8280 7148

Fangcheng
Fangcheng HarbourAdministration
Port Administration Office
22 Youyi Road
Fangcheng
Guangxi Province
China
Contact: Mr Ye Shixiang
Job Title: Director General
T: + 86 770 289 8141
F: + 86 770 282 2663
W: www.infomarine.gr/china/fangcheng
Export: yes
Location: Guangxi Province, China
Ownership: Fangcheng Harbour Administration
Throughput Capacity: 4 million tpa
Total Storage: 0.5 Mt
Vessel Size Limitation: Max draught: 11.4m, Max LOA 180m, Max Beam 30m, 70,000dwt

Hong Kong
CLP Power HK Limited
Castle Peak Power Station
Tuen Mun
Hong Kong
China
Contact: Mr Alex Ho Sau Fan
Job Title: Fuel & Material Handling Manager
T: + 852 2678 5636
F: + 852 2441 2719
E: alexho@clp.com.hk
W: www.clp.com.hk/Pages/home.aspx
Import: yes
Location: Located 15 km from Victoria Harbour, at western edge of New Territories of Hong Kong
Ownership: Castle Peak Power Company Limited (CAPCO)
Name of Port Authority: Hong Kong Marine Department
Throughput Capacity: 8 million mt coal
Total Storage: 0.8 million mt coal (120,000 meters square)
Vessel Size Limitation: LOA 280m (Trial 305m), Draught 16.8m, Beam 50m

Hong Kong
The Hongkong Electric Company Ltd
44 Kennedy Road
Hong Kong
China
Contact: Mr Francis C. Y. Cheng
Job Title: General Manager (Generation)
T: + 852 2982 6201
F: + 852 2982 1654
E: mail@hkelectric.com
W: www.hkelectric.com
Import: yes
Location: West of Lamma Island, Hong Kong
Ownership: The Hongkong Electric Company, Limited
Name of Port Authority: Lamma Power Station
Throughput Capacity: Maximum unloading rate of 3,000 tph
Total Storage: 63,000 sqm
Vessel Size Limitation: Max LOA : 260m
Max Draught : 14.6m
Max dwt : 100,000 MT
Additional Information: Two berths available for two coal vessels to be unloaded simultaneously.

Hualien
Hualien Harbour Bureau
No.66 Hai-Ann Road
Hualien
Taiwan
97059
China
Contact: Mr Chung-Hsiung Wang
Job Title: Director
T: + 886 38 325 131
F: + 886 38 333 757
E: dttpd100@mail.hlhb.gov.tw
W: www.hlhb.gov.tw
Import: yes
Location: East Coast of Taiwan
Name of Port Authority: Hualien Harbour Bureau

Qingdao
Port of Qingdao Coal Terminal
Gang Qing Road 6
Qingdao
Shadong Province
266011
China
Contact: Mr Chang Dechuan
Job Title: President
T: + 86 532 298 2011
F: + 86 532 292 2878
E: kefu@qdport.com
W: www.qdport.com/en
Location: In the YellowRiver basin on the Western Pacific Rim
Ownership: Qingdao Port (Group) Co., Ltd
Name of Port Authority: Port of Qingdao
Vessel Size Limitation: Max draft 13.5m.
Additional Information: 3 Coal Berths

Shanghai
Shanghai Port Luojing Bulk Terminals
8 Shi Gang Road
Baoshan District
Shanghai
China
Contact: Mr Shao Xue Kang
Job Title: Managing Director
T: + 86 21 6323 1871
F: + 86 21 6323 0184

Shijiazhuang
Hebei Port Group Co, Inc
35 Yuhuadong Road
Shijiazhuang
Heibei
050019
China
Contact: Mr Edward Wong
Job Title: Chief, Public Relations
T: + 86 311 8780 0528/+ 86 335 309 4924
F: + 86 311 8790 0111
E: wangcong@portqhd.com
W: www.porthebei.com
Export: yes
Location: East Coast of China
Ownership: State-owned
Name of Port Authority: Hebei Port and Shipping Management Authority
Throughput Capacity: Loading rate: 20,000 tpd per loader

Discharging rate: 650,000 tpd
Total Storage: 10 million ton capacity for Coal
Vessel Size Limitation: 150,000 dwt
Additional Information: We are the world's largest bulk cargo operator, according to World Port Development, UK.

Zhoushan
Zhoushan Port Haitong Transhipment & Storage Co Ld
Loatangshan Port Area
Dinghai
Zhoushan
316043
China
Contact: Ms Li Yading
Job Title: General Manager
T: + 86 580 801 0202
E: zsport@zhoushan.gov.cn
W: www.zsport.com.cn
Location: North-West of Zhoushan main island
Name of Port Authority: Port of Zhoushan
Throughput Capacity: 4 million tonnes per annum
Total Storage: 38,000 sqm open storage

Colombia

Barranquilla
Sociedad Portuaria Del Norte
Calle 2
No. 41N - 28
Barrio Villanueva
Barranquilla
Atlantico
Colombia
Contact: Mr Carlos Rosado
Job Title: General Manager
T: + 575 344 57 37
F: + 575 344 6814
E: crosado@spdelnorte.com
W: www.spdelnorte.com
Export: yes
Location: Lat. 11° 15' North. Long. 74° 14' W
Name of Port Authority: Carbosan Ltda
Throughput Capacity: 3 million tons per year
Vessel Size Limitation: 75,000 DWT. Max draft 50ft.

Barranquilla
Port of Puerto Bolivar
International Colombia Resources Corporation
Apartado Aero 52499
Barranquilla
Colombia
Contact: Capt Steve C Catton
Job Title: Port Superintendent
T: + 57 53 799545
F: + 57 53 502121
E: oprpbv@navescolombia.com
W: www.navescolombia.com/ports/pbolivar.htm

Barranquilla
Sociedad Portuaria Regional de Barranquilla SA
Carrera 38
Calla 1a Orilla del Rio
Terminal Maritimo y Fluvial de Barranquilla
Barranquilla
Colombia
Contact: Mr Pablo Riveira
Job Title: Operations Manager
T: + 575 37 16200
F: + 575 37 16310
E: priveira@puertodebarranquilla.com
W: www.sprb.com.co
Export: yes
Location: 22 km from the mouth of the Magdalena River, Colombia's largest inland waterway
Name of Port Authority: Port of Barranquilla
Throughput Capacity: 175,000 tonnes
Total Storage: 57,378 sqm enabling 180,000 tons capacity
Vessel Size Limitation: 30,000 dwt
Additional Information: Maritime Pier: 1,058 m length, minimum depth 30 feet

Barranquilla
Compas SA
Via 40 Las Flores
Former Cementos Argos SA
Barranquilla
Atlantico
575
Colombia
Contact: Mr Uriel Duarte
Job Title: Terminal Manager
T: + 575 3322 020 Ext 5400
F: + 575 3619 222
E: uduarte@compas.com.co
W: www.compas.com.co
Export: yes
Location: Colombian North Coast
Ownership: First Colombia network terminals
Name of Port Authority: Private terminal
Throughput Capacity: 1.5 mtpa
Total Storage: 45,000 sqm
Vessel Size Limitation: Max LOA 190m, 9.2m FW draught
Additional Information: Fixed shiploader, direct loading system.

Barranquilla
Tolu
c/o Tolcementos
Carrera 58 Nos 75-78
Barranquilla
Colombia
Contact: Mr Enrique Olarte
T: + 57 58 451 288
F: + 57 58 454 548
W: www.navescolombia.com/ports/tolu.htm

Bogota
Santa Marta Coal Terminal
Carbanandes
Transv 19 No 122-42
Bogota
Colombia
Contact: Mr Jairo Caicedo
T: + 57 1 248 7034
F: + 57 3 310 2544330
E: jairoca@cc-net.net
Export: yes
Location: Atlantic coast of Colombia
Throughput Capacity: 3 million tons/year
Vessel Size Limitation: 75,000 DWT

Santa Marta
Port of Santa Marta
Carrera 1 No. 10 A – 12
Santa Marta
Magdalena
AA655
Colombia
Contact: Mr Rodolfo Schmulson
Job Title: Commercial Director
T: + 57 5 4217970 ext 103
F: + 57 5 4212161
E: comercial@spsm.com.co
W: www.spsm.com.co

Santa Marta
Puerto Prodeco
Centro Comercial Prado Plaza
Cra 4 Cl26A Esq 3er
Santa Marta
Colombia
Contact: Mr Andrew Lyons
T: + 57 5 4 21 4400
F: + 57 5 4 21 4698

Soceidad Portuaria Santa Marta
CTS de Colombia
Crra. La. #10A-12
Muelle 6
Soceidad Portuaria Santa Marta
Colombia
Contact: Mr Scott Harcourt
Job Title: Project Manager
T: + 57 54 211 754
F: + 57 54 233 369
E: scott.harcourt@coopertsmith.com

Croatia

Ploce
Port of Ploce Authority
Trg Kralju Tomoslava 21
Ploce
20340
Croatia
Contact: Captain Ivan Maric
Job Title: Assistant to Executive Director
T: + 385 20 414 541
F: + 385 20 670 271
E: pfso-maric@port-authority-ploce.hr
W: www.port-authority-ploce.hr

Rijeka
Terminal Bakar
LUKA Rijeka dd
Riva 1
Rijeka
51000
Croatia
Contact: Mr Alen Sikic
Job Title: Terminal Manager
T: + 385 51 496 000 / 4969 40
F: + 385 51 332 203
E: info@lukarijeka.hr
W: www.lukarijeka.hr

Cuba

Antilla
Nicaro
c/o Agencia de Antilla
Avenida 28 de Enero No 65
Apartado No 33
Antilla
Prov de Holguin
Cuba
Contact:
Job Title: Port Manager
T: + 53 24 88248
F: + 53 24 88127

Denmark

Aabenraa
Ensted Bulk Terminal A/S
Flensborgvej 185
Aabenraa
Sydjylland
DK-6200
Denmark
Contact: Mr Chresten Nissen
Job Title: Harbour Master
T: + 45 9189 0045
E: chrni@ebt-ensted.dk
W: www.ebt-ensted.dk
Import: yes
Export: yes
Location: Denmark, East coast of Jutland
Ownership: Vattenfall Energy Trading
Throughput Capacity: 2,000tph
Total Storage: 155,000sqm
Vessel Size Limitation: LOA 350m, Draught 18m, DWT 180,000

Aarhus
Cargo Service A/S
Oceanvej 13
Aarhus
DK 8000
Denmark
Contact: Mr Lars Krabbe
Job Title: Managing Director
T: + 45 8730 8000
F: + 45 8730 8101
E: info@cargoservice.dk
W: www.cargoservice.dk

Kalundborg
Asnaes Power Station
Asnaes Port Authority
Asnaesvej 16
Kalundborg
4400
Denmark
Contact: Mr Arne Krogh
Job Title: Manager
T: + 45 59 55 0600
F: +45 9955 0699
E: ark@e2.dk
W: www.e2.dk

Dominican Republic

Santo Domingo
Maritima Dominicana SA
PO Box 1301
Carretera Sanchez Km 12 1/2
Santo Domingo
Dominican Republic
Contact: Mr Karsten Windeler
Job Title: President of the Board of Directors
T: + 1 809 539 6000
F: + 1 809 539 7200
E: info@mardom.com
W: www.mardom.com
Import: yes
Location: Itabo Terminal off the Port of Rio Haina, Dominican Republic, South Coast. Port of Barahona, Dominican Republic, South Coast. Port of Manzanillo, Dominican Republic, North Coast
Ownership: Itabo-EGE Itabo\Barahona EGE Haina
Name of Port Authority: Dominican Port Authority - Autoridad Portuaria Dominicana
Throughput Capacity: Combined 2,000,000 MT
Vessel Size Limitation: Itabo max 800 FT LOA, Draught 13.3m, 43.64 FT SW. Barahona max 600 FT LOA, 26 FT SWAD. Manzanillo max LOA 600 FT, 30 FT SWAD

Estonia

Tallinn
AS Coal Terminal
4a, Joe Street
Tallinn
10151
Estonia
Contact: Ms Nadia Manzhos
Job Title: Office Manager
T: + 372 626 36 52
F: + 372 630 36 53
E: info@coalterminal.ee
W: www.coalterminal.ee
Export: yes
Location: Eastern part of the largest port in Estonia, Muuga; 210 km from the Russian border
Ownership: Private company
Name of Port Authority: Coal Terminal Operator AS
Throughput Capacity: 5 mln tpa
Total Storage: 350,000 tonnes, 48,000 sqm
Vessel Size Limitation: 120,000 dwt

Tallinn
PETROMAKS SPEDIITORI AS
Nolva 9A
Tallinn
10416
Estonia
Contact: Mr Mitrofan Pototski
Job Title: Ship Agent
T: + 372 6507 612
F: + 372 6507 601

E: pototski@petromaks.com
W: www.petromaks.com
Location: Eastern shore of Baltic Sea
Name of Port Authority: Tallinn port – Paljassaare South
Vessel Size Limitation: Quay No. 31, length 100m, depth 4.5m; Quay No. 32, length 266m, depth 6.5m;
Quay No. 33, length 176m, depth 8.7m
Additional Information: One of the two terminals of Paljassaare port. Specializes in offering the stevedoring services on reloading of bulk and general cargoes from the vessels directly to the railcars and back

Estonia

Tallinn
Muuga (Novotallinskiy)
Maardu tee 57
Tallinn Eesti Vabarifk
Tallinn
EE 0030
Estonia
Contact: Mr Anatoliy Kanaev
Job Title: Port Director
T: + 372 6 319 205
F: + 372 2 234 313
E: tk@tk.ee

Viimsi Vald
AS Stivis
1 Koorma Street
Viimsi Vald
74115
Estonia
Contact:
T: + 372 600 3872
F: + 372 600 3873
E: stivis@stivis.ee
W: www.stivis.ee
Location: Eastern shore of Baltic Sea
Name of Port Authority: Port of Tallinn
Total Storage: 540,000 sqm
Vessel Size Limitation: Berth 5: 6.8m draft, 100m length
Berth 6: 9.5m draft, 160m length

France

Bassens
Sea-invest Bordeaux
Rue Richelieu 1
Bassens
33530
France
Contact: Mr Franck Humbert
T: + 33 557 77 49 51
F: + 33 557 77 82 11
E: franck.humbert@sea-invest-france.com
W: www.sea-invest.be
Location: South West coast of France
Name of Port Authority: Sea-invest Bordeaux
Throughput Capacity: 10,000 MT from 06.00 to 22.00 hrs
Total Storage: 50,000 sqm
Vessel Size Limitation: Max LOA 250m, Max draft 10.50m

Dunkerque
Sea-Bulk Terminal
Route du Quai à Pondéreux Ouest
Loon-Plage
Dunkerque
59279
France
Contact: Mr Philippe Bertonèche
Job Title: Terminal Manager
T: + 33 328 28 79 40
F: + 33 328 28 79 15
E: philippe.bertoneche@sea-invest-france.com
W: www.sea-invest.be
Import: yes
Location: North of France
Ownership: Sea-invest
Name of Port Authority: Sea-Bulk Terminal
Throughput Capacity: 8.6 MT in 2005
Total Storage: 301,500 sqm
Vessel Size Limitation: Max draft 21m. DWT 180,000

Le Havre
Coal Terminal
Port of Le Havre Authority
Terre Plein de la Barre
PO Box 1413
Le Havre
Cedex
76067
France
Contact: Mr Eric Esneu
Job Title: Bulk Traffic Manager
T: + 33 2 32 74 76 05
F: + 33 2 32 74 76 09
E: eric.esneu@havre-port.fr
W: www.havre-port.net
Import: yes
Export: yes
Location: North of France
Name of Port Authority: Port of Le Havre Authority
Throughput Capacity: 3 MT per annum
Total Storage: 700,000 tonnes with a storage gantry crane 30t
Vessel Size Limitation: 170,000 dwt, Max draught 17.5m
Additional Information: 2 gantry quayside cranes of 30t, 30,000 t/day

Le Havre
Le Havre Multi-Bulk Terminal
BP 1142
CIPHA Centre of Commerce Intl
quai George V
Le Havre
76063
France
Contact: Ms Miugendit
T: + 33 232 74 24 80
F: + 33 235 21 38 15
E: lechevallier@shgt.fr
W: www.cipha.com
Import: yes
Export: yes
Location: Southern bank of the Grand Canal du Havre
Ownership: CIPHA
Name of Port Authority: Port of Le Havre Authority
Throughput Capacity: 1.58 million tonnes (2004)
Total Storage: 1 million tonnes
Vessel Size Limitation: 180,000 dwt, Max length 300m
Additional Information: Screening and crushing facilities

Marseille
Port Autonome de Marseille/Fos
23 Place de la Joliette
Hotel de la Direction du Port
Marseille
Cedex 02
13226
France
Contact: Mr Vincent Mutel
Job Title: Public Relations
T: + 33 0491 395320
F: + 33 0491 394024
E: gpmm@marseille-port.fr
W: www.marseille-port.fr

Martigues
Carfos
13, Boulevard Maritime
Martigues
13500
France
Contact: Mr Xavier Hauterat
T: + 33 424 06 71 82
F: + 33 424 06 34 94
E: xavier.hauterat@sea-invest-france.com
W: www.sea-invest.be
Location: Fos-sur-Mer, France
Name of Port Authority: Carfos
Total Storage: 250,000 sqm
Vessel Size Limitation: Cape size - Max draft 17m, Max DWT 150,000 MT
Additional Information: 1,400,000 MT bauxite
150,000 MT clinker

Montoir-de-Bretagne
Sea-invest Montoir
Rue de la Goélette - BP 36
Montoir-de-Bretagne
44550
France
Contact: Mr Pascal Vialard
T: + 33 240 17 31 71
F: + 33 240 17 31 79
E: pascal.vialard@sea-invest-france.com
W: www.sea-invest.be
Location: South East coast of French Brittany
Name of Port Authority: Sea-invest Montoir
Throughput Capacity: 3,000,000 Mtpa
Total Storage: 160,000 sqm
Vessel Size Limitation: Max LOA 290m, Max beam 45m, Max draught 15.5m
Additional Information: Due to restriction for Capesize vessel, please contact us prior fixing

Nantes
Montoir Coal Terminal
Port Atlantique Nantes Saint-Nazaire
18 quai Ernest Renaud
BP 18609
Nantes 44186
France
Contact: Mr Pascal Freneau
Job Title: Marketing & Advertising Manager
T: + 33 2 40 44 2113
F: + 33 2 40 44 20 01
E: p.freneau@nantes.port.fr
W: www.nantes.port.fr
Import: yes
Location: Atlantic coast of France. It stretchs 60 kms along the Loire estuary.
Name of Port Authority: Port Atlantique Nantes Saint-Nazaire
Vessel Size Limitation: Max LOA 280m, Max draught 16m, Max DWT 165,000

Nantes
Port Atlantique-Montoir Agri-Bulk Terminal
18 quai Ernest Renaud
BP 18609
Nantes
Cedex 4
44186
France
Contact: Mr Pascal Freneau
Job Title: Communication Manager
T: + 33 2 40 44 20 06
F: + 33 2 40 44 21 81
E: p.freneau@nantes.port.fr
W: www.nantes.port.fr

Port De Montoir
Sea-invest France (Stocaloire)
Terminal Agro Alimentaire
Port De Montoir
44550
France
Contact: Mr Florent Massart
T: + 33 232108516
F: + 331 55 66 81 50
E: trampset@sea-invest-france.com

Rouen
Sogema
Boulevard Maritime - BP 3
Grand-Couronne Terminal
Rouen
76530
France
Contact: Mr Robert Goudon
Job Title: Director
T: + 33 232 11 51 01
F: + 33 232 11 51 25
E: r.goudon@sea-invest.fr
W: www.sea-invest.be
Import: yes
Location: Rouen, West France on Seine river
Ownership: Sogema
Name of Port Authority: Port of Rouen
Throughput Capacity: 700.000 MT
Total Storage: 100,000 sqm
Vessel Size Limitation: Max LOA 280m, DWT 70,000 MT, Max draft 11m
Additional Information: Discharge rate : 20,000 MT/day

Rouen
HAROPA PORTS
34 Boulevard de Boisguilbert
B.P. 4075
Cedex 3
Rouen
76022
France
Contact: Ms Annie Vandome
Job Title: International Press Relations
T: + 33 2327 471 37
F: + 33 2327 473 90
E: annie.vandome@haropaports.com
W: www.haropa-solutions.com
Import: yes
Name of Port Authority: HAROPA
Throughput Capacity:
HAROPA - Port of Rouen: 20 000 t/day
HAROPA Port of Le Havre: 25 000 t/day
HAROPA Ports of Paris: 2 000 t/day
Coal traffic:
HAROPA Port of Rouen: 490 000t
HAROPA Port of Le Havre: 419,000 t
HAROPA Ports of Paris: 54 000 t
Total Storage: HAROPA - Port of Rouen: 330 000 t
HAROPA - Port of Le Havre: 490 000 t
HAROPA Ports of Paris: multiple operators and and an increasing storage capacity especially in port of Gennevilliers.
Vessel Size Limitation: HAROPA - Port of Rouen: CAPESIZE and PANAMAX (part cargo). DW**T:** 180 / LOA: 298 / Draught: 11 meters
HAROPA - Port of Le Havre: CAPESIZE. DT**W:** 180 / Draught: 17 meters

Sète
Sea-invest Sète
Z.I. portuaire Darse 2
B.P. 68
Sète
Cedex 34201
France
Contact: Mr Loic Texier
T: + 33 467 51 63 11
F: + 33 467 48 30 85
E: l.texier@sea-invest-france.com
W: www.sea-invest.be
Location: South east of France on Mediterranean Sea
Name of Port Authority: Port of Sète
Throughput Capacity: 800,000 MT/year
Total Storage: 30,000 sqm
Vessel Size Limitation: Max draught 13.50m, Max LOA 225m

Sète
Port of Sète
1 quai Philippe Regy
BP 10853
Sète
Cedex
34201
France
Contact: Mr Arnaud Rieutort
Job Title: Directeur Commercial
T: + 33 4 67 46 34 04
F: + 33 4 67 46 34 07
E: rieutort.arnaud@portsuddefrance-sete.fr
W: www.sete.port.fr

Georgia

Poti
Poti Sea Port Corporation
52, D. Agmashenebeli Street
Poti
4401
Georgia
Contact: Mr Zviad Chkhartishvili
Job Title: Marketing and Sales Manager
T: + 995 493277 500
E: zviad.chkhartishvili@apmterminals.com
W: http://apmterminalspoti.com/

Germany

Bremen
Weserport GmbH
Huettenstrasse 20
Bremen
28237
Germany
Contact: Mr Heiner Delicat
Job Title: Managing Director
T: + 49 421 64301 84
F: + 49 421 64301 64
E: HDelicat@weserport.de
W: www.weserport.de

Bremerhaven
bremenports GmbH & Co. KG
Am Strom 2
Bremerhaven
27570
Germany
Contact: Mr Ronald Schwarze
Job Title: Marketing
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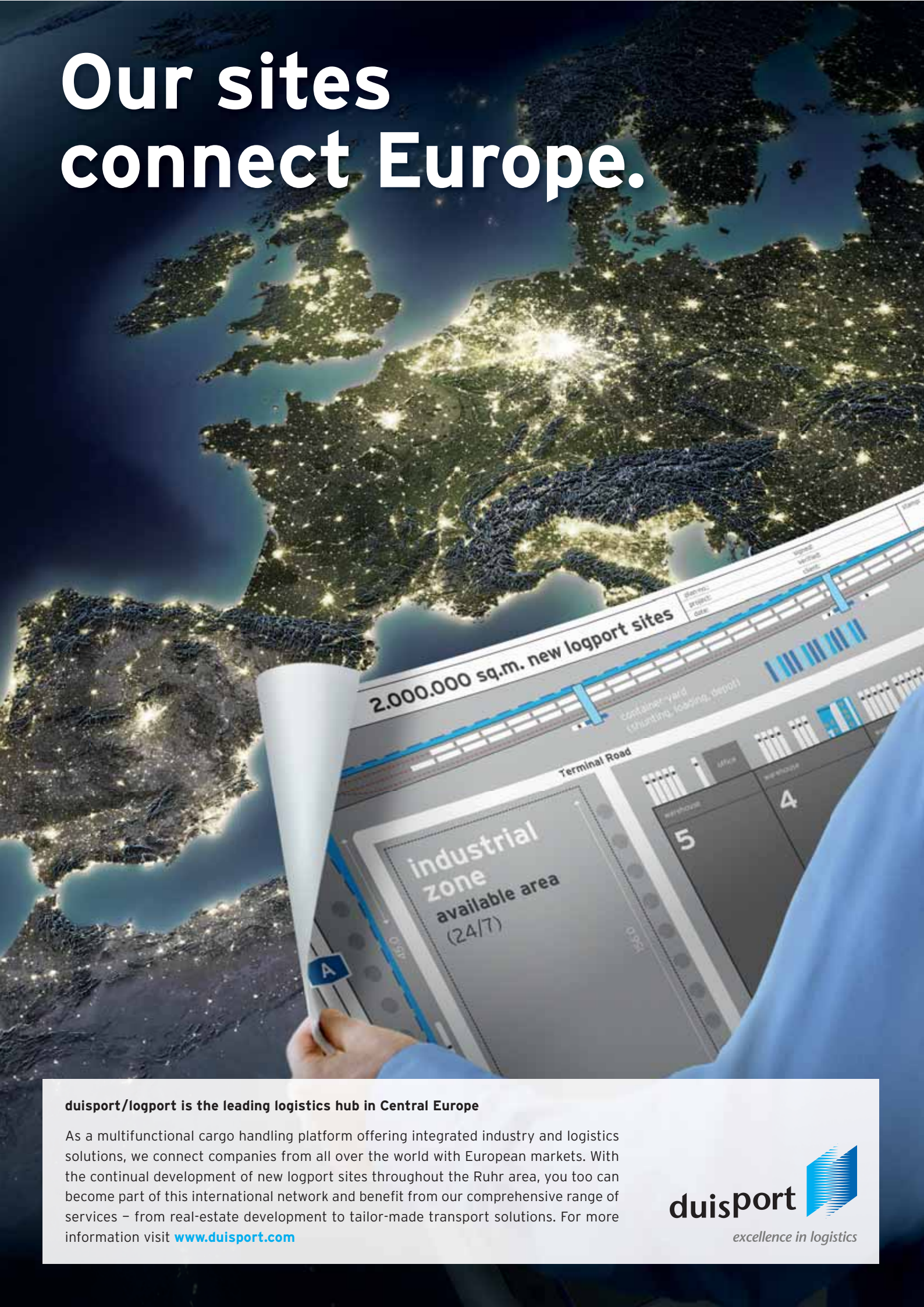
F: + 49 421 30901 624
E: ronald.schwarze@bremenports.de
W: www.bremenports.de



duisport/logport is the leading logistics hub in Central Europe

As a multifunctional cargo handling platform offering integrated industry and logistics solutions, we connect companies from all over the world with European markets. With the continual development of new logport sites throughout the Ruhr area, you too can become part of this international network and benefit from our comprehensive range of services – from real-estate development to tailor-made transport solutions. For more information visit **www.duisport.com**

duisport
excellence in logistics

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August-Hirsch-Strasse 3
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North Rhine-Westphalia
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F: + 49 203 8009 263
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W: www.rhenus.com

Emden
EVAG Emder Verkehrs und Automotive
Gesellschaft mbH
Schweckendieckplatz 1
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Contact: Mr Torsten Meinke
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W: www.evag.com

Hamburg
Rhenus Midgard Hamburg GmbH
2. Hafenstr. 4
Hamburg
21079
Germany
Contact: Mr Helge Behrend
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F: + 49 40 766 003 29
E: helge.behrend@de.rhenus.com
W: www.rhenus.com
Location: Germany

Hamburg
HANSAPORT
Hafenbetriebsgesellschaft mbH
Am Sandauhafen 20
Hamburg
21129
Germany
Contact: Mr Erhard Meller
T: + 49 40 74003 201
F: + 49 40 74003 222
E: info@hansaport.de
W: www.hansaport.de
Import: yes
Location: Northern Germany
Ownership: 51% belongs to Salzgitter AG, Salzgitter and 49% to Hamburger Hafen- und Lagerhaus-AG, Hamburg
Name of Port Authority: HANSAPORT Hafenbetriebsges mbH
Throughput Capacity: up to 15 mio tpa
Total Storage: 400,000 sqm
Vessel Size Limitation: max. draft 15,1 m at high tide, 760m long berth

Hamburg
H J M (H Jürgen Müller GmbH)
1 Hafenstrasse 12-14
Hamburg
21079
Germany
Contact:
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F: + 49 40 725 86 929
E: info@hjm-hamburg.de
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Leer
Rhenus AG & Co. KG
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Leer
26789
Germany
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F: + 49 491 92512 66
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W: www.rhenus.com
Location: Germany

Nordenham
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Midgardstr. 50
Nordenham
26954
Germany
Contact: Mr Norbert Schrewe
T: + 49 4731 81 222
F: + 49 4731 81 228
E: cargo@de.rhenus.com
W: www.rhenus.com
Import: yes
Export: yes
Location: Nordenham, on the mouth of the River Weser (Germany)
Ownership: Rhenus Midgard GmbH & Co. KG
Name of Port Authority: Rhenus Midgard GmbH & Co. KG
Throughput Capacity: 2.5 Million tons/a coal
Total Storage: 500,000 tons coal - up to 120,000sqm
Vessel Size Limitation: - Panamax and/or partly laden cape size vessel
- arrival draught up to 13,10 m freshwater
- special permission for more than 270 m loa needed
Additional Information: Well connected to the hinterland by barge and rail;
The Rhenus Group operates barges and rail and offers the whole logistics to final destinations.

Nuremberg
Hafen Nürnberg-Roth GmbH
Rotterdamer Str 2
Nuremberg
Bavaria
90451
Germany
Contact: Mr Harald Leupold
Job Title: Managing Director
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F: + 49 911 6429 410
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W: www.gvz-hafen.com

Rostock
Bulk Terminal Rostock GmbH
Liebherrstraße 3
Rostock D-18147
Germany
Contact: Mr Günter Fett
Job Title: Managing Director
T: + 49 381 6662 120
F: + 49 381 6662 575
E: guenter.fett@portofrostock.de
W: www.portofrostock.de
Import: yes
Location: German Baltic coast.
Ownership: SHRU Holding GmbH & Co. KG
Name of Port Authority: Hafen-Entwicklungsgesellschaft Rostock mbH
Throughput Capacity: 3.0 Million tonnes
Total Storage: 240,000 tonnes
Vessel Size Limitation: Max 100,000 dwt
Additional Information: 20,000 t of coal can be handled daily.

Wilhelmshaven
Rhenus Midgard Wilhelmshaven GmbH & Co. KG
Lüneburger Str. 6
Wilhelmshaven
Lower Saxony 26384
Germany
Contact: Mr Jürgen Kleemeyer
Job Title: Coal Logistics Projects / Marketing & Sales
T: + 49 4421 936 135
F: + 49 4421 936 104
E: juergen.kleemeyer@de.rhenus.com
W: www.rhenus.com
Import: yes
Location: BTW (Bulk Terminal Wilhelmshaven former Niedersachsenbrücke) in Wilhemshaven on the Jade Bay (Germany).
Ownership: Rhenus Midgard Wilhelmshaven GmbH & Co KG
Name of Port Authority: Niedersachsen Ports, NL Wilhelmshaven
Throughput Capacity: up to 10 Million tpa coal
Total Storage: 900,000 tons coal (160.000 sqm /2 storage beds) - extension up to 3,000,000 tons
Vessel Size Limitation: Fully laden cape size up to 250.000 t; loa up to 330 m; beam up to 60 m,
draught up to 18.50m sw
Additional Information: Discharging rate up to 100.000 tpd;
Loading into rail wagons up to 4.000 tph incl. weighing and wagon workload > 99%

Ghana

Takoradi
Takoradi Port Authority
Ghana Ports Authority
PO Box 708
Takoradi
Ghana
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W: www.ghanaports.gov.gh

Greece

Attica
Milaki Port-East Mediterranean Coal Terminal
49-51 Sof Venizelou Str
Lycovrissi
Attica
14123
Greece
Contact: Mr Andrew Healey
Job Title: General Manager
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F: + 30 1 2840 021

Thessaloniki
Thessaloniki Port Authority SA
1st Pier
Port of Thessaloniki
Thessaloniki
Central Macedonia
54110
Greece
Contact: Mr Stylianos Aggeloudis
Job Title: Chairman & CEO
T: + 30 2310 593 105
F: + 30 2310 510 500
E: secretariat@thpa.gr
W: www.thpa.gr
Import: yes
Export: yes
Location: Northern Greece
Ownership: 75% of the shares belong to the Greek state, 25% to private investors.
Name of Port Authority: Thessaloniki Port Authority SA
Throughput Capacity: 15 million tonnes/ 4 million dry bulk cargo
Total Storage: 600,000 sqm
Vessel Size Limitation: Max LOA: 300 m, Max draught : 12m
Additional Information: The Port of Thessaloniki is the major gateway port for the Southern Balkans. The port facilitates all types of cargoes. There is a specialization in handling dry bulk cargoes.

India

Adyar
Subarnarekha Port Private Ltd
New No.84, Old No.50
"Dakshin", 1st Ave, Indranagarr
Adyar
Chennai
600020
India
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Job Title: Joint Managing Director
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W: www.creativeports.com

Andhra Pradesh
Krishnapatnam Port Company Limited
P.O. Bag No. 1
Muthukur
Dist. Nellore 524 344
Andhra Pradesh
India
Contact: Customer Service Team
T: +91 861 2377999
F: + 91 861 2377046
E: customerservice@krishnapatnamport.com
W: www.krishnapatnamport.com
Location: 14° 15' N latitude, 80° 08' E longitude. 180km north of Chennai. Located in Nellore (District HQ of Andhra Pradesh), on National Highway 5 (Chennai-Kolkata). 26 km from Venkatachalam, the nearest rail head on the Chennai-Kolkata main line.
Import: Yes
Name of Port Authority: Krishnapatnam Port
Total Storage: 6,500 acres
Vessel Size Limitation: 18.5 m draught; deepest port in India, capable of handling Capesize vessels.

Chennai
Ennore Port Limited
No.23, First Floor,
P.T. Lee Chengalvaraya Naicker Maaligai
Rajaji Salai,
Chennai 600 001
India
Contact: Mr Shri S. Velumani
Job Title: Chairman
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F: + 91 44 25251665
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W: www.ennoreport.gov.in

Haldia
TM International Logistics Ltd.
Finger Jetty Road
Chiranjibpur
Haldia
East Midnapore(WB) 721604
India
Contact: Mr K.L Bhowmick
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W: http://www.tmilltd.com/

Hyderabad
Gangavaram Port Limited
Hansa Crest, 1st Floor
Plot No.62, Road No.1
Jubilee Hills
Hyderabad
Andhra Pradesh 500 033
India
Contact: Mr Sanjay Gupta
Job Title: Director - Commercial
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F: + 91 40 4434 9990
E: sgupta@gangavaram.com
W: www.gangavaram.com
Import: yes
Location: 6 Nautical Miles South West of Visakhapatnam Port, on East Coast of India
Ownership: Consortium Led by Mr. DVS Raju
Name of Port Authority: Gangavaram Port Limited
Throughput Capacity: 30 MMT in Phase -I (with 5 berths: 1 Coal Berth and 1 Iron Ore Berth with along side depth of 20 m, 3 General Cargo Berth with along side depth of upto 15.5 m), Planned Capacity of 200 MMT
Total Storage: Total backup area 2800 acres (11 331 197 sqm) Stackyard area in Phase -I for Coal = 1,55,800 sqm, for Iron Ore = 64,000 sqm , Covered Storage =48,000 sqm
Vessel Size Limitation: For Coal Berth and Iron Ore Berth - Max LOA - 280m , Along Side depth 20m , 200,000dwt
Additional Information: GPL has the deepest , most advanced Coal Terminal in India. It has installed, completely mechanized Material Handling System and has ample backup area for storage of Coal and other cargoes.

Karnataka State
New Mangalore Port Trust
Panamburg
Karnataka State
Mangalore 575 010
India
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West Bengal 700001
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Mumbai
J.M. Baxi & Co
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2nd Floor
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Mumbai
Seacrest Marine Services Pvt. Ltd.
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Andheri (w)
Mumbai 400053
India
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E: operations@crestsea.com
W: www.crestsea.net

Indonesia

Bandar Lampung
PT. Bukit Asam (Persero) Tbk
Jl. Soekarno Hatta Km. 15
Tarahan
Bandar Lampung
DKI Jakarta
Indonesia
Contact: Mr Ansyori Akhmad
Job Title: Tarahan Coal Terminal General Manager
T: + 62 721 31545/31686
F: + 62 721 31577
E: aakhmad@bukitasam.co.id
W: www.ptba.co.id
Export: yes
Location: South West of Indonesia on the South Coast 05-31-40 South Latitude and 105-20-40 East Longitude
Ownership: The composition of shareholders by ownership on December 31, 2009 are 65,02% owned by the state and 34,98% owned by Public.
Name of Port Authority: Tarahan Coal Terminal
Throughput Capacity: 12 million tpa
Total Storage: 560,000t
Vessel Size Limitation: 80,000dwt
Additional Information: PT Bukit Asam (Persero) Tbk. (PTBA) markets 5(five) different coal types – BA 55, BA 59, BA 63, BA 67, dan BA 70.
Export coal to China, Japan, Malaysia, Taiwan, Vietnam, Thailand and several countries in Europe.

Banjarmasin
Port of Banjarmasin
PT (Persero) Pelabuhan Indonesia III Banjarmasin
Jl Barito Hilir No 6
Banjarmasin 70117
Indonesia
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W: www.pp3.co.id

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F: + 62 021 750 8380
E: dharmasubur@cbn.net.id

Jakarta
Balikpapan Coal Terminal
PT Bayan Resources
Office 8 Building 29th Floor
Sudirman Central Business District
(SCBD) Lot 28
Jl. Jendral Sudirman Kav. 52-53
Jakarta
12190
Indonesia
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Job Title: Director Sales & Marketing
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F: + 62 21 29356999
E: enquiry@bayan.com.sg
W: http://www.bayan.com.sg/

Jakarta
North Pulau Laut Coal Terminal
PT Arutmin Indonesia
Mid Plaza 2, 9th Floor
Jalan Jenderal Sudirman Kav. 10-11
Jakarta 10220
Indonesia
Contact:
T: + 62 21 5720012
F: + 62 21 5741689
E: marketing@arutmin.com
W: www.arutmin.com
Export: yes
Location: Kalimantan, Indonesia
Ownership: PT Arutmin Indonesia
Throughput Capacity: 11 mt yearly
Additional Information: Designed to receive 4 barges simultaneously.

Jakarta
PT Indonesia Bulk Terminal
Jl. HR Rasuna Said
Blok X-5, Kav. 1-2
Menara Karya, 23rd Floor
Jakarta 12950
Indonesia
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T: + 62 21 5211 265 / + 62 21 25533000 ext 3244
F: + 62 21 522 4341
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Jakarta
PT Miang Besar Coal Terminal
Ventura Building
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Cilandak Barat
Jakarta 12430
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F: + 62 21 765 2627
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W: http://www.mbct.co.id

Jakarta
PT. Terminal Batubara Indah
World Trade Centre, 07th floor
Jl. Jend Sudirman Kav. 29-31
Jakarta 12920
Indonesia
Contact: Mrs Lilly
T: + 62 21 5712579
F: + 62 21 571 2597
W: www.pttbi.co.id

Jakarta
Pulau Laut
World Trade Centre 7 Floor
JL Send
Surdiman Kav 31
Jakarta 12920
Indonesia
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F: + 52 21 522 4341

Kotabaru
PT Indonesia Bulk Terminal
Pulau Laut Coal Terminal
PO Box. 118 Kalsel
Kotabaru
Kalimantan Selatan 72111
Indonesia
Contact: Mr Wan Yazid
Job Title: Terminal Manager
T: + 62 5183 8800
F: + 62 5183 8822
E: marketing@ibt.co.id
W: www.ptibt.com
Export: yes
Location: Southern tip of Pulau Laut Island, South Kalimantan, Indonesia
Ownership: PT Indonesia Bulk Terminal
Throughput Capacity: 12mtpa, 3,000tph barge discharge
Total Storage: 1.6 million tonnes. 800,000t stockpile capacity
Vessel Size Limitation: 80,000dwt, max LOA 230m, max Beam 36m, max draught 14.5m

Lampung
Pelabuhan Panjang
Dit Jen Perhubungan Laut
Pelabuhan Panjang
Lampung
Indonesia
Contact: Mr Prayitno
Job Title: Port Manager
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F: + 62 721 33237

Padang
Teluk Bayur Coal Terminal
PT Tambang Batubara Bukit Asam (PTBA)
Jl Tanjung Priok
No 01 Teluk Bayur
Padang
West Sumatra
Indonesia
Contact: Mr Muztav Sjab
Job Title: Taluk Bayur Coal Terminal Manager
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F: + 62 21 525 4002
E: corsec@bukitasam.co.id
W: www.ptba.co.id
Location: Padang, West Sumatra
Throughput Capacity: 2.5M tpa
Total Storage: 90,000t
Vessel Size Limitation: 40,000dwt

Palembang
Kertapati Coal Terminal
PT Tambang Batubara Bukit Asam (PTBA)
Jl Stasiun Kerata Api
Palembang
South Sumatra
Indonesia
Contact: Mr Dadan Ruswandana
Job Title: Coal Terminal Manager
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F: + 62 711 511 388
W: www.bukitasam.co.id

Ireland

Cork
Port of Cork Company
Custom House Street
Cork
Munster
Ireland
Contact: Mrs Sara Mackeown
Job Title: Marketing Executive
T: + 353 21 427 3125
F: + 353 21 427 6484
E: smackeown@portofcork.ie
W: www.portofcork.ie
Import: yes
Location: South Coast of Ireland
Ownership: Private Commercial Company with Commercial Entity.
Name of Port Authority: Port of Cork Company
Total Storage: See our webpage www.portofcork.ie
Vessel Size Limitation: See our webpage www.portofcork.ie

Dundalk
Dundalk Harbour Commissioners
Harbour Office
40 Quay Street
Dundalk

Co Louth
Ireland
Contact: Captain Frank Allen
Job Title: Harbour Master
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E: dundalkport@eircon.net

Turvey
Moneypoint
Electricity Supply Board
Moneypoint Generating Station
Unit 19, Turvey Business Centre
Turvey
County Dublin
Ireland
Contact: Mr Paul Dunne
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Israel

Ashkelon
The National Coal Supply Corporation (N.C.S.C)
Ashkelon Coal Terminal
Ashkelon, Israel
Contact:
T: + 972 3625 7000
F: + 972 3625 7001
E: ncsc@ncsc.co.il
W: www.ncsc.co.il
Import: yes
Location: South part of Israel's Mediterranean coast
Ownership: Israel Electric Co. (I.E.C)
Name of Port Authority: Eilat Ashkelon Pipeline Co (E.A.P.C)
Throughput Capacity: About 6 million MT per annum
Total Storage: About 900,000 MT.
Vessel Size Limitation: Max LOA: 312m, Max Beam: 50m, Max Draught: 18m,
No DWT/Displ restrictions. Max vertical distance from waterline until the Breastlines panamas is 15m.
Additional Information: No wires are allowed for head/Sternlines (total 6). For Breast/Springlines (total 12): if mooring lines are steel-wires they must have long nylon-tails of at least 80m long each.

Hadera
The National Coal Supply Corporation ltd (NCSC)
Hadera Coal Terminal
Hadera, Israel
Contact:
T: + 972 3625 7000
F: + 972 3625 7001
E: ncsc@ncsc.co.il
W: www.ncsc.co.il
Import: yes
Location: Mid/north part of Israel's Mediterranean coast
Ownership: Israel Electric Co. (I.E.C)
Name of Port Authority: Ministry of Transport
Throughput Capacity: About 6.5 million MT per annum
Total Storage: About 950,000 MT.
Vessel Size Limitation: Max LOA: 312m, Max Beam: 48m, Max Draught: 18m sw
Maximum Deadweight on arrival Hadera is 200,000 MT.
Displacement: No restrictions. Max vertical distance from waterline until the Brestlines panamas is 14.7m.
Additional Information: No wires are allowed for Headlines, Sternlines and Breastlines (total 12). Springlines (total 4): If Springlines are still wires, they must have long nylon-tails of at least 80m long each.

Hadera
Port of Hadera
PO Box 314
Hadera
38102
Israel
Contact: Mr Yoram Nachshol
Job Title: Managing Director
T: + 972 4 622 5577
F: + 972 4 634 3034

Italy

Ancona
Ancona Coal Terminal
Ancona
Italy
Contact: Mr Paolo Galli
T: + 39 071 2071664
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Gaeta & Civitavecchia
Intergroup S.r.l.
Lungomare Caboto 110
Gaeta & Civitavecchia
Rome area 04024
Italy
Contact: Mr Giovanni Migliaccio
Job Title: General Manager
T: + 39 771 310 077
F: + 39 771 472 114
E: info@intergroup.it
W: www.intergroup.it
Import: yes
Export: yes
Location: Central Italy
Ownership: Family-owned company
Name of Port Authority: Port of Rome and Lazio
Throughput Capacity: 9,000 tpd discharge
Total Storage: Up to 110,000 tonnes of coal
Vessel Size Limitation: Gaeta: current draught 10m (increasing to 13m from July 2011)
Civitavecchia: 15m draught.
Additional Information: In the warehouse, 5m-high cement walls protect the product and allow creation of different zones dedicated to single clients. Automated dust-control system and filtering/recycling system for water are installed.

Genova
Terminal Rinfuse Genova SpA
Palazzina Uffici
Calata Rubattino
Genova 16126
Italy
Contact:
T: + 39 010 248 8620
E: vittorio.barzilai@terminalrinfuseitalia.it
W: www.porto.genova.it
Import: yes
Location: Mediterranean Sea
Ownership: The Genoa Port Authority
Vessel Size Limitation: Max draft 9/11.5m

Piombino
TOP - Terminal Offshore Piombino
(subsidiary of Coeclerici SpA)
Uff. Circondariale Marittimo
P. Le Premuda 19
Piombino
Livorno 57025
Italy
Contact: Mr Giordano Scotto d'Aniello
Job Title: Head of Commercial Department (logistics division)
T: + 39 02 624 69451
F: + 39 02 624 69444
E: newprojects@coeclerici.com
W: www.coeclerici.com
Import: yes
Location: North West Coast Italy
Ownership: TOP - Terminal Offshore Piombino
Name of Port Authority: Piombino Port Authority
Throughput Capacity: 500,000 tpa
Total Storage: N/A
Vessel Size Limitation: Max beam 42, Max Airdraught 15
Additional Information: The self propelled Floating Transfer Station Bulk Irony is utilized since 2003 by Lucchini Steel Mill to overcome Piombino's draught restrictions . Bulk Irony was designed for lighterage part of the raw materials shipment (both coal and iron ore) offshore, thereby reducing the overall sea freight charge.

Savona
Port Authority of Savona
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Savona
Terminal Alti Fondali Savona S.r.l.
Terminal Darsena Alti Fondali 29
Savona
17100
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Vado Ligure (SV)
Terminal Rinfuse Vado
Via Montegrappa 1
Vado Ligure (SV)
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Italy
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Japan

Chiyoda-ku
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Hiroshima
Port of Takehara No 1P/S
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Tadami-cho
Takehara-shi
Hiroshima 729-23
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Hokkaido
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Japan
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Kitakyushu City
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Port/Harbour Bureau of Kitakushu City
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Japan
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Minatoku
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Sumitomo Coal Mining
204, 3-Chrome
Nishi-Shimbashi
Minatoku, Tokyo
Japan
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Mubanti
Shukuzu Coal Centre
Koowan-Bu
Hokkaido Muroran-shi
Kaigan-Choo
1-Chrome
Mubanti
Japan
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F: + 81 143 240011

Toyama City
Toyama-Shinko Public Berths
Fushiki Kairiku Unso
Toyamashinko Branch
4-2 Nagonoe
Shinminato-shi
Toyama City
Japan
Contact:
T: + 81 766 82 1118
F: + 81 766 84 3335

Ube City
Port of Ube, Okinoyama Coal Terminal
12-32 Nishihon-machi
1-Chrome
Ube City
Yamaguchi Pref
Japan
Contact: Mr Masayoshi Wanishi
Job Title: General Manager
T: + 81 335 31 5971
F: + 81 838 31 5885

Wakayama City
Smikin Transport Service
1850 Minato
Wakayama City
Hokkaido Pref
Japan
Contact: Mr Tutomu Oonishi
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F: + 81 734 51 5150

Latvia

Riga
Riga Fertilizer Terminal LLC
Eksporta str. 15 k-1,
Riga
LV-1045
Latvia
Contact: Ms Kristine Vizule
Job Title: Marketing and PR Manager
T: + 371 673 29816
F: + 371 673 26501
E: Kristine.vizule@rto.lv
W: www.rto.lv
Import: yes
Export: yes
Location: Riga, Latvia
Ownership: RIGA COMMERCIAL PORT, LLC
Name of Port Authority: Free Port of Riga
Throughput Capacity: 10 million tonnes per year
Total Storage: 50,000sqm
Vessel Size Limitation: 110,000dwt, top-up draught 15m, LOA – 260m
Additional Information: Freight forwarding services and port logistics for dry-bulk cargo including value-added services.

Ventspils
JSC BALTIC COAL TERMINAL
39B Dzintaru Street
Ventspils
LV-3602
Latvia
Contact: Mr Ilya Sokolov
Job Title: Member of the Board
T: + 371 636 34 000
F: + 371 636 34 001
E: info@balticcoal.com
W: www.balticcoal.com
Export: yes
Location: Latvia , Ventspils, The Baltic Sea
Name of Port Authority: Ventspils Free Port
Throughput Capacity: 6 mln. coal per year (start at 2008)
Total Storage: 220 000 tonnes
Vessel Size Limitation: 120,000dwt
Max draught 15m
Additional Information: Enclosed storage for coal for all clients,.
Service of sorting, crushing and magnetic cleaning of coal.

Ventspils
AS Ventspils Tirdzniecibas Osta
22 Dzintaru Street
Ventspils
LV3602
Latvia
Contact: Ms Julianna Svedenko
Job Title: Secretary
T: +371 63668706
F: + 371 36 68870
E: Julianna.Svedenko@vto.lv
W: hhttp://www.vto.lv

Malaysia

Klang
Westports Malaysia Sdn Bhd
24 Lorong Peria
Taman Radzi
Klang
Selangor
41200
Malaysia
Contact: Mr Sohan Singh
Job Title: Conventional Marketing
T: + 60 12 522 0853
F: + 60 3 3169 4119
E: Sohan_singh@hotmail.com
W: www.westportsmalaysia.com/

Kuantan
Kuantan Port Consortium Sdn Bhd
Wisma
PO Box 199
Tanjung Gelang
Kuantan
Pahang
25720
Malaysia
Contact: Mr Haji Khasbullah Bin A. Kadir
Job Title: Chief Operating Officer
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F: + 60 9 583 9393
E: irpkho.kuantanport@ijm.com
W: www.ijm.com/infrastructure/port/KuantanPort/

Seri Manjung
Lumut Maritime Terminal Sdn Bhd
Lekir Bulk Terminal (LBT)
Pulau Lekir 1
Jln Teluk Rubiah
Seri Manjung
Perak
32040
Malaysia
Contact: Mr Amin Bin Halim Rasip
Job Title: Chief Executive Officer
T: + 60 3 2141 7728
F: + 60 3 2141 2995
E: aminrasip@integrax.com.my
W: www.lumutport.com
Import: yes
Location: On a reclaimed island, South East of Pangkor Island, Perak, West Malaysia (Off the Straits of Malacca)
Ownership: Lekir Bulk Terminal Sdn Bhd
Name of Port Authority: Lumut Maritime Terminal Sdn Bhd
Throughput Capacity: 12.0 million tonnes
Total Storage: About 80 acres (approx 323,752 sqm)
Vessel Size Limitation: Max size - Capemax vessel (LOA 290m, DWT 200,000mt.) Minimum natural depth of 20m alongside the berth.
Additional Information: 2 Grab Ship Unloaders with rated capacity of 1500 tph each and 2 import conveyors lines with rated capacity of 3800 tph each. Currently planning to construct a load out facility (Phase 2 - to be ready by 2009).

Mexico

Altamira
Cooper/T. Smith De Mexico SA de CV
Mar Negro KM 0.380
Puerto Industrial
Col. Puerto De Altamira
Altamira
Tamaulipas
89603
Mexico
Contact: Mr Arturo Encinas
Job Title: General Director
T: + 52 833 260 45 00
F: + 52 833 260 10 82
E: arturo.encinas@coopertsmith.com
W: www.coopertsmith.com

Lazaro Cardenas
Terminales Portuarias Del Pacifico, S A P I de C V
Recinto Portuario Lazaro Cardenas
Canal Oriente s/n, Av. Los Ríos Interior
Isla del Cayacal, Apartado Postal 83
Lazaro Cardenas
Michoacán
60950
Mexico
Contact:
T: + 52 753 533 0090
F: + 52 753 533 0090
E: cargo.tpp@tpp.com.mx
W: http://www.tpp.com.mx/
Import: yes
Location: Mexican Pacific coast on the Port of Lazaro Cardenas
Throughput Capacity: 3.5 million metric annually tons on it´s phase I
Total Storage: 10,000 M2 of open yards
Vessel Size Limitation: Cape Size vessels up to 173,500 metric tons of dwt, LOA of 305 meters, and a draft of 16.5 meters (54.13 feet).
Additional Information: This Terminal is equipped with 2 mobile grab cranes reaching a performance of 40,000 tons/day and amiability of bonded storage yards.

Morocco

El Jadida
Jorf Lasfar Power Station
Jorf Lasfar Energy
8P 99
Sidi Bouzid
El Jadida
Morocco
Contact: Mr Boutaib Said
T: + 212 3 34 5371
F: + 212 3 34 5375
E: jlec@jlec.co.ma

Mozambique

Beira
Largo dos CFM-C
Porto da Beira
PO Box 236
Beira
Sofala
Mozambique
Contact: Mr Carlos Mesquita
Job Title: General Director
T: + 258 23 345276
F: + 258 23 322636
E: ccfb-trafego@teledata.mz
W: www.cfmnet.co.mz

Maputo
Grindrod Terminals - Maputo
Praca dos Trabalhadores
Porto de Maputo
Maputo
Mozambique
Contact: Mr Mark Flynn
Job Title: Terminal Operations Manager
T: + 258 21 720 350
F: + 258 21 720 180
E: markf@grindrod.co.mz
W: www.grindrod.co.za
Export: yes
Location: Maputo Harbour Mozambique
Name of Port Authority: MPDC—Maputo Port Development Company
Throughput Capacity: 210,000mt pm
Additional Information: Refurbishment /rehabilitation of facility presently being carried out by Grindrod Terminals.

Namibia

Walvis Bay
Grindrod Terminals - Walvis Bay
1st Floor Grindrod House
174 Third Street East
Walvis Bay
9000
Namibia
Contact: Mr Shakespeare Masiza
Job Title: Regional Manager
T: + 264 271 270
F: + 264 271 280
E: shakespeare@grindrod.com.na
W: www.grindrod.co.za
Export: yes
Location: West coast of Africa, in Namibia
Name of Port Authority: Walvis Bay Port Authority

New Zealand

Lyttelton
Lyttelton Coal Terminal
Private Bag 501
Norwich Quay
Lyttelton
Canterbury
New Zealand
Contact: Mr Peter Davie
Job Title: Chief Executive
T: + 64 3328 8198
F: + 64 3328 7828
E: peter.davie@lpc.co.nz
W: www.lpc.co.nz
Export: yes
Location: Mid point of the east coast of the South Island of New Zealand
Ownership: LPC is a publicly listed company.
Name of Port Authority: Lyttelton Port Company Ltd
Throughput Capacity: 4,000,000 tpa. Vessel load rate: 25,000 tpd
Total Storage: 50985 m2 (approx 5 hectares); Can stockpile up to 250,000 tonne
Vessel Size Limitation: Length 230m, Beam 36.5m, Max draught on departure 12.4m
berth pocket depth 13m at chart datum (zero tide), air draught 15m
Additional Information: New Zealand's largest coal export facility. Loading achieved through a combination of Bucket Wheel Reclaimer and mobile plant feeding via belt conveyor a jetslinger shiploader.

New Plymouth
Port Taranaki Limited
PO Box 348
New Plymouth 4340
New Zealand
Contact: Mr Roy J Weaver
Job Title: Chief Executive
T: + 64 6 751 0200
F: + 64 6 751 0886
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W: www.porttaranaki.co.nz

Tauranga
C3 Limited (previously Toll Owens Ltd)
Maritime House
10 Rata Street
Mount Maunganui
Private Bag 12501
Tauranga
Bay of Plenty
3143
New Zealand
Contact: Mr Dean Camplin
Job Title: Chief Executive
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W: www.c3.co.nz
Location: New Zealand

Pakistan

Karachi
PIBT Ltd
2nd Floor
Business Plaza
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Sindh
74000
Pakistan
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Job Title: Manager Project & Research Analyst
T: + 92 21 3240 0450-53
F: + 92 21 3240 0281
E: info@pibt.com.pk
W: www.pibt.com.pk
Import: yes
Location: Karachi, Pakistan
Ownership: Marine Group of Companies as a majority stakeholder with some other sponsors
Name of Port Authority: Port Qasim Authority, Karachi
Throughput Capacity: 16 million tons (12 million for coal & 4 million tons for Clinker/Cement) initially
Total Storage: 200,000sqm
Vessel Size Limitation: Simultaneously 2 Vessels of up to 75,000DWT
Additional Information: PIBT is the Country's first Coal, Clinker and Cement handling Terminal to comply with the international standards of environment and pollution control. The terminal will be operational by the end of 2016.

Karachi
Pak Shaheen Group
36-A/2, Lalazar, Opposite Beach Luxury Hotel
Off M.T. Khan Road
Karachi
74000
Pakistan
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W: www.pakshaheen.com.pk

Peru

Callao
ENAPU SA
Port Terminal of Callao
Callao
1No260
Peru
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Moquegua
ILO Port Terminal
Jr Matara
Moquegua
104 100
Peru
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Trujillo
ENAPU SA
Salaverry Port Terminal
Calle Cordova s/n
Salaverry
Trujillo
Peru
Contact: Ms Eufrosina Hilda Santa Maria Rubio
Job Title: Manager
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W: www.enapu.com.pe

Philippines

Makati City
Wilhelmsen-Smith Bell Shipping, Inc.
2294 Pasong Tamo Extension
Makati City
1231
Philippines
Contact: Mr Fausto R Preysler Jr
Job Title: President & Chairman
T: + 63 2 8167851 to 58
F: + 63 2 8150199 / + 63 2 8136949
E: preysler@smithbell.com.ph
W: www.smithbell.com.ph

Poland

Gdansk
PPS Port Polnocny Co Ltd
23 Budownicych Portu Polnocnego Str
Gdansk
80-601
Poland
Contact: Mr Andrzej Kasprzak
Job Title: President
T: + 48 58 737 60 52
E: polnocny@portgdansk.pl
W: www.portgdansk.pl
Export: yes
Location: North West of Poland on central part of sourthern section of Baltic Sea coast.
Ownership: Port of Gdansk Authority SA
Total Storage: 600,000 tons
Vessel Size Limitation: Max length 280m, Max draft 15m

Gdynia
Maritime Bulk Terminal Gdynia Ltd
ul. Weglowa 4
Gdynia
81-341
Poland
Contact: Mr Andrzej Grubalski
Job Title: Account Manager
T: + 48 508 375 146
F: + 48 586 215 354
E: marketing@mtmg.gdynia.pl
W: www.mtmg.gdynia.pl
Import: yes
Export: yes
Location: North of Poland on the Baltic Sea

Name of Port Authority: Port of Gdynia Authority
Throughput Capacity: about 4 million tonnes per year
Total Storage: 70,866 sqm
Vessel Size Limitation: -
Dutch quay: LOA 300m, Depth 13.0m
- Swedish quay: LOA 300m, Depth 9.5m
- Silesian quay: LOA 250m, Depth 8.5m
- Southern Pier of the Danish Quay: LOA 170m, Depth 9.50m
- Liquid Fuels Reloading Post: LOA 210m (min 100m), Depth 11.0m
Additional Information:
Multipurpose terminal handling:
- dry bulk cargoes (coal and coke, grain and feed, biomass, aggregates and other minerals)
- liquids (petrol and chemicals)
- general cargo

Swinoujscie
Port Handlowy Swinoujscie Sp. z o.o.

ul. Bunkrowa 1
Swinoujscie
Zachodniopomorskie
72-602
Poland
Contact: Mr Lukasz Przyszlak
Job Title: Trade & Marketing Director
T: + 48 91 32 77 524
F: + 48 91 32 77 520
E: lukasz.przyszlak@phs.com.pl
W: www.phs.com.pl
Import: yes
Export: yes
Location: North West of Poland on the Baltic Sea Coast, on the border with Germany.
Ownership: Private Stevedoring Company – OT Logistics Group
Name of Port Authority: Zarzad Morskich Portow Szczecin i Swinoujscie
Throughput Capacity: 6 million tonnes per year
Total Storage: 175,000sqm for up to 1,200,000 tonnes
Vessel Size Limitation: 13.2m draught, vessels up to 270 metres in length, 42m beam
Additional Information: The largest dry bulk cargo centre handling, storing nearly 50% of the country's coal exports and nearly 50% of import. Perfect railroad, barge connection with Germany, Czech and Slovakia.

Szczecin
Bulk Cargo - Port Szczecin Sp. z.o.o.

Gdanska 21
Szczecin
Zachodniopomorskie
70-661
Poland
Contact: Mr Bogdan Walczak
Job Title: Marketing Director
T: + 48 91 4 307 112
F: + 48 91 4 307 115
E: bwalczak@bulkcargo.com.pl
W: www.bulkcargo.com.pl
Import: yes
Export: yes
Location: South Coast of the Baltic Sea, North West of Poland
Ownership: Private
Name of Port Authority: Szczecin and Swinoujscie Seaports Authority
Throughput Capacity: 4.0-5.0 mio tpa
Total Storage: 45,000 sqm for up to 250,000 tonnes
Vessel Size Limitation: 9.15 m draught, vessels up to 210 metres in length
Additional Information: In our company exported and imported coal can be reloaded in a dedicated handling area, equipped with a new wagon tippler and a 1,000tph shiploader.

Szczecin
Szczecin and Swinoujscie Seaports Authority

ul Bytomska 7
Szczecin
70-603
Poland
Contact: Mrs Katarzyna Malinowska
Job Title: Manager of Marketing Division
T: + 48 914 308 139
F: + 48 914 624 145
E: k.malinowska@port.szczecin.pl
W: www.port.szczecin.pl
Export: yes
Location: South Coast of the Baltic Sea
Name of Port Authority: 1) Bulk Cargo Port Szczecin Sp. z o.o.
Gdanska 21
70-661 Szczecin
www.bulkcargo.com.pl
2)Port Handlowy Swinoujscie Sp.z o.o.
Bunkrowa 1
72-602 Swinoujscie
www.phs.com.pl
Throughput Capacity: Bulk Cargo Port Szczecin - 1,0-2,0 mio tonnes per year
Port Handlowy Swinoujscie - 5,0-6,0 mio tonnes per year
Total Storage: Bulk Cargo Port Szczecin -35,000 s.q.m for up to 170,000 tonnes
Port Handlowy Swinoujscie - 150,000 sq.m for up to 700,000 tonnes
Vessel Size Limitation: Bulk Cargo Port Szczecin - 9.15 m draught, vessels up to 210 metres in length
Port Handlowy Swinoujscie - 13,2 m draught, vessels up to 270 metres in length
Additional Information: The port complex of Szczecin and Swinoujscie is the largest dry bulk cargo centre of a crucial significance for Polish economics, handling nearly 50 % of the country's coal exports.
Coal handling and storage services are provided at a wide range of dedicated quays in both ports, offering modern storage facilities and handling equipment.

Portugal

Aveiro
Socarpor (Aveiro) SA

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Aveiro
3801-901
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W: www.socarpor-aveiro.pt

Barreiro
Barreiro Terminal - Atlanport

Sociedade de Exploração Portuária, S.A
Largo Alexandre Herculano
Complexo Industrial da Quimiparque
Apartado 5109
Barreiro
2831-904
Portugal
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T: + 351 21 206 6610/11/12
F: + 351 21 206 6629
E: atlanport@atlanport.pt
W: www.ete.pt/Grupo/Empresas/Atlanport_E.htm

Lisbon
TMPB - Poço Bispo Multipurpose Terminal

Largo do Corpo Santo, 21
Lisbon
1200-129
Portugal
Contact: Eng António Jordão
Job Title: Terminal Manager
T: + 351 211 128 048 / + 351 916 892 906
F: + 351 211 128 052
E: antonio.jordao@ete.pt
W: www.ete.pt/
Import: yes
Export: yes
Location: Lisbon, Portugal
38º 44´ 12.8´´ N 9º 6´ 4.21´´ W
Ownership: ETE - Empresa de Tráfego e Estiva, S.A.
Name of Port Authority: Port of Lisbon
Throughput Capacity: 1.5 million tpa
Total Storage: 25,000t 20,050sqm
Vessel Size Limitation: Max draught 8.0m
Additional Information: 2x Crane LIEBHERR LHM (64, 40 tons), 3 Front loaders, 3 BOB CATS, 2 Conveyor belts, 3 Hopers, 2 Road weighbridges 60 tons
Midstream operations: floating cranes and barges (45,000 tons capacity)

Lisbon
Silopor - Empresa de Silos Portuários, S.A

(Beato Bulk Foodstuffs Terminal)
Terminal Portuário do Beato
Rua da Cintura do Porto de Lisboa
Lisbon
1900-263 Lisboa
Portugal
Contact: Mr Carlos Silva
Job Title: Commercial Manager
T: + 351 21 392 32 61
F: + 351 21 392 32 69
E: carlos.silva@silopor.com
W: www.silopor.pt
Location: Port of Lisbon (West Coast of Portugal)
Name of Port Authority: APL - Administracia do Porto de Lisbon
Throughput Capacity: Unload up to 9,000tpd
Total Storage: 100,000t vertical storage
Vessel Size Limitation: LOA: 180m, Draught 7.5m

Lisbon
Portsines - Terminal Multipurpose de Sines

Rua Nova do Carvalho, 71, 4º Floor
Lisbon
1200-291
Portugal
Contact: Eng Francisco Ramalho do Nascimento
Job Title: Executive Director
T: + 351 213 219 010
F: + 351 213 219 029
E: sines@portsines.pt
W: http://www.ete.pt/
Import: yes
Export: yes
Location: Sines, Portugal
37º 56´ 18´´ N 8º 51´ 00´´ W
Ownership: ETE - Empresas de Tráfego e Estiva, S.A.
Name of Port Authority: Port of Sines
Throughput Capacity: 10 million tons
Total Storage: 700,000t 101,200sqm
Vessel Size Limitation: 190,000 DWT: Max draught 18m
Additional Information: 2 Shipunloaders, 2 stackers reclaimers, 1 shiploader, 1 railway loading station, 1 Wheel Crane capacity 40 tons, 1100 m of quay

Sines
Porto de Sines SA

Apartado 16
Sines
750-953
Portugal
Contact: Ms Anna-Rita Rosa
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F: + 351 269 860 790
E: ana.rosa@portodesines.pt
W: www.portodesines.pt

Puerto Rico

San Juan
Port of Ponce

Port of the Americas Authority
PO Box 362350
San Juan
00936-2350
Puerto Rico
Contact:
T: + 1 787 765 2900
F: + 1 787 753 6874
W: www.portoftheamericas.com
Import: yes
Location: South Coast of Puerto Rico
Ownership: Public
Throughput Capacity: 62,000 short tonnes
Total Storage: 4,000 cubic metres approx
Vessel Size Limitation: Max LOA 1200 ft, Max Draught 50 ft

Romania

Constanta
SC MINMETAL SA Constanta / Romania

Incinta Port
Berth 64
Constanta
900900
Romania
Contact: Mr Ghebaur Liviu
Job Title: General Director
T: + 40 241 639 035
F: + 40 241 639091
E: office@minmetal.ro
W: www.minmetal.ro
Import: yes
Export: yes
Location: South–East of Europe; South-East of Romania; Black Sea Port – Constanta; Berth 45, 46, 64, 65, 66, 85.
Ownership: S.C. North Star Shipping S.R.L.
Name of Port Authority: Constanta Maritime Port Administration
Throughput Capacity: 4,000,000 tpa
Total Storage: 251.716 m2
Vessel Size Limitation: Max LOA - no restriction, Max draught - 13.5m, DWT - accordingly
Additional Information: The main domestic beneficiaries of Minmetal.are :
Arcellor Mittal , Lafarge , Energy Coal , Tenaris , Holcim , Voest Alpine , etc

Constanta
Comvex SA

Incinta Port Dana 80-84
Constanta
900900
Romania
Contact: Mr Viorel Panait
Job Title: Terminal Manager
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F: + 40 241 639 010
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W: www.comvex.ro

Russia

Nakhodka (Vrangel)
Vostochny Port (OJSC)

Vnutriportovaya st. 47
Nakhodka (Vrangel)
Russia
Contact: Mr Anatoliy Lazarev
Job Title: Managing Director
T: + 7 4236 665 271
F: + 7 4236 665 153
E: vp@vpnet.ru
W: http://www.vpnet.ru/eng/index_eng.htm
Export: yes
Location: Far East of Russia (Southeast of the Nakhodka Bay (Japan Sea)).
Ownership: Private entity
Name of Port Authority: Seaport of Vostochny
Throughput Capacity: 17 million tonnes, increasing to 30 million tonnes
Total Storage: 120,048sqm, increasing to about 170,000sqm
Vessel Size Limitation: LOA: 280, Draught: 16m, DWT: 150,000
Additional Information: Vostochny Port is a high-tech seaport located in the Far East of Russia. It is the largest coal port in Russia which includes Specialized Coal Terminal and General Cargo Terminal. In 2012 Vostochny Port commenced the expansion of the Specialized Coal Terminal which will allow the Port to increase its annual throughput to 33-36 mio t by 2020.

Saint Petersburg
Ust-Luga Coal Terminal "Rosterminalugol", JSC

Moskovsky avenue, 89, office 400
Saint Petersburg
196 084
Russia
Contact: Mr Artur Sedov
Job Title: Operating Director
T: + 7 812 324 54 03
F: + 7 812 324 54 53
E: info@oao-rtu.ru
W: www.oao-rtu.ru
Export: yes
Location: Eastern coast of the Baltic Sea, 130 km from Saint Petersburg
Ownership: Private entity
Name of Port Authority: Sea port of Ust-Luga Authority
Throughput Capacity: 15.5 million tonnes
Total Storage: 130,644sqm
Vessel Size Limitation: LOA - 260m, Draught - 14.3m, Beam -

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B K Saxena, *Director of Marketing*, Coal India Limited
Gary Vernon, *Executive Director, Global Head of Coal Trading*, Macquarie Bank
David Finch, *Chief Commercial Officer - Coal, LNG & Freight*, E.ON
Andy Beckham, *Chief Financial Officer*, PT Bumi Resources Tbk
Ajay Mathur, *Chief Executive Officer*, ICVL
Manish Dahiya, *Executive Director - Global Head of Energy Coal*, Noble Group
Edwin Tsang, Director & Chief Marketing Officer, PT Adaro Indonesia

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In association with ASOSIASI PERTAMBANGAN BATUBARA INDONESIA / INDONESIAN COAL MINING ASSOCIATION

KING MINING

40m, DWT - 100 000 tonnes
Additional Information: Rosterminalugol is a high-tech specialized coal terminal which handles over 15.0 million tonnes of coal per year. The advantage of the port is the immediate vicinity of European countries, importing high-quality coal from Kuzbass region and other coal basins.

Saint-Petersburg
Port of Ust-Luga
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Saint-Petersburg
191144
Russia
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Tuapse
Port of Tuapse Authority
8 Gorkogo Street
Tuapse
352800
Russia
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Vanino
Vanino Commercial Sea Port, PJSC
1 Zheleznodorozhnaya Str.
Vanino
Khabarovsk Territory
682860
Russia
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F: + 7 872 140 26 10
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W: www.vcsp.ru

Vladivostok
Aqua-Resources Co.,Ltd
Khersonskaya st.5
Vladivostok
Primorsky Region
690012
Russia
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T: + 7 4 232 499 771
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W: http://www.terminal-astafiev.com/

Slovenia

Koper
Luka Koper d.d., European Energy Terminal
Vojkovo Nabrežje 38
Koper
SI-6501
Slovenia
Contact: Mr Bojan Tomisic M. Sc.
Job Title: Terminal Manager
T: + 386 5 6656 631
E: bojan.tomisic@luka-kp.si
W: www.luka-kp.si
Import: yes
Export: yes
Location: Northen part of Adriatic Sea; SLOVENIA
Name of Port Authority: Luka Koper
Throughput Capacity: Year 2013; 4,000,000 tonnes Coal, 2,000,000 tonnes Iron Ore
Total Storage: 400,000 tonnes Coal, 400,000 tonnes Iron ore
Vessel Size Limitation: The only limitation is arrival draught of 17.2m

South Africa

Durban
Transnet Port Terminals Head Office
Kingsmead Office Park
Stalwart Simelane/Stanger Street
Durban
KwaZulu Natal
4001
South Africa
Contact: Ms Mbali Mathenjwa
T: + 27 31 308 8310
F: + 27 31 308 8336
E: Mbali.Mathenjwa@transnet.net
W: www.transnetporterminals.net
Import: yes
Export: yes
Location: Richards Bay on the Northern Coast of South Africa
Name of Port Authority: Transnet National Ports Authority
Throughput Capacity: 20 million tpa
Total Storage: Multi-Purpose Terminal 7 Series - 70 000sqm
Multi-Purpose Terminal 6 Series - 17 000sqm
Dry Bulk Terminal GP1 shed - 25 000sqm
Vessel Size Limitation: Draught
Multi-Purpose Terminal has 6 berths in total with a draught restriction of 13.5m
Dry Bulk Terminal has 8 berths in total and boast a draught restriction of Bulk of 17.5m
LOA
Multi-Purpose Terminal 6 Series Net LOA is 590m for all 3 berths
Multi-Purpose Terminal 7 Series Net LOA is 550m for all 3 berths
Dry Bulk Terminal differs from berth to berth as follows:
Import
Berth 609 – LOA: 230m
Berth 701- LOA: 200m
Berth 702 – LOA: 270m
Export
Berth 703, 704,705 – LOA: 200m
Berth 801 – LOA: 230m
Berth 804 – LOA: 230m
Additional Information: Transnet Port Terminals bulk services include:
- Blending on Customer request.
- Grade facilitation/management
- Stock pile management (Receiving, stockpiling and monitoring, berth allocations for vessels and shipping)
- Bin storage management for certain commodities
- Truck staging area for road transport.
- Common user loading facilities for junior miners.
- Weighbridge facilities for road
- GCOS system for cargo inventory inbound to outbound.
- warehousing for weather-sensitive commodities

Durban
Grindrod Terminals
PO Box 1
Durban
KwaZulu Natal
4000
South Africa
Contact: Mr Sean Rowan
Job Title: CEO Grindrod Terminals
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F: + 27 31 302 7701
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W: www.grindrod.co.za

Richards Bay
Richards Bay Coal Terminal
PO Box 56
Richards Bay
KwaZulu Natal
3900
South Africa
Contact: Mr Ronald Llale
Job Title: Acting Corporate Affairs Manager
T: + 27 35 904 4015
F: + 27 35 907 7200
E: rllale@rbct.co.za
W: www.rbct.co.za
Export: yes
Location: North east coast of South Africa.
Ownership: Privately owned
Name of Port Authority: National Ports Authority of South Africa
Throughput Capacity: 72 million tons pa
Total Storage: 6.7 million tons
Vessel Size Limitation: 17.5m draft

Richards Bay
Transnet Port Terminals
Dry Bulk Terminal
Customer Services Department
PO Box 1793
Richards Bay
KwaZulu Natal
3900
South Africa
Contact: Mr Warren Vickers
Job Title: Customer Services Manager
T: + 27 35 905 3105
F: + 27 35 905 3216
E: Warren.Vickers@transnet.net
W: www.transnet.net
Import: yes
Location: The port of Richards Bay is located approximately 160 km north-east of Durban and 465 km south of Maputo on the eastern seaboard of South Africa.
Ownership: Import coking coal: Mittal Steel SA (previously Iscor)
Import met coke: Xstrata & Assmang
Name of Port Authority: Dry Bulk Terminal, S A Port Operations, Port of Richards Bay
Throughput Capacity: Two import berths, discharging a variety of dry bulk products such as coking coal, sulphur, salt, fertilizer, met coke, zinc.
A third import berth is dedicated to discharge of alumina & petcoke for BHP Billiton
Capacity per import berth: 3mt (9 mt for three import berths)
Total Storage: Coking coal shed: 25 000m2 (operated by DBT)
Vessel Size Limitation: Draft: berth 609 & 701 = 14.0m; berth 702 = 17.5m
LOA: Coking coal = 270m; others = 240m
Additional Information: DBT is a unique terminal that handles a variety of dry bulk commodities. Deep water and fast vessel turnaround ensure that this is one of the world's leading bulk ports.

Richard's Bay
Grindrod Terminals - Richard's Bay
PO Box 10744
Meerensee
Richard's Bay
KwaZulu Natal
3901
South Africa
Contact: Mr Christo Coetzer
Job Title: Executive - Terminals
T: + 27 35 797 9092
F: + 27 35 797 9033
E: christoc@grindrod.co.za
W: www.grindrod.co.za
Export: yes
Location: Richard's Bay, South Africa
Throughput Capacity: 3 million tpa via Navitrade Terminal

Saldanha
Saldanha Bulk Terminal
Private Bag X8
Saldanha
4395
South Africa
Contact: Mr Christopher Gomez
Job Title: Communications Manager
T: + 27 22 703 4204
F: + 27 22 703 4828
E: christopherg@saportops.co.za

South Korea

Gwang Yang-City
Posco Terminal Co., Ltd
Gwang Yang CTS Yard, 861
Geumbo-dong
Gwang Yang-City
Jeonam
South Korea
Contact: Mr Woo Sun-Moon
Job Title: CEO
T: + 82 61 793 7412
F: + 82 61 790 6386
E: info@poscoterminal.com
W: www.poscoterminal.co.kr

Pohang
Port of Pohang
Pohang District Maritime & Port Authority
58-7 Hangku-dong
Pohang
South Korea
Contact:
T: + 82 562 421 812
F: + 82 562 422 122

Ulsan
Port of Ulsan Public Piers 1&2
Ulsan District Maritime and Port Authority
139-9 Maeam-dong
Ulsan
South Korea
Contact: Mr Jeong Chang-won
T: + 82 52 228 5500
F: + 82 52 228 5549
W: www.ulsan.mltm.go.kr

Spain

Alicante
Port of Alicante
Muelle de Poniente 11
Alicante
03001
Spain
Contact: Mr Sergio Campos
Job Title: Port Director
T: + 34 9 6 5230 544
F: + 34 9 6 5146 329
E: alicanteport@alicanteport.com
W: www.alicanteport.com

Almeria
Carboneras
c/o Autoridad Portuaria de AlmeriaMotril
Muelle de Levante s/n
Almeria
04071
Spain
Contact: Mr Muelle Levante
Job Title: Port Director
T: + 34 9 50 23 60 33
F: + 34 9 50 23 29 49
E: almeria@apalmeria.com
W: www.apalmeria.com/

Gijón
EBHI - European Bulk Handling Installation
Muelle Marcelino León s/n
El Musel
Gijón
Asturias
33212
Spain
Contact: Mr Laureano Lourido
Job Title: Managing Director
T: + 34 985 308 507
F: + 34 985 308 123
E: llourido@ebhi.es
W: www.ebhi.es
Import: yes
Location: North coast of Spain.
Ownership: EBHI
Name of Port Authority: Gijón Port Authority
Throughput Capacity: 5,000 tph , 18 million/year
Total Storage: 150,000 sqm
Vessel Size Limitation: No LOA / DWT limitation . 18m draught (59 feet)
Additional Information: Recent upgrades to our facilities: Monitored distance unloading and automatic unloading system and unloading simulator (BAT project).

La Coruña
Muelle del Centenario
Autoridad Portuaria de la Coruna
Avda de la Marina 3
La Coruña
15002
Spain
Contact: Mr Luis Felipe Fernandez Rueda
T: + 34 981 22 74 02
F: + 349 81 205 862
E: explotacion@puertocoruna.com
W: www.puertocoruna.com
Import: yes
Export: yes
Location: North West of Spain
Name of Port Authority: A Coruña
Throughput Capacity: 150,000t
Total Storage: 25,000sqm
Vessel Size Limitation: Max. Draught 15.5m

La Coruña
Terminales Maritimos de Galicia, S.L.
Muelle Calvo Sotelo S/N
La Coruña
15006
Spain
Contact: Mr Iago Mallo Sanz
Job Title: Technical Manager
T: + 34 981 12 61 69
F: + 34 981 12 22 35
E: imallo@tmga.es
W: www.tmga.es
Import: yes
Location: North West of Spain
Name of Port Authority: La Coruña
Total Storage: 8,500sqm
Vessel Size Limitation: Max draught 14m

La Coruña
T.M.G.A. SL
Cuesta de la Palloza
1-Entlo

La Coruña
15006
Spain
Contact: Mr Juan Ibanez
Job Title: Managing Director
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F: + 34 981 227556
E: jibanez@mconsiflet.com
W: www.tmga.es

Los Barrios
Endesa
PO Box 11
Los Barrios
Cadiz
11370
Spain
Contact: Mr Francisco Aamoros
Job Title: Commercial Department
T: + 34 6256 04 167
F: + 34 956 6782 11
E: info@unesa.es

Pto. Alcudia
Transportes Maritimos Alcudia, SA
Teodoro Canet No 26
Pto. Alcudia
Mallorca-Baleares
07400
Spain
Contact: Mr Miguel Oliver
Job Title: Managing Director
T: + 34 971 545 932/28
F: + 34 971 547 356
E: moliver@tmalcudia.com
W: www.portsdebelears.com
Import: yes
Location: Eastern Mediterranean Sea
Ownership: Transportes Marítimos Alcudia
Name of Port Authority: Transportes Marítimos Alcudia
Throughput Capacity: 1.316.211.- tn / year (2005)
Total Storage: 3,200 sqm
Vessel Size Limitation: Max LOA 101m, Max Draught 5.9m, Max DWT 6000.
Additional Information: Coal imported from Namibia or South Africa via Tarragona, Spain.

Santa Cruz de Tenerife
Port Authority of Tenerife
Avenida Francisco La Roche No 49
Santa Cruz de Tenerife
Canary Islands
Spain
Contact: Mr Manuel Fernandez del Castillo
Job Title: Port Director
T: + 34 9 22 605400
F: + 34 9 22 605479
E: comercial@puertosdetenerife.org
W: www.puertosdetenerife.org

Santander
Puerto de Santander
Autoridad Portuaria de Santander
Muelles de Maliaño s/n
Santander
Cantabria
E390 09
Spain
Contact: Mr Manuel Martin Ledesma
T: + 34 942 314 060
F: + 34 942 314 904
E: info@puertosantander.com
W: www.puertosantander.com

Tarragona
Euroports Iberica TPS
Aptdo. Correos 839
Tarragona
Tarragona
43080
Spain
Contact: Mr Javier Herrera
Job Title: Commercial Manager
T: + 34 977 22 22 19
F: + 34 977 22 04 59
E: jherrera@europortsiberica.com
W: www.euroports.com
Import: yes
Export: yes
Location: North Mediterranean coast of Spain, 60 miles south of Barcelona
Ownership: www.euroports.com
Name of Port Authority: Tarragona Port Authority
Throughput Capacity: 7.5M ttpa
Total Storage: 140,000sqm
Vessel Size Limitation: Max draught 18.5m, fit for Capesize vessels
Additional Information: 5 gantry cranes 750 – 2,500 t/h; 3.5Km conveyor belts; shiploader 1,600tph; Installations for transshipment.

Sweden

Helsingborg
Helsingborg Coal Terminal
PO Box 821
Helsingborg
S-25108
Sweden
Contact: Mr Andreas Eriksson
Job Title: Information Officer
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F: + 46 4212 4374
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W: www.port.helsingborg.se

Karlstad
Vänerhamn AB
Stuvargatan 1
Karlstad
652 21
Sweden
Contact: Mr Tobias Uhn
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F: + 46 54 21 33 16
E: tobias.uhn@vanerhamn.se
W: www.vanerhamn.se

Oxelsund
Oxelosunds Hamn AB
Box 1200
Oxelsund
SE-61324
Sweden
Contact: Mr Bo Ytterstrom
Job Title: Marketing Manager
T: + 46 155 258 000
F: + 46 1553 4321
E: bo.ytterstrom@oxhamn.se
W: www.oxhamn.se

Västerås
Mälarhamnar AB
Box 3013
Västerås
720 03
Sweden
Contact: Mr Magnus Johansson
Job Title: Sales Manager
T: + 46 21 150100
F: + 46 21 150145
E: magnus.johansson@malarhamnar.se
W: www.malarhamnar.se
Location: In the lake of Mälaren we have two ports, one in Köping and one in Västerås, Sweden.
Total Storage: 155,000sqm
Vessel Size Limitation: 7 Berths. Recieving ships up to 7000 tons net weight.
Additional Information: Cranes, loaders, Rechstackers, trucks, etc.
Ongoing investments to receive 13 000 tons. Reaching 1/3 of Swedens population within 200 km radius (3 million people.)

SWITZERLAND

BASEL
Port of Switzerland
Hochbergerstrasse 160
Basel
CH-4019
Switzerland
Contact: Ms Carmen Koller
T: + 41 61 639 9577
F: + 41 61 639 9514
E: carmen.koller@portof.ch
W: www.port-of-switzerland.ch
Import: yes
Location: North East of Switzerland, at the banks of the Rhine river
Ownership: Port area is owned by the community and leased to private companies for operation
Name of Port Authority: Schweizerische Rheinhäfen/ Port of Switzerland
Throughput Capacity: 7 mio tpa
Total Storage: Open storage: 180,000 sqm
Vessel Size Limitation: L 135 m, W 23 m, Draught 3.20 m Airdraught 7.00 m
Additional Information: 132,642 t coal imported in 2010.

BASEL
Ultra-Brag AG
Südquaistrasse 55
Basel
CH-4019
Switzerland
Contact: Mr Beat Heydrich
Job Title: CEO
T: + 41 61 639 72 00
F: + 41 61 639 72 10
E: info@ultra-brag.ch
W: www.u-b.ch

BIRSFELDEN
BIRS Terminal AG
Hafenstrasse 54
Postfach
Birsfelden
CH 4127
Switzerland
Contact: Ms Sabine Schmid
T: + 41 61 377 8032
F: + 41 61 377 8010
E: sabine.schmid@birsterminal.ch
W: www.birsterminal.ch
Import: yes
Location: East of Basel, Switzerland
Name of Port Authority: Port of Birsfelden
Total Storage: 30,000 sqm open storage

THAILAND

BANGPLI
S.P. Intermarine Co., Ltd
150/90 Moo 3 Soi Wongsepad
Teparak Road (Km.10)
Bangpli Yai
Bangpli
Samutprakarn
10540
Thailand
Contact: Mr Krithep Suwajanakorn
Job Title: Marketing Department
T: + 662 385 5335
F: + 662 385 5910
E: info@spintermarine.co.th
W: www.spintermarine.co.th

THE NETHERLANDS

AMSTERDAM
OBA - Bulk Terminal Amsterdam
Westhavenweg 70
Amsterdam
1042 AL
The Netherlands
Contact: Mr Hans Fijlstra
Job Title: Managing Director
T: + 31 20 587 3700
F: + 31 20 611 6908
E: directie@oba-bulk.nl
W: www.oba-bulk.nl
Import: yes
Export: yes
Location: IJmuiden & Amsterdam Westhaven with good access via the Amsterdam Rhine canal to the river Rhine.
Ownership: 50% HES Beheer / 50% Ovet Holding
Name of Port Authority: Port of Amsterdam
Throughput Capacity: Total handling capacity more than 100.000 tonnes per day

Total Storage: 600,000 sqm open storage (space for 2.5 million tonnes of coal), 25,000 sqm covered storage.
Vessel Size Limitation: 'Max draught – 17.8m, 180,000dwt, max beam - 45m
Additional Information: Annual volume of coal handled approx. 20 million tonnes. Unrivalled de-ironing possibilities through installed magnets on transport belts.

AMSTERDAM
IGMA
Coenhavenweg 3
Amsterdam
1013 BK
The Netherlands
Contact: Mr Rob Hansen
Job Title: General Manager
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F: + 31 20 5808 606
E: info@igma.nl
W: www.igma.nl

AMSTERDAM
Maja Stuwadoors Rotterdam
PO Box 57196
Amsterdam
1040 BB
The Netherlands
Contact: Mr Arie Holleman
T: + 31 20 684 2194
F: + 31 20 684 7024
E: info@majastuwadoors.nl
W: www.majastuwadoors.nl
Import: yes

European Bulk Services Rotterdam

European Bulk Services (E.B.S.)B.V.

Elbeweg 117 ‣ Europoort Rotterdam ‣ Port no. 5820 ‣ P.O. Box 1204 ‣ 3180 AE ‣ Rozenburg ‣ The Netherlands

T +31(0)181-258121 ‣ F +31(0)181-258154 ‣ E sales@ebsbulk.nl ‣ W www.ebsbulk.nl

Location: Port of Amsterdam, Rotterdam, Netherlands
Ownership: Privately owned
Name of Port Authority: Maja
Throughput Capacity: approx. 4 million tons a year
Vessel Size Limitation: Capesize vessels discharging on the buoys
Additional Information: Floating operation with floating cranes in the ports of Amsterdam and Rotterdam. Operating with 8 floating cranes with capacities upto 1.000 mtph.

Amsterdam
Rietlanden Terminals BV

PO Box 59191
Amsterdam
1040KD
The Netherlands
Contact: Mr Karl Schot
Job Title: Managing Director
T: + 31 20 506 1144
F: + 31 20 613 0724
E: karl.schot@rietlanden.com
W: www.rietlanden.com
Import: yes
Location: The Netherlands, Europe
Ownership: LBH Group
Name of Port Authority: Reitlanden Stevedores

Dordrecht
BV Zeehavenbedrijf Dordrecht (ZHD Stevedoring)

PO Box 12
Dordrecht
3300 AA
The Netherlands
Contact: Mr Leo Lokker
Job Title: Commercial Director
T: + 31 78 61 11 009
F: + 31 78 63 32 815
E: leo.lokker@zhd.nl
W: www.zhd.nl
Import: yes
Location: Rotterdam Area (Rotterdam, Dordrecht, Moerdijk)
Ownership: Bornet Group Rotterdam (BGR)
Name of Port Authority: Rotterdam Port Authority (location Dordrecht and Rotterdam) Havenschap Moerdijk (location Moerdijk)
Throughput Capacity: Depending on cranes and location. Floating cranes and shore cranes in Dordrecht can achieve up to 20.000 tons / 24h
Total Storage: 18 hectares terminal in Dordrecht (expansion plan of 10 hectares greenfield)
Vessel Size Limitation: Dordrecht / Moerdijk terminals: 200 m. Loa, 32,5 m. beam and 9,45 m. draught in Dordrecht and 8,40 m. in Moerdijk. (lightering in Rotterdam by means of floating cranes can be arranged) Rotterdam (board-board) : up to Panamax size vessels.
Additional Information: ZHD is a family owned private company, with terminals in Dordrecht and Moerdijk. ZHD is also active with self-propelled floating cranes (16, 25 and 50 tons !) in Rotterdam for direct transhipment. ZHD can provide a 24/7 service at all their locations.

Ijmuiden
Tata Steel Logistics & Shipping BV

PO Box 512
Ijmuiden
1970 AM
The Netherlands
Contact: Mr Marcel Botterhuis
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F: + 31 251 470279
E: marcel.botterhuis@tatasteel.com
W: www.tatasteel-ls.com

Rotterdam
Marcor Stevedoring BV Rotterdam

Dodewaardstraat 14
(Port Number 2175)
Rotterdam
3087 BA
The Netherlands
Contact: Mr Aad Groenenboom
Job Title: Director
T: + 31 10 299 21 21
F: + 31 10 299 21 22
E: a.groenenboom@marcor.nl
W: www.marcor.nl
Import: yes
Location: Rotterdam, The Netherlands
Throughput Capacity: 6 million tonnes (including coal)
Total Storage: Unique floating storage capacity that handles about 40,000 tonnes.
Vessel Size Limitation: No limitations, due to flexibility of the equipment to handle any vessel throughout the port of Rotterdam
Additional Information: 4 floating cranes with capacity up to 36 mton and 2 floating weighing towers; handling all dry bulk commodities.

Rotterdam
Van Uden Stevedoring

Gustoweg 68
(Port number 385)
Rotterdam
3029 AS
The Netherlands
Contact: Mr Gerard de Jong
T: + 31 10 476 0171
F: + 31 10 476 1927
E: g.dejong@vanudenstevedoring.nl
W: www.vanuden.nl
Location: Rotterdam, The Netherlands
Throughput Capacity: 1.7 million tonnes per year (including coal)
Total Storage: 50,000 sqm
Vessel Size Limitation: Maximum draft facilities are 10.2 meters at high tide and 9.65 meters at low tide

Rotterdam
Ertsoverslagbedrijf Europoort C.V. (EECV)

Markweg 131, port number 6250
Europoort
Rotterdam
Zuid-Holland
3198 NB
The Netherlands
Contact: Mr Burkhard Decker
Job Title: Management Board
T: + 31 181 25 77 02
F: + 31 181 25 77 03
E: Info.eecv@thyssenkrupp.com
W: www.eecv.nl

Import: yes
Export: yes
Location: Europoort – Rotterdam, Holland
Ownership: Part of ThyssenKrupp Steel Europe A.G. and Hüttenwerke Krupp Mannesmann GmbH
Name of Port Authority: Ertsoverslagbedrijf Europoort C.V. (EECV)
Throughput Capacity: 7 million tons
Total Storage: 1,300,000 tons
Vessel Size Limitation: 180,00 DWT

Rotterdam
Europees-Massagoed Overslagbedrijf (EMO) BV

PO Box 9000
Maasvlakte RT
Rotterdam
3199 XA
The Netherlands
Contact: Mr Sjaak Roukema
Job Title: Commercial Manager
T: + 31 181 371113
F: + 31 181 371222
E: j.c.roukema@emo.nl
W: www.emo.nl
Location: Rotterdam-Maasulante
Throughput Capacity: 60 mio tons
Total Storage: 170 ha of storage, maximum storage capacity of 7 mio tons
Vessel Size Limitation: Draught 23m, max vessel size 360,000 dwt
Additional Information: EMO ensures an important part of the supply chain of iron ore and coal needed for the European steel and electricity industry.

Rotterdam
European Bulk Services (EBS) BV

Elbeweg 117, Port number 5820
3198 LC Europoort-Rotterdam
P.O. Box 1204
180 AE Rozenburg
Rotterdam
Zuid Holland
3180 AE
The Netherlands
Contact: Mr Taco de Vries
Job Title: Managing Director
T: + 31 181 258 147
F: + 31 181 258 154
E: sales@ebsbulk.nl
W: www.ebsbulk.nl
Location: Rotterdam, The Netherlands
Europoort Terminal and Laurenshaven Terminal
Ownership: HES nternational
Name of Port Authority: Port of Rotterdam

It's in our character

The port is our life. Hands-on mentality, hard work and accessible people, that's our character. Anyone who gets to know Zeeland Seaports becomes acquainted with professionals who are proud of their ports. We understand that your interests are also our interests. Clients come first. Always. We know what's important to your company. That's all in our character, and one of our many strengths:

- **location on open sea**
- **draft of 16.5 metres**
- **congestion-free connections with the hinterland**
- **no nine-to-five mentality**
- **accessible ports and people**
- **dedicated terminals for a broad range of cargo**
- **you can reach us 24/7 at +31 115 647400**

ports of vlissingen and terneuzen
www.zeelandseaports.com

driven by dedication

zeeland seaports

Throughput Capacity: 16 million tons per year (inc. coal)
Total Storage: Covered storage capacity 430,000 m3. Open-air storage capacity 1,000,000 tons.
Vessel Size Limitation: Depth 13.85m Laurenshaven
Depth 18.50m Europoort
Additional Information: Two dedicated terminals situated at strategic points to provide a fast, efficient and flexible service. For the cleaning of (Russian) coal, Magnet separators have been installed at the Laurenshaven terminal.

ROZENBURG

EP Shipping & Trading BV

PO Box 1050
Rozenburg
3180 AB
The Netherlands
Contact: Mr Eddy Van de Wijingaart (snr)
T: + 31 181 402 788
F: + 31 181 402 689
E: eps@epship.nl
W: www.epship.nl

SCHIEDAM

Nieuwe Waterweg Silo BV

Nieuwe Waterwegstraat 55
(Port 542)
Schiedam
3115 HE
The Netherlands
Contact: Mr Jan Maasdam
Job Title: Managing Director
T: + 31 10 427 12 30
F: + 31 10 473 75 73
E: info@nwsilo.nl
W: www.nwsilo.nl
Location: Rotterdam, The Netherlands
Total Storage: 5,000 tonnes
Vessel Size Limitation: Draught: 8-8.5m, width: 20-25m, length: 200m

TERNEUZEN

Zeeland Seaports

PO Box 132
Terneuzen
4530 AC
The Netherlands
Contact: Mr Francesco Faes
Job Title: Commercial Manager - Dry Bulk
T: + 31 115 647 400
F: + 31 115 647 500
E: francesco.faes@zeelandseaports.com
W: www.zeelandseaports.com
Import: yes
Export: yes
Location: South West of the Netherlands, at the entrance of the Westerschelde River, with open access to the Northsea.
Name of Port Authority: Zeeland Seaports
Throughput Capacity: Throughput solid fuels in 2013: 11 mio tonnes
Vessel Size Limitation: Max draught 17,5 LAT
Additional Information: Terminal

OVET B.V.

www.ovet.nl

Quality in bulk

Mr. F.J. Haarmanweg 16d
4538 AR Terneuzen
The Netherlands

Tel.: +31 115 676 700
Fax: +31 115 620 316
E-mail: info@ovet.nl

Contact: Mr. Bram Peters
Mr. Sander van der Veeke

- 4 floating cranes
- 80,000 t/day capacity
- Screening/crushing facilities
- Terminals in Terneuzen and Vlissingen
- Train loading station
- Draught 16.50 m SW

operator for coal: OVET B.V.
www.ovet.nl

TERNEUZEN
Ovet BV - Terneuzen Terminal
Mr F.J. Haarmanweg 16 d
Terneuzen
Zeeland
NL-4538 AR
The Netherlands
Contact: Mr Sander ven der Veeke
Job Title: Account & Planning Manager
T: + 31 115 676 741
F: + 31 115 620 316
E: info@ovet.nl
W: www.ovet.nl
Import: yes
Export: yes
Location: The Netherlands, South-West Area (River Scheldt)
Ownership: 50,1% Oxbow Energy Solutions
49,9% Hes International BV
Name of Port Authority: Zeeland Seaports
Throughput Capacity: 12 MTA
Total Storage: Terneuzen 160,000 sqm; Flushing: 315,000 sqm
Vessel Size Limitation:
Terneuzen - loa 265m, width 34m, draught 12.50m fresh water, type panamax
Vlissingen - loa 310m, no beam restrictions, draught 16.5m salt water, type capesize
Additional Information: 4 floating cranes / mobile crane(s) / screening plants / weighbridge / mobile conveyor belt system

VLAARDINGEN
Rotterdam Bulk Terminal (R.B.T.) B.V.
Schiedamsedijk 16
(Harbour no. 610)
Vlaardingen
South Holland
3134 KK
The Netherlands
Contact: Mrs Carola Broers-Keuning
Job Title: Director
T: + 31 10 234 35 55
F: + 31 10 234 21 85
E: info@rbtrotterdam.com
W: www.rbtrotterdam.com
Import: yes
Location: Rotterdam, The Netherlands
Name of Port Authority: Port of Rotterdam
Throughput Capacity: 3.2 million tonnes of dry bulk (2007), 26% coal-cokes
Total Storage: Open storage: 36,000 sqm
Covered storage facilities:
6 x 12,000 cbm steel silos
2 x 3,800 cbm concrete bunkers
4 x 1,900 cbm concrete bunkers
5 x 1,250 cbm concrete bunkers
1 x 2,250 cbm steel silo
1 x 3,000 cbm steel silo
22,000 cbm / 3,700 sqm shed
Vessel Size Limitation: Draught: 11.35m. (High tide 12m)
Quaylength: 525m
Additional Information: Storage & handling for all bulk commodities with a 24 hour service.

VLISSINGEN
Ovet BV - Vlissingen Terminal
Mr F.J. Haarmanweg 16 d
Terneuzen
Zeeland
NL-4538 AR
The Netherlands
Contact: Mr Sander van der Veeke
Job Title: Account & Planning Manager
T: + 31 115 676 741
F: + 31 115 620 316
E: info@ovet.nl
W: www.ovet.nl
Import: yes
Export: yes
Location: The Netherlands, South-West Area (River Scheldt)
Ownership: 50,1% Oxbow / 49,9% HES International
Name of Port Authority: Zeeland Seaports
Throughput Capacity: 15 MTA
Total Storage: Terneuzen 160,000 sqm; Flushing: 315,000 sqm
Vessel Size Limitation:
Terneuzen - loa 265m, width 34m, draught 12.50m fresh water, type panamax
Vlissingen - loa 310m, no beam restrictions, draught 16.5m salt water, type capesize
Additional Information: 4 floating cranes / mobile crane(s) / screening plants / weighbridge / mobile conveyor belt system/ trainloading station 1500 t/h. / crushing / blending / grinding / truck loading

TURKEY

ISTANBUL
Toros Tarim Sanayi ve Ticaret A -TOROS Ceyhan Term
Buyukdere Caddesi
Tekfen Tower, 19th Floor
4 Levent
Sisli
Istanbul
Marmara
34394
Turkey
Contact: Mr Aydin Erdemir
Job Title: Vice President - Terminal & Port Activities
T: + 90 212 357 02 02 ext. 284/286
F: + 90 212 357 02 31
E: aydin.erdemir@toros.com.tr
W: www.toros.com.tr
Import: yes
Ownership: TEKFEN HOLDING.(www.tekfen.com.tr)
Name of Port Authority: BOTAS
Throughput Capacity: 17 million ton
Total Storage: 750.000 sqm
Vessel Size Limitation: 300 m - 13.50 m - 110.000 DWT
Additional Information: Toros Ceyhan Terminal is one of the biggest coal import facilities in Turkey. Equipped with deep-sea berthing facilities, it is supported by high capacity loading/ unloading equipment able to handle bulk materials up to 30,000 mtpd at each of its two main berths.

UK

AYR
Ayr
ABP Port Office
Ayr
Ayrshire
KA8 8AH
UK
Contact: Mr P Creswell
Job Title: Port Manager
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F: + 44 1292 287 787
E: ayr@abports.co.uk
W: www.abports.co.uk

BOOTLE
E-ON UK Liverpool
Bulk Terminal
Gladstone Dock
Bootle
Merseyside
L20 1BE
UK
Contact: Mr Ken Jones
T: + 44 151 933 0860
F: + 44 151 933 0867
E: ken.jones@eon-uk.com

BRISTOL
The Bristol Port Company
St Andrews House
St Andrews Road
Avonmouth
Bristol
Avon
BS11 9DQ
UK
Contact: Mrs Jullie Gough
Job Title: Commercial Executive
T: + 44 117 982 0000
F: + 44 117 982 0698
E: julie.gough@bristolport.co.uk
W: www.bristolport.co.uk
Import: yes
Location: South West England
Ownership: Private - Bristol Port Company
Name of Port Authority: The Bristol Port Company
Throughput Capacity: 11 million Coal
Total Storage: 700,000 tonnes of Coal
Vessel Size Limitation: LOA 290m
Draught 14.5m
Beam 41m

CARDIFF
ABP South Wales (Ports of Newport,
Cardiff, Barry, Port Talbot & Swansea)
Queen Alexandra House
Cargo Road
Cardiff
South Glamorgan
CF10 4LY
UK
Contact: Mr Matthew Kennerly
Job Title: Port Director
T: + 44 870 609 6699
F: + 44 2920 835001
E: mkennerly@abports.co.uk
W: www.abports.co.uk
Import: yes
Export: yes
Location: South Coast of Wales, UK
Ownership: Borealis 33.34%, GIC 33.33%, Goldman Sachs 23.33%, Infracapital 10%
Name of Port Authority: Associated British Ports
Throughput Capacity: > 20 million tonnes (all cargo)
Total Storage: Extensive development land available
Vessel Size Limitation: Up to 170,000 dwt at Port Talbot

GLASGOW
Clydeport Operations
16 Robertson Street
Glasgow
Ayrshire
G2 8DS
UK
Contact: Mr David Jerome
Job Title: Marketing
T: + 44 141 221 8733
E: david.jerome@clydeport.co.uk
W: www.clydeport.co.uk
Import: yes
Location: Located in Fairlie, near Largs on the Ayrshire coast of Scotland
Name of Port Authority: Clydeport
Total Storage: 1.3 million tonnes
Vessel Size Limitation: Outer Berth: DWT 350,000, Max draft 23m
Inner Berth: DWT 95,000, Max draft 19.8m
Additional Information: Hunterston has one of the deepest sea entrance channels in northern Europe, which can accommodate the largest cape size vessels afloat. Discharging rates are the fastest in the UK, ensuring efficient and cost effective movement of materials.

GRANGEMOUTH
Leith Docks
Forth Ports PLC
Carron House
Central Dock Road
Grangemouth
Scotland
SK38TY
UK
Contact: Mr Alan C Burns
T: + 44 131 555 8750
F: + 44 131 555 1212
E: alan.burns@forthports.co.uk
W: www.forthports.co.uk

GRANGEMOUTH
Casper Shipping Ltd
2nd Floor
5 Kerse Road
Grangemouth
FK3 8HQ
UK
Contact: Mr Douglas Couser
Job Title: Office Manager
T: + 44 1324 486486
F: + 44 1324 486444
E: dcouser@casperltd.com
W: www.casperltd.com
Location: Scotland - Serving: Clydeport Hunterston Coal Terminal
Ownership: Privately Limited Company
Name of Port Authority: Clydeport
Throughput Capacity: 3000 tonnes per hour
Total Storage: 50 Hectare
Vessel Size Limitation: Max Length 380m
Max Draught 26m
Up to 350,000dwt

GRIMSBY
Associated British Ports - Grimsby & Immingham
Port Office
Cleethorpe Road
Grimsby
North East Lincolnshire
DN31 3LL
UK
Contact: Mr John Fitzgerald
Job Title: Port Director
T: + 44 1472 359 181
F: + 44 1472 242 488
E: jfitzgerald@abports.co.uk
W: www.abports.co.uk
Import: yes
Export: yes
Location: Central Coast of England, Humber International Terminal
Ownership: Associated British Ports
Throughput Capacity: Phase 1 capacity 7.5 million tonnes. Work has commenced on the second phase of the terminal.
Total Storage: Open storage areas for 500,000 tonnes plus 10,000sqm of general purpose warehousing.
Vessel Size Limitation: LOA: 275m (suitable vessels up to 290m accepted with Dock Master's approval)
Beam: 45m
Draught: 14.2m (subject to tidal / siltation conditions)
Approx DW**T:** 200,000 (partly laden)
Additional Information: The first phase of Humber International Terminal is capable of handling vessels carrying cargoes in excess of 100,000 tonnes. The rail-connected terminal offers 24-hr fully flexible working and is supported bv four 100-tonne mobile harbour cranes.
Work on the second phase of the terminal has commenced and will provide a dedicated bulk-handling facility due to be operational during 2006.

HULL
Hull Agency (Goole)
Casper Shipping Ltd
Saltend Office DL1 (Upper Floor)
Saltend Hedon
Near Hull
East Yorkshire
HU12 8DS
UK
Contact: Mr Don Mussett
T: + 44 1482 891533
F: + 44 1482 891186
E: hull@casperltd.com
W: www.casperltd.com
Import: yes
Location: Humberside
Ownership: Private limited company
Name of Port Authority: Hull Bulk Handling (Fernwood group)
King George Dock Hull
Throughput Capacity: 2,000,000 tonnes 2004 estimated
Total Storage: 17 hectares
Vessel Size Limitation: Beam 25.50m max, Loa 199m (can be exceeded with special permission), Draft 10.4m max (the dock is impounded to 11.3m)
On certain neap tides max draft of vessels entering can be as poor as 9.5m due to water levels in the River Humber

IMMINGHAM
Casper Shipping Ltd
Riverside House
East Riverside
Immingham
NE Lincolnshire
DN40 2LZ
UK
Contact: Mr David Healey
T: + 44 1469 575 246
F: + 44 1469 575 589
E: immingham@casperltd.com
W: www.casperltd.com
Import: yes
Ownership: Private Limited Company
Name of Port Authority: ABP
Throughput Capacity: 7.2 m in 2004
Total Storage: Unlimited
Vessel Size Limitation: LOA 295m – Beam 45m – Max Draught 14.20m
Additional Information: Draught depending on tidal conditions, draught planner available on request.

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COOPER/CONSOLIDATED

Telephone +1 985 871-4403
www.cooperconsolidated.com • sales@cooper-consolidated.com

the COOPER GROUP of companies
www.coopertsmith.com

CTLC
CONSOLIDATED TERMINALS AND LOGISTICS CO.
A Division of GII Enterprises, Inc.
www.ctlconline.com

Liverpool
Mersey Docks & Harbour Company
Maritime Centre
Port of Liverpool
Liverpool
Merseyside
L21 1LA
UK
Contact: Mr Vic Brodrick
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F: + 44 151 949 6300
E: vic.brodrick@peelports.co.uk
W: www.merseydocks.co.uk

Middlesbrough
Casper Shipping Ltd
Cleveland Business Centre
1 Watson Street
Middlesbrough
Cleveland
TS1 2RQ
UK
Contact: Mr Michael Shakesheff
Job Title: Managing Director
T: + 44 1642 233 570
F: + 44 1642 243 936
E: mshakesheff@casperltd.com
W: www.casperltd.com
Location: Redcar, Hull, Immingham, Blyth and Hunterston

Newport
ABP - Port of Newport
Dock Office
Alexandra Dock
Newport
Gwent NP20 2UW
UK
Contact: Mr Clive Thomas
Job Title: Deputy Port Manager
T: + 44 870 609 6699
F: + 44 1633 221285
E: cjthomas@abports.co.uk
W: www.abports.co.uk
Import: yes
Export: yes
Location: South-East Wales
Ownership: Port is owned and operated by Associated British Ports
Name of Port Authority: Associated British Ports
Throughput Capacity: Currently circa 2 million tonnes. 1.4 million tonnes imported in 2006.
Total Storage: Circa 100,000 sq m
Vessel Size Limitation: Handymax vessels up to circa 40,000 dwt
LOA- 244m
Beam - 30.1m
Draught - 10.4m
Additional Information: Dedicated terminal able to accommodate two vessels of up to 40,000 dwt simultaneously with rail facility for re-loading/discharge to/from South-Wales, the Midlands and beyond. Coal washing, screening and blending available on port estate.

Newport
Newport Stevedores Ltd
Eastway Road, North Dock
Alexandra Dock
Newport
Gwent
NP9 2NP
UK
Contact: Mr Matthew Kennerley
Job Title: Port Director
T: + 44 1633 220969
F: + 44 1633 221371
E: info@abports.co.uk

Nottingham
Hull Bulk Handling Ltd
Fernwood House
Fernwood Drive
Main Road
Watnall
Nottingham
NG16 1LA
UK
Contact: Mr Charles Holehouse
Job Title: Managing Director
T: + 44 11 593 893 78
F: + 44 1482 784 895
E: charles.holehouse@fernwood.co.uk
W: www.hullbulk.co.uk
Import: yes
Export: yes
Location: Queen Elizabeth Dock, Port of Hull, East Coast UK, Humber Estuary
Ownership: Privately owned Limited company
Name of Port Authority: Associated British Ports
Throughput Capacity: 3.5 million tonnes per annum
Total Storage: 161880 square metres.
Covered storage capacity currently under construction.
Vessel Size Limitation: Max LOA: 198m
Max Beam: 25.5m
Max draught including approach channels 10.4m, basis brackish with an SPG of 1011. Draught in approach channel subject to tidal conditions. Average vessel size: 30,000dwt.
Average vessel size: 30,000 dwt.
Additional Information: Hull Bulk Handling is road, rail and barge connected for the onward despatch of all bulk products. Mobile screening and washing plants are also available on site along with 5 acres of tarmac bunkered storage.

South Shields
Port of Tyne
Maritime House
Tyne Dock
South Shields
Tyne & Wear
NE34 9PT
UK
Contact: Ms Lisa Donohoe
T: + 44 191 455 2671
F: + 44 191 454 1460
E: lisa.donohoe@portoftyne.co.uk
W: www.portoftyne.co.uk
Import: yes
Location: North East of England on the North Coast
Name of Port Authority: Port of Tyne
Throughput Capacity: 2.2 million tonnes in 2007
Total Storage: 334,603sqm
Vessel Size Limitation: Length = 750m, Beam = 35m, Depth = 12.1m @ Chart Datum
Additional Information: The Port of Tyne is Port Operator of the Year, Lloyd's List London Awards 2008 and is the only UK deep river port to provide total supply chain management in-house.

Swansea
ABP - Port of Swansea
Dock Office
Alexandra Dock
Newport
Gwent
NP20 2UW
UK
Contact: Mr Clive Thomas
Job Title: Deputy Port Manager
T: + 44 870 609 6699
F: + 44 1633 221285
E: cjthomas@abports.co.uk
W: www.abports.co.uk/swansea
Import: yes
Export: yes
Location: Swansea, South Wales
Ownership: Port is owned and operated by Associated British Ports
Name of Port Authority: Associated British Ports
Throughput Capacity: Currently circa 0.5 million tonnes. 20k tonnes imported in 2006 and 80k tonnes exported in 2006
Total Storage: Circa 40,000 sq m with development land for expansion
Vessel Size Limitation: Handysize vessels up to circa 30,000 dwt
LOA- 200m
Beam- 26.2m
Draught- 9.9m
Additional Information: Two-rail connected terminals for grab discharge/loading as well as specialised soft-loading operation using container-tipping equipment. Adjacent land licensed for storage, screening and blending of coal and other bulk products.

Ukraine

Odessa
Transinvestservice (TIS) Ltd
50 Chapayev Str
Vizirka Village
Kominternovo District
Odessa
67543
Ukraine
Contact: Mr Andrey Stavnitser
Job Title: Deputy Director
T: + 380 482 300 711
F: + 380 482 300 735
E: mail@tis.ua
W: www.tis.ua

Reni
Port of Reni
188 Dunayskaya Str.
Reni
Odessa
68802
Ukraine
Contact: Mr Sergey Stroya
Job Title: General Director
T: + 380 4840 43548
F: + 380 4840 41484
E: chief_p@reni.uptel.net
W: www.portreni.com.ua
Import: yes
Export: yes
Location: Located within the navigable area of the Danube, between 66.7 and 69.3 miles, at a distance of 63 miles from the estuary (128 km from the Black Sea).
Ownership: Ukraine, Russia, Rumania
Name of Port Authority: Commercial Sea Port of Reni
Throughput Capacity: 3,000 - 4,000 tons
Total Storage: 60,000 sqm
Vessel Size Limitation: The Reni Port is capable of handling any vessels with an adequate draught enabling them to pass the Sulinsky Canal (6-8 m), which connects the Danube with the Black Sea.
Additional Information: - receiving and dispatching all kinds of cargoes (liquefied gas, oil products included) by sea, river, railway and motor means of transport in any lots.

USA

Arabi
Associated Terminals of St Bernard
8000 St. Bernard Hwy
Reserve
Arabi
Louisiana
70032
USA
Contact: Mr Zeljko Franks
Job Title: Vice President
T: + 1 504 277 5101
F: + 1 504 279 8353
E: zfranks@associatedterminals.com
W: www.associatedterminals.com

Argo
Kinder Morgan Terminals
Midwest Regional Office
8500 West 68th Street
Argo
Illinois
60501
USA
Contact: Mr William Patterson
T: + 1 708 496 2891
F: + 1 708 496 2540
E: william_patterson@kindermorgan.com
W: www.kindermorgan.com
Location: Cincinnati, OH, USA
Ownership: Kinder Morgan Terminals
Throughput Capacity: 7,500 tons per month
Total Storage: Outside Bulk – 20,000 Tons
Warehouse – 3,000 Tons
Vessel Size Limitation: Max Draft - 11 feet
Additional Information: Can handle 3 barges at any one time. Barge to truck/ barge to pad to truck. 3rd party storage of coal

Baltimore
Baltimore Terminal
CNX Marine Terminals Inc.
3800 Newgate Avenue
Baltimore
Maryland
MD 21224-6404
USA
Contact: Mr Chris Marsh
Job Title: Vice President
T: + 1 410 631 6426
F: + 1 410 631 6425
E: chrismarsh@consolenergy.com
W: www.consolenergy.com
Export: yes
Location: Baltimore, MD 21224 USA
Ownership: CONSOL Energy Inc.
Name of Port Authority: Maryland Port Administration
Throughput Capacity: 18 million net tpa
Total Storage: 1.3 million tons
Vessel Size Limitation: Cape size. Dock Length: 1,150 ft., Depth at Dockside: 50 ft., Maximum Draught: 50 ft.
Additional Information: Track Accessibility: 4 Inbound - 500 car capacity
Rail Service: NS & CSX

Baton Rouge
Louisiana Mid-Stream Terminals, LLC
8280 YMCA Plaza Drive #2
Baton Rouge
LA
70810
USA
Contact:
T: + 1 225 324 6038
F: + 1 225 767 9648
E: traffic@lamidstream.com
W: www.cooperconsolidated.com
Export: yes
Location: CGB LaPlace, Louisiana, USA (LMR MP 133-135 AHP)
Name of Port Authority: Ports of South Louisiana
Throughput Capacity: 6 million tonnes
Total Storage: N/A, mid-stream transfer
Vessel Size Limitation: No Restrictions – Governed by SWP Draught
Additional Information: Louisiana Mid-Stream One (LMO) - a unique barge-mounted conveying system providing coal and petroleum coke exporters from the Mississippi River with quality control features such as mechanical sampling, magnet, belt scale, and water drainage.

Canonsburg
CONSOL Energy Inc.
CNX Center
1000 Consol Energy Drive
Canonsburg
PA
15317-6506
USA
Contact: Mr Christopher Marsh
Job Title: General Manager
T: + 1 410 631 6419
E: regispeternel@consolenergy.com
W: www.consolenergy.com

Ceredo
Kanawha River Terminal Inc
Main and River
PO Box 308
Ceredo
West Virginia
25507
USA
Contact: Mr Matt Gaston
Job Title: Manager
T: + 1 304 526 0753
F: + 1 304 453 5521
Location: Ohio River, Ceredo, WV
Throughput Capacity: 9 million tons

Charleston
Kinder Morgan Terminals - Shipyard River Terminal
Mid Atlantic Regional Office
1801 Milford Street
Charleston
South Carolina
29405
USA
Contact:
T: + 1 843 843 0543
F: + 1 843 853 3367
W: www.kindermorgan.com
Import: yes
Location: Charleston, SC, USA
Ownership: Kinder Morgan Terminals
Throughput Capacity: 4,000,000 tons per year
Total Storage: 250,000 Tons Open Storage
50,000 Tons Covered Storage
Vessel Size Limitation: Max LOA 750 ft
Max beam 106 feet
Max draft 45 feet
Additional Information: Two floating gantry cranes for ship discharge. 20,000 MTPD capacity.

Chicago
KCBX Terminals Company
10730 South Burley Ave.
Chicago
IL
60617
USA
Contact: Mr Tom Kramer
Job Title: General Manager
T: + 1 773 933 5302
F: + 1 773 933 5309
E: kramert@kochind.com

Conneaut
Pittsburgh & Conneaut Dock Co.
950 Ford Ave
Conneaut
Ohio
44030
USA
Contact: Mr James Rogers
Job Title: Senior Manager of Dock Operations
T: + 1 440 599 0242
F: + 1 440 599 0245
E: James.Rogers@cnworldwide.com
W: www.cn.ca

Convent
IC RailMarine Terminal (ICRMT)
7790 LA, Highway 44
Convent
LA
70723
USA
Contact: Mr Bruce Conti
Job Title: President
T: + 1 225 562 5201
F: + 1 225 562 9948
E: bruce.conti@cn.ca
Import: yes
Export: yes
Location: Mississippi River Milepost 161.0 AHP Left descending bank within Port of South Louisiana Boundaries
Ownership: 100% Wholly-owned subsidiary of CN Railroad
Name of Port Authority: South Louisiana
Throughput Capacity: 5-6 million tonnes depending on product
Total Storage: 135,000 sqm
Vessel Size Limitation: Up to Cape size with shifting. Panamax class easily handled. 150' Beam. Over 60' at the dock-access to river controlled by Southwest Pass draught-usually 45'/47'
Additional Information: Only lower Mississippi facility that can handle inbound and outbound 110 car unit trains on site. Multi user-product-mode.

Convent
St. James Stevedoring Partners, LLC
9100 Safety Drive
Convent
LA
70723
USA
Contact: Mr John C Crane
Job Title: Vice President
T: + 1 225 562 3918
F: + 1 225 562 3515
E: jcrane@sjstevedore.com
W: www.sjstevedore.com
Import: yes
Export: yes
Location: Lower Mississippi River between New Orleans and Baton Rouge on the East Bank
Ownership: Privately owned
Name of Port Authority: St. James Stevedoring Co., Inc.
Throughput Capacity: 35 million tons per year at midstream
Total Storage: Two parcels of land totaling 350 acres adjacent to the Mississippi River
Vessel Size Limitation: Vessels are accepted up to the maximum permitted for transiting the lower Mississippi River.
Additional Information: St. James owns and operates 14 floating cranes and 6 unloading anchorage facilities. Proximity to barge operations is the key to our success.
Our marine auger mechanically samples midstream coal.

Cora
Kinder Morgan Terminals - Cora
Mid Atlantic Regional Office
1801 Milford Street
Charleston
South Carolina
29405
USA
Contact: Mr Brian Feyereisen
T: + 1 843 853 0453
F: + 1 843 853 7971
E: brian_feyereisen@kindermorgan.com
W: www.kindermorgan.com
Location: Cora Terminal, Rockwood, Illinois, USA
Ownership: Kinder Morgan Terminals
Name of Port Authority: Kinder Morgan Terminals
Throughput Capacity: 5MM NT
Total Storage: (3) Warehouses totaling 72,000 NT of storage. Silo cluster of (16) 3,500 ton silos (12 available).
40 acres open storage
Vessel Size Limitation: River Barge Dock. Can accept a 30 barge tow. Can handle 100 barges on site.
Additional Information: 3rd party storage of coal

Corpus Christi
Boyd-Campbell Company
210 S.Carancahua
Suite 620
Corpus Christi
Texas
78401
USA
Contact: Mr Sonny Boyd
Job Title: Manager/Agent
T: + 1 361 884 9321
F: + 1 361 884 9067
E: agency@boyd-campbell.com

Corpus Christi
Port of Corpus Christi - Bulk Terminal
PO Box 1541
222 Power Street
Corpus Christi
TX
78403
USA
Contact: Mr Paul (Skip) Kaup
Job Title: Bulk Terminal Manager
T: + 1 361 883 1162
F: + 1 361 883 1652
E: paulg@pocca.com
W: www.portofcorpuschristi.com
Import: yes
Export: yes
Location: Mid-way along the Texas coast on the Gulf of Mexico
Name of Port Authority: Port of Corpus Christi Authority
Throughput Capacity: 8.2 million tons dry bulk as of 2012
Total Storage: 125 acres of open storage and fabrication sites
Vessel Size Limitation: Dry bulk dock 1: Max draught 34ft
Dry bulk dock 2: Max draught 45ft
Additional Information: The Port of Corpus Christi has plans drawn to increase capacity within the near future, with new rail loop and rail unloading capacity. Additional loading equipment is also in the future plans. We have acreage available for expansion.

Covington
Cooper/Consolidated
1127 Highway 190
East Service Road
Covington
LA
70433-4929
USA
Contact: Mr Ed K Laurendine
Job Title: Snr Vice President
T: + 1 251 431 6156
F: + 1 225 473 6161
E: ed.laurendine@coopertsmith.com
W: www.coopertsmith.com
Import: yes
Export: yes
Location: Mobile, U.S.Gulf; U.S East Coast; Mexico Gulf Coast
Ownership: Cooper T Smith Corp.
Throughput Capacity: 10,000,000 tpa

Darrow
Burnside Bulk Marine Terminal
4258 Highway 44
Darrow
LA
70725
USA
Contact: Mr Mike Tenchuk
Job Title: CEO
T: + 1 225 289 5211
F: + 1 225 474 3719
E: mike.tenchuk@ormet.com
W: www.burnsideterminal.com
Import: yes
Export: yes
Location: 30º 08'N, 90º 55'W at Mile 170 above Head of Passes at Mississippi River entrance
Ownership: Ormet Primary Aluminium Corporation
Name of Port Authority: Burnside Bulk Marine Terminal
Throughput Capacity: 6.5 mtpa
Total Storage: 500,000 t
Vessel Size Limitation: Panamax
Additional Information: Barge-mounted Amclyde Model 28 High-Speed Clamshell Crane

Davant
United Bulk Terminals - Davant
14537 Hwy 15
Davant
LA
70040
USA
Contact: Mr Brian Miles
Job Title: Vice President of Sales & Marketing
T: + 1 504 301 9193
E: brian.miles@unitedbulkterminals.com
W: www.unitedbulkterminals.com
Import: yes
Export: yes
Location: US Gulf Coast
Ownership: Oiltanking / Marquard & Bahls
Name of Port Authority: Plaquemine's Port Authority
Throughput Capacity: 12 million tons of dry bulk annually
Total Storage: 4.5 million tons
Vessel Size Limitation: No 1 Dock: Max LOA 750', Max beam 106'
No 2 Dock: Max LOA 750', Max beam 103'
Additional Information: First inland terminal on the Mississippi (mile marker 55)
Capable of loading two Panamax vessels simultaneously
Fleeting Capacity of 566 barges

Decatur
Kinder Morgan Terminals - Decatur
Lower River Regional Office
7116 Highway 22
PO Box 625
Sorrento
LA
70778-0625
USA
Contact: Mr Hans Luetkemeier
Job Title: Commercial Director
T: + 1 225 675 0308
F: + 1 225 675 8259
E: hans_luetkemeier@kindermorgan.com
W: www.kindermorgan.com/bulk_terminals/
Location: Lower Mississippi River, USA; Hampton Roads, Virginia, USA.
Name of Port Authority: Kinder Morgan Terminals
Throughput Capacity: Approx. 10,000,000 tpa Lower Mississippi River; Approx. 14,000,000 tpa Hampton Roads
Total Storage: Up to 2.2 million tons, Lower Mississippi River; Up to 1.2 million tons, Hampton Roads.
Vessel Size Limitation: Up to mini Capesize vessel, Lower Mississippi River; Up to Capesize vessel, Hampton Roads
Additional Information: Kinder Morgan has a number of facilities on several coasts which handle coal. The Kinder Morgan network handled over 31,000,000 tons of coal in 2010, including export and domestic movements.

Decatur
ARTCO
4666 Faries Parkway
Decatur
IL
62526
USA
Contact: Mr Kevin Van Meter
Job Title: Director
T: + 1 217 424 5556
F: + 1 217 451 4122
E: kevin.vanmeter@adm.com
W: www.admworld.com

Duluth
Krech Ojard & Assoc
227 W 1st St
Suite 200
Duluth
Minnesota
55082
USA
Contact: Mr Kevin Ehrenreich
Job Title: Director Infrastructure Services
T: +1 218 727 3282
F: +1 218 727 1216
E: kevin.ehrenreich@krechojard.com
W: www.krechojard.com

Evansville
Kinder Morgan Terminals - Evansville
Midwest Regional Office
8500 West 68th Street
Argo
Illinois
60501
USA
Contact: Mr Roy Cook
T: + 1 414 769 1901 ext-120
F: + 1 414 769 1144
E: roy_cook@kindermorgan.com
W: www.kindermorgan.com
Location: Evansville, Indiana, USA
Ownership: Kinder Morgan Terminals
Name of Port Authority: Port of Evansville
Throughput Capacity: 7,500 tons per month
Total Storage: 3,000 tons
130,000 sq. ft. of heated warehouse space
142' Diameter Dome
Vessel Size Limitation: Max Draught - 9' 6"
Additional Information: Can handle 3 barges at one time. Barge to truck/ barge to storage. 3rd party storage of coal.

Georgetown
Stevedoring Services of America (SSA)
609 Kaminski Street
Georgetown
SC
29442
USA
Contact: Mr Buddy Wiggins
Job Title: Operations Manager
T: + 1 843 971 2900
F: + 1 843 971 2919
E: buddy.wiggins@ssamarine.com

Georgetown
WSI of the Southeast llc
PO Box 1498
Georgetown
SC
29442
USA
Contact: Mr Perry Collins
Job Title: General Manager
T: + 1 843 527 2823
F: + 1 843 527 1179
E: perry.collins@wsijason.com
W: www.wsijason.com
Additional Information: We offer traveling crane operators for self-sustaining vessels in all U.S. ports.

Grand Rivers
Kinder Morgan Terminals - Grand Rivers
Mid Atlantic Regional Office
1801 Milford Street
Charleston
South Carolina
29405
USA
Contact:
T: + 1 843 722 2878
F: + 1 843 722 5720
W: www.kindermorgan.com
Location: Grand Rivers Terminal, Grand Rivers, Kentucky, USA
Ownership: Kinder Morgan Terminals
Total Storage: 1,000,000 tons
Vessel Size Limitation: Can handle 30' x 200' barges
12' max draft
Can handle up to 70 barges in fleet at one time
Additional Information: 3rd party storage of coal

Houston
Cooper/T. Smith Stevedoring
2315 McCarty Drive

Houston
Texas
77029
USA
Contact: Mr Britton Cooper
Job Title: Vice President Operations
T: + 1 713 675 0017
F: + 1 713 675 2370
E: britton.cooper@coopertsmith.com
W: www.coopertsmith.com

Houston
Texas Terminals LP
15902 Peninsula Blvd
Houston
Texas
77015
USA
Contact: Mr Robert Schwarz
Job Title: General Manager
T: + 1 281 457 3131
F: + 1 281 457 3232
E: Info@TexasTerminals.com
W: http://texasterminals.com/

Houston
Tx Tx Corporation
11811 Interstate
10 East
Suite 630
Houston
Texas
77029
USA
Contact: Mr Gary Nixon
T: + 1 713 453 0664
F: + 1 713 453 2756

Jacksonville
Jacksonville Electric Authority
21 West Church St
Jacksonville
FL 32202
USA
Contact: Mr Wanyonyi Kendrick
Job Title: Chief Information Officer
T: + 1 904 665 7217
E: kendwj@jea.com
W: www.jea.com
Import: yes
Location: South East United States

Kenova
Big Sandy Terminal Inc
Big Sandy River Road
Kenova
West Virginia
25530
USA
Contact: Mr Alan Johnson
Job Title: President
T: + 1 304 453 4000
F: + 1 304 453 1117
E: alan.johnson@nscorp.com
Location: Neal, WV
Throughput Capacity: 7 million tons
Total Storage: 250,000 tons

Long Beach
Oxbow Energy Solutions
330 Golden Shore, Suite 210
Long Beach
CA
90802
USA
Contact: Mr Don Covert
Job Title: Facility Manager
T: + 1 409 944 3500
F: + 1 409 944 3523
E: Don.Covert@oxbow.com
W: www.oxbow.com

Long Beach
Cooper/T. Smith Stevedoring
PO Box 229
Long Beach
California
90801
USA
Contact: Mr Ed Viner
Job Title: Assistant Vice President/Operations Manager
T: + 1 562 436 2259
F: + 1 562 590 0547
E: ed.viner@coopertsmith.com
W: www.coopertsmith.com

Long Beach
Metro Ports
720 East E St
Wilmington
California
CA 90744
USA
Contact: Mr Rob Waterman
Job Title: Vice President, Bulk Operations
T: + 1 310 816 6557
F: + 1 310 816 6519
E: rob.waterman@metroports.com
W: www.metsteco.com

Louisville
Schaefer-Cooper Warehousing
7200 Riverport Drive
Louisville
Kentucky
KY 40258
USA
Contact: Mr Jeff McCord
Job Title: Sales Manager
T: + 1 317 374 5240
E: jeff.mccord@coopertsmith.com
W: www.coopertsmith.com
Location: Ohio River
Ownership: Jefferson County, KY, and the City of Louisville
Throughput Capacity: 7 million tons
Total Storage: 200,000 tons

Louisville
Kinder Morgan Terminals - Louisville
Midwest Regional Office
8500 West 68th Street
Argo
Illinois
60501
USA
Contact: Mr William Patterson
T: + 1 708 496 2891
F: + 1 708 496 2540
E: william_patterson@kindermorgan.com
W: www.kindermorgan.com
Location: Louisville, Kentucky, USA
Ownership: Kinder Morgan Terminals
Throughput Capacity: 10,000 tons per month
Total Storage: 132,000 sq ft warehouse
1 acre of outside storage
Vessel Size Limitation: Max Draft - 11 feet
Additional Information: 2 docks which can each handle 1 barge
35 ton bridge crane
225 ton cable crane.
3rd party storage of coal.

Mandeville
Consolidated Terminals & Logistics Company
PO Box 249
Mandeville
LA
70470-0249
USA
Contact: Mr Brent C Mahana
Job Title: Director of Sales & Marketing
T: + 1 985 871 4403
F: + 1 985 867 3509
E: Brent.Mahana@cgb.com
W: www.ctlconline.com
Import: yes
Export: yes
Location: Lower Mississippi River, Arkansas River, Ohio River, Illinois River, Upper Mississippi River
Ownership: Consolidated Terminals & Logistics Company
Name of Port Authority: Ports of S. Louisiana, Ports of Indiana
Throughput Capacity: 20 million tonnes
Total Storage: Various by location
Vessel Size Limitation: Inland River Terminals, Mississippi River Stevedoring
Additional Information: Consolidated Terminals & Logistics Company is a Division of CGB Enterprises, Inc.

Mandeville
Cooper/Consolidated
PO Box 249
Mandeville
LA
70470-0249
USA
Contact: Mr Brent C Mahana
Job Title: General Manager - Sales
T: + 1 985 871 4403
F: + 1 985 867 3509
E: Brent.Mahana@cgb.com
W: www.cooperconsolidated.com
Import: yes
Export: yes
Location: US Gulf & Inland River System
Ownership: Cooper T. Smith Stevedoring
Consolidated Terminals & Logistics Company
Name of Port Authority: Ports of S. Louisiana, Ports of Baton Rouge
Throughput Capacity: 20 million tonnes
Total Storage: Various by location
Vessel Size Limitation: No Restrictions – Governed by SWP Draught
Additional Information: Services offered – Logistic Package Solutions that can be customized to include all or some of the following: Stevedoring, Barging, Fleeting, Vessel Chartering, Inland Terminaling, Trucking, Rail, Warehousing.

Metropolis
AEP/Cook Coal Terminal
PO Box 870 3316 N. US 45 Rd.
Metropolis
IL
62960
USA
Contact: Mr Robert Korte
Job Title: Plant Manager
T: + 1 618 524 9345
F: + 1 618 524 1968
E: rskorte@aep.com
W: www.aep.com

Milwaukee
Milwaukee Bulk Terminals
1900 S Harbour Drive
Milwaukee
WI
53207
USA
Contact: Mr Roy Cook
Job Title: President
T: + 1 414 769 1901 x120
F: + 1 414 769 1144
E: mbtrnc@aol.com

Mobile
Cooper/T. Smith Stevedoring
118 North Royal Street
P O Box 1566
Mobile
Alabama
36602
USA
Contact: Mr John Murray III
Job Title: VP Operations
T: + 1 251 415 7360
F: + 1 251 431 6200
E: john.murray@coopertsmith.com
W: www.coopertsmith.com

Mobile
McDuffie Coal Terminal
Alabama State Port Authority
PO Box 1588
Mobile
Alabama
36633
USA
Contact: Mr Melvin Barnett
Job Title: Superintendent - Operations
T: + 1 251 441 7675
F: + 1 251 441 7216
E: mbarnett@asdd.com
W: www.asdd.com
Import: yes
Export: yes
Location: Gulf coast of America
Name of Port Authority: Alabama State Port Authority
Throughput Capacity: 20 million tonnes
Total Storage: 2.3 million tonnes ground capacity
Vessel Size Limitation: Max Draught 45ft ,1 ship loader max LOA 980' Beam 180' Air Dr.64'
2 ship un-loaders max LOA 900' Beam 140' Air Draught 85'
Additional Information: 3 berths

Mobile
Alabama State Port Authority
PO Box 1588
Mobile
AL
36633
USA
Contact: Mr James K. Lyons
Job Title: Director / CEO
T: + 1 334 441 7202
F: + 1 251 441 7216
E: jlyons@asdd.com
W: www.asdd.com
Import: yes
Export: yes
Location: U.S. Gulf of Mexico, Port of Mobile
Ownership: Own
Name of Port Authority: Alabama State Port Authority
Vessel Size Limitation: 45 ft. draught
Additional Information: Undergoing an expansion. New import berth. Throughput capacity of 30-32 Million Tons when complete.

Monaca
Colona Terminal Services
1755 Pennsylvania Ave
Monaca
Pennsylvania
15061
USA
Contact: Mr Mark McClymonds
Job Title: President
T: + 1 724 368 8040
F: + 1 724 368 0550
E: sales@colonatransfer.com
W: www.colonatransfer.com
Location: 23.5 mile marker on the Ohio River
Ownership: McClymonds Supply & Transit Co Inc
Name of Port Authority: Pittsburgh Port Authority
Throughput Capacity: Can offload a unit train (130 rail cars) in under twelve hours and offload barges at a rate of 450 tph.
Total Storage: 120 acres of open storage and 360,000 square feet of covered warehouse space
Vessel Size Limitation: Harbor can hold up to 60 barges with 4 barges worked at a time.
Additional Information: Colona Transfer serves the greater Pittsburgh area. Our terminal is the northern most point on the Ohio River and we offer access to the bulk commodity markets of the Northeastern United States.

Mount Pleasant
Strachan Shipping Co
950 Houston Northcutt Boulevard
Watermark Plaza, Suite 200
Mount Pleasant
SC
29464
USA
Contact: Mr Bill Adams
T: + 1 843 856 1000
F: + 1 843 856 1013

Myrtle Grove
International Marine Terminals
Myrtle Grove Terminal
18559 HWY 23
Myrtle Grove
LA
70083-9722
USA
Contact: Mr Adam Smith
Job Title: General Manager
T: + 1 504 310 5000
F: + 1 255 656 2071
E: adam_smith@kindermorgan.com
W: www.kindermorgan.com
Export: yes
Location: US Gulf
Ownership: 2/3 Kinder Morgan
1/3 American Electric Power
Name of Port Authority: Plaquemines Parish Port Harbor & Terminal District
Throughput Capacity: 15 million tons
Total Storage: 80 acres
Vessel Size Limitation: 850 LOA, 140 Beam, Draught= to SW Pass
Additional Information: The terminal operates 24 hours a day, Sundays and holidays included.

New Haven
New Haven
Gateway Terminal
400 Waterfront Street
New Haven
CT
06512
USA
Contact: Mr Tom Dubno
T: + 1 203 230 0778
F: + 1 203 437 7251

Do one thing well.

We move cargo. That's it. Our fleet of fourteen Gottwald cranes is one of the largest in the world. We have twenty one deep draft berths on the Mississippi River located from Mile Marker 56 to Mile Marker 158. We offer a scope of services that simply can't be matched for the import and export of commodities on the Mississippi River. Our most important asset is our team who are experts on providing logistical solutions for our customers. We move cargo safely and efficiently. That is our focus and we do it well.

www.associatedterminals.com

ASSOCIATED TERMINALS

New Orleans
Cooper/T. Smith Stevedoring
One Canal Place
365 Canal Street
Suite 1450
New Orleans
LA
70130
USA
Contact: Mr Eric Hansen
Job Title: Vice President
T: + 1 504 569 2160
F: + 1 504 569 2188
E: eric.hansen@coopertsmith.com
W: www.coopertsmith.com

Newark
Metal Management NE
Foot Hawkins Street
Newark
New Jersey
NJ 07105
USA
Contact: Mr Mike Henderson Jr.
T: + 1 973 344 5575 / 4570
F: + 1 973 344 8155
E: mhendersonjr@mtlm.com
W: www.mtlm.com

Newport News
Kinder Morgan -Pier IX Terminal
1900 Harbor Access Road
Newport News
Virginia
23607
USA
Contact: Mr Joseph De Matteo
Job Title: Terminal Manager
T: + 1 757 928 1520
F: + 1 757 928 1560
E: Joseph_DeMatteo@kindermorgan.com
W: www.kindermorgan.com
Import: yes
Export: yes
Location: North America East Coast Mid-Atlantic
Ownership: Kinder Morgan Bulk Terminals
Name of Port Authority: Port of Hampton Roads
Throughput Capacity: 12 M tpa
Total Storage: 1.4 MT
Vessel Size Limitation: 1000ft LOA, 150ft Beam, 50ft Draught

Newport News
Dominion Terminal Associates LLP
600 Harbor Road
Pier 11
Newport News
Virginia
VA-23607
USA
Contact: Mr Rick Cole
Job Title: President
T: + 1 757 245 2275
F: + 1 757 247 9729
E: rcole@dominionterminal.com
W: www.dominionterminal.com
Export: yes
Location: Newport News, Virginia, USA
Port of Hampton Roads
Ownership: Alpha Natural Resources (40.6 %); Peabody Energy (37 .5 %); Arch Coal Company (21.9 %)
Name of Port Authority: Dominion Terminal Associates
Throughput Capacity: 22 million tpa (net tonnes)
Total Storage: 243,000 sqm
Vessel Size Limitation: 304.8m LOA; 50m beam; 15.24m at MLW

Norfolk
Norfolk Southern - Lamberts Point
Coal Business Group
110 Franklin Rd
Roanoke
VA
24042-0026
USA
Contact: Mr Mark H Bower
Job Title: Group VP Export & Metallurgical Coal Marketing
T: + 1 540 985 6711
F: + 1 540 985 6398
E: Mark.Bower@nscorp.com
W: www.nscorp.com
Export: yes
Location: Norfolk, VA
Ownership: 100% owned by Norfolk Southern
Name of Port Authority: Norfolk Southern
Throughput Capacity: 40 million net tons/year
Total Storage: No ground storage, cargo assembly in rail cars
Vessel Size Limitation: Draft 50 feet
Additional Information: Norfolk Southern offers the premier export coal blending facility in the United States

Norfolk
Virginia Maritime Association
236 East Plume Street
Norfolk
Virginia
23510
USA
Contact: Mr David
Job Title: Administrator
T: + 1 757 622 2639
F: + 1 757 622 6302
E: vma@portofhamptonroads.com
W: www.portofhamptonroads.com

North Charleston
Cooper/T. Smith Stevedoring
2030 Hayter Street
Building 58A Pier C
North Charleston
South Carolina
29405
USA
Contact: Mr Ronnie Turner
Job Title: Vice President
T: + 1 843 744 1613
F: + 1 843 554 2975
E: ronnie.turner@coopertsmith.com
W: www.coopertsmith.com

Owensboro
Kinder Morgan Terminals - Owensboro
Midwest Regional Office
8500 West 68th Street
Argo
Illinois
60501
USA
Contact: Mr William Patterson
T: + 1 708 496 2891
F: + 1 708 496 2540
E: william_patterson@kindermorgan.com
W: www.kindermorgan.com
Location: Owensboro, Kentucky, USA
Ownership: Kinder Morgan Terminals
Throughput Capacity: 3,000 tons per day
Total Storage: 7,500 tons
Vessel Size Limitation: Max Draft - 9' 6"
Additional Information: Can fleet up to 60 barges. Can handle work up to 5 at a time. 3rd party storage of coal.

Palmer
Port MacKenzie, Matanuska-Susitna Borough
350 E. Dahlia Avenue
Palmer
Palmer
AK
99645
USA
Contact: Mr Marc Van Dongen
Job Title: Port Director
T: + 1 907 357 6153
F: + 1 907 357 6836
E: Port.Mackenzie@matsugov.us
W: www.portmackenzie.com
Export: yes
Location: Upper Cook Inlet, Wasilla, AK
Ownership: Port MacKenzie/Matanuska-Susitna Borough
Total Storage: 14 square miles of uplands are available for commercial lease
Vessel Size Limitation: Cape Class and Panamax vessels have safely loaded at our facility. Our Deep-Draft Dock is at -60' MLLW

Philadelphia
Agway
3501 S C Columbus BLVD
Pier 122 South
Philadelphia
PA
19148
USA
Contact: Mr George Moore
Job Title: Foreman
T: + 1 215 467 5861
F: + 1 215 467 5874
E: gmoore@growmark.com
W: www.agway.com

Port Allen
Associated Terminals of Baton Rouge/Port Allen
1133 Mahaffey Road
Port Allen
Louisiana
70876
USA
Contact: Mr Barry Hoth
Job Title: Vice President
T: + 1 985 479 6358
F: + 1 985 479 6360
E: barry@associatedterminals.com
W: www.associatedterminals.com

Port Arthur
Pabtex
209 Taft Ave. Extension
PO Box 3635
Port Arthur
TX 77643
USA
Contact: Mr Greg Alder
Job Title: Terminal Manager
T: + 1 409 962 8343
F: + 1 409 962 8581
E: gregalder@savageservices.com
W: www.savageservices.com
Export: yes
Location: Port Arthur, Texas, USA
Ownership: KCS Railroad
Name of Port Authority: Port of Port Arthur
Throughput Capacity: 6 million tons
Total Storage: 900,000 metric tons
Vessel Size Limitation: Panamax vessels. 38 feet + or – 2 feet
Additional Information: It is possible to export coal. The main product is petcoke.

Portsmouth
Sprague Energy
Two International Drive
Suite 200
Portsmouth
New Hampshire
03801
USA
Contact: Mr James Therriault
Job Title: VP Marketing
T: + 1 603 430 5372
F: + 1 603 766 7448
E: jtherriault@spragueenergy.com
W: www.spragueenergy.com

Providence
Waterson Terminal Services
35 Terminal Road
Providence
RI
02905
USA
Contact: Mr Christopher Waterson
Job Title: General Manager
T: + 1 401 461 9900 ext 230
F: + 1 401 461 6240
E: chris@watersonllc.com
W: www.watersonllc.com
Import: yes
Export: yes
Location: East Coast US
Ownership: Private Terminal
Throughput Capacity: 2 million +
Total Storage: 20+ Acres
Vessel Size Limitation: 40 ft draught. No LOA, beam, or DWT limitations

Reserve
Associated Terminals at Globalplex
1342 Highway 44
Reserve
Louisiana
70084
USA
Contact: Mr Barry Hoth
Job Title: Vice President
T: + 1 985 479 6358
F: + 1 985 479 6360
E: barry@associatedterminals.com
W: www.associatedterminals.com

Reserve
Associated Terminals LLC
1342 Highway 44
Reserve
Reserve
Louisiana
70084
USA
Contact: Mr Todd Fuller
Job Title: Sr. Vice President
T: + 1 985 536 4520
F: + 1 985 536 4521
E: todd@associatedterminals.com
W: www.associatedterminals.com

Richmond
Levin Richmond Terminal Corporation (LRTC)
402 Wright Avenue
Richmond
CA
94804
USA
Contact: Ms Barbara N. O'Neill
Job Title: Director of Marketing - Bulk Operations
T: + 1 510 307 4009
F: + 1 510 236 0129
E: barbara@levinterminal.com
W: www.levinterminal.com
Export: yes
Location: West Coast of the United States
Ownership: Private Marine Terminal & Stevedore
Name of Port Authority: Levin Richmond Terminal
Throughput Capacity: 1.2 Million Metric Tons
Total Storage: 50,703 sqm
Vessel Size Limitation: Panamax-size vessel
LOA 228.6 m
62,000 MT Max Cargo
Additional Information: Also own Short Line railroad - Richmond Pacific Railroad. Unload unit trains of coal.

Roanoke
Ashtabula Coal Pier
110 Franklin Road
Roanoke
VA
24042-0026
USA
Contact: Mr Randy Carter
Job Title: Director
T: + 1 540 985 6795 / + 1 540 524-6044
F: + 1 540 985 6398
E: Randy.Carter@nscorp.com
Location: Lake Erie, Ohio
Throughput Capacity: 7 million tons
Total Storage: Up to 1.2 million tons
Vessel Size Limitation: Lakesize

Salt Lake City
Savage Companies
6340 South
3000 East Suite 600
Salt Lake City
Utah
84121
USA
Contact: Mr Nathan Savage
Job Title: Director Marketing Coal & Petcoke
T: +1 801 944 6600
E: nathans@savagecompanies.com

Sandusky
Sandusky Dock Corporation, Pier #3
2705 West Monroe Street
PO Box #899
Sandusky
Ohio
44870
USA
Contact: Mr Jeff Smith
Job Title: Superintendent
T: + 1 419 626 1215
F: + 1 419 483 1296
E: jeff.smith@nscorp.com
W: www.nscorp.com
Location: Port of Sandusky Harbor at Sandusky, Ohio
Ownership: Norfolk Southern
Throughput Capacity: 7 million tons
Total Storage: 900,000 tons

Sandusky
CT Stevedoring
2705 West Monroe Street
PO Box 2647
Sandusky
OH
44870
USA
Contact: Mr Ron House
Job Title: General Manager
T: + 1 419 626 0801
F: + 1 419 626 8248
E: Ron.house@coopertsmith.com
W: www.coopertsmith.com

Seattle
Stevedoring Services of America
1131 SW Klickitat Way
Seattle
WA
98134
USA
Contact:
Job Title: Pay Roll
T: + 1 206 623 0304
F: + 1 206 623 0179
E: info@ssamarine.com
W: www.ssofa.com

Seward
Aurora Energy Services, LLC
PO Box 1789
Seward
Alaska
99664
USA
Contact: Mr Victor Stoltz
Job Title: General Foreman
T: + 1 907 224 3120
F: + 1 907 224 3921
E: vstoltz@usibelli.com
Export: yes
Location: Latitude 60˚ 07' 28" N Longitude 149˚ 07' 00" W South Central Gulf Coast Alaska
Ownership: Terminal Owned by Alaska Railroad Corp. Operated by Aurora Energy Services, LLC
Name of Port Authority: ARRC
Throughput Capacity: 1.5 million MT
Total Storage: 112,500 sqm
Vessel Size Limitation: LOA 274m / Beam 38m / Draught 14.9m
100,000+ dwt
Additional Information: Fixed position luffing and slewing type shiploader. Largest vessel loaded DWT 96,042mt
Loaded summer displacement 111,406mt SSW
Ice Free Year Round Port

St Louis
Cahokia Marine Services
1441 Hampton Avenue
St Louis
MO
63139
USA
Contact: Mr John Brereton
Job Title: Vice President Marketing
T: + 1 314 647 7529
F: + 1 314 647 8084
E: jbrereton@slay.com

Superior
Superior Midwest Energy Terminal
PO Box 787
Superior
Wisconsin
54880
USA
Contact: Mr Fred Shusterich
Job Title: Vice President
T: + 1 715 392 9807
F: + 1 715 392 9137
E: fshusterich@midwestenergy.com
W: www.midwestenergy.com

Tampa
Kinder Morgan Terminals - Tampaplex Terminal
Southeast Regional Office
4942 Port Sutton Road
Tampa
Florida
33619
USA
Contact: Mr Marvin Williams
T: + 1 813 620 2705
F: + 1 813 620 2096
E: marvin_williams@kindermorgan.com
W: www.kindermorgan.com
Location: Tampa, Florida, USA
Ownership: Kinder Morgan Terminals
Total Storage: (3) Warehouses totaling 72,000 NT of storage
Silo cluster of (16) 3,500 ton silos (12 available)
40 acres open storage
Vessel Size Limitation: Max Draft - 36 feet
Additional Information: 3rd party storage of coal.

Tampa
United Maritime Group
601 S Harbour Island Boulevard
Suite 230
Tampa
Florida
33602
USA
Contact: Mr Robin Hastings
Job Title: Vice President, Commercial
T: + 1 813 209 4218
F: + 1 813 273 0248
E: sales@united-mar.com
W: www.unitedmaritimegroup.com
Export: yes
Location: Davant, Louisiana (south of New Orleans on the Mississippi River)
Ownership: United Maritime Group
Throughput Capacity: Approximately 12M tpa
Total Storage: 1.2M sqm (developed) / 4.4M sqm (total)
Vessel Size Limitation: LOA 229 meters +
Draught 14.3m (controlling draught is the SW pass of the Mississippi River)

Toledo
Midwest Terminals of Toledo International, Inc
3518 St. Lawrence Drive
Toledo
OH
43605
USA
Contact: Mr Jason Lowery
Job Title: Director of Business Development
T: + 1 419 897 6868 ext 211
F: + 1 419 691 7016
E: jason.lowery@mwtti.com
W: www.midwestterminals.com
Import: yes
Export: yes
Location: Lake Erie at the mouth of the Maumee River
Ownership: Port of Toledo
Vessel Size Limitation: Seaway draught
Additional Information: Foreign Trade Zone
Five gantry plus one mobile crane, dry bulk conveyor system, heavy material handling equipment.

Toledo
CSX Coal Dock
PO Box 8279
Station A
Toledo
OH
43605
USA
Contact: Mr Paul LeCompte
T: + 1 419 697 2353
F: + 1 419 697 2320
E: paul_lecompte@csx.com
W: www.csx.com
Import: yes
Export: yes
Location: Western end of Lake Erie at the mouth of the Maumee River.
Ownership: Port of Toledo
Vessel Size Limitation: 1000 ft + dock
Additional Information: Traveling Coal Machine with 800ft range.
Coal is transferred from rail cars onto vessels for shipment to industries and public utilities scattered throughout the Great Lakes region and overseas.

Wheelersburg
Norfolk Southern - Wheelersburg Terminal
110 Franklin Road
Roanoke
Virginia
24042-0026
USA
Contact: Mr Randy Carter
Job Title: Director Industrial Coal Marketing & Transloading
T: + 1 540 985 6795
F: + 1 540 985 6398
E: Randy.Carter@nscorp.com
W: www.nscorp.com
Location: Ohio River at Wheelersburg, OH
Ownership: Norfolk Southern
Throughput Capacity: 9 million tons
Total Storage: 1 million tons

Venezuela

Maracaibo
BDV - Bulkguasare de Venezuela, SA
(subsiduary of Coeclerici Logistics SPA)
Calle 77
Esq. Av 3C - Edif. Los Cerros
Piso 4. of 4B
Maracaibo
Zulia
4001
Venezuela
Contact: Captain Guido Villani
Job Title: Terminal Manager
T: + 58 414 364 1331
F: + 58 261 793 3576
E: guidus2000@hotmail.com
W: www.coeclerici.com
Export: yes
Location: Lake of Maracaibo
Ownership: Bulkguasare de Venezuela, SA
Name of Port Authority: Carbones del Guasare
Throughput Capacity: 8,000,000 tpa
Total Storage: 60,000 t
Vessel Size Limitation: 44m beam
Additional Information:
Commercial **Contact:** Capt. Giordano Scotto
Coeclerici Logistics Spa
Piazza Diaz, 7
20123 Milano, Italy
T: + 39 02 62469435
F: + 39 02 62469444
E: newprojects@coeclerici.com

Maracaibo
Carbones del Guasare SA
Centro De Operaciones Guasare
Av 9B Edif Banco
Industrial Piso 5
Maracaibo
Zulia
4001
Venezuela
Contact: Mr Jose Rios
Job Title: Marketing
T: + 58 261 797 3831
F: + 58 261 790 6664
E: jrios@guasare.com
W: www.guasare.com
Export: yes
Location: Maracaibo, Venezuela
Throughput Capacity: 7.0 mio tpa

Santa Cruz de Mara
Santa Cruz Coal Terminal
Carbones del Guasare SA
Terminal de Embarque
Edificio Banco Industrial, Piso 3
Santa Cruz de Mara
Edo Zulia
4002
Venezuela
Contact: Ms Larissa Chacin
Job Title: Marketing Manager
T: + 58 261 790 6620
E: lchacin@guasare.com
W: www.guasare.com
Export: yes
Location: North East of Maracaibo Lake
Name of Port Authority: Carbones del Guasare
Total Storage: 100,000 tonnes Santa Cruz Terminal + 60,000 tonnes in Bulk Wayuu floating station
Additional Information:
Capacity: 25,000 tonnes per day

1914-2014
100 YEARS NEUERO

NEUERO
Industrietechnik

KIKO SHIPLOADERS

NEUERO shiploaders are very efficient
NEUERO KIKO shiploaders are even more efficient

KIKO (kick in kick out) MODELS

Slewing, vertical telescopic + kick in kick out
Function: product fill the loading pipe. Head only opens at constant product flow avoiding air to spread the dust.
No slingers or chutes. For barges to Cape size.

STATIONARY

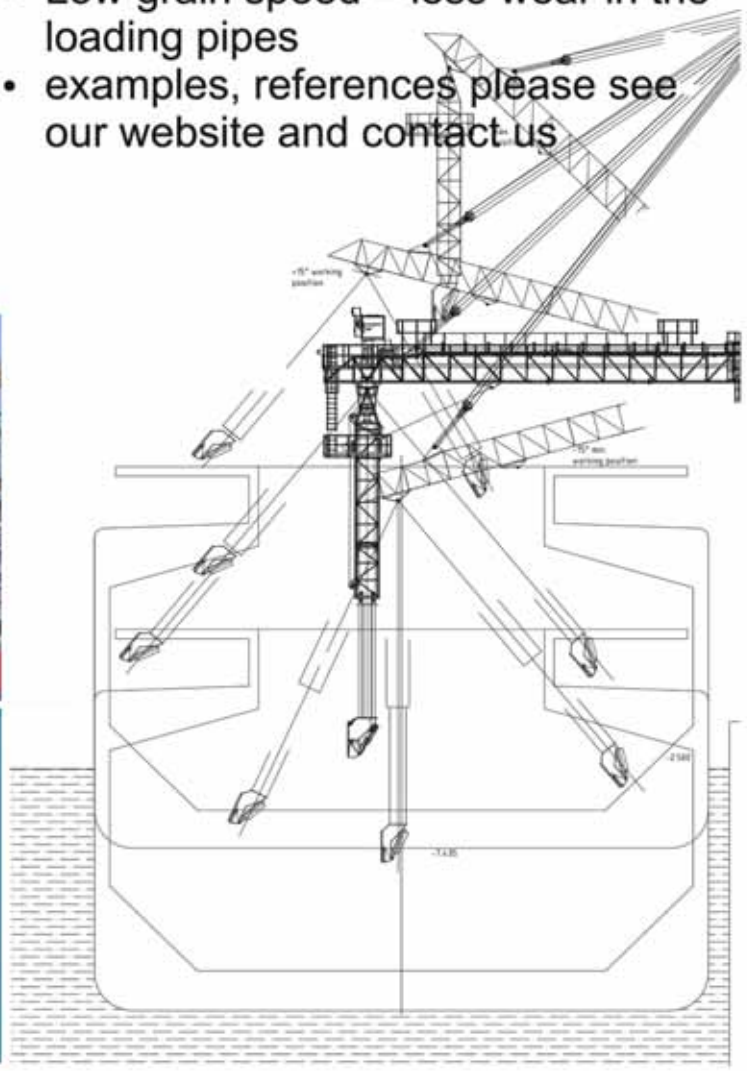
Single tower or Multiple tower

ON RAILS

Complete solution with jetty conveyor and tripper car.

ADVANTAGES

- reach under the hatch (hatch full)
- Dust suppression head for highest environmental protection
- Low falling height = low grain speed reduces grain breakage improving quality
- Low grain speed = less wear in the loading pipes
- examples, references please see our website and contact us



261-2015
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Managing Complexity

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120TH anniversary
1895 2015