DC DRY CARGO international

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FEATURES

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- Asian Coal & Agribulk
- Great Lakes
- South Africa
- Stackers, Reclaimers & Stockyards

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

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DCi

The front cover represents the way Bedeschi, Liebherr and Logmarin can overcome bottlenecks in the client's supply chain providing customized efficient and sustainable solutions. BLL can assist the client from the project feasibility study stage, designing the optimal supply chain solution using Log.Des, a dynamic logistic software customized by Logmarin. This front cover shows the supply chain's assessment and some pictures of BLL's most important projects: Vale's world's largest floating terminal and the Capricorn Cat
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APRIL 2013 issue

featuring...

Soya imports assist positive picture

Despite uncertainty about how solidly the global economy is likely to grow in the period ahead, there is optimism about dry bulk trade expansion. Clear signs of larger commodity movements on a number of routes have emerged. Many importing countries are expected to need higher volumes of minerals, fuels and other commodities.

Indicators of economic activity and industrial output in several key areas seem moderately encouraging. China's growth has recently shown signs of regaining momentum, while the Japanese economy — benefiting from new government policies — appears poised to break out from a lacklustre performance and become more robust. The USA is also apparently strengthening, but the European Union looks set to remain subdued for most of 2013.

Grain

Within the grain (including soya) sector of the dry bulk market, an upwards trend in soyabeans and meal trade is expected to continue. According to US Dept of Agriculture estimates summarized in table 1, the world total could increase by 4.1mt (million tonnes) or 3% in marketing year 2012/13 ending September, reaching 154.6mt.

However, much of the global soya trade growth envisaged is likely to be contributed by China's extra requirements. Some recent signs suggest that USDA's 63mt forecast for China's soya imports may prove too high. In the wheat and coarse grains global trade component, imports into China in 2012/13 are forecast by the International Grains Council to decline by 16% to 8.4mt, partly explaining why world grain trade is weakening.

Iron ore

Steel production trends in the main raw materials importing countries, over the past few months, have broadly reflected economic activity patterns. The impact of recession is clearly seen in the EU's depressed crude steel output, which has been well below volumes seen in the early part of last year. A recent European Steel Association report indicated that domestic EU steel demand could see a further (marginal) reduction this year.

Yet the outlook for global iron ore trade is widely regarded as positive. In 2013 a 53mt increase, to 1,176mt, is forecast by Australia's Bureau of Resources and Energy Economics in its latest quarterly review. Slightly higher imports into Japan and some other countries are expected to be accompanied by strong growth in China, where a 28mt rise to 773mt is estimated.

Coal

Both steam and coking coal sectors look set to benefit from higher import demand in a range of countries during the twelve months ahead. Asian importers are the main focus, especially India and China, although others may contribute limited additional volumes.

Some reports point to a possibility of higher coal imports into Japan in 2013, adding to last year's 5% growth, which raised the annual total to 184mt. The largest element, steam coal imports, comprising three-fifths may be boosted by additional power station usage amid continued closure of most of the nuclear generation capacity. Two large new coal-fired power station units are scheduled to begin operating later this year.

Minor bulks

One of the largest individual commodity trades in the 'minor' bulks sector is steel products (such as coil, sheet, and plate). Provisional estimates suggest that seaborne movements may have expanded by about 4% last year, reaching around 280mt, and further growth is envisaged this year.

Bulk carrier fleet

While expansion of the world bulk carrier fleet as a whole seems set to continue decelerating in 2013, the Panamax (60-99,999 dwt) size group could almost maintain its previous rapid pace, as estimated in table 2. Panamax newbuilding deliveries probably will remain very high. Assuming that scrapping recedes, 13% growth in this fleet is foreseeable, but if scrapping is maintained or rises, then less rapid fleet growth will emerge.

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

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13*
European Union	39.2	34.2	33.4	34.1	32.8	32.1
China	38.0	41.3	50.4	52.6	59.3	63.1
Other Asia	23.5	23.1	25.8	27.2	27.2	27.8
Others	32.6	30.3	30.6	31.4	31.2	31.6
world total	**133.3**	**128.9**	**140.2**	**145.3**	**150.5**	**154.6**
% change from previous year	+9.3	-3.3	+8.7	+3.7	+3.6	+2.7

source: US Dept of Agriculture (08Mar13) *Oct/Sep marketing years* **forecast*

TABLE 2: PANAMAX (60–99,999DWT) BULK CARRIER FLEET (MILLION DEADWEIGHT TONNES)

	2008	2009	2010	2011	2012	2013*
Newbuilding deliveries	6.4	7.0	15.5	23.7	29.2	28.5
Scrapping	1.1	2.1	0.7	5.3	8.6	6.5
Losses	0.1	0.1	0.0	0.2	0.0	0.0
Plus/minus adjustments	1.4	1.6	0.5	0.3	0.0	0.0
World fleet at end of year	**114.7**	**121.1**	**136.5**	**154.9**	**175.5**	**197.5**
% change from previous year-end	+6.0	+5.6	+12.7	+13.6	+13.3	+12.5

source: Clarksons (historical data) & BSA 2013 forecasts **forecast*

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Asia coal trade 2013

Dr Tim Jones, e-coal.com

As has been the case for several years now, coal industry participants are hoping that China will lead the way when a sustainable economic recovery finally arrives after such a long period in the doldrums. Market activity has been more visible in Asia compared to other regions and it has grown to be the most dynamic area for coal business now. Last year was a challenge for all coal sector players, with the unexpected decline seen during the first half of the year eventually seeing some improvement during the final months of 2012. Markets eased around the holiday period and this year has got off to a sluggish start, with lacklustre demand coinciding with supply disruption in key producing countries including Australia, Indonesia, and Colombia. This has helped to keep prices for thermal and coking coal relatively steady during the first quarter of 2013.

During the past month or so, thermal coal spot markets have been a little softer in most producing countries, although supply constraints continued to keep Colombian prices up. The Asian markets have, however, fared better than other regions during the past year. Despite this, at the time of writing, Rio Tinto and Xstrata are understood to be reducing their workforces by a further 100 employees each. Xstrata is to close its office in Brisbane. Xstrata has reported a 37% decrease in attributable profit in 2012. The total of US$3.652bn compared with US$5.785bn in 2011. The downturn in the global economy is still having an impact on the international coal industry, and although some Australian exporters are expecting a difficult year in 2013, they are also aware that they have been in that position before, and were able to weather the storm.

OCEAN SPOT FREIGHT RATES (US$/T) 2012

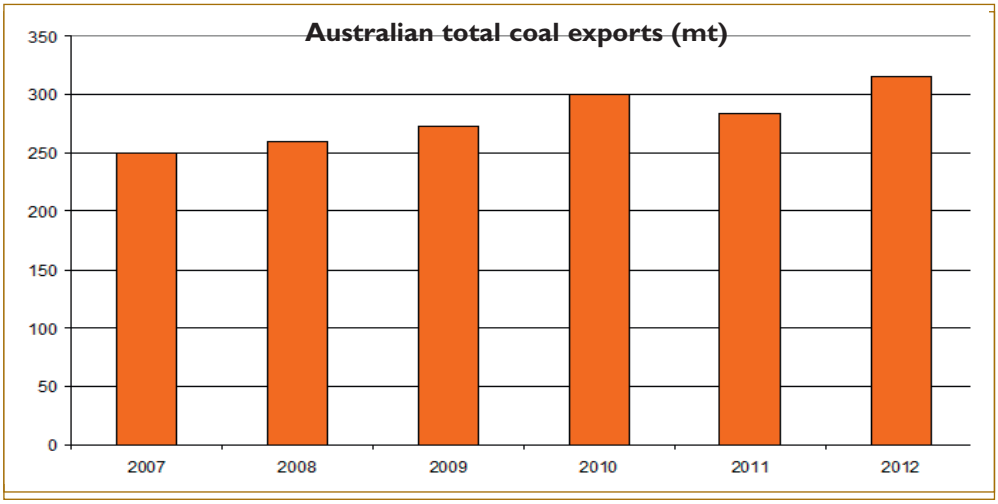
Route	Tonnage	9 Mar	2 Mar	% change
USG/ARA	65,000t	16.70	14.95	11.71
Roberts Bank/ARA	55,000t	24.05	23.00	4.57
HR+RB/Japan 16m	120,000t	27.00	27.00	0.00
HR/Rotterdam	110,000t	9.90	9.90	0.00
Bolivar/Rotterdam	130,000t	9.30	9.25	0.54
Queensland/R'dam	130,000t	13.70	13.75	–0.36
Rich'ds Bay/R'dam	130,000t	8.90	8.85	0.56

Source: e-coal.com

OCEAN SPOT FREIGHT RATES (US$/T) 2013

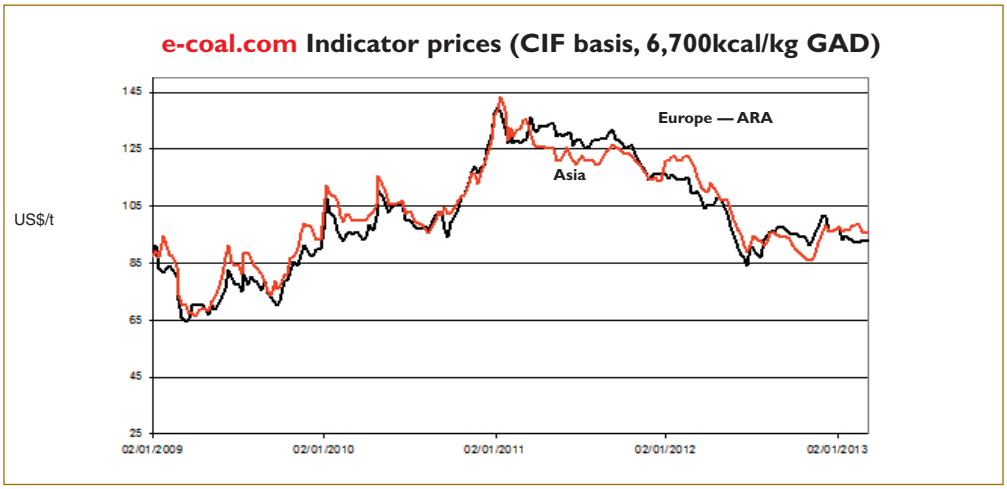
Route	Tonnage	8 Mar	1 Mar	% change
USG/ARA	65,000t	11.00	9.75	12.82
Roberts Bank/ARA	55,000t	17.50	15.50	12.90
HR+RB/Japan 16m	120,000t	24.50	24.50	0.00
HR/Rotterdam	110,000t	8.70	8.60	1.16
Bolivar/Rotterdam	130,000t	8.65	8.55	1.17
Queensland/R'dam	130,000t	12.90	12.95	–0.39
Rich'ds Bay/R'dam	130,000t	6.40	6.40	0.00

Source: e-coal.com



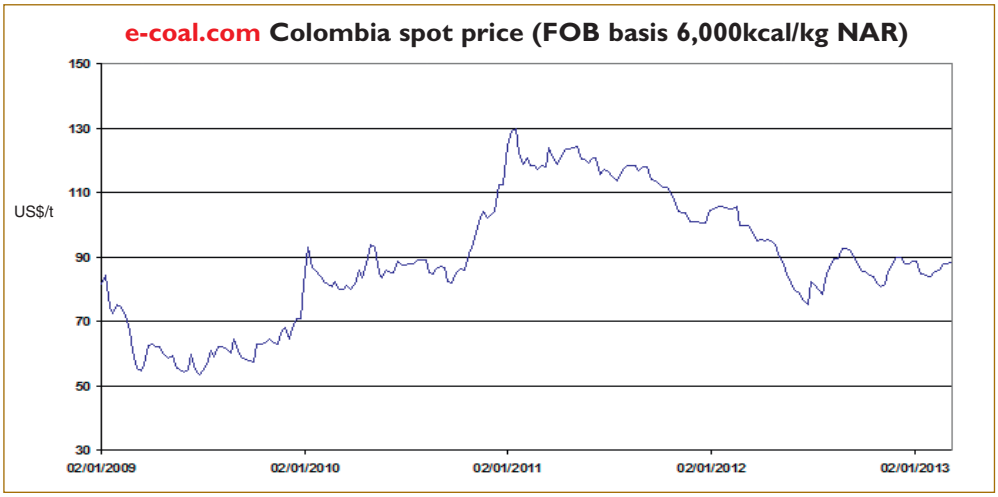
The latest quarterly contract terms for Australian hard coking coal have been settled by BHP Mitsubishi Alliance with its customers in Japan. The premium Peak Downs brand has been priced at US$172/t FOB with other brands priced at lower levels due to quality adjustments. There had been speculation that the reference brand would be settled at US$170/t FOB and the actual outcome is close to that level, with the Goonyella brand reported to be priced at US$169/t FOB. Shippers are believed to have persuaded the buyers that prices any lower than this would lead to even more cuts in production as overall costs are reported to be approaching US$170/t on average. In India, the quarterly contract price of the Australian premium hard coking coal brand has been settled at US$172/t FOB between BHP Mitsubishi Alliance and the Indian steel mills.

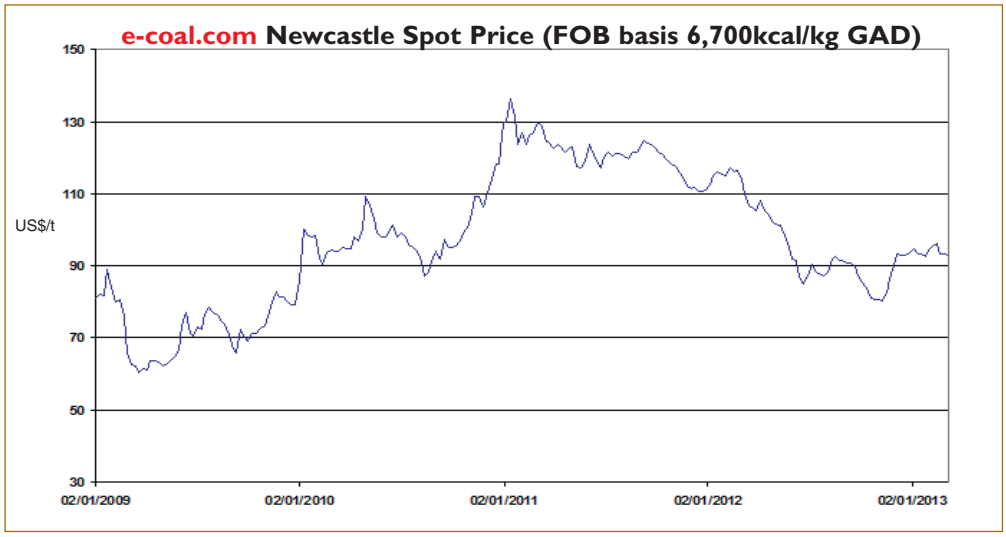
In the Australian coking coal market, agreement has finally been reached on the next quarterly contract terms. Supply is expected to tighten during the remainder of H1 2013, and there is speculation that spot prices will have risen by the end of June after shippers move to cut costs further amid relatively weak demand from Asia. This settlement has had a knock-on effect elsewhere, and has resulted in some firming in the Atlantic spot market for hard coking coal. Supply of coking coal and PCI (pulverized coal injection) product in Canada is also set to tighten in the coming months. The quarterly contract price of PCI product has been reported as US$141/t FOB (free on board), and is expected to increase by the start of Q3 2013 due to production cuts. Thermal coal spot prices have been generally weaker around the world, but with some firmness seen in South America and Richards Bay at the time of writing in late March. Supply disruptions in Australia due to bad weather, and maintenance on the Hunter Valley rail network have tightened supply recently, but this has not led to a firming of the spot market there. Other Asian thermal coal markets have also softened at the time of writing.



Supply is now expected to tighten during the coming months as shippers move to save costs at some operations. At the time, the indicator price for the reference brand in the spot market was unchanged week on week at US$170/t FOB. Some journalists are said to be using the US$169/t FOB figure for this indicator price, perhaps unaware that the quarterly contract market is different from the prompt spot market.

In recent market activity, the price of Chinese 12% ash metallurgical coke still appears to be priced out of the market, although there has been a small decrease to about US$368/t FOB which would be the lowest number suggested by traders at present. Although the price of the quarterly contract tonnage for hard coking coal has been settled at a rather steady level, the price of metallurgical coke in the international markets





has softened during the course of March. For comparison, Japanese 12% ash material is priced as low as US$330/t FOB which reflects a decrease of some US$10/t over the course of the month. Colombian 12% ash coke is priced at US$325/t FOB which indicates a similar decrease in price during March.

Coal infrastructure development in Australia is progressing where Aurizon has signed a proposal to acquire 51% of Hancock Coal Infrastructure through the development of the Galilee Basin coal resource in Queensland. New rail and port infrastructure is a key requirement for future coal projects to proceed. Aurizon has also signed a contract with Xstrata to haul 14.6mtpa (million tonnes per annum) of coal from the Rolleston mine to Gladstone until 2025. The contract begins as soon as the new Wiggins Island Coal Terminal is completed, and by December 2014 in any case. Meanwhile, repairs to the Moura rail line serving the Bowen Basin mines were completed and the line re-opened on 11 March. Heavy rains and flooding knocked out the service for two weeks, disrupting coal haulage to the ports, with hard coking coal shipments delayed. In New South Wales, the vessel queue at Newcastle has been decreasing in March, with 13 ships reported in the middle of the month compared with 21 a week earlier. Waiting times were down to about four days.

Meanwhile, an environmental impact assessment for Abbot Point Coal Terminal has been completed in early March which will act as a reference for future development. Also, in recent Australian company news, Whitehaven Coal is understood to have received an average price of US$92/t FOB for its combined coking and thermal coal brands during the second half of 2012. Sales totalled 3.32mt (million tonnes).

In India where growth in demand for imported coal has been expected for some time now, Bothra Shipping expects its expansion at the Kakinda coal facility to be operational by May, with Berth No 6 being commissioned. The dedicated coal berth will have a capacity of 8mtpa and will ramp up this year. Growth in China continues with the latest consumer price data showing

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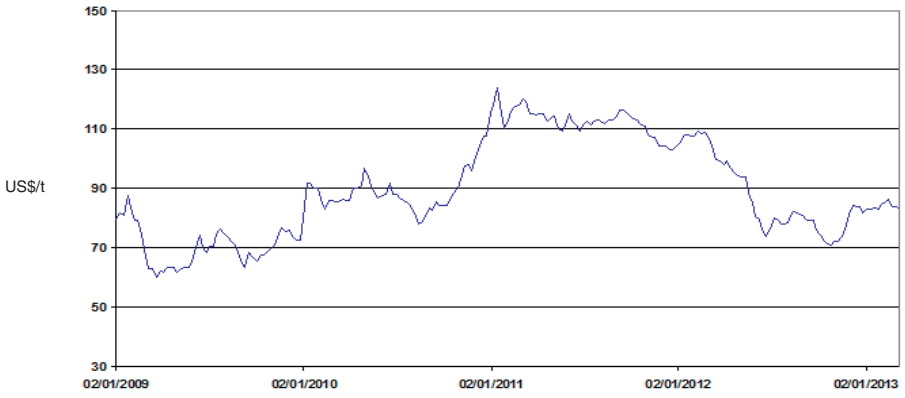
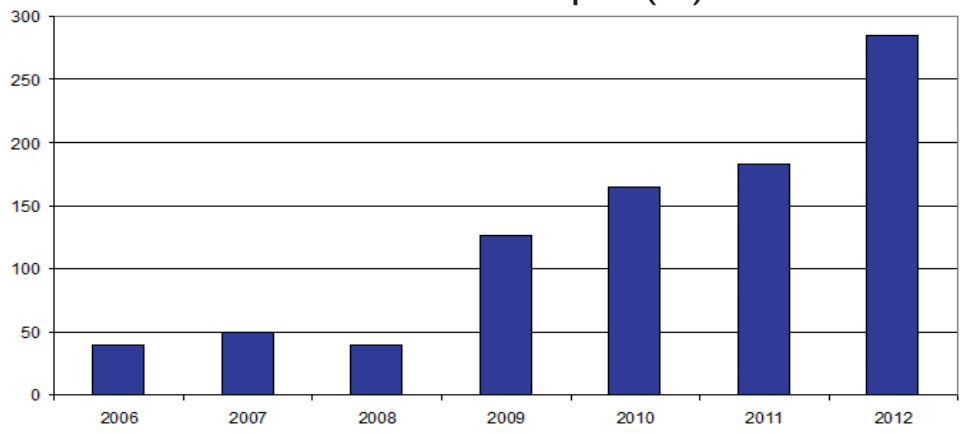
e-coal.com Mahakam River Spot Price (FOB barge basis 6,700kcal/kg GAD)



an increase of 3.2% in February compared to the same month last year. This is the highest rate of growth since last April.

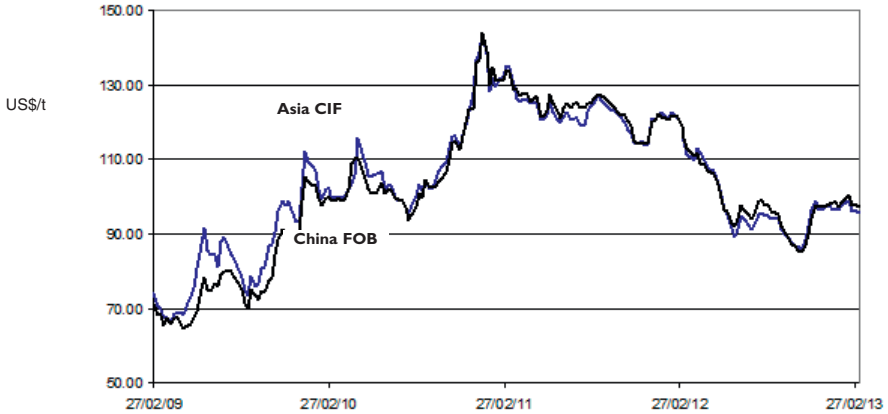
The Asian utilities have been the most visible in the spot tender markets around the world this year so far. In Korea in March, Kowepo issued a tender seeking 140kt of coal in two Panamax cargoes to supply the Taean power station. Specifications include CV 5,100kcal/kg NAR (min). Delivery is required during 25 April to 15 June. Komipo has issued an LT tender seeking 520ktpa of bituminous coal for delivery to the Boryeong power station. Specifications include CV 5,700kcal/kg NAR (net as received) (min) and delivery is required during 2013–2015. Komipo has also issued a spot tender seeking up to 230kt of coal with CV 4,600kcal/kg NAR (min). Delivery is required during May to June.

Chinese total coal imports (mt)



Indian buyers are understood to have returned to the Richards Bay spot market following the clarification of new import duties on coal to India, and a number of talks are understood to have been conducted at the recent Coaltrans India conference. The cement sector was particularly interested in the higher ash material available this year.

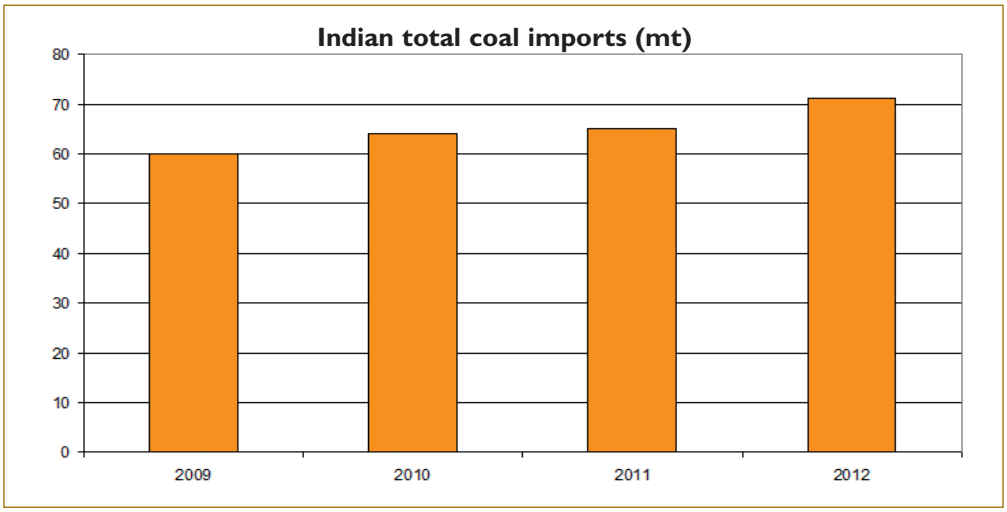
e-coal.com Asia indicator price v China spot price



Transport issues for hard coking coal in Australia have been resolved following disruption due to bad weather, and supply has been improving. Buyers appeared to have been waiting for these conditions during the talks on the next quarterly contracts, to enable them to strengthen their case for a lower price than the US$175/t FOB reportedly being sought by the exporters at that time.

Bad weather disrupted vessel berthing at Dalrymple Bay Coal Terminal where operations came to a halt on 4 March as coal loading was not possible. The turnaround in Chinese demand for coal that was hoped for after the new year holiday has not yet been reported by the shippers, and supply now appears to be more available despite disruption at Dalrymple Bay. These conditions are not putting upward pressure on the price, but there is limited downward pressure as well. Rumours suggest Japan's Tohoku EPC has been making enquiries about increased supply of coal this year. Australian traders at Newcastle suggested substantial tonnage could be required.

In general, the spot price of metallurgical coke has been softening this year, although international export market activity by China has been limited. The price differential with competitor countries has narrowed since the removal of the export duty at the start of this year, and the higher quality characteristics of Chinese coke could persuade buyers to return in larger numbers in the coming months. The spot price of 12% ash material at about US$375/t FOB in early March compares with a price closer to US$500/t FOB not so long ago. A price for Chinese material is, however, theoretical in the absence of



confirmed deals in the international market.

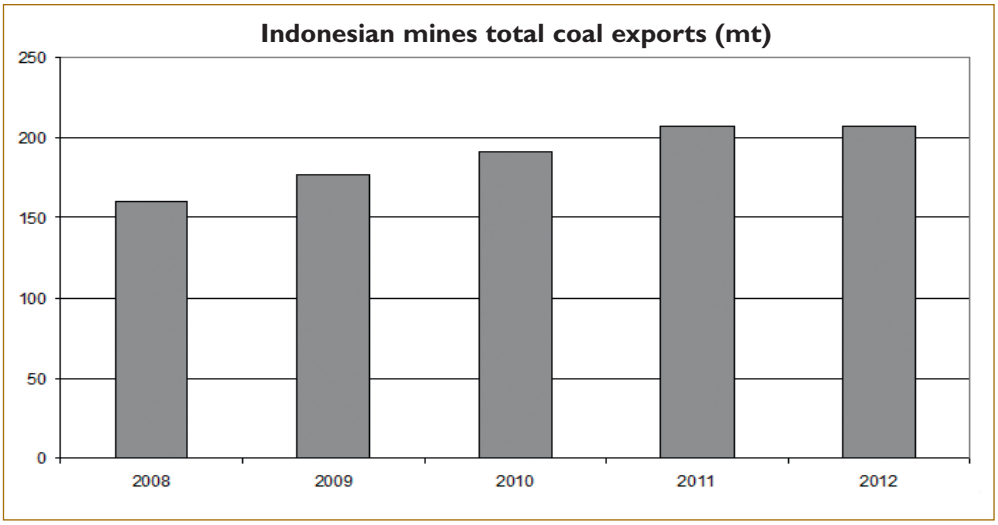
Back with the Koreans and in the Vietnamese market, Daishin is understood to have been awarded 20kt of the business by Kosep following its tender seeking 70kt of anthracite. The Vietnamese material is estimated to have been priced at about US$102/t FOB. Delivery was required during 19–24 March. Earlier this year, the anthracite tender by EWP resulted in 50kt of Vietnamese material being purchased for delivery during February to July. The seller was reported to be YongKwang Global, and e-coal.com's analysis suggested the delivered price was a little less than the e-coal.com China Spot Price for thermal coal on an equivalent CV basis. This suggested a price of about US$96-97/t FOB basis 6,700kcal/kg GAD (gross air dried). Reports elsewhere at lower prices would be based on a lower CV.

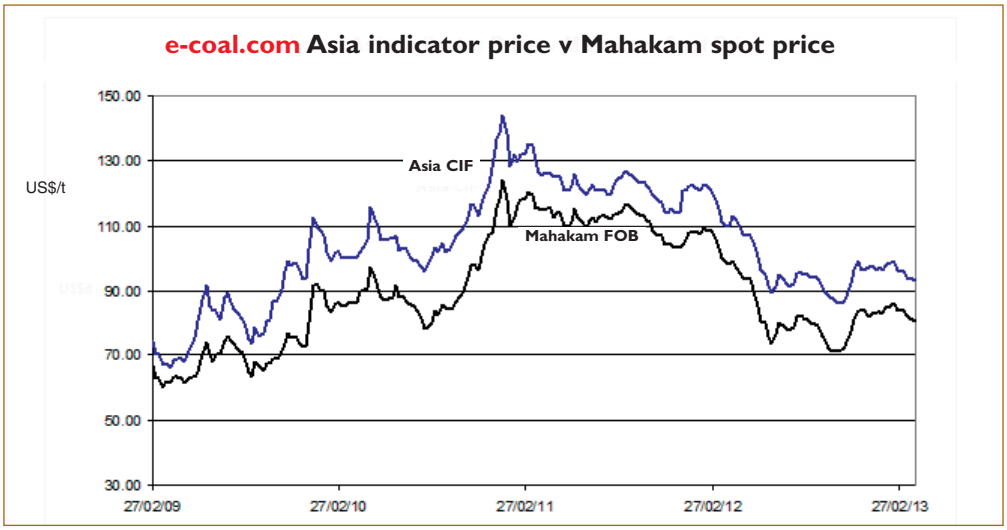
In Taiwan in early March, Formosa Plastics issued five tenders seeking a total of 1.92mt of bituminous coal. A 200kt contract sought coal with CV 6,000kcal/kg GAR (min) for delivery during 16 May to 31 July. A 250kt contract sought coal also with CV 6,000kcal/kg GAR (min) for delivery during 1 April to 31 July, and 1.05mt of similar CV material was also sought for delivery during 1 May to 30 July. Two contracts for 210kt each were offered for coal with CV 5,850kcal/kg GAR (min) and delivery was required during 1 April to 30 June.

The Indonesian coal industry has not been without weather-related impacts this year either. Heavy rainfall has been disrupting movement of coal to the ports in Kalimantan in February and March. Shiploading has also been slowed, particularly for the lower CV material at Banjarmasin. Meanwhile in Australia, the recent floods in Queensland had led to allegations that a number of coal mines had breached environmental regulations by releasing water into the Fitzroy River catchment.

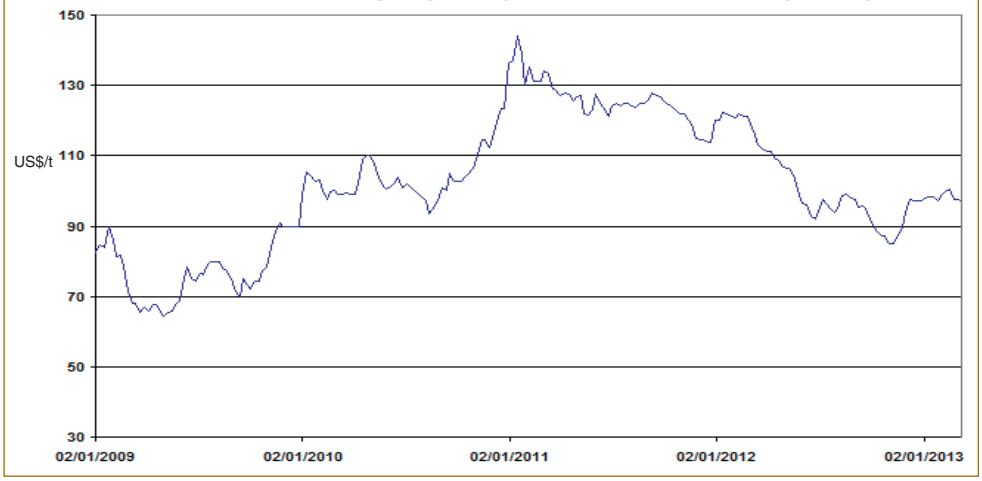
Kowepo issued a tender seeking 140kt of coal in February after cancelling its previous tender seeking 70kt when offers were not attractive. Meanwhile, EWP was reported to have awarded the business to two Indonesian shippers following its tender seeking a total of 150kt of coal for the Dangjin power station. The price for 70kt of material with CV 4,600kcal/kg NAR (min) was rumoured to be around US$77.50/t FOB adjusted to basis 6,700kcal/kg GAD. Delivery is required during April to May. At that time, Taipower issued a tender seeking 900kt of coal with specifications including CV 5,000kcal/kg GAR (min). Delivery is required during May to August.

After a few weeks into 2013, thermal coal spot markets were seeing mixed conditions, with key areas including China seeing a decrease in the price of domestic coal. This had coincided with the general





e-coal.com China spot price (FOB basis 6,700kcal/kg GAD)



firming in the international spot market noted towards the end of 2012. Tightness in the Indonesian spot market due to the impact of heavy rainfall in Kalimantan, as well as a government crackdown on illegal mining was expected to serve to keep prices firm. This may be true for India and some other Asian markets, but the Chinese interest had eased a little due to their lower domestic prices at that time.

Steel production increased in China, Germany, and Japan in January compared to the same month last year, suggesting a recovery could be seen this year. World output also appeared to have increased overall, by about 0.8% during January. Meanwhile, flood damage to the rail system in Queensland this year is understood to have taken around 4mt of coking coal supply out of the market.

In February, the visibility of the Asian utilities had been continuing. Korea's Kospo issued a tender seeking 272kt of coal with specifications including CV 4,500kcal/kg NAR (min). Delivery is required during April to December. The genco also issued a tender seeking 540kt of coal with specifications including CV 5,600kcal/kg NAR (min) with delivery required during June to December

Taipower was reported to have awarded the business to Efficiency Corp (two Panamax cargoes), Samtan (three), and Universe Marine (two) following its tender seeking sub-bituminous coal with specifications including S 0.2% (max) for delivery during April to June. The price was unconfirmed but on a CV and S premium adjusted basis it was believed to be a little above the then

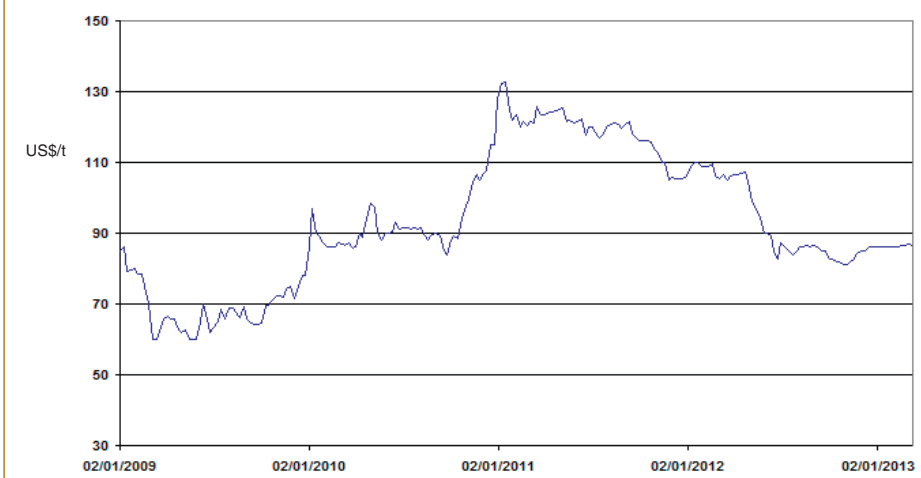
e-coal.com Banjarmasin spot price (FOB barge basis 6,700kcal/kg GAD)

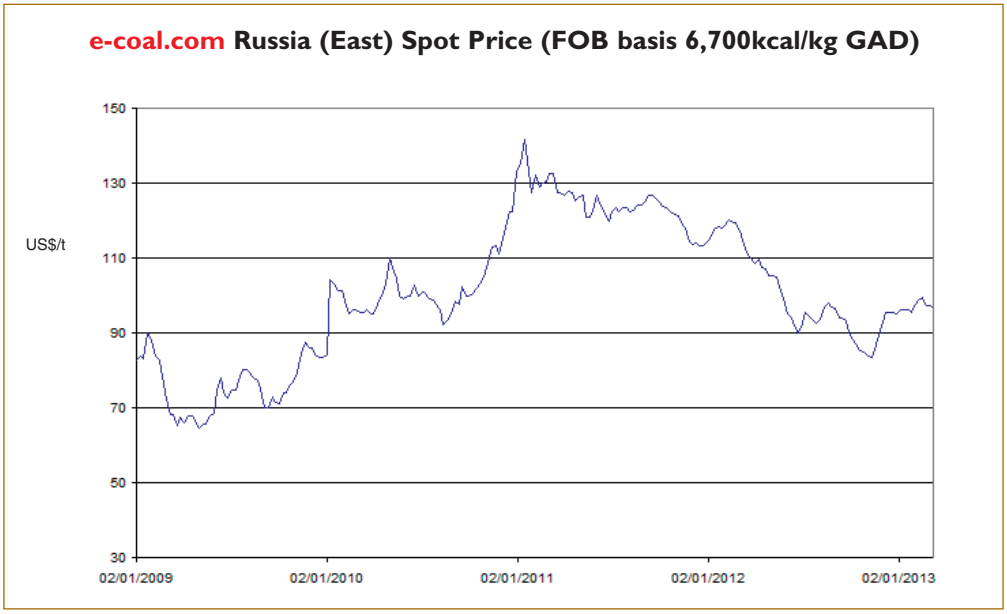
e-coal.com Mahakam Spot Price of US$85.30/t FOB barge.

This year, local authorities in Indonesia have been closing down illegal operations in Kalimanatan. These small local miners were a major problem in the late 1990s and have been of increasing concern lately. The supply of lower quality coals in particular has become tighter as a result of the closures. Although heavy rainfall has exacerbated the supply situation in southern Kalimantan, the spot price of quality material had not shown any firming by mid-February.

Ships were being delayed at Port Kembla due to the industrial action at BHP Billiton's operations in southern New South Wales in February. Waiting times were believed to be approaching

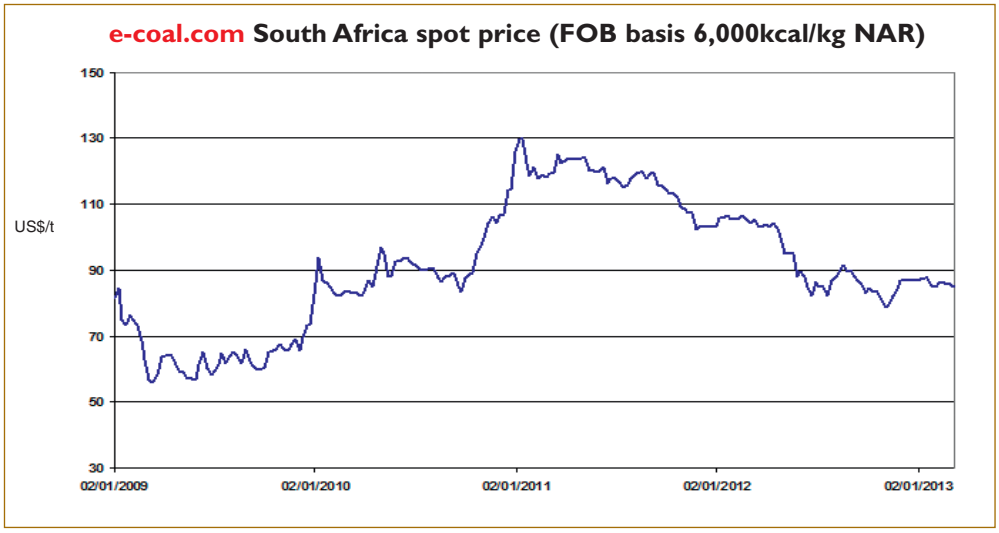
e-coal.com Russia (Baltic) spot price (FOB basis 6,700kcal/kg GAD)

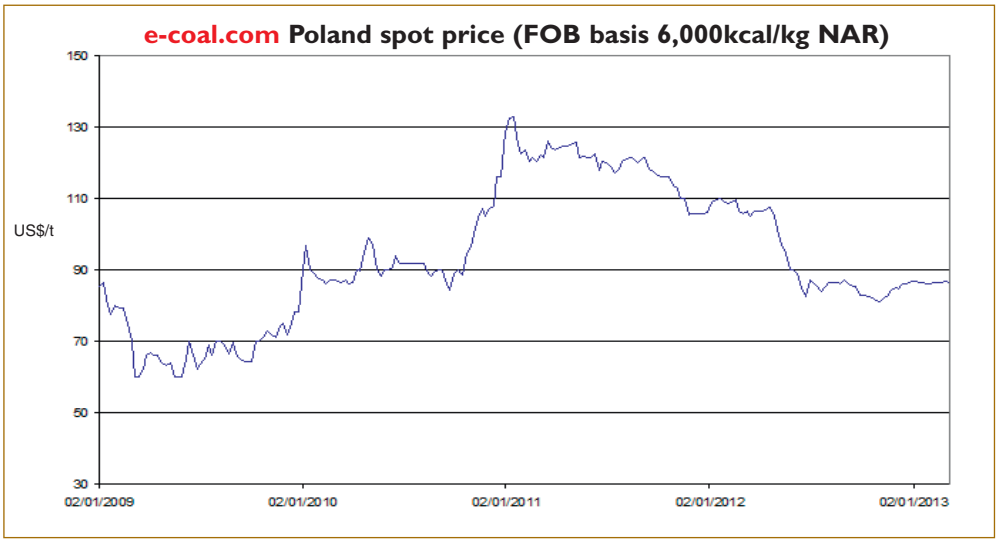




three weeks as deliveries of hard coking coal to the port had been disrupted. Coal railings were disrupted when union members went on strike over the new enterprise bargaining agreement. Meanwhile, in Queensland the flood-damaged Moura rail system had been repaired and was operating again.

Industrial action in the key supplier countries of Australia and Colombia had caused acute modest hikes in the spot price of thermal coal back then, but market players were understood to have been showing little anxiety about coal supplies being seriously tightened. If the situation was not resolved soon, there was a fear that the pattern may have continued with a rise in the spot price being seen in relatively small steps during those conditions. India's rail system had also been disrupted by fatalities during the Kumbh Mela religious festival in February. Coal transport was affected.

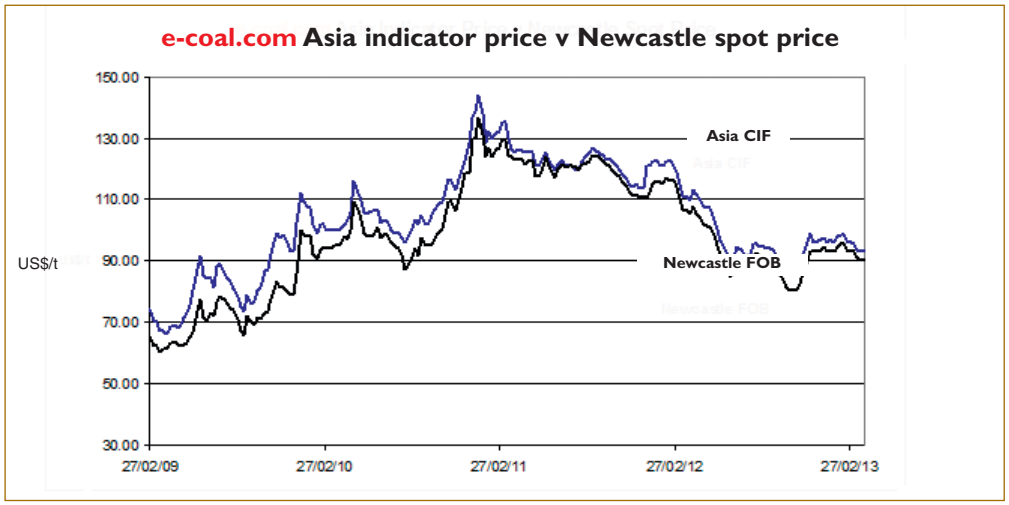




Reports indicated that some cargoes of US thermal coal had been sold to Japan in February, and the latest data indicated higher coal burn among the electric power companies there. Their coking coal market has been quiet, but there were signs that lower quality hard coking coals were beginning to achieve firmer prices in the spot market. For reference brand quality, European buyers were rumoured to have been paying up to US$175/t FOB for Australian material in early February. The steel makers are understood to have been adjusting their blends amid the demanding market conditions. In Europe, higher gas prices have kept interest in other fuels at the top of the fuel managers' agendas, but a substantial increase in demand for coal and a consequent rise in the price has not been evident.

India's Tamil Nadu Power issued a tender in February seeking 4.2mt of coal for delivery during June to November 2013. Haryana Power was also seeking 2mt of imported coal. In Korea, Kowepo issued a tender seeking 70kt of coal for the Taean power station at that time. Specifications included CV 4,200kcal/kg NAR (min) and delivery was required by 20 March.

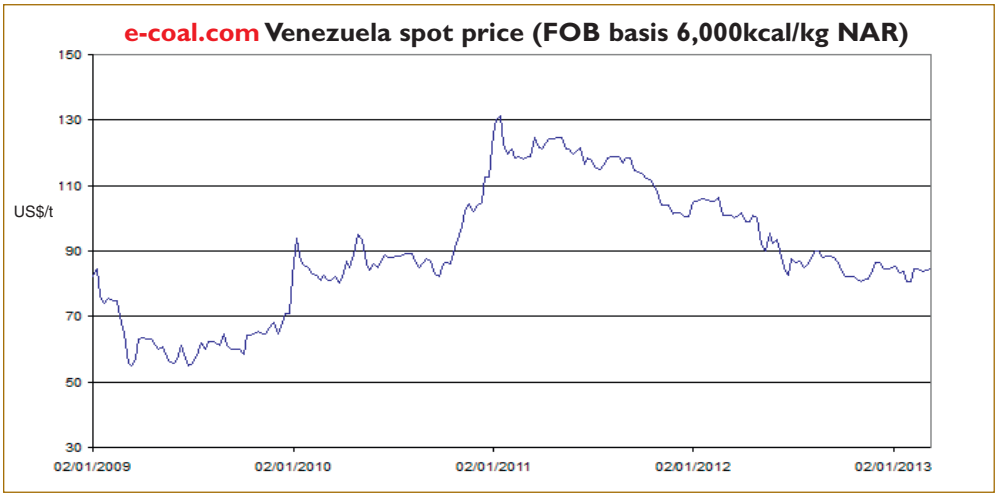
A 48-hour general strike over various government policies in India was called for 20 February and all coal operations were to be affected. The loss of two days' coal production led to additional shortages of domestic coal, which is expected to lead to more demand for imports this year.



indication of significant growth during the first couple of months of 2013 and the situation is unsteady. The disruption to substantial production of coal and supply from Australia and Indonesia has been a key factor in keeping coal prices relatively steady, so players will be watching how Chinese and other Asian trade develops over the coming months now that the production and transport situation has been resolved. Further cost cutting is ongoing in the mining sector supplying the Asian consumers so in that respect the first half of 2013 looks set to be as challenging for coal shippers in Asia as it was in 2012. This year the coal exporters will be hoping for new business from the improvements in China, and the Australian coking coal exporters in particular will be hoping for opportunities due to the boost to the Brazilian economy from the sporting events there which could help trade during the next few years.

Meanwhile in Australia, train drivers in New South Wales went on strike for 48 hours over wages in early February. Disruption to the rail system delayed well over 500kt of coal haulage.

In early February, there were reports of some buying activity in the European steel sector. The Australians seem to have picked up some business despite the disruptions to the supply chain in Queensland at that time. That may, however, have been the reason for buyers and traders purchasing cargoes after becoming concerned about a price rise in the coming months. At that time, the spot price of PCI material was believed to have been approaching US$150/t FOB as well.



After a disappointing and challenging first half of 2012 for coal trade around the world, the situation improved and in Asia in particular this was evident as the Chinese summer drew to a close. The improvements seen in some countries during the final months of 2012 which began to level off as the holiday season approached, have not taken a significant dive and as some analysts had predicted, the gains reached by December appear to have reached a plateau which may take a few months to break through again. While markets have not returned to the depressed levels of a year ago, there has been no further

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.*

Asian agribulk

Indian crops remain heavily dependent on south west monsoon

Kunal Bose

The World Bank says global food prices fell for six months in a row till February. However, food prices still remained uncomfortably close to the August 2012 peak levels. Not only were February prices just 9% lower than the August high, the possibility of volatility in the world food market remains. This is because the US drought and dry spells in several major crop growing countries could upset supply calculations. At the same time, the World Bank quarterly food price watch report says "reported favourable weather conditions in some regions have also raised hopes of better crop supply for 2013." For example, the Indian monsoon, which accounts for around 75% of the country's rainfall is to be normal for the third time in four years with chances of a drought pegged at only 4%, says Skymet Weather Services chief executive Jatin Singh. India being either the world leader in production of pulses, jute and milk or the second largest global producer of wheat, rice, sugarcane and vegetables and fruits, its farm production performance in a year leaves an impact on world food prices.

A quick run through of foodgrain production in 2011/12 (July to June) and the second advance estimate for the current season will give a fair idea of how heavily dependent Indian agriculture continues to remain on the south west monsoon (June to September). This is because more than half the cultivated area remains monsoon dependent. During 2011/12, India had foodgrain production of 259.32mt (million tonnes), including 105.31mt of rice, 94.88mt of wheat, 42.04mt of coarse cereal and 17.09mt of pulses. As a result, stocks of rice and wheat held by government agency Food Corporation of India (FCI) on 1 January was 66.6mt, a 20.24% year-on year rise. A bumper production year always presents Indian authorities with the challenge of finding adequate storage space for keeping foodgrains in good order. At one stage in 2012, the government had to contend with storing a whopping 82.317mt of surplus while storage space at its disposal was 34.2mt.

"It is a common post-harvest scene in north Indian states that millions of tonnes of wheat and other crops will be lying in the open, maybe with a plastic cover thrown here and there. I have been pleading with the government that instead of letting grains rot in the open, we should export what we can't store properly. But nothing is to be done at the cost of food security, which remains our prime concern. If a good crop year with stocks overflowing is followed by a difficult year, we can always import any quantity. Such trade flexibility has potential to very substantially reduce the extent of damage to foodgrains in times of plenty, as it will transfer the cost of storage to overseas buyers. This may still be a novel idea here where food remains a highly sensitive issue, but many other countries have practised it with success," says industry official Om Prakash Dhanuka. Many economists, including Nobel laureate Amartya Sen favour free distribution of a good portion of surplus foodgrains among the

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people below the poverty line. In the meantime, the government trying to come to grips with the storage problem has launched private entrepreneurs guarantee scheme to facilitate construction of storage godowns, with FCI guaranteeing ten-year usage.

The dependence of Indian agriculture on monsoon rains being inordinately high, it is natural that the 2012 south-west monsoon rainfall being 8% less than the long-term average will leave a negative impact on production. If drought in parts of the country, including Maharashtra and Karnataka hit production of summer crop (mainly rice), winter rains with wheat crop standing in the field would do some harm to harvest. So, the country is reconciled to foodgrain production taking a dip for the first time in four years in 2012/13 to 250.14mt, including 101.8mt of rice, 92.3mt of wheat, 38.47mt of coarse cereals and 17.58mt of pulses. Should the country be too worried then? Indian Planning Commission member Dr Abhijit Sen says, "it is a decent estimate for agricultural production given that we had a bad monsoon year. I would say it is not negative. In fact, I expect an upward revision when the final estimates are out." He may well be proved right on wheat, which was planted in over 298m hectares. Directorate of Wheat Research chief Indu Sharma says in spite of scattered rains and thunderstorms doing some damage to about 2% to 3% of wheat growing areas, "expect production to be higher than last year at 96mt."

Parliamentary elections are about a year away and the last thing that the ruling coalition can afford at this stage is raging food inflation because of poor supply side management and misconduct of people in layers of agencies between farmers and final consumers. If the government does not let the initiative slip away and stays focussed on managing the available stocks, then food inflation can be controlled. Says Ashok Gulati, chairman of the Commission of Agricultural Cost and Prices, "production this year is likely to be lower. But it can be easily managed using the stocks. Procurement of crops is expected to be higher than last year at 42mt. It is high time we had efficiently channelized the stocks to keep prices in check."

In the meantime, according to a Bloomberg median of estimates by half a dozen exporters, a government official and an industry executive, India's rice exports in the financial year that began on April 1 will rise 5% to 10.5mt. Record exports in 2013/14 are to happen on the back of a likely all-time high rice production of 110mt aided by normal monsoon. Bloomberg notes, "surging exports from India may add to global food supplies as farmers from Vietnam to China are preparing to plant a record rice crop." As for India's rice exports, the long-grained aromatic basmati rice account for about 25% of total sales. In recent years, many clones of basmati rice have appeared. But these do not even come close to the original grown in India and Pakistan. Besides India, other major rice growing countries will also be harvesting bigger crops to lift global production by 1.2% to 472mt. So for yet another season, world rice supply will stay ahead of demand.

What then will be the impact on prices? According to Concepcion Calpe, secretary of FAO intergovernmental rice group, "prices may be depressed if Thailand starts putting a lot of supply in the market and India continues its exports... Vietnam has a lot of supplies and Myanmar is also trying to gain more markets." Bloomberg says in a report published on March 5 that "prices in Vietnam, an Asian benchmark will drop 6.6% by December to $377.50 a tonne, the lowest level since 2010." In spite of India missing the 11th plan (2207/12) farm growth target of 4% by a small margin, the country remains in comfort zone for two cereals — wheat and rice. For the current plan period, the farm growth target is once again 4%, which the country is desperate to achieve by ensuring development of new strains of rice and wheat. Otherwise, productivity decline will start.

At this juncture, a nagging concern for India, which is seeing red over the growing current account deficit, is the rising import intensity of edible oils. For example, in the first quarter of 2012/13 oil year (November to January) Indian imports were up 27% to 2.77mt year-on-year.

Thanks largely to growing imports that *per capita* availability of edible oils in India climbed from 5.8kg in 1992/93 to 14.5 kg in 2010/11. Confirmation of the phenomenon is there in the Economic Survey for 2012/13, which notes that for half its oil requirements, the country remains import dependent. The devil here is poor oilseeds productivity of about 1,000kg a hectare, that is less than one-third of the best found in the world. What, however, is going to make any significant productivity improvement difficult is the small average farm size of 1.55 hectares.

Water, water everywhere — but it must be safe to drink

The entry into force of the Maritime Labour Convention (MLC 2006) in August 2013 will for the first time set out regulations specifying the need to maintain high-quality drinking water standards onboard ship which protect crew from waterborne health risks.

In response, Wilhelmsen Ships Service (WSS) has launched the Nalfleet Potable Water Test Kit, which enables sea staff to monitor the quality of the potable water network onboard ship, providing tests for common infectious bacteria and in the process reduce the risk of possible risk to health by bacteria proliferation.

The MLC, often described as the fourth pillar of maritime regulation after SOLAS, MARPOL and STW will affect at least 40,000 ships which will need to be certified upon the convention's entry into force. Ship owners, managers, shipyards and crew manning agencies must all understand how the MLC 2006 affects them and develop and implement measures to ensure ongoing compliance with its requirements.

Improperly managed water is an established route for infectious disease transmission on ships. In a review of more than 100 outbreaks associated with ships, undertaken by Rooney *et al* (2004)*, one fifth was attributed to a waterborne route.

Graham Hunter, technical sales director of chemicals at WSS Singapore says: "The MLC has been in the process of adoption for some time and it's fair to say that the maritime industry may still be getting to grips with the scope and reach of its compliance requirements. Developing compliance measures to takes time and we encourage the industry to start this work immediately.

"The quality of fresh water onboard ship may seem a small part of the overall picture but in fact it is very significant, both in terms of crew health protection and in avoiding possible detention for non-compliance. Ships not only need to be inspected and certified within the deadlines, they are required to continue demonstrating that compliance or risk delays or detentions."

The basic Nalfleet Potable Water Kit includes test equipment

for E Coli & Coliform bacteria, chlorine and pH, as well as an incubator and UV Lamp for detection of E Coli bacteria. The inclusion of the incubator ensures a controlled temperature environment and therefore consistent results of bacteria tests. Also included is a comprehensive instruction manual and a video showing how to carry out testing to support crew training and competence.

Owners may also construct a more comprehensive kit including tests for total bacteria count (HPC), Legionella bacteria, colour, turbidity, Intestinal Enterococci, depending on the specific requirements of their flag state.

The kit is available for immediate supply from WSS Service centres in Europe, the Middle East, Asia Pacific and the Americas.

** Rooney RM et al. (2004). A review of outbreaks of waterborne disease associated with ships: evidence for risk management. Public Health Reports, 119:435–442*

Wilhelmsen grows safety services in Australia

Wilhelmsen Ships Service (WSS) has expanded and upgraded its premises and service station facilities in Darwin in direct response to market demand for the Life Raft Exchange (LRE) programme.

Geoff Brown, general manager for the Northern Territory and South Australia said: "This new facility in Darwin will service vessels operating within the region's growing offshore and oil and gas market. The new premises are well placed to supply and exchange rafts in major resource ports in Australia's North West Shelf, including Dampier, Port Hedland and Broome where our fixed-fee Life Raft Exchange concept has been proven to save our customers time and money".

The Darwin service station has increased its workshop capacity and staff to enable it to service in excess of 1,000 rafts per year and opened officially in March.

With no capital outlay, annual service cost or short term raft hire, the Life Raft Exchange (LRE) concept ensures customers have access to predictable pricing with no surprises. WSS's global network of international offices and service stations enables vessels to exchange liferafts in every global region and the LRE programme continues to grow in popularity, due mainly to its simplicity and the convenience it gives customers.

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Braemar SA recruits for the future

In a move which reinforces its commitment to future growth, Braemar (Incorporating The Salvage Association), (Braemar SA), announces important new additions to its worldwide team of marine surveyors and consultants, as well as the opening of two new locations.

In the growing New York office, John Walker will be joining Braemar SA as Chief Surveyor, P&I and Legal Services Manager for the Americas, bringing with him extensive experience of marine consultancy at a senior level. Also new to the New York office is Luca Bruga, a naval architect, who will be joining as a Staff Surveyor. Luca was previously with The American P&I Club where he most recently worked within their loss prevention department.

Elsewhere three new Staff Surveyors have also been appointed. Christian Vammen brings his industry expertise to Dubai, Paul Saunders, a marine engineer becomes part of the London team and Freddie Lighthelm, a master mariner, joins in Capetown.

Braemar SA has opened an office in Seattle to support US West Coast operations, and north into Canada and Alaska, with Jonathan Wanliss appointed as Principal Surveyor. Within the Far East region it has established an office in Manila, with Marx Quebral transferring from the Singapore office to take on the role of Principal Surveyor.

Speaking on these new appointments and new offices Nigel Clark, Braemar SA Managing Director, says; "In our industry, recruiting well qualified and experienced technical staff is always a challenge, and I'm delighted that we have managed to attract five new recruits of such high calibre. Not only will our new staff members help to grow our business but they will also, along with our existing surveyors and consultants, form a part of our succession planning process to ensure we have suitably qualified and experienced senior managers in the future. I'm also delighted with the progress to date of our new offices in Seattle and Manila, both of which are proving very successful."

Magnificent seven as Liberia endorses Videotel training programmes

Videotel has been approved by the Liberian International Ship and Corporate Registry (LISCR/the Liberian Registry). This brings to 17 the total number of Videotel courses approved by LISCR and further cements Videotel's long term connection with the Liberian Registry.

"The Liberian Registry is the second largest in the world and represents 11 % of the world's ocean going fleet," says Carl J Drumgoole, Director of Training Center and Course Approval. "The Liberian Maritime Program is renowned for quality, efficiency, safety and service and we only endorse those organizations that can meet those high standards themselves."

The seven Videotel courses approved are Advanced Oil Tanker Safety; Enclosed Space Entry and Emergency Awareness; ECDIS Training; GMDSS Training; IMDG Code Training; Marine Environmental Awareness and Maritime Security Awareness. These courses are delivered in a range of multimedia formats to suit the requirements of the individual customer.

"One of the key roles of the Liberian Registry is to advise its clients on the most appropriate qualifications and endorsements necessary to ensure STCW compliance," says Nigel Cleave, CEO of Videotel Marine International. "Videotel takes great care to produce accurate, up to date, quality training solutions targeted to meet real training needs, and we are delighted to support the Liberian Registry in that endeavour."

As the shipping industry moves on so will the relationship between the Registry and Videotel. There is a plan for more courses to be approved in the future, and Videotel continues to work with the Liberian Registry to raise awareness of and participation in the courses available to seafarers under the Liberian Maritime Program.

Thomas Miller strengthens Asia Pacific office

Andrew Jones has been appointed Chief Executive Officer of Thomas Miller (Asia Pacific) Ltd with effect from April 2013. He will be responsible for providing services to all Thomas Miller's managed Clubs in the region, particularly the UK P&I, the TT, the UK Defence, and ITIC.

Jones brings more than 20 years' experience of P&I management and claims experience to the Hong Kong team. A law graduate, he joined Thomas Miller's London office in 1991 specializing in handling personal injury and other people claims, taking the leadership of the UK P&I Club's specialist people claims syndicate in 1999. In 2004, Jones was appointed Operations Director for P&I in Europe and subsequently Chief Operating Officer of Thomas Miller P&I Ltd in 2007.

Based in Hong Kong with John Morris, Chairman of Thomas Miller Asia-Pacific, Jones will oversee and direct the work of the other Thomas Miller offices in the region: Singapore, Shanghai, Beijing and Sydney.

Looking forward to joining Thomas Miller's strategic regional hub in Hong Kong, Andrew Jones says:

"Thomas Miller's ability to provide maritime insurance knowledge and response locally in Asia is unmatched. In particular, our liability claims team is the strongest in the region with skills and experience gained at sea, in commerce and in the law.

"I am looking forward to helping our regional network of offices in delivering the sophisticated skills and expertise that keep our Members trading safely, whether they are locally based or trading into the region."

Polish Register of Shipping keeps vessel and crew

Classification societies are committed to ensuring the safety of vessels and are not typical profit-driven commercial companies. Therefore, classic marketing is not suitable for their principal activity — classification and statutory issues. The main area of a classification society activity focuses on the development of rules for shipbuilding and supervision of design, the building process and further supervision of the ship in operation to assure compliance of the ship with these rules and statutory requirements. Class societies are vetted by flag states and dedicated entities (e.g. QACE) to verify whether class societies have solid foundation and credibility to issue certificates on behave of the flag states.

In order to gain recognition by a flag state classification societies must show experience in assuring ship safety gained over decades or even centuries, must have top quality rules, services and, what is of utmost importance, must have high quality staff. The class staff performance is complementary to the rules and regulations. Regulations alone never cover all possible occurrences in a ship's lifecycle so it is the surveyor who must undertake decisions basing on his knowledge and experience. Classification societies must also run R&D divisions to develop safety criteria.

Class society clients and competitiveness in the market

Classification societies provide services for flag states and insurers/underwriters though shipowners are the service payees. Maritime Administrations and underwriters require owners to present evidence of ship compliance with national and international regulations in force in order to operate. Thus the major clients of classification societies are flag states and insurers/underwriters. Classification societies must seek flag state recognition. Shipowners chose the services of classification societies operating on the market for technical supervision and resultant certificates, compelling societies to compete for clients in terms of advanced technical rules, quality of supervisory services in newbuildings and ships in operation. The present IACS concept of common rules levels the rules technical merit leaving ground for competition in terms of the ship survey services themselves and technical instruments facilitating safety assurance.

Recent technological developments

Taking into account the IACS concept of common structural rules for bulk carriers and tankers there is not too much room for the development of safety criteria for these types of vessels by individual classification societies. Also, on the other hand, the development of rules within the concept of Goal-Based Standards — safety level approach (GBS-SLA), which is an deductive approach (reasoning from general to specific) is very complex and requires co-operation of classification societies, universities, flag states etc. and it seems that in the near future development of the rules will be obtained in joint effort. Therefore, individual efforts are placed in other areas, for example, PRS has developed a new criterion and method for measuring stability of small vessels, even if there is no technical documentation of the ship.

Classification societies can develop new technologies in the field of supervision of ship during construction and operation. Polish Register of Shipping has developed the SURVEY system to provide the Society with a better picture of the ship condition as well as online monitoring and verification of surveyor performance in progress and on completion. Lists of survey items tailored to the type of ship, type of survey, age of the ship etc., data regularly fed to the system by surveyors with their comments/notes/ descriptions, illustrated by pictures and films, raise surveyor aware of both the particular (each survey item) and general (the hull, machinery etc.) condition, facilitating surveyor decisions/conclusions. The detailed information on the ship's technical condition that previously often remained the knowledge of particular surveyors performing the given survey is now retained in PRS database in full.

Latest contracts

With the construction of the series of four Kamsarmax bulk carriers (82 thousand dwt each) in the Japanese shipyard Tsuneishi Polish Steamship Company terminated its 2005 launched fleet renewal program. The shipowner decided on exclusive PRS classification supervision of this new tonnage in operation. The first *Karpaty* was delivered in January 2013 with the others to be delivered in March, August and October 2013, respectively.

The Karpaty, *the first of the four Kamsarmax bulk carriers.*

Too many bulk carriers are being lost in each year

There are different reasons why ships, including bulk carriers, are lost each year. The random nature of shipping operations, involving uncontrolled weather and sea waving conditions, indiscriminate loading condition, arbitrary shipping routes and decisions of the crew sometimes fatigued, sometimes with limited experience, is one of the reasons that underlying safety is at risk.

The second reason lies in the traditional approach to the development of ship construction safety criteria: casualties usually trigger development of new safety criteria covering this case. Adoption of such an approach, which is an inductive approach (reasoning from specific to general), means, in terms of logic, that exceptions may appear and further regulations are required. In effect we suffer proliferation of regulations.

The third reason is the development of new ship type structures and new improved materials and building of bigger and faster ships. New loading technologies, improved propulsion systems and computerized deck control systems revolutionized shipping. New ship types appear, tailored to the types of provided cargo. Appropriately developed safety rules stay behind leaving a gap between innovative solutions and safety standards.

safety firmly at the forefront

Identifying the very essence of the problem using advanced physical theories and developing safety criteria can rectify this problem. However, the process is time consuming as can be seen on the example of the history of the development of the ship's stability criteria.

Casualty statistics show that "during a period of 25 years between 1982 and 2007, there were 419 bulk carriers lost, along with nearly 2,000 lives" (*Lloyd's List*, 10 March, 2008). The detailed statistics of INTERCARGO indicate that about 30% of bulk carrier total losses were caused by failure of ship structure or her equipment (*Bulk Carrier Casualty Report*, INTERCARGO, 2005).

Following the series of catastrophes, mainly due to the reasons mentioned, new requirements, often retroactive in nature, were developed creating a maze of regulations, which is difficult to embrace. For some ro-ro passengers ships and bulk carriers new retroactive requirements meant rebuilding of ships in operation.

The proliferation of regulations caused a proliferation of controlling/auditing bodies. This approach to assuring safety at sea created a new culture — the 'regulatory compliance culture'. This culture assumes that the more inspections the more regulatory compliance can be expected. This could be true provided the inspections were carried out by professional organizations with interpretive capacity. Excessive number of inspection bodies generate an adverse attitude to safety and could be destructive to the safety system.

In reaction to this regulation culture the IMO Maritime Safety Committee started the development of Goal Based Standards, which was initiated in 2002, comprising five-tiers.

GBS as adopted by IMO, are based on the prescriptive approach. However, the problem of quantification of the functional requirements has led to the concept of GBS SLA, currently being developed. It was assumed in this approach that goals of Tier I take the form of safety objectives (for ship, cargo, passengers, crew, environment, etc.), defined by risk level (eg. probability of failure and fatality); and that these safety objectives are achieved when each ship function (Tier II) such as manoeuvrability, sea-keeping performance, stability and floatability, ship strength and fire protection, satisfies the risk level set for each function. Verified class rules (Tier IV) are assumed to meet the functional requirements and consequently meet the goals. The aim of the rules of classification societies is to transpose the required set safety level to the safety level of ships.

Sea Marshals urges ship operators to stay vigilant in high risk area

The threat to maritime trade from Somali pirates continues and ship operators should stay vigilant and adhere to best management practices, according to leading private maritime security company Sea Marshals Ltd, which counsels against complacency at this time.

Latest security industry intelligence points to a likely upsurge in pirate attacks, particularly given recent releases of hijacked vessels and a reduction in attack success rates.

Thomas Jakobsson, chief of operations for UK headquartered Sea Marshals Ltd, says: "Private maritime security companies are expecting the pirate attack groups to renew their activity in the coming months as they try to acquire more vessels.

"It is essential that vessels maintain a high state of preparedness and our team leaders, who are well trained in analysing intelligence and threat reports, are working hard to ensure this information is communicated to Masters and crew before and during transits through the high risk area. Now is definitely not the time for complacency," he warns. "Any lapse in security or failure to follow BMP4 just plays into the hands of the pirates and significantly increases the risk of attack or capture."

Sea Marshals advises all its clients of the need to robustly comply with BMP4 as applicable to their vessel, particularly the reporting requirements and vessel hardening measures. Sea Marshals' own standard operating procedures are built around all relevant BMP4 recommendations. In addition, the company places huge emphasis on training its personnel in the rules on use of force and the implementation of non-violent measures at all times.

Steve Collins, Sea Marshals' operations manager, points out: "The best management practices are an essential tool in the fight against piracy and in protecting the vessel, its crew and our onboard security team."

Yet there are still instances of ships not complying with BMP. In fact the Maritime Security Centre, Horn of Africa (MSCHOA) monitors vessels' adherence with BMP4 and reports instances of non-compliance on a monthly basis.

Collins says: "Much is being made of the recent decrease in attacks, availability of naval forces in the region and armed guards proving an effective deterrent, and rightly so. But we are now seeing this translate to a potentially worrying lack of vigilance and due care by vessels in the high risk area. Even with these procedures being advised and our team leaders trying to enforce them, we have documented instances of masters refusing to follow them. Our teams cannot override the master's wishes without being seen to be disrespectful, breaching our acknowledgment of SOLAS and IMO recommendations and, of course, without losing the trust and working relationship with the master and crew that is vital to a safe transit."

Any such non-compliance is also a breach of Sea Marshals' own standard operating procedures. Collins says security operatives on any non-compliant vessel will adapt and report as best they can during the transit but the company will take such a breach seriously and may refuse to embark the vessel in future unless procedures are implemented correctly.

"Sea Marshals Ltd is engaging with ship-owners, clients, Masters and crew to stress the importance of BMP4 regardless of what the perceived threat level is," he says. "We must all ensure the situation in the region of Somalia does not escalate again."

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NORDEN

Management changes at NORDEN

new head of Dry Cargo Department appointed

NORDEN remains in a strong position in a historically challenging market

With 24 years of experience in the shipping industry, Ejner Bonderup has taken up the position as head of NORDEN's largest business area, dry cargo, at a point where the global dry cargo market is struggling with historically low rates and too many new ships in the sea. But that does not intimidate him. NORDEN is in a strong position to deal with the challenges — this is due to the company's strategy and values as well as the significant cash balance, says Bonderup.

The new head of NORDEN's Dry Cargo Department, Executive Vice President Ejner Bonderup, has no doubt about how NORDEN will benefit the most from the historically poor dry cargo market, where the rates in 2012 were at the lowest level since 1998, and where the number of new vessels has set new records. His formula for coping in this challenging market is to always concentrate all business-related efforts on complying with the NORDEN 2011–2013 strategy of 'Long-term Growth in Challenging Times'. Within the dry cargo area, this focuses on growth in transported cargo volumes, growth in contractually secured cargo volumes, establishment of joint ventures and strategic alliances and the creation of added value as an operator.

At the end of 2012, NORDEN's total active dry cargo fleet of owned and chartered vessels — with and without purchase options — totalled more than 200. The majority of the dry cargo team is positioned at the head office in Hellerup, but dry cargo employees are also positioned at NORDEN's offices in Singapore, Shanghai in China, Mumbai in India, Rio de Janeiro in Brazil and Annapolis in the USA.

Ejner Bonderup, the new head of NORDEN's Dry Cargo Department.

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Good at complying with the strategy

"I think NORDEN has a clear and precise strategy that has worked for us in these challenging years following the crash of Lehman Brothers in September 2008. NORDEN is well-padded and well-positioned to maintain and even improve its position in the global shipping market," says Bonderup who, since his arrival in the fall of 2012, has spent most of his time getting to know NORDEN from scratch. He has visited all NORDEN's overseas offices, including the office in Shanghai which plays a special role as NORDEN's biggest dry cargo market.

But Bonderup, who has 24 years of experience in the shipping industry, has also found time to express which managerial challenges the struggling dry cargo market gives rise to.

"As a management team, it is our job to create a good and solid foundation for a high-performing team to base their work on. This foundation will include a clear framework, clear communication combined with a good deal of information sharing, transparency when it comes to our objectives and a stable and well-functioning shipping system. If you are able to combine these things correctly, you have a good basis for achieving high performance," he says.

Employees: facing challenges head-on

Which challenges does such a difficult dry cargo market impose on your employees?

Bonderup replies: "When we operate in an uncertain market, where fluctuations and insufficient performance among some actors are a daily challenge, it is necessary to build up full confidence — and that goes both ways. The employees must always experience that the company and its management are backing them all the way and provides the support needed to perform well. On the other hand, the company must also be able to know that the employees execute their tasks as agreed and eliminate potential misunderstandings fast."

NORDEN has money in the bank

Does NORDEN possess special strengths, which the company is able to draw on when the market conditions are as difficult as they are now?

"We have money in the bank, and NORDEN has always fulfilled incurred obligations. This is a strong selling point in our future search for new business. We are also able to deliver as promised tomorrow," says Bonderup.

It is part of NORDEN's strategy to have financial resources which enable the company to stand up to hard times, act independently of the bank and loan market and take advantage of the opportunities in a cyclical market. This is also the case in the period of financial crisis NORDEN is currently in, when external financing can be difficult to obtain.

At the close of 2012, NORDEN had cash and securities totalling US$529 million and undrawn credit facilities of US$161 million. With these financial resources, NORDEN can carry through both already known investments as well as the planned new investment programme for 2013 without additional external financing.

Core values

How important are NORDEN's four core values — flexibility, reliability, empathy and ambition — in the present difficult situation in the dry cargo market?

"This is a question of DNA composition. It is important that we base our business on a proper foundation, and the values are of great importance not only internally but definitely also externally. To be able to clearly indicate to all stakeholders who you are and what your focus areas are means a lot. But it does not come for free. It comes with a great obligation — both for the company and for the individual employee. It is important that all employees take ownership of the values, and it is important that we have attuned our expectations towards each other when complying with the values. NORDEN has worked with these values for several years, and it is my impression as a newcomer in the team that the values are alive and well anchored in the organization."

Exciting times ahead

Do you think we will ever experience previous decade's bountiful years in the dry cargo market again?

"We do not need to see a Capesize market above US$200,000 per day again to create great value for our owners. Furthermore, it is relevant to ask the question if it was in fact a healthy and balanced market back in 2006/2008. It probably was not. I do not believe that the same conditions will occur to the same extent in the near future. But the market has not lost its ability to act cyclically, and I am certain that demand will catch up with supply again," says Bonderup.

Bonderup does believe that the shipping industry is heading for a very interesting period. "This is a time of opportunity, and we at NORDEN have the ability and the strength to evaluate and execute our next strategic steps," he says.

OVET

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Quality in Bulk

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- Terminals in Terneuzen and Vlissingen
- Draught: 16.50 m SW

Big in bulk: OVET remains at the top of its game

OVET B.V. offers a wide range of stevedoring service. It can handle commodities including: coal, coke, petcoke, ores, minerals and scrap. The main activities of OVET are lightening, discharging, storing and distribution and screening of dry bulk cargo.

OVET operates at two deepwater terminals with all hardened and paved stockyards:

- **Terneuzen** (Panamax) with a capacity of 160,000m² — 600,000 tonnes; and
- **Vlissingen** (Capesize) with a capacity of 315,000m² — 2,000,000 tonnes.

Using four floating cranes (3 x 25 tonnes and 1 x 36 tonnes lifting capacity) with a total capacity of 80,000 tonnes per day, OVET has also the flexibility to operate at anchorages both in Terneuzen and in Vlissingen. The draught in Terneuzen is set to 12.50 metres freshwater, making the terminal suitable for Panamax vessels. In Vlissingen, the draught is 16.50 metres saltwater. Vlissingen has two Capesize berthing facilities plus one Panamax berth.

The annual handled tonnage by OVET exceeds 10 million tonnes and therefore OVET plays a significant role in the dry bulk stevedoring market.

Terneuzen and Flushing offer excellent connections (inland waterways, rail and road) to Benelux, France and Germany and are also ideally geographically located for overseas dispatch to Scandinavia, the UK and Ireland.

At the Vlissingen terminal OVET operates a warehouse of 6,000m², mainly used for the storing of wood pellets. The warehouse contains six separate cells with a total capacity of 30,000 metric tonnes of wood pellets. Of course, the warehouse can also be used for other products that need covered storage.

Affiliated to OVET is the shipping agency OVET Shipping which offers a reliable 24-hour service throughout the River Scheldt area. This guarantees an efficient and effective handling of customers' vessels.

Another affiliate of OVET is OVET Screening, a company which is specialized in screening, crushing and blending activities. At both terminals OVET operates (mobile) screening and crushing installations. In 2012 investments were made in two new mobile screening installations for the Vlissingen terminal. With these machines OVET is able to screen dry bulk material up to 5 fractions with a maximum input capacity of 400 metric tonnes per hour.

As from 1 July 2013, the OVET Vlissingen terminal will have at its disposal a new train loading facility allowing a 44 wagon train (approximately 2,700 metric tonnes net weight) to be loaded in 2.5 hours. The port delivers excellent rail connections, rail paths and shunting services. Different rail companies are present in the port.

With these facilities OVET is able to expand coal rail transport towards the European hinterland, mainly to source the German power and steel industry.

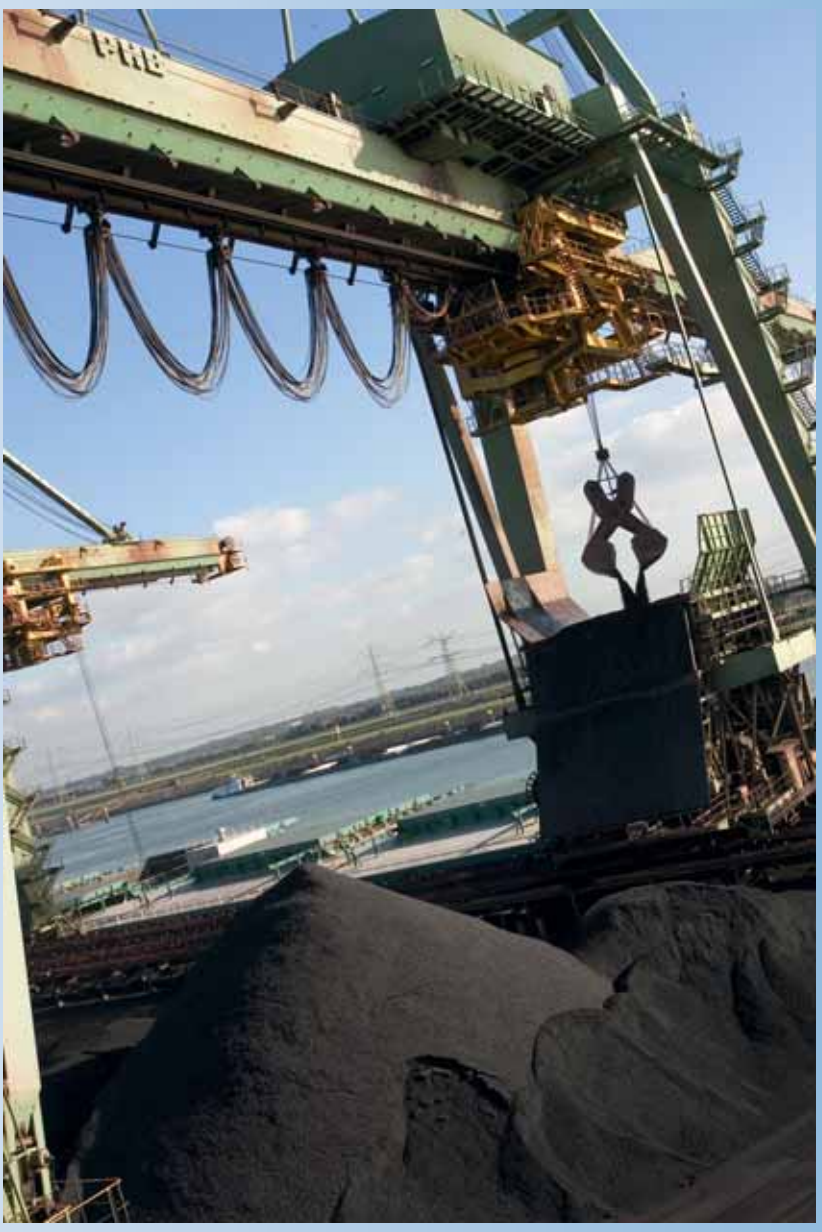
EMO, 40 years fully equipped to meet customers' expectations

Look to the future and plan ahead

Since 1973, the EMO terminal in the Rotterdam Port has been a major hub in transporting coal and iron ore from all over the world to the European hinterland. EMO has always been a reliable partner for its customers in helping to control these flows of goods by combining daily processes with a clear vision for the future.

EMO is able to accommodate the world's largest dry bulk vessels, and yet it never ceases to look to the future and plan ahead — now more than ever. In 2012, the terminal significantly increased its storage and transshipment capacity and efficiency by commissioning five new, state-of-the-art projects: its seventh stacker reclaimer, fifth unloader, a second fully automated coal wagon loader, a brand-new sea going vessel loader along an innovative, new quay, and a high-tech operations centre. These projects ensure that EMO is fully equipped to enhance its safety, efficiency and sustainability performance, and to continue to serve its customers as a reliable partner in dry bulk transshipment in the coming decades.

EMO operates 24 hours a day, seven days a week. It handles large bulk shipments; its discharge capacity is 47mt (million tonnes) and throughput capacity is 60mt. It always approaches its work and planning with the greatest care. EMO believes it is very important to remain state-of-the-art. Keeping the terminal state-of-the-art as well as making necessary improvements is its key to serving its customers. EMO's highly skilled trained personnel work closely together. Skilled employees working with innovative technology guarantee high quality, efficiency and sustainability.



Meeting market demands

EMO's 160-hectare area currently offers 7m of storage. EMO is ideally located on a 23m-deep waterway connected directly to the North Sea. Rotterdam harbour has excellent rail and waterway connections to the rest of Europe.

EMO is a partner that offers reliability and trustworthiness. The company stays on top of the latest developments in the market. EMO continually analyzes its customers' needs, the quality of its services and its terminal's performance. In anticipation of market trends and customer needs, it is continuously geared towards offering a more efficient, cleaner and safer terminal, one designed to meet all expectations.

TERMINAL CAPACITY

Unloading capacity	47mt
Throughput capacity	60mt
Storage capacity	7mt
Trainloading capacity	18 trains daily

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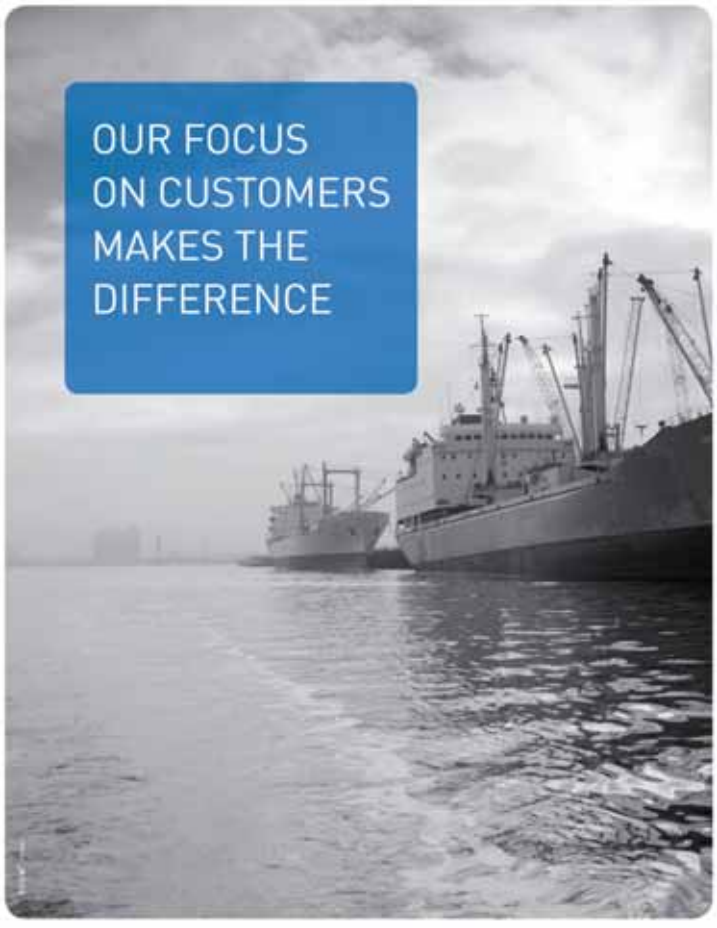
Port of Antwerp



The seaports of Terneuzen and Vlissingen provide an ideal gateway between northern Europe and the rest of the world. They guarantee a rapid flow of goods thanks to their easy accessibility, deepwater location and excellent facilities. The two modern ports are strategically located between Rotterdam and Antwerp, at the mouth of the Western Scheldt. Together with a first-rate network of congestion-free roads, railways and waterways, this ensures fast and effective transport links with the hinterland. The key advantages of Terneuzen and Vlissingen are customer-friendliness, tailormade solutions and ample opportunities for logistics and industrial activity. And the Zeeland Seaports Authority is there to see that these important benefits are carefully maintained and safeguarded for all our customers.

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CVRD eyes southern Chinese distribution hub

CVRD is looking into the possibility of creating an iron ore distribution hub at the southern Chinese port of Zhanjiang. An agreement has apparently already been signed, which involves Baosteel as well, since this producer is to build a 10 million tonne per year steel plant within the port. The thinking behind CVRD's move is that not all of its clients require a complete shipload of ore and so the establishment of a distribution centre will allow smaller consignments to be delivered to the end user. *Barry Cross*

Essar Ports commissions Paradip dry bulk terminal

Essar Ports has commissioned a 16 million tonne per annum dry bulk terminal at the Indian port of Paradip. This is involved the upgrading and mechanization of the 230m-long CQ3 berth, which now has a 100% automated shiploading system in place that offers a 5,000tph (tonne per hour) capacity. The quay is connected to the stockpile by a 9km conveyor system, while the yard itself has been equipped with two reclaimers, each offering capacity of 2,500tph. *BC*

Decision time imminent on Paradip coal and ore berths

The decision over what to do with the projected coal and iron ore berths at Paradip hangs in the balance. Contracts with successful bidders were signed nearly four years ago, but the start-up of operations has been postponed pending a court case in the Supreme Court.

In the case of the iron ore berth, the Nobel Group-led consortium is said to be reluctant to now go ahead with the project because of the situation with the global iron ore market.

In the meantime, Paradip Port Trust has had to seek the legal removal of private firms from the land where the two berths are due to be built. Because of the geographical layout, the coal berths cannot be built until the iron ore berth has first been put in place. Each will be able to handle 10 million tonnes annually, but will cost a combined $184 million. *BC*

Gammon to build Mormugao coal terminal

Gammon Infrastructure has been awarded a contract to build and operate a new coal terminal at the port of Mormugao in India. Operations will be centred on berth 11, as part of a BOT (build, own, transfer) contract, which will last for 30 years. The facility will handle both imported and exported coal, with the port authority having agreed to a 33.66% revenue share. The $55 million terminal will be able to handle 2.33 million tonnes annually. *BC*

Coal and fertilizer traffic down at Indian ports

In the first nine months of India's current financial year, iron or traffic at major ports declined by around 50%, while fertilizer traffic plunged by 33%. As a result, total traffic at major ports dropped by slightly more than 3% overall.

Part of the problem is that the state of Karnataka has banned iron ore exports, while a decline in the use of di-ammonium phosphate and muriate of potash has undermined fertilizer traffic, given a large inventory among suppliers.

Thermal coal, in contrast, has grown thanks to buoyant global demand. *BC*


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ABG to open two bulk terminals at Vizag port

ABG-LDA Bulk Handling expect to have its fertilizer berths in place at Visakhapatnam port, in India, by the end of 2014 after having achieved financial closure for the project, which is estimated to cost $57 million. Funding is coming from a consortium of four banks headed by SBH. The new berths will be mechanized and operationally more efficient, as well as reducing pollution at the port.

In addition, in December, the company expects to commission its latest mechanized multi-cargo berths. Costing $285 million, it will handle steel, granite and other bulk cargoes, offering capacity of 5mt (million tonnes) per year.

Once both terminals are in operation, ABG will have boosted its handling capacity in the port from 6mt per annum to around 16mt. *BC*

Murmansk coal terminal to go ahead

Siberian Business Union (SBU) and Kuzbassrazrezugol are to invest more than $200 million in phase 1 of the Murmansk coal port project. Each will provide 50% of the finance, with the return dependent on the future state of the coal market, which could mean waiting up to ten years. The port, which will be built on the West Coast of Kola Bay, will take three years to build and will have a capacity of 80 million tonnes annually. As part of the overall plan, an electricity sub-station will be put in place, along with a new railway station to serve the port at Lavna.

The aim of the port is to increase the movement of coal consignments to Europe, although shipments currently also go to China, Korea and Japan. *BC*

BCT coal exports on the increase

The Baltic Coal Terminal, which is situated in the Latvian port of Ventspils, boosted export coal consignments by 18% last year to 4.8 million tonnes, although volume handled in December declined by 5% to 346,780 t. In 2011, the terminal handled just over 4,000,000 t, with exports to the UK, Belgium, Spain and Morocco. *BC*

Richards Bay leads increase in South African exports

In 2012, dry bulk exports from South Africa rose by 4.8% to 148.4mt (million tonnes), according to Transnet National Ports Authority. The previous year, these had risen by 6.8%, while in 2010 there had been a rise of 9%. Indeed, in 2012, before industrial action had been taken in the mining sector, the trend was for an increase of 9.2%.

Richards Bay led the way with a 5.2% increase in exports, which amounted to 80mt. At Saldanha, exports rose by 4.6% to 55.7mt, while at other ports exports rose by 3.4% to 12.6mt of overall, with the caveat that the first three quarters these were up by 13.7%.

In general, the majority of bulk exports go to China, India, Japan and South Korea. *BC*

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LOOK TO THE FUTURE AND PLAN AHEAD

Since 1973, the EMO terminal in the Rotterdam port has been a major hub in transporting coal and iron ore from all over the world to the European hinterland. EMO has always been a reliable partner for its customers in helping to control these flows of goods by combining daily processes with a clear vision for the future.

EMO is able to accommodate the world's largest dry bulk vessels, and yet we never cease to look to the future and plan ahead – now more than ever! In 2012, we have strongly increased our storage and transhipment capacity and efficiency by commissioning five new, state-of-the-art projects: the seventh stacker reclaimer, the fifth unloader, the second fully automated coal wagon loader, a brand-new sea-going vessel loader along an innovative, new quay, and a high-tech operations centre. These projects ensure that we are fully equipped to enhance our safety, efficiency and sustainability performance, and to continue to serve you as a reliable partner in dry bulk transhipment in the coming decades.

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South East Asia

bulk business booming

Liebherr cranes operating at Krishnapatnam Port in India.

Krishnapatnam Port – the new world port for the new India

One of the India's fastest growing seaports, Krishnapatnam Port has emerged as a world-class port with outstanding services and facilities. It is fast becoming a port of choice for all international cargo originating from and destined to the Southern and Central India. Krishnapatnam Port is a deepwater all-weather port with 365 days 24x7 operations being developed on build-operate-share-transfer basis in public–private partnership mode between the government of Andhra Pradesh and the Krishnapatnam Port Company Limited promoted by C.V.R. Group. It was inaugurated and dedicated to the nation on 17 July 2008, by Smt. Sonia Gandhi, Honourable Chairperson UPA.

The port is ideally located on the east coast of India in Nellore District of Andhra Pradesh, 180km north of Chennai city. Due to its close proximity to the Hospet Bellary region, iron ore was exported through barge operations from the port even before the current owners took control. After Krishnapatnam Port Company was formed, it took less than 18 months for the port to be commissioned for business requirements. The port initially handled iron ore exports originating from Karnataka & parts of Andhra Pradesh. In the first fiscal year (2008/09) of operations, the port handled 8.2mt (million metric tonnes) of cargo, which was a remarkable feat unheard in the Indian port industry. From then on, there was no turning back.

In order to support the growing export trade, the port built more berths, brought in better and heavy load-bearing capacity shore cranes, increased the draught from a modest 11 metres to 18 metres to accommodate Capesize vessels. Simultaneously, the port invested in infrastructure to increase connectivity — a dedicated four-lane road connecting to the NH-5 highway and a dedicated railway line connecting to the Chennai–Kolkata main line.

From 8.2mt of cargo, the volumes almost doubled to 16.14mt in the fiscal year 2009/10, and the port was all set to support the growth trajectory in the EXIM (export/import) trade.

Krishnapatnam Port's story is a good case study in Indian maritime history of how a port, in fewer than five years, has managed to create a name in the global maritime trade.

With a vision to evolve as India's largest gateway in the East Coast and the port of choice with world-class infrastructure, efficiency, hinterland connectivity and unrivalled customer service — along with eco-friendly development — the port reached out to the EXIM trade in the hinterland offering unique customized packages according to customer need.

With an ever-increasing demand for coal-based industries, Krishnapatnam Port offered unique benefits for import clients. The port dredged deeper to accommodate bigger vessels; unloaded cargo at discharge rates unattained in the stevedoring

Kolkata Port to start transloading from new location

Inchcape Shipping Services (ISS), major maritime services provider, is advising that India's Kolkata port is expecting to begin transloading operations from a new anchorage location within the Kanika Sands area by around June 2013.

The Kolkata Port Trust declared the new transloading location to the south-west end of Kanika Sands is expected to begin in around three months' time and follows Dhamra port authorities' and Odisha Government's opposition to a previously identified area nearer to Dhamra port.

The new location is approximately 30km east of Dharma port. The Kolkata Port Trust will transload 70% of the cargo to barges for respective destinations, while the rest will be transported to the Haldia dock complex.

Says Koushik Chakraborty, manager of ISS East Coast India: "The announcement by the Kolkata Port Trust ends the ongoing speculation about when transloading will begin and we look forward it becoming operational."

Inchcape Shipping Services has 292 proprietary offices in 65 countries, and a workforce of over 3,880. The company's diverse global customer base now includes owners and charterers in the oil, cruise, container and bulk commodity sectors as well as naval, government and inter-governmental organizations.

ISS provides landside commercial and humanitarian logistics, transit, offshore support, informational and other associated marine services. The company also provides a growing range of outsourcing services including global crew and marine spares logistics; port hub agency management; and sophisticated Enterprise Resource Planning solutions through its subsidiary ShipNet

community, provided berthing on arrival and fastest turnaround time for all types of vessels. An advantage of the huge back-up area of 6,500 acres helped in providing dedicated storage areas to its clients. As a result, the imports of coal started to increase significantly.

At the same time, the port provided a unique solution of direct pipeline for all edible oil refineries, which let to several leading refineries setting up their units close to the port. The efficiency and operational dynamism of the port made it a perfect destination for the edible oil refinery plants. Currently, six edible oil refinery plants have started operations around the port. The port's efforts were noticed and recognized when it won the prestigious Lloyd's List Global Awards 2011 as the Best Port Operator in the world. It also won the IHS McCloskey Coal Port of the Operator for 2011.

Krishnapatnam Port accelerated to complete its INR 4,000-crore phase II development plan offering the best infrastructural facilities for cargo handling operations and efficient services to all its customers. New berths were built, bringing the total to ten; draught was increased to 18.0 metres, the deepest offered by any port in India; a total of 13 cargo handling shore cranes operated at the port; 21 weighbridges were built; 15 dedicated

railway sidings were laid and efficiency was increased, leading to nil demurrage and significant benefits in ocean freights. The port's commitment could be seen when it achieved a world record for discharging 122,247 metric tonnes of coal in just 24 hours using mobile harbour cranes. More than 100 Panamax/Capesize vessels have been handled from 2010/11 until now, and more than 10,500 rakes have been handled inside the port sidings. The port also laid a 16-inch pipeline facility directly from the berth to the edible oil refineries, making it an ideal destination for port-based industries.

Such infrastructural facilities helped the port to also handle cargoes like rock phosphate, gypsum, palm kernel, granite, quartz, barytes, and ODC cargos. In its quest to diversify the cargo base, the port has built clean warehouses, purchased bagging machines and made itself capable of handling agri-commodities like raw sugar, maize, rice. It has become one of the top most exporting Indian ports for wheat.

So when the management of the port realized that the existing gateways in the east coast of India do not address the basic requirements of a quality container gateway — the hassle-free land, sea side connectivity, adequate storage area, and equipment which matches the growing demand, they decided to offer a world-class container gateway taking all the issues highlighted above at conceptualization stage. Krishnapatnam Port Container Terminal (KPCT) came in to existence just a few months ago. With the latest terminal operating system — Navis N4 — and the fastest and the largest container handling quay cranes, shipping fraternity is already taking note of KPCT as the modern container gateway terminal. Exporters are now becoming competitive in the global market by reaping the benefits of a modern container terminal at their door step. With plethora of ancillary requirements, the container terminal provides huge direct or indirect job or business opportunities.

KPCT is like a boon for the tobacco, spice, cotton, stone, minerals, agro products (rice, maize), and sea-food originating in the footprint of the terminal. KPCT's logistical advantage, faster turnaround times and competitive tariffs are making exporters competitive in international trade.

Management's new initiative — called the Krishnapatnam Port Trade and Transport terminal — is a vital facility that helps the port personnel to co-ordinate and organize the various requirements of the customers. Such unique facilities combined with integrated real time control of cargo handling through Automatic Vehicle Location System (AVLS), Enterprise Port Management System (EPMS) and three-tier security protection guards and protects the port and its cargoes.

Logmarin integral to new power plant contract award

Renowned shipping logistics expert Logmarin Advisers has played a significant role in the recent award of a contract to build, own and operate a 1,2000MW coal-fired power plant in Vietnam.

The contract for the power plant, in Nghi Son, Thanh Hoa province, was awarded to the consortium Marubeni Corporation and Korea Electric Power Corporation (KEPCO). The consortium recognized Logmarin's contribution to the achievement …"we thank you for your participation in helping us submit a winning bid…" .This achievement is a clear proof of team-working potential and of experience and synergies of all the parties. The consortium will also rely on advice from Logmarin for the project implementation.

The power plant will sell electricity to VietNam Electricity (EVN, the largest power company in Vietnam) for a 25-year term from its target completion date of 2018.

LOGMARIN'S ACTIVITIES AT THE BIDDING STAGE

Project:	Nghi Son 2 Power Station
Location:	North-Eastern coast of Vietnam
Owner/client:	Marubeni Corporation and Korea Electric Power Corporation

The bottleneck

Build a coal-fired power plant on a greenfield flat tidal land, formerly used for salt production from seawater.

The Vietnamese Authority preliminary envisaged plan foresaw the construction of the terminal facility and entrance channel to accommodate Handysize vessels of about 40,000dwt. Such a solution implied significant dredging and civil works and higher freight costs associated with the import in restricted shipment size.

The challenge

Logmarin proposed a logistical arrangement actually reducing the amount of dredging and civil works foreseen by the original construction plan of the terminal, but still eliminating the limitations to the size of the approaching vessels. The solution consisted of planning an off-shore terminal which could discharge ships up to the largest Capesize (freight optimization) and transport the coal to the receiving terminal by duly designed self-propelled barges.

The Marubeni Consortium, in 2012, was finally selected as preferred party for negotiation by the Vietnamese Authorities on the basis of the logistics solution devised by Logmarin Advisors.

Service rendered

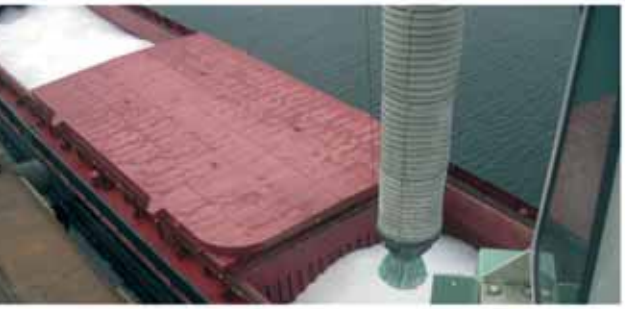
Design and estimation of the most cost-effective transport and logistics solution for the supply of imported coal to the coal-fired (two units × 600MW) power station. Services included: site visit, identification of the most suitable logistics solutions to evaluate, freight analysis, technical and economic feasibility study, preliminary design of the receiving shore facilities, access channel, dredging assessment, traffic and commodities flow analysis, operational and risk analysis, conceptual design, preliminary economic evaluation (Capex, Opex, ocean and coastal freights).

In a second phase Logmarin assisted the Consortium in summarizing, standardizing and analysing the proposals received from potential service providers and drew up a preliminary ranking/short list based on the special knowledge and experience possessed by Logmarin in the dry bulk shipping, logistics and transhipment fields and provided the Consortium with all the necessary input information to generate a final ranking based on its project financing model.

Major bulk port in Finland

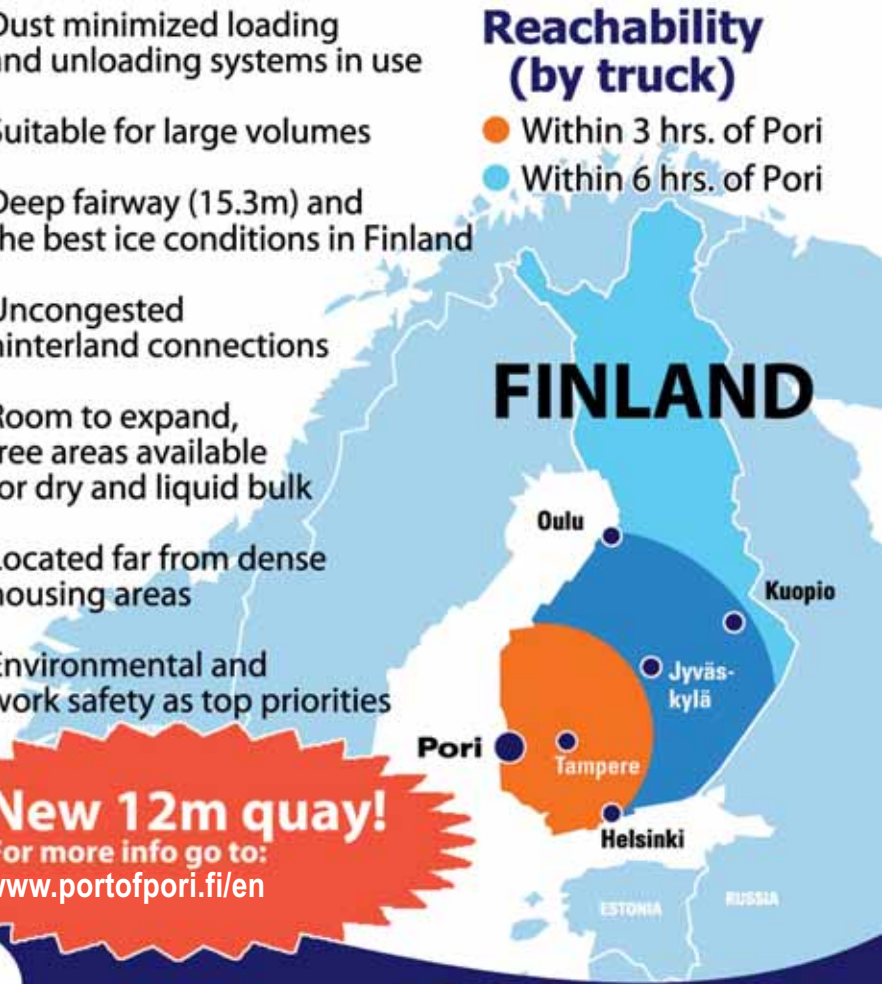
Port of Pori

The port of all size vessels



The strengths of the Port of Pori

- Dust minimized loading and unloading systems in use
- Suitable for large volumes
- Deep fairway (15.3m) and the best ice conditions in Finland
- Uncongested hinterland connections
- Room to expand, free areas available for dry and liquid bulk
- Located far from dense housing areas
- Environmental and work safety as top priorities



New 12m quay!
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Neuero: keeping busy in South East Asia

Neuero Industrietechnik has just completed the refurbishment of two Neuero 1,000tph (tonnes per hour) pneumatic ship unloaders at the flour mill of PT Indofoods in Jakarta Indonesia. This facility is located at the port of Tanjung Priok. Also in Indonesia, Neuero has previously supplied three (total order of five) small unloaders for the company PT Smart. PT Smart is a major processor of palm oil. These unloaders are used to unload the palm kernel from barges prior to processing. The unloaders are used at three separate processing plants.

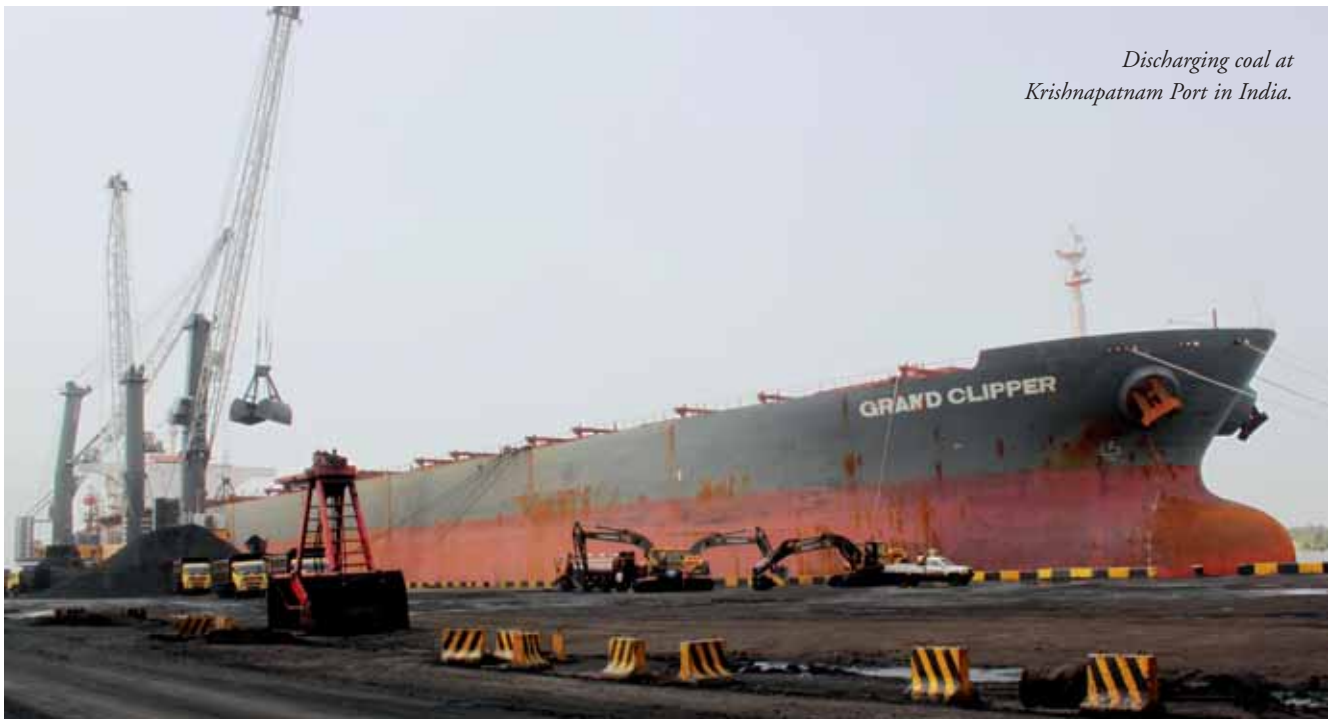
In the Philippines, Neuero is delivering a 600tph (metric) combination ship unloader/barge loader to the project Golden Bay Grains Terminal located in Mabini Philippines. The company is also involved in two other ship unloader projects in the Philippines.

Along with economic development Krishnapatnam Port also believes in balanced and sustainable development with the surrounding environment. The port conducts CSR activities through the CVR Foundation, which as part of its commitment to the community has taken up several socio-economic growth initiatives besides other clean and green measures.

Though the current capacity of the port is 50mt of cargo, this fiscal year (2012/13) port will touch a new milestone by handling 21mt of total cargo volumes, of which 16mt will be coal. Krishnapatnam port has also received certificates for an Integrated Management System comprising ISO 9001-2008 Quality Management System, ISO 14001-2004 Environment Management System, OHSAS 18001-2007 Occupational Health and Safety Management System and ISO 28001-2007 Supply Chain Security Management System by Det Norske Veritas.

Krishnapatnam Port's final plan will have a handling capacity of 200mt per annum, with 42 berths. The total quay length will be 12.5km with a draught of 21 metres, capable of handling 200,000dwt Super Capesize vessels. It will have a mega container terminal, Ro-Ro terminal, liquid bulk terminal, world class bunkering, rig repairing and offshore facilities. It will play a catalytic role in bringing about an industrial revolution in its hinterland by becoming the gateway for exports from and imports to SEZs, logistic parks, cement, steel and thermal power plants.

In time to come, Krishnapatnam Port will be India's largest port and will drive the economic growth of its region. DCi



Discharging coal at Krishnapatnam Port in India.

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The St. Lawrence Seaway Management Corporation
Corporation de Gestion de la Voie Maritime du Saint-Laurent

HWY GO H_2O

Great Lakes

and St Lawrence Seaway system

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.

A vital waterway

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.

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 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.

SEAWAY MONTHLY TRAFFIC RESULTS
As of December 31, 2012

Traffic (in Thousands of Tonnes)	Montreal/Lake Ontario Year to Date		Welland Canal Year to Date		Combined Traffic Year to Date	
	2011	2012	2011	2012	2011	2012
Total Cargo	28,722	31,402	29,637	29,976	37,540	39,070
Grain	8,283	8,351	7,539	7,560	8,613	8,619
Iron Ore	8,212	10,253	5,962	6,241	8,842	10,253
Coal	1,148	2,147	3,740	4,576	3,740	4,638
Dry Bulk	5,818	5,668	8,451	7,996	10,680	10,173
Liquid Bulk	3,424	2,948	2,612	2,310	3,762	3,303
General Cargo	1,800	2,000	1,326	1,290	1,866	2,049
Total Transits	3,000	2,975	3,296	3,243	4,227	4,083

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

St Lawrence Seaway: summary of commodity throughput 2012

SUMMARY OF MAJOR COMMODITIES	ST. LAWRENCE SEAWAY			MONTREAL - LAKE ONTARIO SECTION			WELLAND CANAL SECTION		
	Tonnes	% of Total	Variance 2011%	Tonnes	% of Total	Variance 2011%	Tonnes	% of Total	Variance 2011%
Agricultural Products:									
Wheat	5,280,668	13.5	- 3.5	5,231,725	16.7	- 3.3	5,221,089	17.4	- 0.5
Corn	131,855	0.3	- 73.0	95,426	0.3	- 74.8	83,711	0.3	- 59.8
Rye	-	-	-	-	-	-	-	-	-
Oats	4,312	0.0	96.0	4,312	0.0	96.0	2,204	0.0	0.2
Barley	-	-	- 100.0	-	-	- 100.0	-	-	-
Soybeans	2,001,250	5.1	53.3	2,001,250	6.4	55.3	1,053,418	3.5	42.7
Flaxseed	46,624	0.1	- 53.1	46,624	0.1	- 53.1	46,624	0.2	- 53.1
Canola (Rapeseed)	785,926	2.0	- 15.6	603,455	1.9	- 23.5	785,926	2.6	- 15.6
Other Grains	368,477	0.9	18.0	368,477	1.2	18.0	367,225	1.2	17.6
Total Grains	8,619,112	22.1	0.1	8,351,269	26.6	0.8	7,560,197	25.2	0.3
Other Agricultural Products	-	-	- 100.0	-	-	- 100.0	-	-	-
Total Agricultural Products	8,619,112	22.1	- 0.2	8,351,269	26.6	0.6	7,560,197	25.2	0.3
Mine Products:									
Iron Ore	10,280,774	26.3	16.3	10,280,774	32.8	25.2	6,264,484	20.9	5.1
Coal	4,595,715	11.8	22.9	2,104,952	6.7	83.3	4,557,243	15.2	21.9
Coke	1,731,639	4.4	- 24.4	1,322,609	4.2	- 8.7	1,334,955	4.5	- 35.8
Stone, Ground, Crushed, or Rough	437,461	1.1	- 6.3	171,944	0.5	- 24.7	437,461	1.5	- 6.3
Salt	2,708,016	6.9	- 2.5	1,397,047	4.5	11.7	2,585,462	8.6	0.6
Other Mine Products	1,516,386	3.9	- 3.3	1,087,286	3.5	- 10.0	895,879	3.0	0.7
Total Mine Products	21,269,991	54.5	8.1	16,364,612	52.1	21.2	16,075,484	53.6	2.3
Processed Products:									
Iron and Steel	1,507,780	3.9	13.6	1,462,297	4.7	10.2	1,089,759	3.6	3.3
Steel Slabs	160,529	0.4	13.8	160,529	0.5	95.8	39,806	0.1	- 34.5
Petroleum Products	2,038,239	5.2	- 16.9	1,969,589	6.3	- 18.4	1,690,652	5.6	- 11.3
Chemicals	823,522	2.1	24.6	793,348	2.5	26.6	289,171	1.0	18.8
Other Processed Products	4,631,728	11.9	- 0.2	2,281,718	7.3	- 7.6	3,235,397	10.8	3.6
Total Processed Products	9,161,798	23.5	- 0.7	6,667,481	21.2	- 3.7	6,344,785	21.2	- 0.7
Miscellaneous Cargo:									
Forest Products	-	-	-	-	-	-	-	-	-
Animal Products	4,565	0.0	-	4,565	0.0	-	-	-	-
Total Miscellaneous Cargo	4,565	0.0	-	4,565	0.0	-	-	-	-
GRAND TOTAL	39,055,466	100.0	4.0	31,387,927	100.0	9.3	29,980,466	100.0	1.2

heavy fuel added or gas oil which is pure distillate available in several grades. Heavy fuel supplies bunkered (sold) on the Great 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

Richardson's Hamilton: Ontario grain hub

Richardson's Hamilton terminal opened in 1998 as a hub to source and export Ontario grains. The initial storage capacity was 16,000 tonnes and, after the first year of operation, this was expanded to 28,500 metric tonnes. In 2008, a further 15,000 metric tonnes was added to bring the total up to 43,500. In 2011, the terminal added the necessary equipment to enable it to load out railcars to supply both the Canadian domestic and US markets. Richardson International is Canada's largest, privately owned agribusiness and has served farmers across the country for more than 150 years. With more than 1,800 employees across Canada, Richardson is a worldwide handler and merchandiser of all major Canadian-grown grains and oilseeds. Richardson is one of Canada's 'Best Managed Companies' and is recognized as a global leader in agriculture and food processing.

In 2012, Richardson's Hamilton terminal decided there was a need to become more efficient in unloading trucks, so the number of truck-unloading pits was increased from two to three as well as an automated order number entry system was designed to go along with the two new truck platform scales which keeps inbound truck loads of grain moving at a more efficient and faster pace. In 2013, the terminal is expanding the terminal office to allow more room for the staff to perform their duties.

Richardson was the first company to load a vessel with grain at the Port of Hamilton. Volume has dramatically increased since that event in 1997 and Hamilton is now the major hub for moving Ontario grown commodities into domestic and export positions by vessel. The bulk of the commodities Richardson moves are loaded onto Laker vessels and transfered to the terminal's sister facility in Sorel, Quebec for further movement into export destinations. Hamilton also loads Handysized ocean vessels for direct movement to export locations and utilizes any of the ocean freight that moves commodities into the Great Lakes region.

The facility is comprised mainly of Hi-Roller and Schlagel conveyors and bucket elevators with Westeel and Brock steel grain storage bins.

Richardson buys and sells the grain it handles and co-ordinates and manages the freight using various agencies that work in the St. Lawrence Seaway and Great Lakes region.

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. 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.

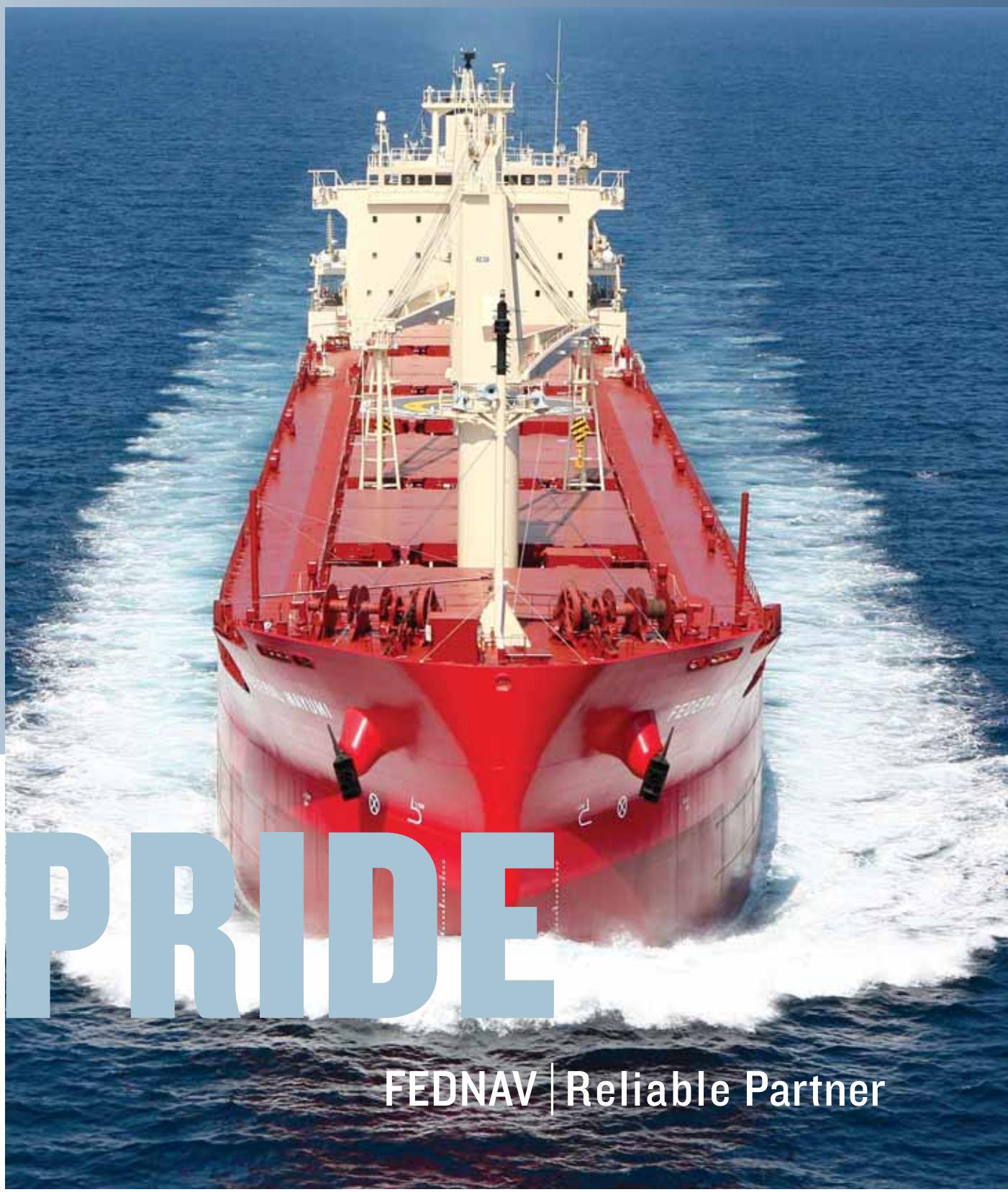
Green Marine – an industry first

The St. Lawrence and Great Lakes marine industry is taking action to strengthen its environmental performance. For the first time in North America, all sectors of the marine industry have united to voluntarily adopt an environmental programme designed to drive a process of continuous improvement along this major maritime corridor.

The programme, entitled, 'Green Marine', is being spearheaded by an alliance of the marine industry associations in Canada and the United States:

- American Great Lakes Ports Association
- Canadian Shipowners Association
- Chamber of Marine Commerce
- Ontario Marine Transportation Forum
- Shipping Federation of Canada
- St. Lawrence Economic Development Council (SODES)
- St. Lawrence Shipoperators and
- United States Great Lakes Shipping Association

Both Seaway entities have been members of Green Marine community since its inception.



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One for the record books: earliest ever 'saltie' set for Duluth-Superior

At the time of writing, the Port of Duluth-Superior was preparing to welcome its first oceangoing ship ('saltie') of the 2013 commercial shipping season. The Hong Kong-flagged *Federal Hunter* was expected to arrive on Friday afternoon, 29 March, which would also put it first in Twin Ports' history books as the earliest arrival for a full transit of the Great Lakes-St. Lawrence Seaway (GLSLS) system. The previous record was set by the India-flag LT *Argosy* on 1 April 1995.

Adding to weekend excitement was the anticipated Saturday arrival of a sister ship, the Cyprus-flag *Federal Elbe*, almost on *Hunter's* heels. The *Elbe* was likely to sit at anchor for a day or two before loading.

The *Federal Hunter* began her voyage in Rostock, Germany, discharging cargo in Contrecoeur, Quebec, before proceeding to the Twin Ports. Scheduled to arrive beneath Duluth's Aerial Lift Bridge, the 656-ft (200m) vessel was set to make its way to the CHS elevator in Superior to load durum and spring wheat. It was anticipated that the *Hunter* would depart late Monday with approximately 15,000 metric tonnes (16,535 short tons) onboard, stop in Thunder Bay to top-off with another 5,000 tonnes of Canadian spring wheat, then retrace her route through the system and across the Atlantic for deliveries in France and the UK.

The *Hunter* is under the command of Captain Khalil Zamindar. Local vessel agent is Daniel's Shipping Services; Heritage Marine handled icebreaking at the elevator; stevedoring is being handled by Ceres Terminals; Lakeshead Forwarding is serving as freight forwarders for CHS; tug assistance is being provided by Great Lakes Towing.

The Port Authority had tentatively scheduled a First Ship Ceremony for Monday afternoon aboard the vessel — an invitation-only event for community leaders and representatives from the maritime industry to welcome the 22-member crew to the Twin Ports. Invited guests included: Superior Mayor Bruce Hagen, Superior Port Director Jason Serck, Duluth Seaway Port Authority Executive Director Adolph Ojard, Twin Ports Ministry to Seafarers Director Tom Anderson, and Gene Shaw, Visit Duluth director of public relations, who were set to announce the winner of the 2013 First Ship Contest.

"We are very proud to open the 2013 season for international shipping in Duluth/Superior with the *Federal Hunter*, said Paul Pathy, Fednav president and co-CEO. "We are looking forward to a good season in the Lakes, and particularly in the Twin Ports. Fednav is clearly committed to the Great Lakes-Seaway System, a system that is a valuable part of the economy for both the US and Canada."

Fednav Group, the largest oceangoing user of the St. Lawrence Seaway with an average of 100 voyages each year, is increasing the capacity of its fleet in the Lakes. The company recently ordered six new vessels from shipyards in Japan, bringing to nine the number of new Lakes ships delivered or ordered since 2011 — all state-of-the-art vessels built to be more fuel efficient and to reduce emissions as well as to accommodate the installation of ballast water treatment equipment once Coast Guard type-approved.

The Port of Duluth-Superior provides a direct link between the heartland of North America and markets in Europe and other Mediterranean/North African countries. "Utilizing this inland marine highway keeps transportation costs competitive and enables Midwestern farmers — as well as providers of other bulk commodities like coal and iron ore plus shippers of heavy lift and project cargo – to compete in a global marketplace," said Adolph Ojard, Duluth Seaway Port Authority executive director. "The Great Lakes-Seaway system begins — and ends — here in the Twin Ports; it's what connects us to the world and makes this port an international seaport along what is often called our nation's fourth seacoast."

The *Federal Hunter*'s arrival is more than a week earlier than last year's first saltie, the *Arubaborg*, which sailed into port on 6 April 2012.

Close to 1,000 ships visit the Port of Duluth-Superior each year, moving roughly 40 million tonnes of cargo — iron ore, coal, grain, limestone, cement, salt, plus project cargo and more. The Port of Duluth-Superior is the largest tonnage port on the Great Lakes-Seaway; cargo movements through the Twin Ports support 11,500 jobs and contribute over $1.5 billion in business revenues to the local/regional economy.

THE PORT OF TOLEDO

The Port of Toledo - a 12 time recipient of the Robert J. Lewis Pacesetter Award - is at the forefront of cargo handling technology on the Great Lakes. Home to 15 terminals and a full service shipyard, the Port of Toledo is the largest landmass seaport on the Great Lakes. The Toledo-Lucas County Port Authority has acquired two new Liebherr Mobile Harbor Cranes, a High Rise Material Handler and other modern technologies that make it one of the most modern ports in the Midwest.

A newly launched virtual tour at www.tourtheport.com, provides customers a convenient and timely look at Toledo's waterfront resources.

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PORT AUTHORITY

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Port of Toledo keeps busy in 2012 with 'Port Modernization Program'

It was another busy year for the Toledo-Lucas County Port Authority's project managers, grant managers and administrative staff while the Port of Toledo continued to make major progress in its Port Modernization Program in concert with several major economic development projects in the community.

At the General Cargo Facility operated by Midwest Terminals, over $985,000 was invested to reconfigure the entrance of the facility. The new entrance integrates a truck scale and allows for two lanes of entry and exit from the facility. A new guard house and camera systems were constructed to enhance security at the site.

The second phase of construction at the new Ironville Dock operated by Midwest Terminals was completed during 2012 and the rail loop, which was completed during the first phase of construction, began to be utilized. Two million dollars were invested in construction of the dock wall and dredging during 2012. The third phase of construction to be completed in 2013 will introduce bulk material handling infrastructure to the site.

At the Toledo Shipyard operated by Ironhead Marine, over $897,000 was invested to construct a new guard house and improve lighting and fencing at the facility. In addition to the security enhancements, over $668,000 was invested to reconstruct the dock wall in the area between the large 805 foot and smaller 550 foot graving docks.

Since 2008, the Toledo-Lucas Port Authority has been involved in the acquisition of environmentally challenged real estate located in Lucas County, Ohio. Through the leveraging of partnerships with the State of Ohio and the federal government, the port has been successful in acquiring, remediating and redeveloping more than 350 acres of land. In 2010, the port

acquired 111 acres of land that had been historically used for the production of automobiles located at 1000 Jeep Parkway in Toledo. The port has been successful in acquiring more than $8 million in grant funds for the site's redevelopment. The redevelopment of the site has been broken into three phases. The first phase of redevelopment involved the remediation of environmental issues on site. The second phase of redevelopment completed in 2012, involved the removal of foundations and the fill and grading of several portions of the site. Over $2 million were invested for phase two construction of the site during 2012. The final phase of redevelopment is the vertical construction of facilities on the site. In 2012 the port announced a partnership agreement with Harmon Family Development Corporation to do site and infrastructure planning on the 111 acre property known as Overland Industrial Park.

In 2012 the Port Authority purchased One Maritime Plaza from the American Maritime Officers. The seven storey building houses the port's headquarters. The Port Authority invested $757,000 above the purchase price in the building for roofing, lighting and other improvements.

Through the Better Buildings Northwest Ohio programme, the Port Authority has partnered with the City of Toledo on a host of energy efficiency projects including upgrading lighting, insulation and boiler replacements. In 2012, Port Authority energy projects administered through the program to benefit the community totalled over $1.6 million.

In 2011 the Port Authority acquired three downtown Toledo parking garages from the City of Toledo. In 2012 the Port Authority invested over $921,000 in the facilities to replace lighting and install automated controls at each parking garage exit gateway.

Lake Carriers Association: standing up for shipping on the Great Lakes

The Lake Carriers' Association (LCA) represents US-flag vessel operators on the Great Lakes. The Association's 17 member companies operate 57 US-flag self-propelled vessels and tug/barge units (lakers) ranging in length from 494 to 1,013.5 feet. These vessels can carry more than 115mt (million tonnes) of cargo in a year. Iron ore, limestone and coal are the primary commodities carried by LCA members. Other cargoes include cement, salt, sand and grain. The vast majority of cargoes carried by US-flag lakers move between US ports, in what is commonly referred to as the Jones Act trades.

In promoting the common interests of its members and their customers, LCA places special importance on legislative and regulatory matters. To facilitate a broad-based understanding of US-flag shipping on the Great Lakes and its role in the nation's economy, LCA compiles statistical information on the volume of cargo movement, both in US-flag lakers and from major Great Lakes ports in the United States and Canada.

America can take pride in the US-flag Great Lakes fleet. No other maritime nation has assembled such a modern, productive fleet of self-unloading vessels. The thirteen 1,000-footers flying the US flag on the Lakes are longer than most of the grandest ocean liners. So technologically advanced are these vessels that they can discharge 70,000 tonnes of iron ore or coal in ten hours or less without any assistance from shoreside personnel or equipment. The industry's carbon footprint is the smallest of any of the major transportation modes.

Cargo movements in 2012

US-flag lakers carried 89.5mt of dry-bulk cargo in 2012, a decrease of 4.6% compared to 2011. The 2012 float was 1.5% off the five-year average for US-flag lakers.

US-flag lakers carried 45.2mt of iron ore in 2012, or 73.3% of the total volume of iron ore moved on the Great Lakes last year. The 45.2mt of iron ore carried by US-flag lakers represented a decrease of 4.3% from 2011.

Coal cargoes moved in US bottoms totalled 17.6mt in 2012, or 69.3% of the total volume of coal moved on the Great Lakes last year. The 17.6mt of coal carried by US-flag lakers represented a decrease of 13.1% from 2011.

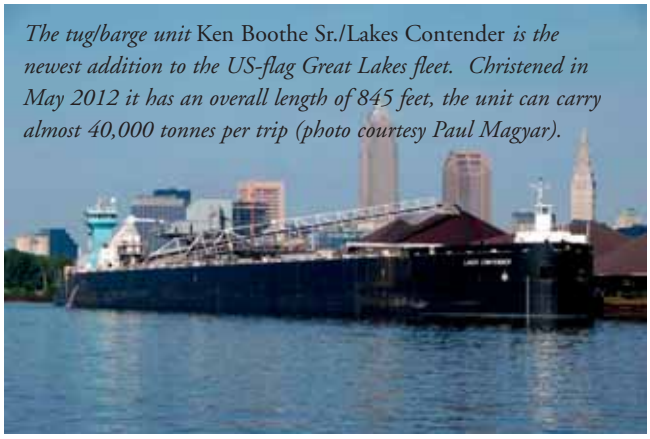
The limestone trade in US-flag hulls totalled 21.8mt in 2012, or 79% of the total volume of limestone moved on the Great Lakes last year. The 21.8mt of limestone carried by US-flag lakers represented an increase of 1.7% (360,000 tonnes) over 2011.

Year-end totals for the other commodities are not yet available for vessels of all flags, but US-flag cargoes of cement increased 13%. Loadings of salt in US-flag lakers slipped almost 30%. The sand trade in US bottoms was virtually unchanged from 2011, but grain cargoes in US-flag hulls rose 31%.

Shipments of iron ore on the Great Lakes totalled 61.6mt in 2012, a slight improvement over 2011. The increase, 245,000 tonnes, is equal to about four cargoes in a 1,000ft-long vessel operating at current draughts which are significantly reduced by the dredging crisis and falling water levels. If a vessel that size was able to load to depths available when the Lakes were at near record highs in 1997, it could carry that much cargo in 3.4 trips.

Shipments from US ports totalled 53.7mt, a decrease of 2.5% compared with 2011. Included in that total were 3.7mt transshipped to Québec City for loading into oceangoing vessels.

Loadings at Canadian ports in the St. Lawrence Seaway totalled 7.9mt, an increase of 25.3%.



The tug/barge unit Ken Boothe Sr./Lakes Contender *is the newest addition to the US-flag Great Lakes fleet. Christened in May 2012 it has an overall length of 845 feet, the unit can carry almost 40,000 tonnes per trip (photo courtesy Paul Magyar).*

Shipments of coal on the Great Lakes totalled 25,347,709 tonnes in 2012, a decrease of 8.2% compared with 2011. The trade was 25% off its five-year average.

Shipments from Lake Superior ports — 15.1mt — were just about even with 2011. Included in that total were 1.3mt shipped to Québec City for loading into oceangoing vessels and delivery overseas.

Loadings at Chicago terminals totalled 3.2mt, a decrease of 14.5% from 2011, but a slight increase over their five-year average.

Shipments from Lake Erie ports totalled 7mt, a decrease of nearly 19% compared with 2011.

The impacts of falling water levels and lack of adequate dredging were clearly evident as the year came to a close. The largest coal cargo shipped through the locks at Sault Ste. Marie, Michigan, in December totalled 62,043 tonnes. The largest coal cargo passing through the locks during 2012 was 64,706 tonnes. When near record-high water levels offset the lack of dredging in the late 1990s, a US-flag laker was able to carry nearly 71,000 tonnes in a single trip.

Shipments of limestone on the Great Lakes totalled 27,145,219 tonnes in 2012, a decrease of 3.6% compared with 2011. The trade was 7% below its five-year average.

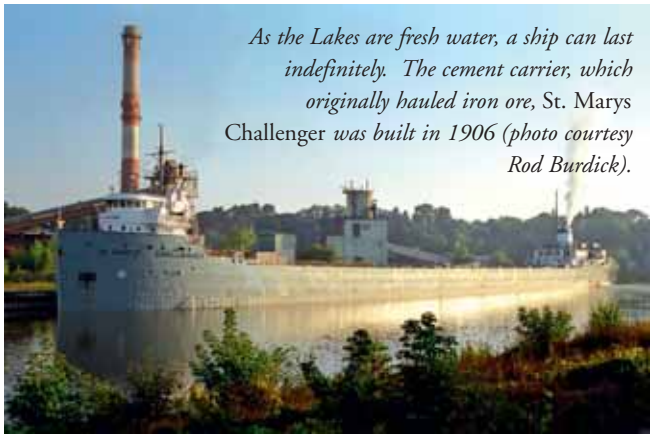
Shipments from US ports fell 2.4% when compared with 2011, and slightly more — 4.1% — when compared to their five-year average. Loadings at Canadian quarries decreased 9% compared to 2011, and slipped almost 19% compared with their five-year average.

Falling water levels and the dredging crisis (see below) took a toll in 2012. By year's end, a vessel that has carried as much as 35,457 tonnes in a single trip averaged only 29,796 tonnes on the three stone loads it moved in December. The cargoes were loaded at a quarry on Lake Huron and that body of water has fallen to a new record low.

Dredging crisis

Decades of inadequate dredging have severely reduced the efficiency of Great Lakes shipping. Lakers routinely leave the loading dock with 10% or more of their carrying capacity unused. These inefficiencies jeopardize hundreds of thousands of family-sustaining jobs and stall business growth. The Harbor Maintenance Trust Fund (HMTF) has a surplus of $7 billion because, while it takes in $1.6 billion per year from a tax on cargo, it spends less than $800 million annually. If used for its intended (and sole) purpose — dredging — the HMTF could

easily provide the $200 million the US Army Corps of Engineers needs to dredge the 17-plus million cubic yards of sediment that clog ports and waterways and so restore the Great Lakes Navigation System to project dimensions. Congress must pass legislation requiring the HMTF to spend what it takes in each year and then the funds must be distributed more equitably. The Lakes have not received their fair share of dredging dollars for decades. In some years the inland rivers' allocation is twice that the Lakes on a tonne-of-cargo moved basis. Legislation requiring the HMTF is advancing in Congress. S. 218, introduced by Michigan Senator Carl Levin (D) has 32 co-sponsors. H.R. 335 has 94 co-sponsors.



As the Lakes are fresh water, a ship can last indefinitely. The cement carrier, which originally hauled iron ore, St. Marys Challenger *was built in 1906 (photo courtesy Rod Burdick).*

Federal Regulation of Ballast Water

Vessels entering the Great Lakes from the Atlantic Ocean have unwittingly introduced non-indigenous species. However, no new exotics have been identified since 2006, and this development is closely tied to the requirement that came into effect that year that oceangoing vessels exchange their ballast before entering the St. Lawrence Seaway.

US Coast Guard regulations will also require oceangoing vessels to treat their ballast, some as soon as 2014. EPA regulations generally mirror the Coast Guard's requirements, but a small number of US-flag lakers would also be required to treat their ballast if they trade beyond the Welland Canal.

The fact that no system that can handle lakers' flowrate for ballast (as much as 80,000 gallons per minute) is even on the drawing board is but one reason Federal regulations should not require lakers to treat their ballast. The Lakes are interconnected, so once an exotic has taken root, it can and will migrate at will. Some aquatic nuisance species have been present for more than 50 years. They have moved or been moved to wherever they are going to be in the Lakes.

Another more basic reason lakers need not treat their ballast is they confine their operations to these waters. Most are Lakes-locked; they are too big to enter the Seaway. The few lakers that are Seaway-sized are not certificated to go overseas.

The ballast water treatment systems that will be required on oceangoing vessels by the Coast Guard and EPA should protect the Lakes from future introductions. The companies that trade to the Lakes from overseas need an assurance the systems they soon will install will meet regulatory requirements for the life of the vessel.

The EPA's regulations allow individual states to add their own requirements and this has already created a patchwork of differing mandates. If states must co-regulate ballast water, they should align their requirements with the Coast Guard' Federal regulations.

Constructing a second Poe-sized lock at Sault Ste. Marie, Michigan

A closure of the Poe Lock that connects Lake Superior to the lower four Great Lakes and Seaway will slow the iron ore, western coal, and export grain trades to a trickle. The lock must be twinned to ensure waterborne commerce on the Fourth Sea Coast remains the bedrock for the nation's transportation system.

Building a second Poe-sized lock at Sault Ste. Marie, Michigan will also create living-wage jobs in the Great Lakes region. The $590 million project will generate 1.5 million man hours for construction workers and use steel, aggregate and cement from Great Lakes states. The project is shovel-ready; once Congress provides a $100 million appropriation, full-scale construction can begin almost immediately.

The primary reason full-scale construction is stalled is the flawed benefit/cost analysis that has given the project a b/c ratio of less than 1, which means the Administration cannot include it in a future budget. A the behest of Senator Debbie Stabenow (D-MI) a new study is underway and will take into account factors not considered by the current assessment.

Like many lakers built in the 1950s, the Arthur M. Anderson *has been lengthened by nearly 140 feet and converted to a self-unloader (photo courtesy Gary Clark).*

Adequate US Coast Guard Icebreaking Resources

Five of the eight US Coast Guard icebreakers on the Great Lakes are more than 30 years old and are in need of replacement or modernization. Despite the crews' best efforts, breakdowns are not uncommon. This uncertainty is jeopardizing shipping during the ice season that stretches from early December to mid-April. US-flag lakers can move as much as 20% of their annual total during periods of ice cover. Oceangoing vessels need assurances the Coast Guard can keep the shipping lanes open, otherwise they will not come late in the season for fear of being trapped over the winter. The past three winters have seen an East Coast icebreaker transferred to the Lakes. The assignment will become permanent this May, but that's only part of the solution. Congress must fund construction of a second heavy icebreaker to supplement the MACKINAW that was built in 2006.

Canada should reassess its commitment to icebreaking on the Lakes. The country has trimmed its icebreaking fleet from seven to two vessels even though Canadian lakers are just as active during the ice season as their US-flag counterparts.

Port of Milwaukee remains active even during the winter Seaway closure

While the St Lawrence Seaway closes its locks at the end of December, ports in Lake Michigan and Lake Huron continue to welcome ships throughout January and February. Milwaukee received a couple vessels a week throughout these months, carrying rock salt to be used on roads to keep them ice-free. The *St. Mary's Challenger* which had been berthed here for the winter has already left for their 2013 season, delivering its first load of cement on 5 March. So although the Seaway is closed, shipping at the Port of Milwaukee on Lake Michigan barely stops. In addition, the Port of Milwaukee has inland river barges that come from the Gulf of Mexico up to Milwaukee on Lake Michigan that run year round.

The foreign-flagged 'saltie' Olympic Mentor, *loading grain at the Milwaukee Nidera Grain facility after unloading steel and general cargo at the Port of Milwaukee (photo: Bill Biddell).*

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. The port owns 13.5 miles (21.7km) of rail that connect to two class I railroads outside the port.

The Port of Milwaukee offers an operational flexibility unique

'Old lady' still plying her trade on the Great Lakes

The oldest lake boat still trading on the Great Lakes, the self-unloading cement carrier *St. Marys Challenger* was built as a traditional Great Lakes bulk carrier as hull #17 by Great Lakes Engineering Works, Ecorse (Detroit), MI in 1906. She was launched 7 February 1906 as the *William P. Snyder*.

photo: courtesy Peter Groh.

Over the years, the vessel has been variously known as the *Elton Hoyt II, Alex D. Chisholm, Medusa Challenger* and *Southdown Challenger*. Over such a long period, it is inevitable that the vessel has not been entirely incident-free. In 1916, she was damaged in a collision with a concrete dock at Superior, WI. The following year, bad weather causes stress damages on Lake Huron. In 1925, the vessel struck an underwater obstruction while departing Sandusky, OH with coal, requiring the repair of six bottom shell plates. In 1950, she was involved in a head-on collision with the *Enders M. Voorhees* during a snowstorm in the Straits of Mackinac causing major bow damage to both vessels.

In 1976, she was forced aground in Lake St. Clair by winds and shifting ice while at anchor due to heavy fog. In 1977, the vessel rescued two people from their capsized boat in Lake Michigan. They had been in the water for over 15 hours; a third person being lost. In 1997, the vessel was hit by a water spout while passing White Shoal Light on the way to Charlevoix, MI. The spotlight on the wheelhouse was lifted from its supports and crew's bikes stored on deck were vertically lifted.

Of note, the St. Marys Challenger is one of only two remaining US-flagged vessels still active on the Great Lakes to be powered by the classic Skinner Marine Unaflow steam engine. The other vessel is the car ferry *Badger* (2) which is powered by two of these engines and, in turn, remains as the only coal fired vessel still in active service on the Great Lakes. The only remaining Canadian-flagged steamer powered by a Canadian-built (Vickers) Skinner Unaflow engine is the James Norris.

The picture was provided by Peter Groh, the son of the current first mate of the vessel. *The St. Mary's Challenger* is seen coming into the Port of Milwaukee at night.

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 tons, provide vessel owners and cargo interests with safe, efficient and cost effective cargo handling services.

The Port of Milwaukee has 16 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. The Port also has two dedicated barge berths with draughts in excess of 5.5m.

The Port of Milwaukee is located on the western shore of Lake Michigan, about 75 miles north of the city of Chicago. The port is 1,021 nautical miles from Montreal with a transit time by water from Montreal of about 4.5 days.

Intermodal connections

The Port of Milwaukee is served by two Class I railroads, the CP/Soo Line and the Union Pacific Railroad. Both railroads provide direct pier delivery at all port facilities as well as necessary switching services.

Federal Interstate Highway System I-94/794 leads directly into the Port of Milwaukee, assuring delay-free pick-up 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 down river areas as far as the US Gulf by inland river barge. 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.

General cargo

The port provides over 330,000ft^2 of covered warehouse space for bulk, steel and general cargoes, including 30,000ft^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. The port is well known for its heavy lift capability. Its stiff leg derrick is capable of lifting a total of 200,000kg at a 16m radius. Additional capacity can be provided up to a maximum of about 247,200kg at a 13.7m radius.

Milwaukee handles a diverse mix of general cargoes including steel, 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, recooping, 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.

The port handles a wide variety of dry bulk materials including salt, construction aggregates, coal, fertilizers, cement and grain products.

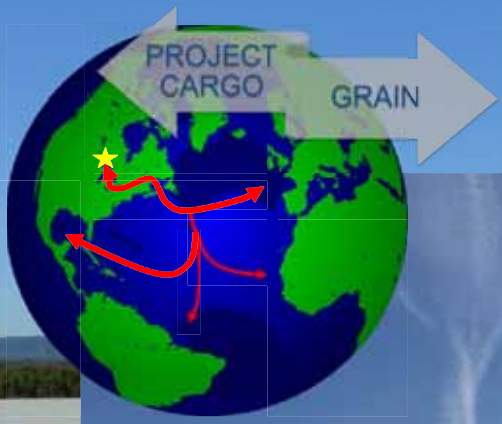
Bulk handling operations in icy weather (photo: courtesy North American Salt).

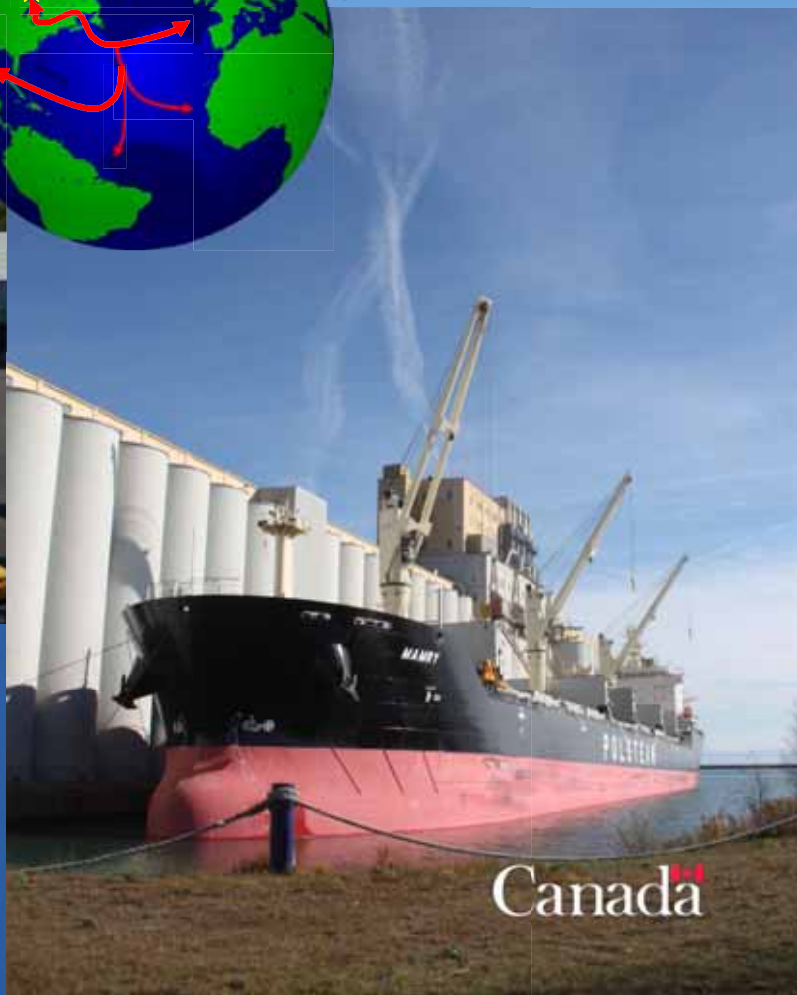
CANADA'S GATEWAY TO THE WEST

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

The Port of Thunder Bay: Canada's gateway to the west

The Port of Thunder Bay is the largest outbound port on the Great Lakes St. Lawrence Seaway System. It offers the fastest grain ship turnaround time of any western Canadian port, as well as a range of flexible intermodal facilities.

Keefer Intermodal is a full-service transportation facility in the hub of the Port of Thunder Bay. Most general cargoes that move through the port are handled at Keefer. Built on a 32-hectare site, the facility has 750 metres of marine berths directly linked to rail and highway. Dock aprons are 19.8 metres wide. A heavy lift railway track runs within 3 metres of the dock face and its wharf bearing capacity is recognized at 64Kpa.

Loading and unloading of railcars are done inside the transit sheds and truck bays are conveniently located for easy cross-docking operations and transfers from rail to truck.

Cranes are also available.

The facility has controlled access and scheduled security patrols in all cargo areas.

Keefer Intermodal is administered by the Thunder Bay Port Authority and is leased or rented on both short and long-term basis.

The Eider *is loaded with canola for export to Mexico at Thunder Bay's Viterra A elevator in October 2012.*

Grain terminals

The Port of Thunder Bay has eight grain terminals with a total storage capacity of 1.2mt (million tonnes).

Wheat, canola, durum, coarse grains, oilseeds, feed grains, peas and other pulse crops as well as various grain by-products are handled annually by the terminal operators.

Loading rates at the terminals range from 1,000tph (tonnes per hour) to 3,400tph.

Dry bulk facilities

Thunder Bay Terminals Ltd. provides the link between rail and vessel for the movement of low sulphur bituminous and lignite coal from mines in British Columbia, Alberta, and Saskatchewan, destined for Ontario Hydro's thermal generating stations.

The facility also handles metallurgical coal for Ontario and international markets, as well as other dry-bulk commodities such as potash, urea and various agri-products. A 262-metre berth is available for ships. The site is serviced by road and CP Rail, with CN Rail access for all commodities. Valley Camp Inc., a division of Synfuel Technologies LLC, receives inbound road salt, while the Mobil Ex Terminal has a free-flowing dry bulk transfer system, primarily used to load outbound potash onto vessels.

2012 THUNDER BAY CARGO STATISTICS

Metric tonnes

With comparative figures for 2011

01 December to 16 January 2013

	Year to date 2012	Year to date 2011
Coal	755,969	831,166
Grain	6,456,533	6,267,457
Potash	355,536	217,316
Liquid bulk	145,702	117,157
General cargo — Keefer	22,906	17,313
Totals	**7,842,625**	**7,608,692**

Throughput and statistics in 2012

Since the end of the Canadian Wheat Board monopoly on 1 August 2012, shipments of wheat — the port's most prominent grain — have surged. Total wheat shipments for 2012 topped 4.8mt, a 10% increase over 2011. Total grain shipments for 2012 were nearly 6.5mt.

More than 1mt of grain were shipped from the port during the final month of the shipping season — the last time 1mt of grain was shipped in a single month was May 2001.

Interlake celebrates 100 years on the Lakes

In 2013, The Interlake Steamship is celebrating a century of service in delivering dry bulk cargo to customers throughout the Great Lakes region. Its current fleet numbers nine self-unloading vessels of various sizes, including *Paul R. Tregurtha*, the largest on the Lakes. In order to continue providing superior customer service, the company is focused on reinvesting in its fleet. Over the last few years, it has repowered four ships with highly-automated diesel engines (pictured) that minimize the impact on the environment, upgraded diesel generators aboard several vessels, and incorporated the latest in navigation technology and safety equipment. It is prepared for its second century of safe and reliable bulk cargo transportation.

Keefer Terminal's laydown areas were nearly filled to capacity during the facility's best season to date for project cargo shipments.

THUNDER BAY VESSEL REPORT 2012

1 December to 16 January

	Year to date totals	Last year totals
Domestic	335	337
Foreign	72	51
American	2	2
Totals	**409**	**390**

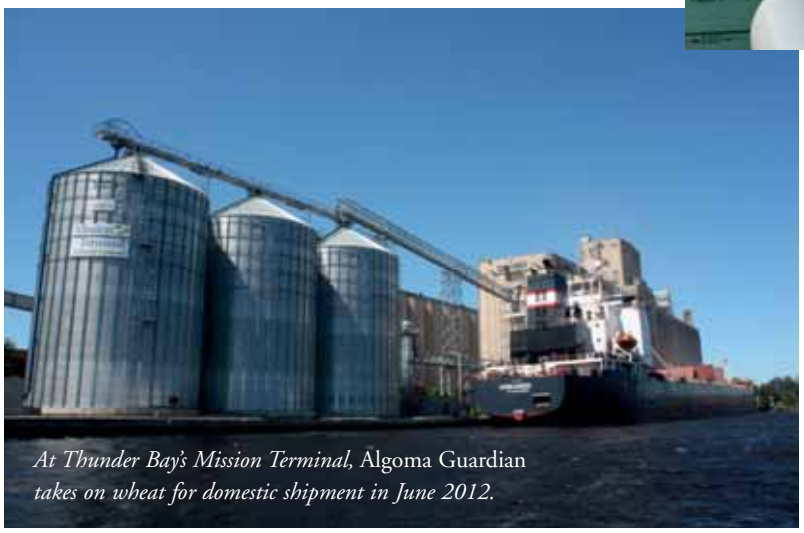
The number of salties (ocean vessels) loading in Thunder Bay also peaked following the end of the CWB monopoly, and correspondingly high volumes of wheat were exported via saltie.

Acquisition of Liebherr mobile harbour crane

A Liebherr LHM 320 mobile harbour crane arrived at Thunder Bay's Keefer Terminal in July 2012. The crane was assembled over a two-week period and its inaugural lift — unloading a shipment of wind turbine tower sections — took place in August 2012.

This is the largest mobile harbour crane on the Seaway west of Montreal. The crane has an 104-tonne lifting capacity at a reach of 18.5 metres. It has increased the port's competitiveness in handling dimensional cargoes such as wind energy components, machinery and oilsands equipment. The crane also has the capability to clam bulk cargo at a rate of up to 1,100tph.

Thunder Bay's Liebherr mobile harbour crane unloads a shipment of wind turbine tower sections destined for Montana at Keefer Terminal in August 2012.



At Thunder Bay's Mission Terminal, Algoma Guardian *takes on wheat for domestic shipment in June 2012.*

The Liebherr crane is a strategic investment in the port's project cargo business, which is part of the two-way cargo gateway linking Western Canada with Europe, North Africa, the Middle East and Latin America. The Port of Thunder Bay has grain, coal and potash available as backhaul cargoes for vessels unloading project cargo destined for Western Canada.

In December 2012, the crane was used in the loading of the port's largest outbound shipment of kraft pulp in two decades. The shipment capped off a significant shipping season for Keefer Terminal, which handled its greatest volume of project cargo ever in a single year.

QUEBEC STEVEDORING GROUP

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WE HANDLE • WE STORE • WE BUILD • WE INNOVATE • WE INVEST • WE ORCHESTRATE

WE CAN HANDLE IT

PORT OF QUÉBEC

ARRIMAGE QUÉBEC
QUEBEC STEVEDORING

New bulk terminal appears on Hamilton skyline

In the Port of Hamilton, at the western tip of Lake Ontario, stands the unique landmark of two concrete hemispheric domes which make up the newest dry bulk terminal in the Great Lakes system. Having officially opened in the fall of 2011, this spring's opening of navigation marks the start of the second full season of shipping for the P&H Hamilton terminal.

Founded in 1909, Parrish and Heimbecker Limited is a privately held, family owned agri-products company with interests in flour milling, grain handling, feed manufacturing, and poultry production and processing. The Hamilton terminal is one of five lakes freight facilities which P&H owns in the Great Lakes – St Lawrence Seaway. However — unlike the other four traditional grain elevators in Port Colborne, Goderich, Owen Sound, and Thunder Bay — the Hamilton terminal's unconventional design opens it up to a wide range of dry bulk cargoes.

P&H chose the Port of Hamilton for this project due to its location which is as far inland in the Great Lakes system as vessel can come without having to enter the Welland Canal. On the western edge of Ontario's 'Golden Horseshoe', with a population of six million people and reaching into the region's agricultural heartland, the Port of Hamilton is served by major expressways, and both of Canada's Class one railroads, making it the ideal location for interchanging cargo between vessels and the country's ground transportation network.

One of the most eye-catching features of the P&H Hamilton terminal is the two concrete storage domes. Measuring more than 60 metres across and 30 metres in height, each of these structures holds about 28,000 tonnes of course grains or up to 40,000 tonnes of salt, making each of them roughly equal to a full load on any vessel traversing the Seaway's locks. Filled from the top by Hi-roller conveyors and emptied by similar Hi-roller conveyors positioned under the floor, the system has the robust capacity to both fill and empty quickly, while at the same time being more gentle than screw or drag conveyors on potentially fragile granular materials which might be handled through the facility.

A THOR telescoping conveyor provides the final move of the material from inside the storage domes onto awaiting ships. In travelling by belt conveyors under the floors of the domes, up a 32-metre-high bucket elevator into a bulk weigher positioned above the tail pulley on the telestacker, the system provides a smooth flow of product from its storage position through the scales and onto the ship at a speed of about 1,000tph (metric tonnes per hour). One significant advantage of the telescoping conveyor design is the telestacker's capacity to move both laterally on its wheeled undercarriage and to extend in length, enabling much faster trimming of the ship's holds than the fixed pipe designs found in many of the traditional grain elevators which require the vessel to shift during the loading process.

Receiving pace of trucks loaded with bulk cargo at this facility is amongst the fastest at Great Lakes terminals. Inbound freight arrives over a remote operated 30-metre Rice Lake platform scale where a pneumatic probe samples the cargo and deliveries to an on-site lab in the terminal office for quality control testing. Once they are off the scales, trucks move to a pair of 800tph drive over receiving pits, where they unload in less than five minutes. By scheduling 15 to 17 forty-two tonne trucks per hour, the terminal is able to maintain a consistently fast pace in positioning cargo to be loaded out.

For commodities arriving at the terminal by rail, the Port of Hamilton is serviced by both of Canada's class one railways, (Canadian National and Canadian Pacific), and can accommodate unit trains from either railroad. The P&H terminal site is equipped with a 25 car spot.

Owned by an agri-business enterprise, the majority of the product handled through the terminal has been either course grain entering the region's processing market or locally produced grains and oilseeds being loaded out for export around the world, however the facility was designed and built to handle a much wider range of products than simply grain.

Agricultural by-products such as soyabean meal, canola meal, and dried distiller's grains will also flow quickly and efficiently through the terminal's storage and conveyance equipment. More granular bulk commodities such as sugar or salt can also be accommodated by the unique design. Located in a bustling agricultural sector of the Great Lake's basin, there is substantial demand to bring granular fertilizer products into the region and this terminal stands ready to receive and distribute them.

Breakbulk EUROPE

PROJECT CARGO, HEAVY-LIFT & RO-RO LOGISTICS

14-16 MAY 2013

The Antwerp Expo, Antwerp, Belgium

Attend and exhibit at Breakbulk Europe - Europe's largest gathering for heavy-lift, project cargo and breakbulk cargo transportation.

During this two-day conference, industry leaders will discuss today's most pressing transportation issues, while a packed exhibition floor will offer a premier networking opportunity with the world's leading specialized carriers, forwarders, ports, and terminals and service providers.

More than 5000 breakbulk & project cargo shippers, forwarders and service providers will attend Breakbulk Europe. What do they know that you don't?

ATTEND

The Breakbulk Europe Conference is the largest conference in Europe focused on traditional breakbulk and project cargo trade and transportation issues. This conference has nearly doubled in size each year since its inception, an indication that there is a great need for education and networking in this market. During this conference, shippers have the opportunity to learn about breakbulk and project cargo issues as they relate to European trade and to meet with specialized carriers, ports, terminals, freight forwarders, equipment companies and packers. Conference program includes education sessions as well as networking functions and an exhibit hall.

EXHIBIT

If you market to a highly targeted audience of senior transportation managers, you'll want to explore the range of opportunities and benefits available at this in-demand Breakbulk event.

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- Elevate your company above the competition
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- Generate sales
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- Announce a new product or service
- Have face-to-face contact with potential customers
- Entertain clients

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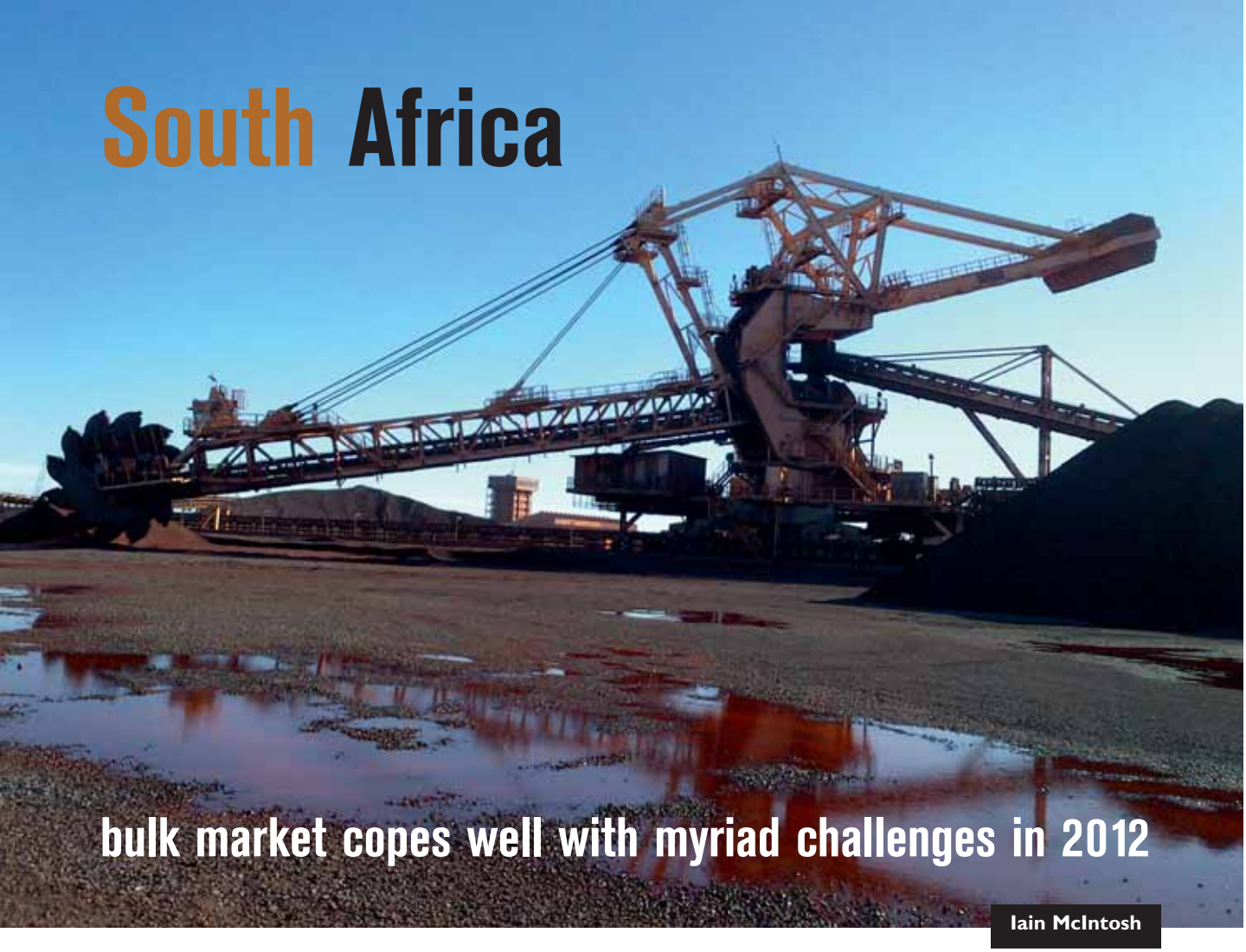
South Africa



Stacker/reclaimer in Saldanha Bay (photo: Iain McIntosh).

bulk market copes well with myriad challenges in 2012

Iain McIntosh

Overview

Following good bulk export volume in 2011 from South African ports but growth in 2012 unfortunately slowed a little in spite of an initial positive outlook. That being said 4.8% growth of nearly 7mt (million tonnes) to 148.3 million tonnes was still good in light of a number of constraints. Volume performance slowed a little in the second half not helped by the mining sector industrial climate but much of the lower growth was a result of constrained capacity notably for the iron ore gateway and even more so the serious constraints on manganese ore. This was offset, however, by much improved coal export performance.

The forecast for the period 2013/2014 should deliver improved volumes with better growth rates as some of the significant Transnet port and landside infrastructure projects start delivering extra capacity. Therefore, even in the short term, demand levels look good and the main port exports and total bulk exports are tabled below.

On the industrial front, 2012 was a difficult year for the South African mining industry, with numerous unprotected strikes notably in the platinum and gold sectors, but this did spill over to the coal and iron ore sectors to a limited extent. Mining output fell by 16.7% between July and October 2012 but did rebound late in the year. The South African government estimated that strikes cost the Republic of South Africa (RSA) some ZAR 15.3 billion (US$ 1.65 billion) in lost output. These are worrying numbers and developments, and have caused some concern from the private sector who are major investors in this sector. Mining contributes over 8% towards RSA GDP and 17% towards corporate mining tax, so the health of the sector is important. Whilst industrial action did not damage the general bulk flow of exports, and had limited impact on exports due to it being in non-bulk sector of gold and platinum, it is essential this does not spread to the major bulk sector.

With national elections looming in 2014 and a clear change in the union landscape within South Africa, the next 12–15 months and how business, labour and government manage the political

SOUTH AFRICAN DRY BULK EXPORTS 2008–2014 (MT)

Port/year	2008	2009	2010	2011	2012	2013 (E)	2014 (E)
Richards Bay	73.9	68.9	75	76	80	84	88
Durban	5.58	5.6	5.6	7	6.8	7.5	8
Port Elizabeth	3.42	2.85	4.1	4.6	5.3	5.5	5.56
Saldanha	32.1	43.6	47.4	53.3	55.7	60	68
Other	0.62	0.8	0.6	0.6	0.5	0.6	0.6
Total bulk	115.6	121.7	132.7	141.5	148.3	157.6	170.1
Growth (%)	2.8	5.3	9.0	6.6	4.8	6.3	7.9

Source: TNPA monthly data

environment will be critical.

On the positive side, given government's ditching of any further reference to nationalization and the Transnet market demand strategy (MDS) unfolding, the much-needed upgrade of rail and port infrastructure continues to present a healthy picture for above-average global trade growth in the bulk sector. This is covered in some detail below in a review of the major bulks. The key development areas are improving rail infrastructure whether through heavy haul lines for iron ore, coal and manganese ore to upgrades of terminals such as Saldahna Bay for iron ore as well as the vitally important upgrade of the manganese ore channel through the Eastern Cape. The MDS is the most important development for RSA over the next five years to ensure that growth levels in export bulk continues at 7–8% growth per annum.

Review of the major SA bulks

Coal trade

The global seaborne steam coal trade grew by 13% in 2012 to reach 816mt (million tonnes) (up from 722mt in 2011) and is set to increase by 5% in 2013 to reach 857mt. This growth is driven by both China and India who combined only imported 25mt in 2005 but will reach 295mt in 2013. Whilst South African coal exports have lagged behind this global growth 2012, there was at last some improving performance in exports as both Richards Bay Coal Terminal (RBCT) and the Maputo gateway saw increased volumes. This is set to grow further in 2013 with Transnet Freight Rail (TFR) stating that they should reach 77mtpa (million tonnes per annum) capacity on the RBCT line during the year whilst they expect to reach 81mtpa by 2014/2015. The export of steam coal through South Africa's main three gateway ports is detailed below showing a forecast for 2013.

These are encouraging figures after previous slow growth, and 2012 did well considering Richard's Bay coal prices hampered some export demand as they were higher than global pricing at certain points of the year.

At the recent IHS McCloskey coal conference in Cape Town in February 2013, there was a number of presentations from various stakeholders in respect the potential road map ahead for coal. Susan Shabangu (Minster of Mineral Resources) reassured delegates that nationalization is not government policy and the matter is closed, and minerals development cannot happen without investment from the private sector. She did, however, declare coal as a strategic resource given the challenges facing South African power supply noting that of the 260mt of coal mined in 2012 some 130mt was consumed by local power stations. ESKOM (Electricity Supply Commission) did a presentation highlighting the demand requirements for coal vs. demand for export growth. There were serious concerns that coal supply shortages could happen by 2018.

RBCT CEO Nosipho Siwisa-Damasane outlined plans for the terminal to move to a sixth phase of expansion, taking the current capacity of 91mtpa to 110mtpa. RBCT feels this is necessary to cater for demand, notably into India where growth forecasts for coal imports continue to rise at 10% per annum minimum. Whilst demand short term falls below this, as does TFR's ability to rail greater volumes, TFR does feel that with coal production set to increase by 4% per annum — rising to 331mt by 2017 — then there is good volume to meet the inevitable global demand for the commodity.

An exciting recent announcement came from Transnet, which is looking at a ZAR 15 billion (US$ 1.6 billion) expansion at Richards Bay to complement the RBCT existing terminal capacity. Whilst a decision on construction has not yet been made, it would cater for emerging/junior miners and enable them to access export channels (of which there are many). The pre-feasibility study should provide a decision by June 2013. The terminal would look to an initial 14mtpa capacity; designed for smaller load parcels and different grades of coal, it also would be constructed with room to expand to 32mtpa. RBCT has actually welcomed plans for this development as positive for the industry at large. The study was driven by pressure from junior miners who, as yet, have limited or no access to RBCT.

Given existing coal exports of 75mt in 2013, Transnet expects to see export growth reaching 97.5mt by 2019 (conservatively), hence the need for extra capacity. The combined potential of RBCT and Transnet new terminal (without upgrades) would be 105mtpa so the demand figures do suggest a need for more capacity.

As for trading volumes from Richards Bay the graph on p63 shows the continuing trend towards Pacific basin and whilst India volumes eased in 2011 which affected share the longer-term

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

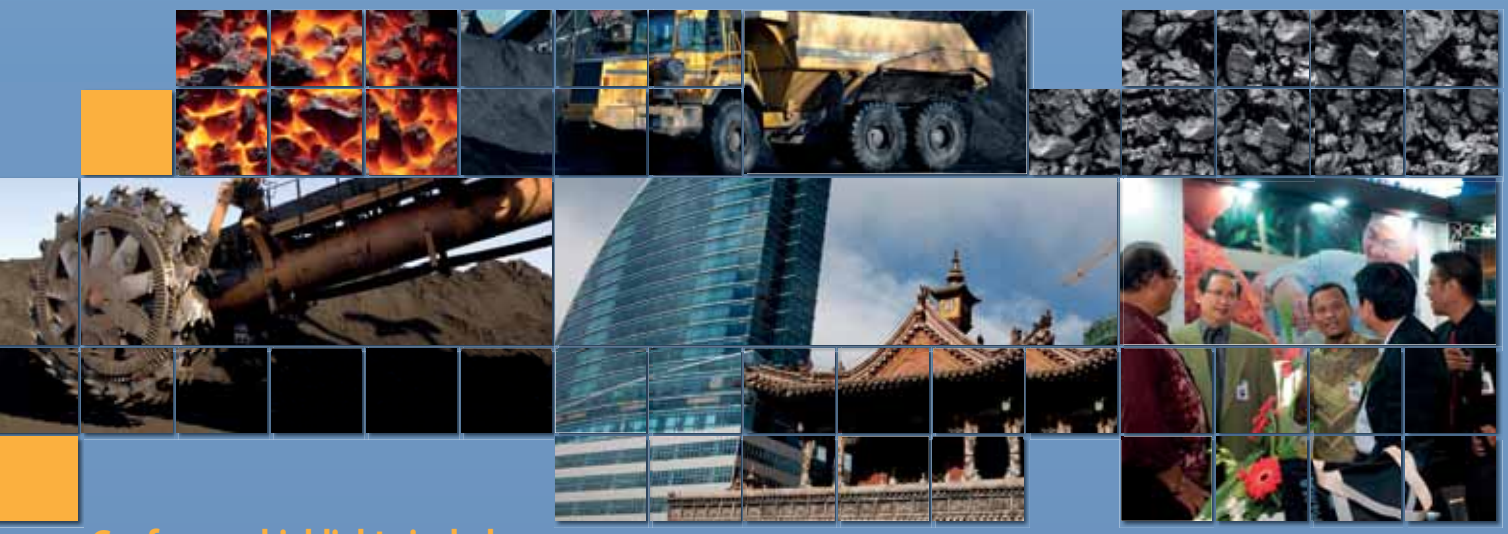
Total SA coal (mtpa)	2008	2009	2010	2011	2012	2013 (E)
Richards Bay Coal Terminal	61.8	61.1	63.8	65.5	68.3	72.0
Durban	1.5	1.2	1.0	1.2	1.4	1.6
Maputo	1.2	1.4	1.6	2.2	3.5	4.2
Total SA coal	**64.5**	**63.7**	**66.4**	**68.9**	**73.2**	**77.8**
Growth (%)	–6.3	–1.2	4.2	3.8	6.2	6.3

Bulk connections

Coaltrans Conferences

3rd Coaltrans MONGOLIA

25-26 June 2013 | The Blue Sky Hotel and Tower, Ulaanbaatar | Mongolia



Conference highlights include:

- **Assess the ramifications of the May elections** – How is Mongolia's regulatory climate evolving, and how can overseas investors best position themselves as we look ahead?
- Hear how **groundbreaking projects are enabling Mongolia to add value to its coal assets**, and evaluate how this impacts on **Mongolia's competitive position** in the export market
- Discuss **how regional dynamics are evolving**, and take stock of **China and Russia's** role in unlocking Mongolian coal
- Gain insight into how new strategies are **shaping the development of coal infrastructure**
- An **array of networking opportunities** enabling attendees to create and build on existing business links with key players across the domestic and international markets

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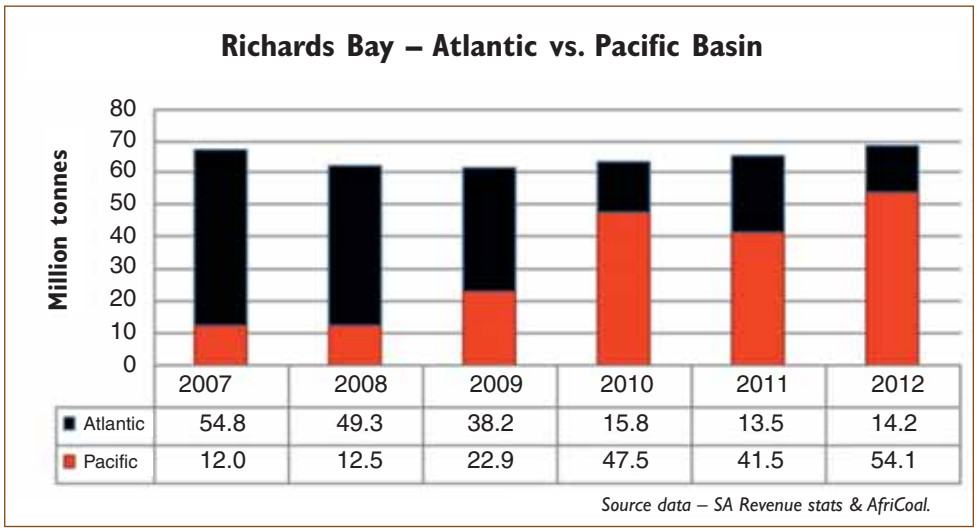


trend continued in 2012 with Indian volume recovering to 22.6mt (33% of RBCT volume) and China to 12.4mt (18.1%). This volume will continue to increase with both these markets representing main demand areas.

A very positive outlook for coal exists in South Africa; however, it can be seen that there are some possible bottlenecks ahead as well as countervailing views between some of the stakeholders. The mood however is positive to tap into global growth in demand markets and RSA has the resource to develop this.

Iron ore trade

After posting exceptional growth in this sector, volumes from Saldahna declined by 3.4% in 2012 and this was primarily due to rail and port capacity being close to their maximum. As steel production globally started to flatten in the 2nd half of 2012, this also dampened demand. In spite of this, South Africa became the third-largest exporter of iron ore in 2012 after Australia and Brazil, as Indian exports declined even further due to state bans on their exports widening. This, however, was a hollow gain as South Africa was unable to capitalize on the 40mt Indian decline, and all growth accrued to Australia which grew from 494mt to 438mt (over 12% growth) during 2012. The development of South African iron ore exports is detailed below with 2013 forecast to reach phase 1C total capacity of rail/port.

In July 2012, the Phase 1C upgrade was completed at Saldahna bulk terminal. Many of the gains have been made through operational efficiencies as, since 2009 (phase 1B), the port has been running with two tipplers, four stacker/reclaimers and two shiploaders. This is demonstrated by the fact that shiploading performance was 5,500tph (tonnes per hour) in 2009 and reached 7,800tph in 2012, and a terminal capacity of 60mtpa which is forecast for 2013. The Transnet MDS (Market Demand Strategy) will spend ZAR 28.6 billion (US$ 3.1 billion) on rail and port infrastructure between 2013 and 2018 via phase 2A of the strategy. This would be via:

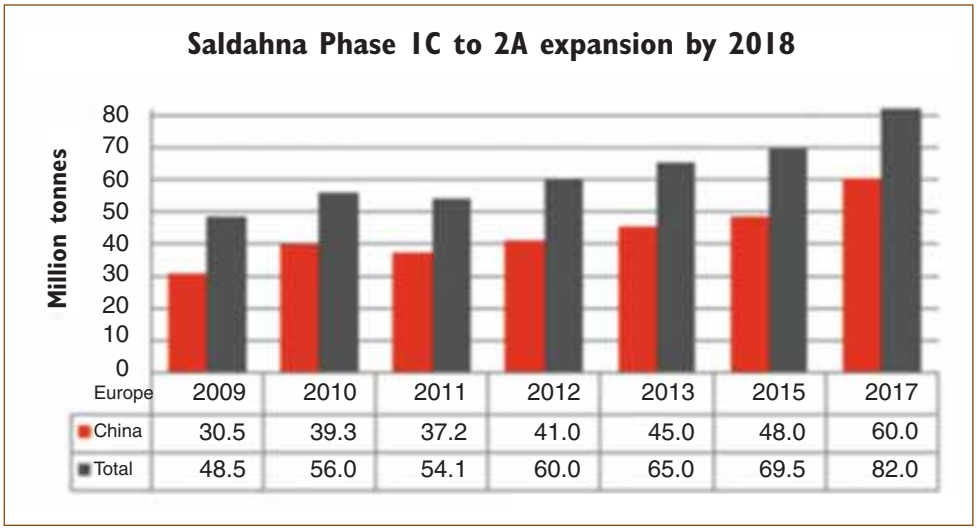
- one additional tippler (total three units);
- two additional stacker/reclaimers (total six units); and
- one additional shiploader (total three units).

This would bring port capacity to 82mtpa

The rail upgrade is already under way and necessary to achieve the port capacity of 82mtpa, also as part of the US$ 3.1 spend. Numerous scoping reports at all levels were conducted several years ago to achieve the upgrade by various means through a combination of longer trains, increased passing places and double lines and this is the work that will take place over the next few years. The graph below shows likely extrapolated growth of iron ore volume through to completion of phase 2A expansion.

Manganese ore trade

Data released through Trademap.org shows that the exports of



SALDAHNA IRON ORE EXPORTS (MT)

Year	2008	2009	2010	2011	2012	2013 (E)
Europe	9.3	3.9	7.6	6.7	6.3	7.5
China	16.0	34.3	30.5	39.5	37.2	41
Japan	6.4	4.1	5.9	5.4	4.1	5.5
Other	1.0	2.4	4.5	4.6	6.5	6
Total	**32.8**	**44.8**	**48.5**	**56.0**	**54.1**	**60.0**
Growth (%)	7.9	36.1	8.8	15.5	–3.4	10.9

Source: UNCTAD/Trademap.org

EXPORTS OF SOUTH AFRICAN MANGANESE ORE (MT)

Year	2008	2009	2010	2011	2012	2013 (E)
China	2.13	2.57	3.69	3.29	3.42	3.95
Europe	1.37	0.41	1.31	1.11	1.42	1.63
Japan	0.73	0.35	0.61	0.72	0.73	0.82
India	0.53	0.39	0.92	0.73	1.16	1.35
Other	1.07	0.42	0.76	0.91	1.18	0.81
Total SA coal	**5.83**	**4.14**	**7.29**	**6.76**	**7.91**	**8.58**

South African Manganese ore recovered strongly in 2012 after a slight decline in 2011. China exports led the growth; however, there was good growth into India which is increasing steel production, as well as Europe which — although flat on steel production — may be looking more to RSA for sourcing. The forecast for 2013 is a perhaps optimistic 8.56mt (38% of global trade) but South Africa does control over 80% of global resources in this commodity. Also, there is increasing production coming from emerging miners such as Tshipi, Asia Minerals and Kalahari Resources.

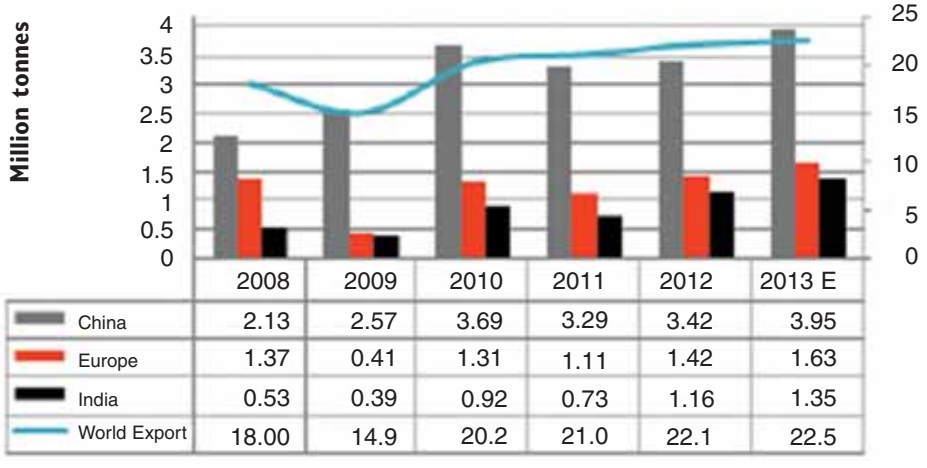
The challenges come not from supply but the ongoing logistical challenges of getting the product to the exit port. South African manganese ore is mined in Hotazel in the Northern Cape nearly 1,000km from its main gateway port in Port Elizabeth Manganese Terminal. Volumes, however, have grown to a level where the Port Elizabeth terminal is at maximum capacity (5–5.5mt), and some product also moves bulk via Durban which handled 1.9mt in 2012. In recent years, there has been a growth in containerized exports, notably to China, also moving on the main rail link into Port Elizabeth with an estimated 1mt (12.6% of exports) moving in 2012, the equivalent of 38,000 × 20ft containers (much of this is packed in Bloemfontein to ease logistics on the Hotazel – Port Elizabeth line). Therefore, the challenges for short-term growth are questionable, given that containers can only provide a finite volume of capacity (ship system/container supply), whilst bulk options are limited and rail capacity on the line are also at close to their limit.

Transnet Freight Rail is in the process of upgrading the rail line to a heavier haul line with capacity to handle over 16mtpa. There are also plans to increase port capacity through the new deep water port of Nqgura in the Eastern Cape to handle larger vessels, as well as 16mt capacity. A trial was conducted in late 2012 using a 208 wagon train (double the normal haul), which was largely successful. However, upgrades on a structural basis will take longer as rolling stock, locomotive power and passing places need to be installed. The timescales for this upgrade are set at 2016–2017 at best, so the ability for export volume to grow fast is limited. The rail line upgrade will probably be installed faster, suggesting that product can get from mine to port at reasonable price. However, the transport mode could continually look towards increasing container use to handle product over the next few years, though this is constrained by vessel and container capacity. Longer term, the future does look bright for the manganese industry, but there will be short-term bottlenecks in the system which will constrain flows.

Whilst ore export seems to be the main volume mover in the short term, part of a beneficiation drive will come

Richards Bay Coal Terminal.

Manganese ore ex-South Africa 2008–2013



	2008	2009	2010	2011	2012	2013 E
China	2.13	2.57	3.69	3.29	3.42	3.95
Europe	1.37	0.41	1.31	1.11	1.42	1.63
India	0.53	0.39	0.92	0.73	1.16	1.35
World Export	18.00	14.9	20.2	21.0	22.1	22.5

FERROCHROME EXPORTS (TONNES)

Country	2012	2011	Growth (%)
China	681,326	957,000	–28.8
Japan	272,533	316,800	–14.0
Korea	265,147	361,000	–26.6
USA	249,463	264,000	–5.5
Germany	245,583	239,750	2.4
Taiwan	226,438	263,000	–13.9
Netherlands	224,354	131,700	70.4
Spain	87,702	85,400	2.7
Belgium	61,265	134,000	–54.3
UAE	55,711	54,550	2.1
Other	320,361	350,647	–8.6
Total	2,689,883	3,157,847	–14.8
Region			
Asia	1,445,444	1,897,800	–23.8
Europe	618,904	590,850	4.7

CHROME ORE EXPORTS (MT)

Destination	2008	2009	2010	2011	2012
China	2.1	2.6	3.1	4.5	4.2
Europe	0.2	0.2	0.4	0.5	0.8
Other Asia	0.2	0.2	0.3	0.4	0.5
Others	0.8	0.2	0.4	0.4	0.4
Total	**3.3**	**3.3**	**4.2**	**5.7**	**5.9**
Growth (%)		–1.5	28.6	37.1	2.1

through also installed capacity to increase manganese alloy production. Unfortunately, as with the chrome ore vs. ferrochrome industry this remains constrained due to power shortages.

Ferrochrome and chrome ore trade

Data just released by SARS (South African Revenue Service) highlights the major impact of South Africa's power shortages through the ESKOM buy back of electricity from South African ferrochrome producers. The total export tonnage of (beneficiated) ferrochrome in 2012 fell 14.8% from 3.16mt to 2.69mt.

When broken down regionally, it can be seen that Asia — including Japan — collectively reduced by 23.8%, whilst Europe in fact grew slightly by 4.7%. The swing in figures between the Netherlands and Belgium is more likely to do with gateway port of arrival.

The massive declines however came in the RSA traditional markets of China, Japan, Korea and Taiwan, with large reductions to all as South African smelters reduced local production on the ESKOM buy back.

As RSA smelters shut down, this did not reduce Chinese demand for ferrochrome as Chinese smelting capacity continued to increase with the resultant continued demand for chrome ore, a resource China does not have locally. China ferrochrome demand (for stainless steel) was approximately 4.4mt in 2012 and only 1.5mt was imported as China reached similar levels of ferrochrome production as South Africa and will likely become the world's number one producer from 2013. In simple terms this is a massive beneficiation switch from RSA ferrochrome production to China ferrochrome production, and flies in the face of the South African government plans to increase beneficiation. It is difficult to see how the price dynamics will change in the short to medium term although South Africa mooting an export tax on chrome ore exports might change flows although with no extra power for smelters it is unlikely this would result in any material change in the short term.

Chrome ore exports 2008–2012

These are detailed above, and show the rapid growth of chrome ore exports from 2010 primarily against rapid growth into China. This slowed in 2012 with some shift also into other more lucrative markets. A total of around 35–40% of South African chrome ore is shipped from Durban and largely in containers, whilst the balance is shipped through Maputo and Richards Bay in bulk.

In summary, there are exciting times ahead for South African bulk exports and notably in the iron ore and coal sectors where volumes of both could increase from a current combined 127mtpa to approximately 180mtpa (41% growth) by 2018. The key areas, however, are that the planned upgrades take place and the industrial climate allows the mining sector to deliver against this.

Mining chrome ore.

RONIN bulk commodity inventory management solutions

Imagine a pit-to-port stock management solution that provides constant knowledge and control of stock levels, grades, sizing, locations and provides daily reconciliations between book and actual physical values. Imagine having all of this right at one's fingertips.

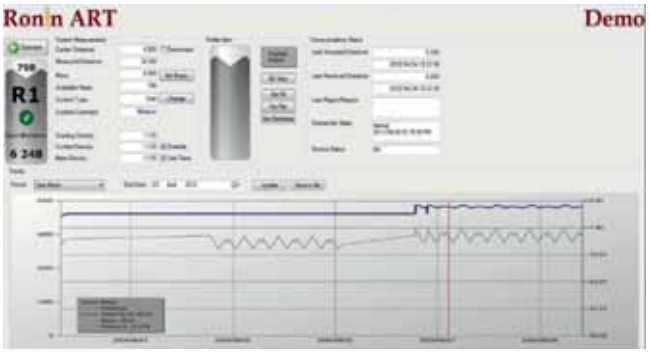
RONIN provides a pit-to-port stock management solution by providing constant knowledge and control of stock levels, grades, sizing, locations and daily reconciliations between book and actual physical values. This is done by utilizing its ARTEMIS LASER SCANNERS and proprietary software, ART, to enable accurate 3D surface mapping, stock management and accounting.

Whether in the mining, milling, trading, smelting or industrial sectors, production, financial, collateral, marketing and logistic managers constantly have a need for more accurate stock management and technology.

RONIN is a solutions company catering to the needs of these bulk commodity handlers in the form of accurate, laser based, inventory management systems and surveying. The Ronin group comprises of offices in Johannesburg and Richards Bay in South Africa, as well as in Buenos Aires, Argentina and Moutevideo, Uruguay. From these locations the company is able to service the Southern African and South American markets and port users. Ronin also has representation in Europe and is currently in the process of setting up permanent offices in Mozambique and Zambia.

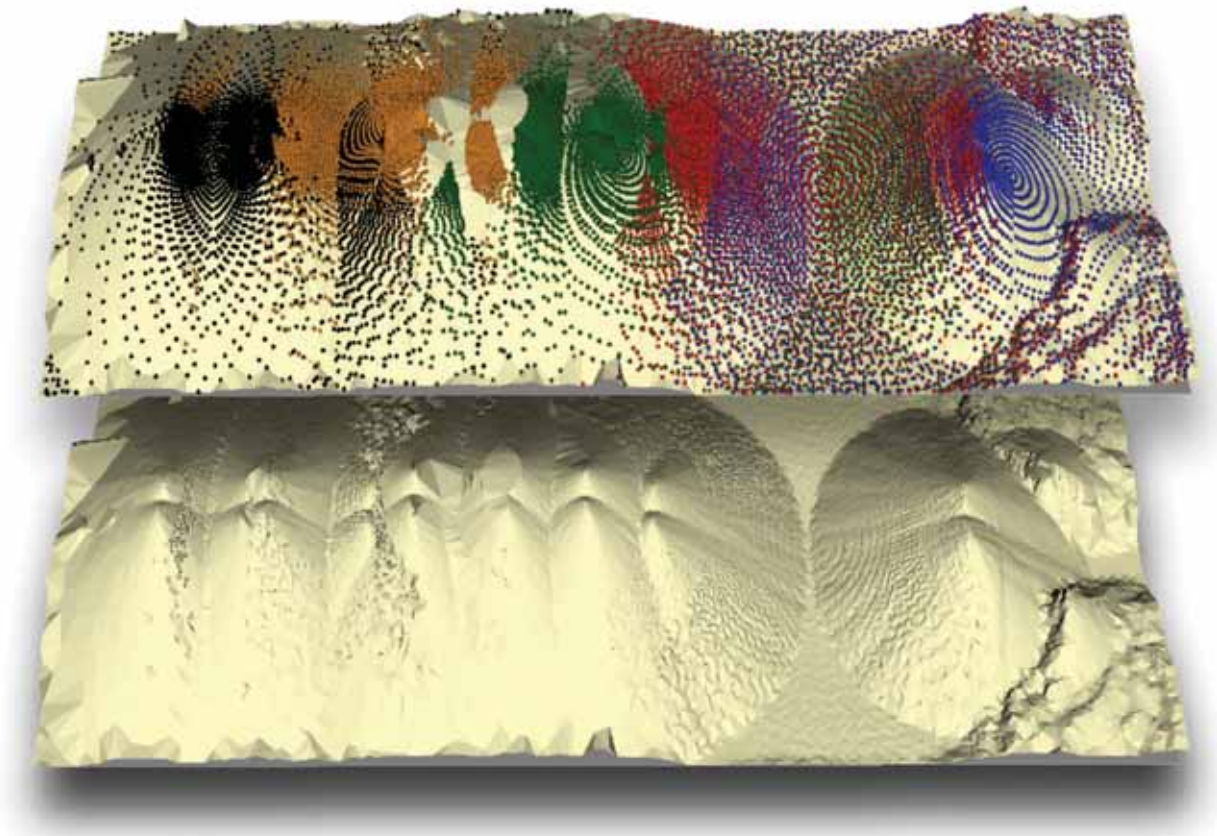
RONIN's ARTEMIS solution is a surface mapping laser device which scans and plots the entire surface area of a stockpile, using one or multiple scanners. This is accomplished by taking over 10,000 distance measurements, per scanner, over the surface of the stockpile, as seen below. From the plotted surface area, a point cloud is formed creating a 3D profile of the stockpile. By using this point cloud and taking into account ground levels, structures present and/or the storage vessel dimensions, RONIN is able to accurately calculate the volume of the stored product.

ART overview screen.

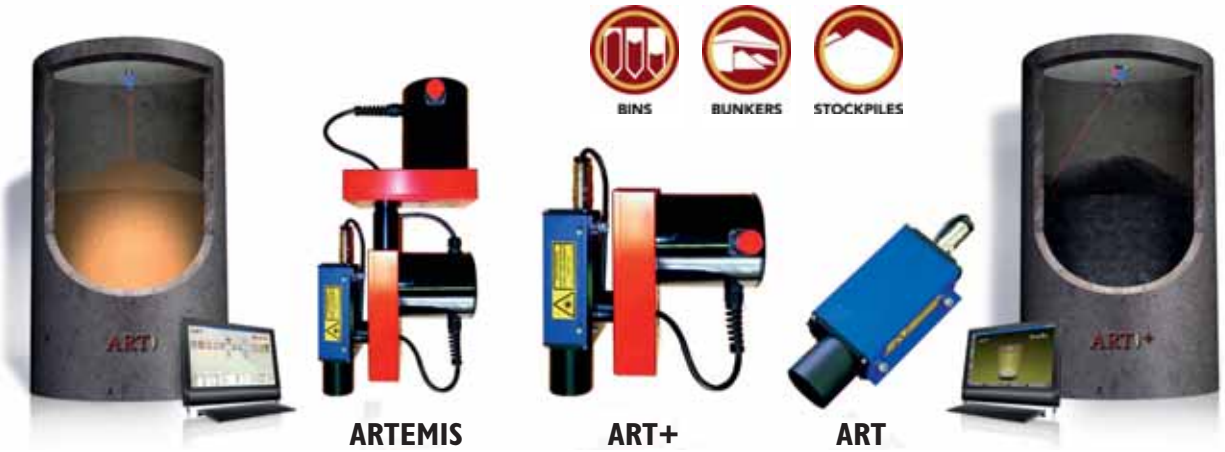


Detailed ART screen.

The ART Software platform is the brains behind the system, providing valuable functionalities to assist with finance, collateral management, logistics, marketing and production. The ARTEMIS scanners communicate wirelessly to a dedicated ART PC on-site. Here all the scan data is processed and displayed on the graphic



Actual bunker scan done by ARTEMIS 3D laser scanners. Each colour represents a separate scanner. The bottom image is the completed scan.



ARTEMIS
3D scanner

ART+
profile scanner

ART
level measurement

interface. This interface shows site summaries, occupied and available tonnages, communication statuses, grades, 3D graphic representations and histories. The ART PC is connected to the clients' network so that management can have up to date knowledge of stock locations, quantities, grades, sizing and histories. All this information is ready available on excel spread sheets or any other CSV files the client should choose to utilize.

Integrations enable the system to attribute weighted averages of bulk densities, moistures, sizing, calorific values or any other grading the client would like to utilize, to be applied every stockpile, bunker or silo on the network. This enables current and weighted averaged grading/sampling data to be utilized and applied, providing greater accuracies of tonnages and grading figures. This integration also enables daily reconciliations to be done between the book value and actual physical stock.

The RONIN ART Head Office Server (H.O.S) is available for complete control of all the clients operations at a Head Office level. This is done by networking all the ART PCs on the various sites and processing all the data of each site and stockpiles via a sequel server. This makes daily stock management from a head office prospective a reality.

All hardware and Software is developed, manufactured and maintained from RONINS' Johannesburg office. The software platform, installation and reporting is customized per client, per site, taking into account the objective and requirements set out by the client.

AIMS is RONIN's alternative solution to the permanent installations as a moment in time stock verification service. Using the same principles of the ARTEMIS scanner, in terms of surface mapping, AIMS provides accurate volumetric data and 3D graphic representations. This service is available for silos, bunkers, warehouses or open-air stockpiles. Bulk density verifications are also done on each stockpile to enable us to report in tonnages. The AIMS report includes volumes, tonnages, 3D representations and any additional observations (i.e. contamination, excess moisture etc.). Dependent on the scope of work, reports are published within 24 hours following the survey.

The company's Richards Bay office, Ronin Independent Surveyors, are in a key position to service the port users of the Durban, Richards Bay and Mozambican ports. In addition to the services and systems mentioned above, it provides an independent cargo monitoring service for in and outbound cargo. This includes Tally Services, Port Superintendence/Cargo Monitoring, Cargo Reconciliations, Stock Auditing, Density Verifications, Marine Surveying, Quality Inspections, Sampling and Analysis, Tarping, Ribbed Truck Cleaning and Cargo Screening. These are independent services with High levels of service quality, ensuring customer satisfaction at all times.

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Belt conveying processes optimized for

The application of innovative torque sensing technology is bringing a new level of control to demanding belt conveying applications. This has the potential to revolutionize the dry bulk handling process, with vastly improved efficiency and cost-effectiveness.

Belt conveyors have long been vital components within bulk handling applications, and have transformed what was once a laborious manual operation. Optimization of the conveying process, however, is rarely considered or, if it is considered at all, is regarded as something of a 'black art'. However, this is all set to change, thanks to the application of non-contact digital torque monitoring, which has the potential to transform bulk materials conveying into a highly accurate and controlled procedure.

When a belt conveyor is empty, it requires very little power from the drive shaft to keep it moving smoothly. As the conveyor load increases — with heavier material and/or a greater material density being conveyed, so more power is needed. Similarly, if the conveyor is run at a higher speed, so more power is needed.

TorqSense has been used in many bulk handling and conveying applications.

Bulk handling operations in many applications such as ports and stockyards demand fast turnaround times to ensure costs are minimized. Conveyors, therefore, need to be run at optimal speed regardless of the load. If the belt conveyor slows down as more bulk is added, then this is adding time and cost to the bulk handling process.

In addition, the mechanical processes at the receiving end of the conveyor may well need a steady flow of material in order to operate efficiently — or indeed safely. If the conveyor speeds up as the load is gradually reduced, then there is potentially a costly mechanical

Mark Ingham: "Torque measurement is key to efficient control and management of conveyor systems"

productivity and cost

TorqSense with separate control electronics.

failure waiting to happen.

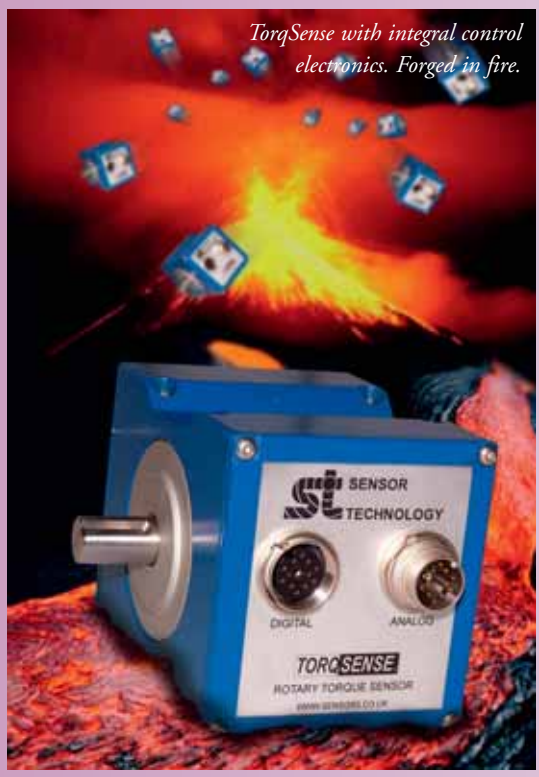
Accurate control of the conveyor comes from the ability to monitor accurately the power being used to drive the conveyor. This information can then be fed into computerized control systems to ensure the belt conveyor is always moving at optimum speed. Real-time data from the belt conveyor is collected by having sensors monitoring the critical variables — in this case the torque on the drive shaft, the speed of the motor, and the drive power — and fed back to the control system.

However, torque data can be hard to collect, with traditional technologies introducing as many problems as they solve. Because the shaft is rotating wires attached to it would wind up and snap, so a special way of monitoring it is required. The traditional solution is to use slip rings, but these are expensive, difficult to set up and far too delicate in use for most belt conveyor applications.

However, with over 20 years of research and development into digital non-contact torque monitoring, Sensor Technology Ltd is at the forefront of an important enabling technology. Mark Ingham one of the company's managers says: "Our TorqSense transducer is based on the patented technology of measuring the resonant frequency change of surface acoustic wave (SAW) devices. It's a proven technology that has solved torque measuring challenges in a host of industries."

TorqSense torque sensors use two tiny SAW devices or SAWs made of ceramic piezoelectric material containing frequency resonating combs. These are glued onto the drive shaft at 90° to one another. As the torque increases, the combs expand or contract proportionally to the torque being applied. In effect the combs act similarly to strain gauges but measure changes in resonant frequency.

The wireless link from rotating shaft to signal processor puts TorqSense in a class of its own.



TorqSense with integral control electronics. Forged in fire.

The adjacent RF pickup emits radio waves towards the SAWs, which are then reflected back. The change in frequency of the reflected waves identifies the current torque. This arrangement means there is no need to supply power to the SAWs, so the sensor is non-contact and wireless.

"TorqSense measurement together with the digital outputs it offers is often the only practical way to measure torque and integrate it into an industrial environment. And once you are collecting torque data this way, you are well on the way to sophisticated real-time control of complex process."

Born out of the need to solve a particular challenge in the automotive industry, TorqSense is now widely used throughout the spectrum of industries, including many liquid handling applications, in mixers, in the nuclear industry, for testing aerospace components, and running drug trials. It is applicable to all sizes of torque measurement tasks, from dispensing active pharmaceutical ingredients, through stirring industrial quantities of cook-chilled curries, to modelling storm and flood water flows.

Now this innovative method of measuring torque is bringing distinct advantages to belt conveying of dry bulk products. A process that was once regarded as very difficult to monitor can now reap the same benefits as many other industrial processes, enabling dry bulk handling operations to be optimized for the highest levels of productivity with the lowest cost.

Combination cradle absorbs impacts

An innovative impact cradle design is helping bulk material handlers protect conveyor belts and structures from falling material in loading zones, reducing equipment damage and downtime while stabilizing the belt line to prevent dust and spillage. The EVO® Combination Cradle from Martin Engineering features steel-reinforced impact bars and adjustable wing supports to match standard trough angles of 20°, 35° or 45°.

"To minimize drag on drive motors, the cradles can be ordered with centre rollers instead of centre impact bars," explained Martin Engineering Global Product Manager Chris Schmelzer. "In either style, eccentrics built into the supports also deliver five degrees of wear adjustment, so the alignment between wings and idlers can be optimized for effective transfer point sealing."

The EVO® Combination Cradle helps protect conveyor belts and structures from falling material in loading zones.

It reduces equipment damage and stabilizes the belt line to prevent spillage.

Combination cradles are typically installed so the bars or rollers in the centre are slightly below the unloaded belt's line of travel. This helps the belt absorb impact, but avoids continuous drag and unnecessary wear if the conveyor is running empty.

Constructed on a base of heavy formed channels to deliver long service life even under severe operating conditions, impact bars are secured with two bolts each, facilitating easy service and replacement. Combination Cradles are available to fit belts from 24–72 inches (50–200cm) wide, and may have as few as four impact bars or as many as 16, depending on cradle size and centre roll option.

Two bar constructions are available: both have steel or aluminium reinforcement, with an absorption layer and a sliding layer of UHMW polyethylene, which delivers a 0.5 coefficient of friction. The first option is manufactured with a 50 durometer SBR rubber absorption layer, and has a service temperature range of –20 to 140°F (–29 to 60°C). The second option utilizes an 83 durometer urethane absorption layer and has a temperature range of –20 to 160°F (–29 to 70°C).

Combination Cradles employ Martin Engineering's Trac-mount™ technology, allowing the units to slide in and out easily for maintenance or replacement. The modular components are light enough to be removed by one person, without using heavy lifting equipment.

"Conveyor downtime is extremely expensive, especially for high-speed operations," Schmelzer added. "The longer components last and the easier they are to replace, the lower the cost of ownership."

Founded in 1944, Martin Engineering is a major supplier of equipment, making bulk materials handling cleaner, safer and more productive. The company supplies flow aids and conveyor products around the world for a wide variety of bulk material applications, including coal, cement/clinker, rock/aggregate, biomass, grain, pharmaceuticals, food and other materials. The firm is headquartered in Neponset, IL, offering manufacturing, sales and service from factory-owned business units in Brazil, China, France, Germany, Indonesia, Mexico, South Africa, Turkey, India and the UK, and under exclusive licence with ESS Australia.

Beumer conveyors: reliable under tough conditions

At Mining World Russia 2013, the international exhibition for mining and processing of metals and minerals (from 14 to 16 May, Moscow), BEUMER Group will present its conveying systems that offer reliable performance even under extreme conditions. Furthermore, the company will inform visitors about its customer support that ensures trouble-free operation of the systems.

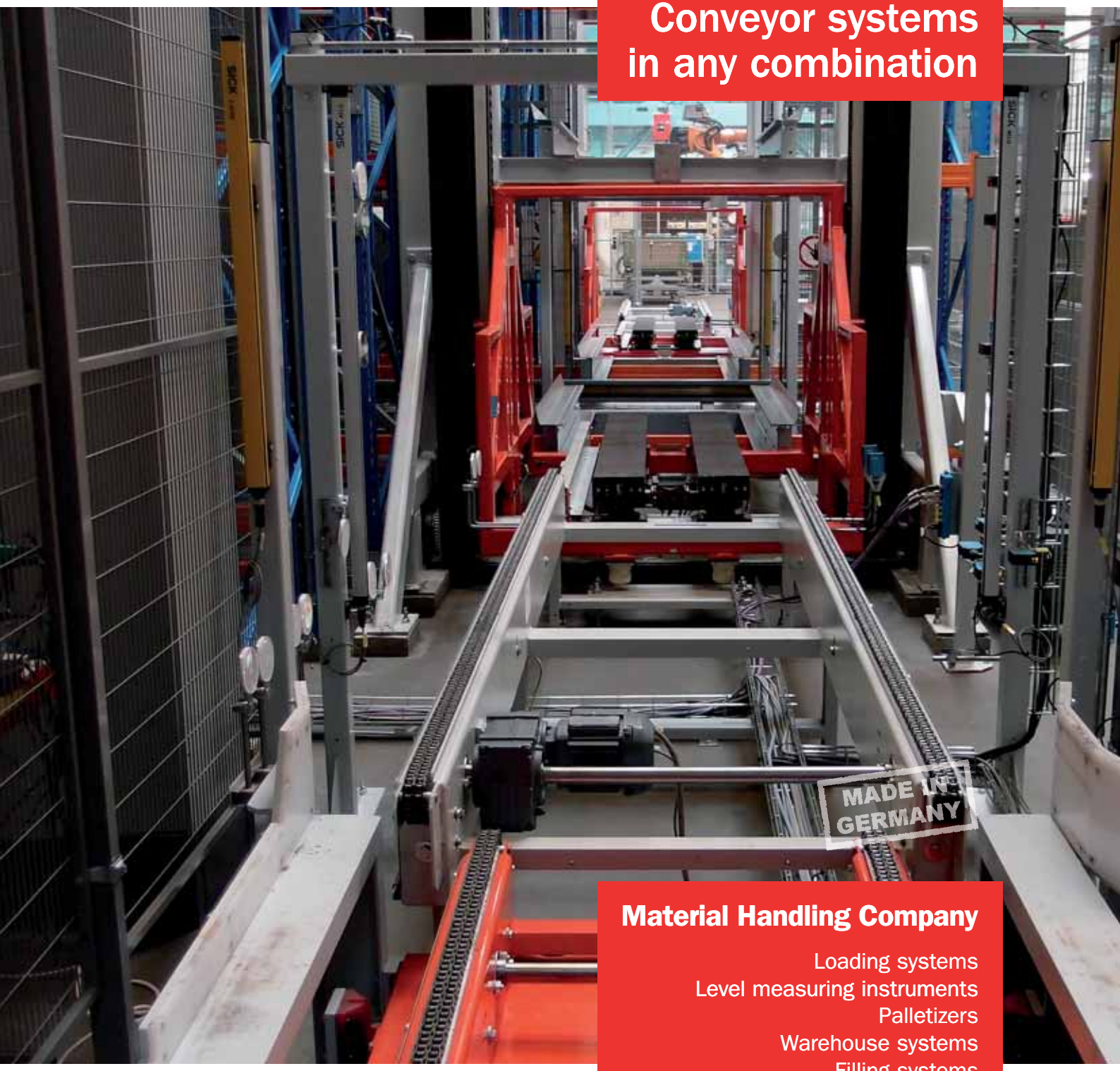
The BEUMER Group will present innovative transportation solutions for bulk material: belt conveyors, used for the transportation of various raw materials like coal, ores or other, even over long distances and often through rough terrain. Material transport with belt conveyors is generally faster, more cost-efficient and more environmentally friendly than trucking. BEUMER has recently signed a contract with Vale Malaysia Minerals (VMM), a subsidiary of the Brazilian mining company Vale SA, for the delivery of 17 troughed belt conveyors. These will quickly and reliably transport iron ore from mega carriers, that are too large to enter smaller harbours, onshore for transshipment and further processing.

The BEUMER Group offers worldwide customer support with highly qualified experts to guarantee trouble-free operation of the systems. Its skilled personnel offer professional maintenance as well as intensive customer training and ensure regular upgrading of the equipment and systems.

The service agreements can be matched individually to the respective needs of the customer and range from maintenance and inspection to long-term placement of service personnel on site.

BEUMER Group is an international manufacturing provider of intralogistics in the fields of conveying, loading, palletizing, packaging, sortation and distribution technology.

Conveyor systems in any combination



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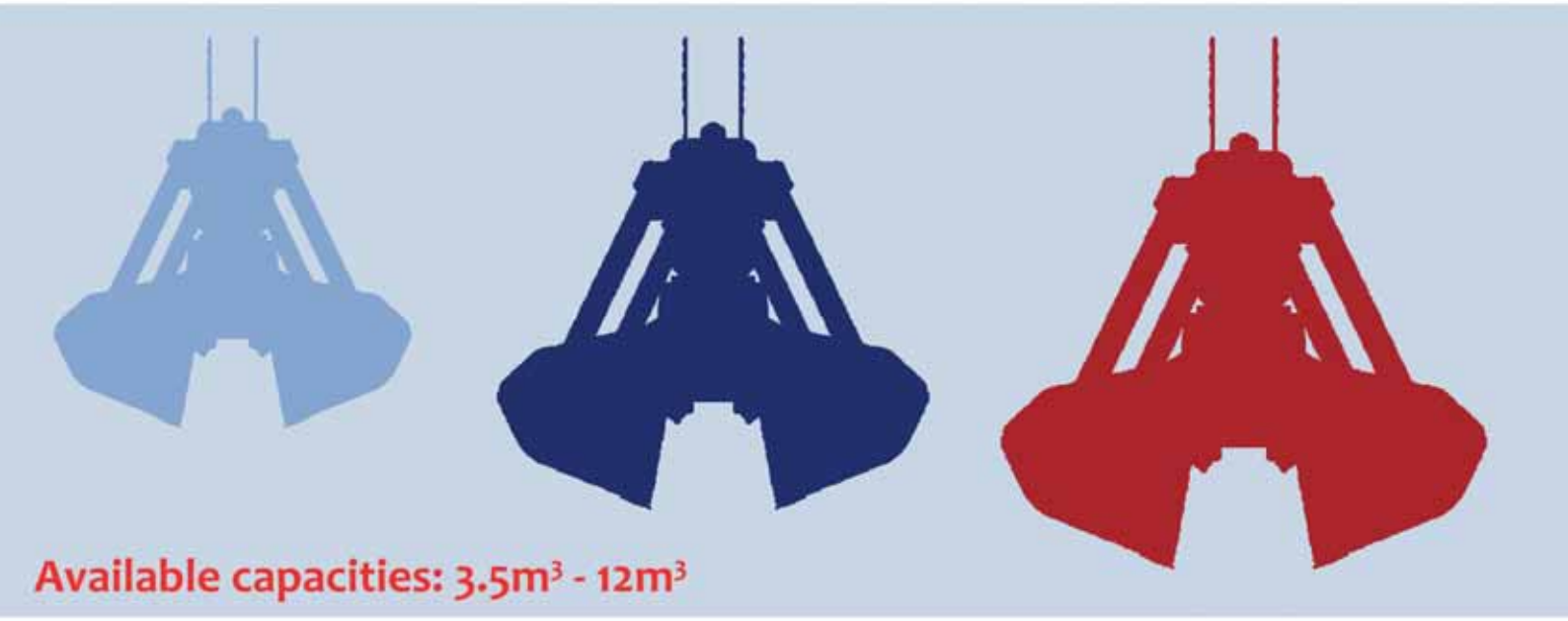

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The greatness of grabs

Jay Venter

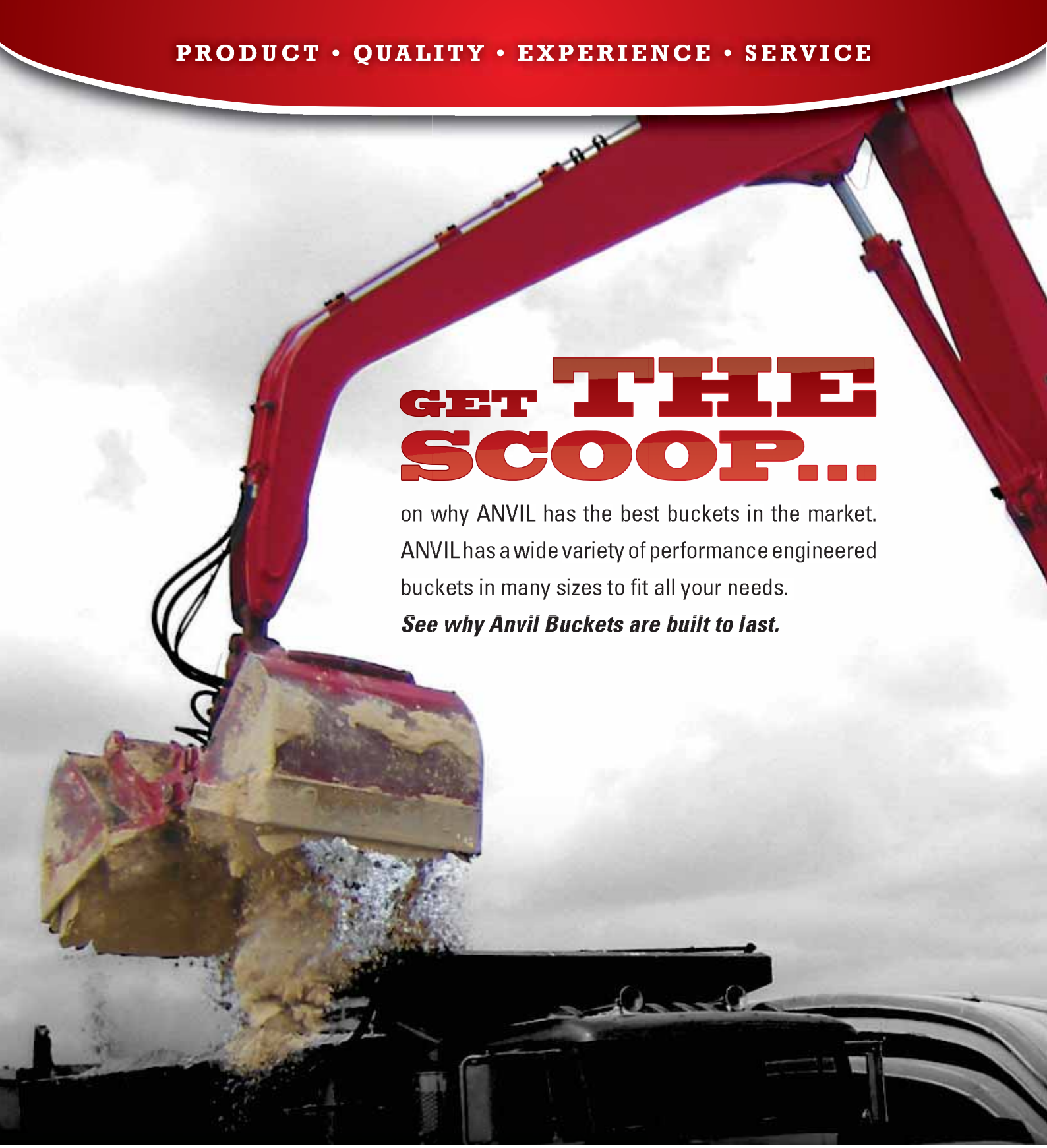
For more than 60 years, Salzgitter Maschinenbau AG – SMAG for short – with its product, PEINER grabs, has been renowned for quality and customer satisfaction in the field of bulk goods handling.

The wide range of products, from hydraulic grabs through electro-hydraulic grabs to mechanical rope grabs, allows SMAG to provide the appropriate answer to every customer request.

The handling volume of the grabs ranges from 0.1 to 60m³. Much larger grabs are already at the project stage. Owing to SMAG's many decades of expertise in development and construction of grabs, its customers have put their trust in the company and relied on PEINER grabs particularly in the difficult market situation of recent years. To further develop this expertise, the company makes above-average investments in the research and development of products. Thus new designs and alternative materials are continuously brought into serial production. An example of the current development is an orange peel grab with a capacity of 56m³ and a weight of 30 tonnes. The goal of SMAG is to continuously improve its products while taking into account the requirements of the market.

At SMAG, the customer is always in the centre of attention. The size, shape and dead weight of grabs may vary and, therefore, be tailored in every respect to the needs of customers. PEINER grabs are adapted both for lifting devices and for each application

PRODUCT • QUALITY • EXPERIENCE • SERVICE



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to always find an optimal solution.

The large product range also allows to serve customers in countries with weak infrastructure. The company's radio-controlled single-rope grab is particularly suitable in this case, because it is not only compatible with many lifting devices (a simple crane hook is enough), but also impresses with its user-friendliness and versatility. Using spill and kick plates, the grab can be adapted for a variety of bulk materials. Thus, within a very short time, any deck crane can be used for bulk goods handling without additional equipment. An external power supply is not required.

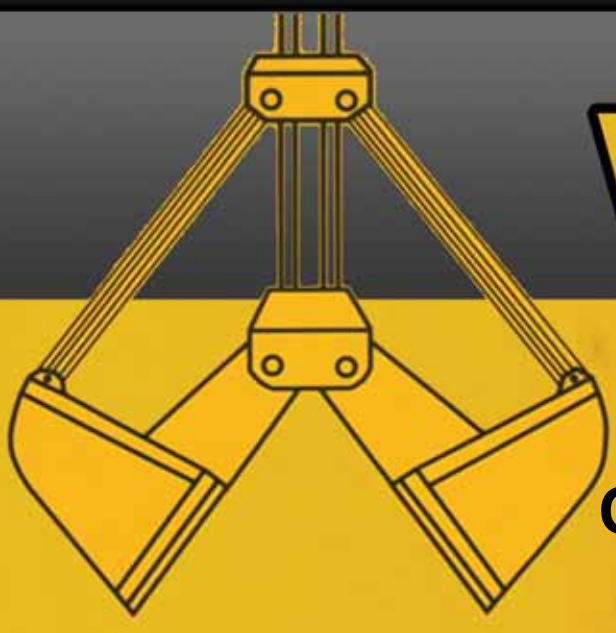
The maintenance is reduced to a minimum thanks to the use of high-quality materials such as HARDOX and WELDOX in combination with an optimized design. It keeps the life-cycle costs as low as possible. A modular design allows the use of standard parts in different grab models, which greatly simplifies the storage and results in faster response times in the production of new machines and after-sales management. Thanks to the intelligent design, SMAG is also able to match up high grab capacities with low dead weight.

A very important factor in the entrepreneurial thinking is the issue of environmental protection and sustainability. Environmental protection does not begin only when the grab is finished. Both at the work preparation stage and in the production process, care is taken to reduce the impact on the environment.

In addition, SMAG strives to keep the environmental impact associated with the use of grabs as small as possible. A number of features make it possible to minimize the loss of bulk materials. In addition to dust covers, they include special sealing systems on the side and bottom lips. The use of steel sealing strips, rubber-sealed lips, overlapping bottom and side lips or special side toothing prevents bulk materials from trickling down. In contrast to the competitors, SMAG's four-rope dual scoop grabs are also designed with just one, rather than two scoop pivot points. This results in such movement of scoops that ensures a synchronous closing and excludes any offset between scoops.

For many years now, the use of water-based paints and the option of a central lubrication system also provide a further contribution to environmental protection. The harmonious matching of electrical and hydraulic components allows the use of smaller motors than those in models of other suppliers. The energy usage per tonne of processed bulk is, therefore, kept as low as possible.

ORTS GmbH turns 40 this year!



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KRÖGER Hydraulic grabs for dry cargo in harbours: fast and efficient

Leading-edge grabs 'Made in Germany'

Last year, when KRÖGER Greifertechnik supplied a hydraulic grab with a newly designed sprocket to the company FORSEN for the Turkish harbour at Izmir, no one had anticipated the momentousness of this test-supply.

FORSEN was so thrilled by this hydraulic sprocket that it requested KRÖGER to retrofit an 'old' grab, which still had the conventional hydraulic rotator, with this highly robust system. Using only an 8m³ hydraulic multi-jaw grab, type KMH, an average of 40,000 tonnes of bulk goods is handled in one day — and that too working 24 hours a day, 7 days a week.

There is a reason why FORSEN, along with the major mobile crane manufacturer SENNEBOGEN, loves to work with KRÖGER: for over 50 years, KRÖGER has been manufacturing innovative cable, motor-powered and hydraulic grabs and, hence, completely and uncompromisingly relies on a combination of quality and high tech. By now, KRÖGER has made its way into almost all harbours in Europe and many harbours all over the world. Wherever there are high demands in terms of materials and technology, grabs from the house of KRÖGER are indispensable: grabs, made in Germany. The numerous innovations and the absolute zero-maintenance of many models have made the company a market favourite in many countries.

The new, extremely robust sprocket by KRÖGER.

KRÖGER has earned its international reputation primarily through its hydraulic grabs. There is an ever-increasing demand in inland harbours and seaports for grabs of this type, which are basically equipped with an end-of-stroke damping at the time of opening the jaws to avoid hard impacts that spread to the entire crane. More recently, it has become the company's trademark to apply the principle of zero-maintenance to its large grabs as well. This feature has become the specialist company's USP the world over. More and more large handling machines and mobile cranes are now fitted with hydraulic clamshell and multi-jaw grabs of types KZH and KMH from Germany.

And, as always, efficiency remains the key word in the world of bulk goods handling. KRÖGER grabs with hydraulic technology contribute manifoldly to this requirement in handling machines: speed, along with extremely long service life, are the important and by now globally recognized factors. Optimal utilization of the load bearing capacity of the machine through weight-optimized design of the hydraulic grab and, hence, the ability to handle maximum possible bulk loads is another factor. Also, the wide range of requirement-specific grab types and sizes — from the smallest hydraulic series grabs to customized large grabs — has a bearing on profitability and efficiency in 'every lift'.

What began as an experiment at the innovative grab manufacturer KRÖGER in Turkey is now installed in almost all KRÖGER hydraulic grabs: an in fact conventional but newly designed and improved, rather oversized sprocket technology, which is so safe and robust that it can now sustain the highest possible loads. Through this 'simpler' technology, it became possible to more than double the axial load-carrying capacity.

Another advantage of this robust component: the new KRÖGER sprocket is extremely user-friendly, as it has been designed using commercially available parts that can be easily replaced (on one's own), e.g. the hydraulic motor.

What is different in the new system? As a result of this sprocket technology, the sealing elements are now separated from the bearing, that is the load bearing capacity is now delinked from the hydraulic circuit. This mainly benefits the impact loading of a grab and, thus, significantly increases the service life. At the same time, through this system the torque is distributed to several points, which makes movement a lot safer.

The result: a 'tank-like' robustness owing to reduced hydraulics without any compromise in terms of performing highly challenging tasks for longer durations and with no complaints so far. And the experiment at FORSEN has clearly shown: what works in Turkey, works everywhere.




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Wide range of grabs from Shanghai Global Machinery Co., Ltd (SGMC)

Shanghai Global Machinery Co., Ltd (SGMC) specializes in the manufacture of grabs. SGMC has high-level employees specialized in hydraulic-technology and technicians with over 10 years' experience in grab design, development, and manufacturing. The company's grabs are widely applied to industries such as: shipping, ports, power stations, steel plants, refuse incineration plants, railways, cement, chemical engineering, paper marking, dredging, salvaging, etc.

SGMC puts great emphasis on technology development. It continuously studies and absorbs the advanced technologies and design ideas from international leading countries such as The Netherlands and Germany.

The company is committed to improving grab handling efficiency and reducing failure rates: the deadweight to payload ratio for mechanical grabs is up to 1:2.2, remote-control grab-trouble-free operation to 8,000 hours, electric hydraulic-grab-trouble-free operation to 5,000 hours. The company's export products have obtained CCS, NK, BV, LR certifications and qualify overseas customer to receive international warranty services.

SGMC owns several patents and could effectively solve problems occurring during loading/unloading. Scrape-drag-plate grab for nickel ore is one of the company's innovations. It overcomes the difficulties of material sticking, falling and losing and thus could increase productivity up to 50%.

SGMC is also experienced in R&D, design and fabrication of hydraulic systems according to customer needs. In addition, the company acts as a sales agency for various kinds of imported hydraulic components.

SGMC product scope:

- **model types:**
  remote-control grab, electric hydraulic-grab, rope mechanical grab, air-powered grab, electric grab, hydraulic-grab.
- **application and appearance:**
  dredging grabs, salvage grabs, timber grabs, multi-petal grabs, clamshell grabs, orange peel grabs, steel scrap grabs, leak-resistant grabs, trash-racking grabs, stem-grass grabs, pull-out grab, underwater grabs.
- **capacity:** from 0.5 to 200m^3 (crane SWL).
- Over 300 kinds of grabs.

J&B Grabs: more than just standard buckets

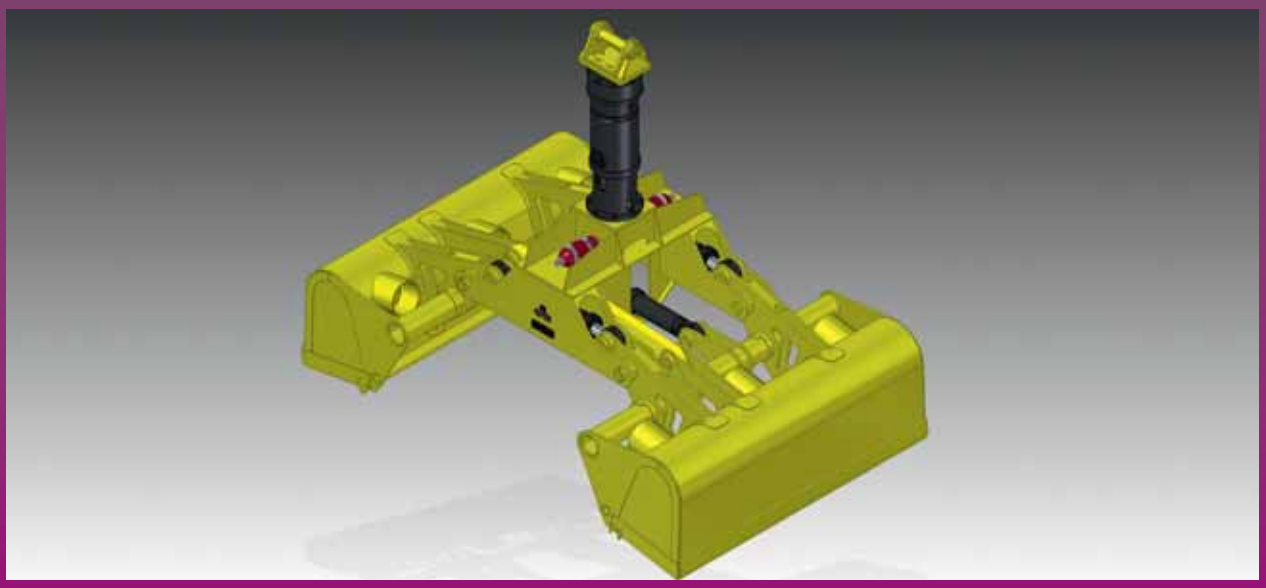
J&B Grabs (Utrecht, The Netherlands) specializes in two-rope, four-rope and hydraulic grabs. It offers clamshells and orange peel grabs in sizes requested by the customer. If the customer requires, for example, a 600-litre or 45m³ grab, J&B can make the right grab for the job. The company uses 3-D design and Femap strength calculations to ensure optimal results.

Grabs come in all shapes and sizes, because every bulk material has its own sets of demands. J&B translates these demands, together with customer-specific needs into the most efficient grab. Its products offer an ideal combination of capacity, grab strength and low costs per tonne loaded.

Some of the company's recent projects are illustrated here. **Below:** a special hydraulic clamshell for dredging. The unit has a capacity of 7m³, and grab weight of 7.4 tonnes. It offers high closing forces for the most extreme conditions. The grab was created with input from the customer, and considering a variety of options.

Above: this project shows J&B's global reach. Shown are two two-rope orange peel grabs for the Middle East region, to be used to handle stone and rock. The capacity is 4m³, with a weight of 8.5 tonnes per piece.

Below: an artist's impression of one of the three horizontal profiling grabs that J&B will supply to a European dredging company. These clamshells are designed to leave a horizontal profile after digging 30cm of polluted soil, or just to leave a flat surface. Capacity of 4m³, weight 6.7 tonnes, and footprint 13.5m².



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45 m³ Hydraulic Grab


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Rope Cactus Grab (10m³)

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SENNEBOGEN grabs and quick changing devices – an ideal amendment

SENNEBOGEN stands for over 60 years for innovative solutions in material handling and crane technology. With its own line of grabs SENNEBOGEN will present a multitude of specially developed attachments at the bauma 2013 exhibition, that are exclusively designed for its machines.

SENNEBOGEN QUICK-CHANGE DEVICES

Six different quick-change devices are available for the SENNEBOGEN material handling machines. The scope starts with simple quick-change couplings and extends to ingenious automatic change devices Toolmatic and Vario Tool. The control system Tool Control ensures simple and safe working and an optimal configuration of the hydraulic parameters of up to ten attachments.

SENNEBOGEN GRABS

The orange peel grab SENNEBOGEN SMG is available in various versions and shell forms especially balanced onto SENNEBOGEN material handling machines. In response to customer demand, four- and six-shell versions are available. In practice, the new orange peel grabs achieve capacity from 400 litres up to 5,000 litres especially through optimized hydraulic, long-life cycle and various options from endless rotary device with electrical feedthrough over smart detecting devices up to additional shackles.

With the new clamshell SENNEBOGEN SGZ, SENNEBOGEN offers an individual solution for each bulk material. Proof closing forage shells, wood chips-shells or specialized versions for use under water and demanding operating are available according to customer's requirements. Capacities ranging from 1,000 litres up to 6,000 litres are available for every machine.

The new product line of the SENNEBOGEN grabs is completed with the timber grab S-HHG with a capacity up to 4m² and scrap magnets up to 5 tonnes empty weight, in combination with the new hydraulically driven SENNEBOGEN generator system. Further attachments, hooks and grab lengthenings are also available.

SENNEBOGEN GRABS AND QUICK CHANGING DEVICES

Six new quick-change devices

- default quick change couplings for non-dripping-coupling and simplest mounting of the grab hoses;
- SENNEBOGEN mechanical/hydraulic coupling device with mechanical quick change-mounting bracket for changing tools without unbolting;
- diverse attachment possibilities at the ULM-stick;
- fully hydraulic change device at short ULM-stick for safe changing of the attachments;
- **Toolmatic:** fully hydraulic change device for fast and save changing within seconds; and
- **Vario Tool:** fully hydraulic change device for the use of big scrap metal shears.

SENNEBOGEN orange peel grab SGM:

- specially developed orange peel grab with half-opened and closed shell-profiles;
- rotor with electricity feed-through, detector system and welded shackles as further options;
- 4-shell-version with capacities of 400 litres up to 2,000 litres and maximum lifting capacities of 10 tonnes. Specially designed for usage on SENNEBOGEN machines; and
- 5/6-shell-version with capacities of 400 litres up to 5,000 litres and maximum lifting capacities of 15 tonnes. Specially designed for use on SENNEBOGEN machines.

SENNEBOGEN clamshell SGZ

- double shell loading grab in diverse variants, beginning with proof closing forage shells up to wood chip shells and reinforced versions with changeable blades; and
- capacities from 1,000 litres up to 6,000 litres and maximum lifting capacities of 15 tonnes.

SENNEBOGEN timber grab type S-HHG

- optimal for strong applications in timber loading with clamping construction and high-tensile wearing profiles; and
- capacities from 0.8m² sqm up to 4m² and lifting capacities of 10 tonnes.

Further attachments and magnets are also available.

CFS International Engineering Handling: conquering international markets

CFS International Engineering Handling designs and manufactures equipment for material handling.

The company's production line includes both mechanical, hydraulic and electro hydraulic buckets and also hydraulic and electro hydraulic grabs.

CFS Handling has conquered this market with high quality, good prices, excellent shipment terms, materials and components, wonderful design and customer focus.

The machines are equipped with air/oil cooler and/or oil heater in countries where needed, variable displacement axial piston pump, sensors in digital currents for interface with a PLC, protective cages for cylinders and wind cover for buckets for environmental control of dust.

The sum of all these characteristics means that the company's products offer the value and reliability that are helping CFS Handling towards success on the international market. This is backed up by the fact that CFS Service has not yet been required to make an on-site repair of its machines.

Distribution is mainly to sectors such as: ports, cement, steel mills, scrap, demolition, waste, shred material, turning chips, urban solid waste, paper, cast-iron ingots, ores, slag, bales, coal, grain, zirconium, GMA garnet etc.

CFS' production is not limited to the electro hydraulic equipment market, but is evolving to include the mechanical field, where CFS Handling has introduced its four-rope mechanical buckets with radio control.

CFS Handling designs and manufactures different grabs for specific material to be handled.

In today's aggressive worldwide markets, where the utmost importance is placed on delivery and guaranteed functionality, CFS prides itself on the quality components it manufactures.

The dedication and passion that CFS Handling's CEO, Mr. Italo Civettini, has for the company's products made it possible to conquer new markets, such as India, Korea and China, where CFS will be present at the annual exhibitions, starting this year.

Kardesler Grab & Machine plans global exportation

Kardesler Grab & Machine, established in 1985 in Istanbul/Maltepe, first started producing grabs for sand.

Since then, Kardesler Grab & Machine has improved its capital and staff and expanded its product range.

The company services clients in Turkey and foreign countries and is proud to be able to respond to the needs of its customers all over the globe, by using technology effectively and efficiently.

Kardesler Grab & Machine's products are manufactured to the standards of Bureau Veritas, CE and SGS certificates, and its product range is expanded constantly.

Products

Radio remote control grabs; electro hydraulic orange peel grabs; electro hydraulic clamshell grabs; mechanical touch down grabs; mechanical touch down orange peel grabs; hydraulic orange peel grabs; hydraulic clamshell grabs; mechanical four and two rope orange peel grabs; mechanical four- and two-rope clamshell grabs; mechanical and hydraulic log grabs; hoppers; and excavator buckets.

Kardesler Grab & Machine exports about 70% of the products it manufactures.

Until now, Kardesler Grab has exported its products to many countries: Singapore, Germany, Georgia, Azerbaijan, Syria, Dubai, United Arab Emirates, Jordan, Ukraine, South Africa, Colombia, Arabia, Kenya, India, Haiti, Ekvador, Czech Republic, Greece, Bulgaria, Russia, Persia, Yemen, the People's Republic of China, Indonesia, Spain, Canada, Australia, Egypt and more.

The ultimate aim is to have an export concept that covers the whole world.

E-Crane eyes growing Asian market

E-Crane operating at Premier Cement Mills.

The Asian bulk equipment market is experiencing a period of significant growth. One region, in particular, that has caught the attention of crane manufacturer E-Crane Worldwide is Bangladesh, and the company has experienced significant success in the country. The E-Crane is designed specifically for barge and ship unloading, and is a proven and trusted solution in many bulk material handling industries. Many dedicated systems for offloading coal, limestone and other bulk materials are costly, inflexible and require an expensive, hard to maintain infrastructure. The versatile, flexible E-Crane is just the opposite. E-Crane's modular design and custom solutions make it ideal for any bulk handling application. E-Crane is purpose built for dedicated tasks including: offloading Panamax/Handymax sized vessels; barge loading/unloading; ship loading/unloading; feeding hoppers; and stockpiling. Since 2001, E-Crane Worldwide has fulfilled a staggering 20 contracts in Bangladesh, and demand is continuing to grow. Most Bangladeshi clients have become repeat customers, with some having three or even four E-Cranes operating at their terminals.

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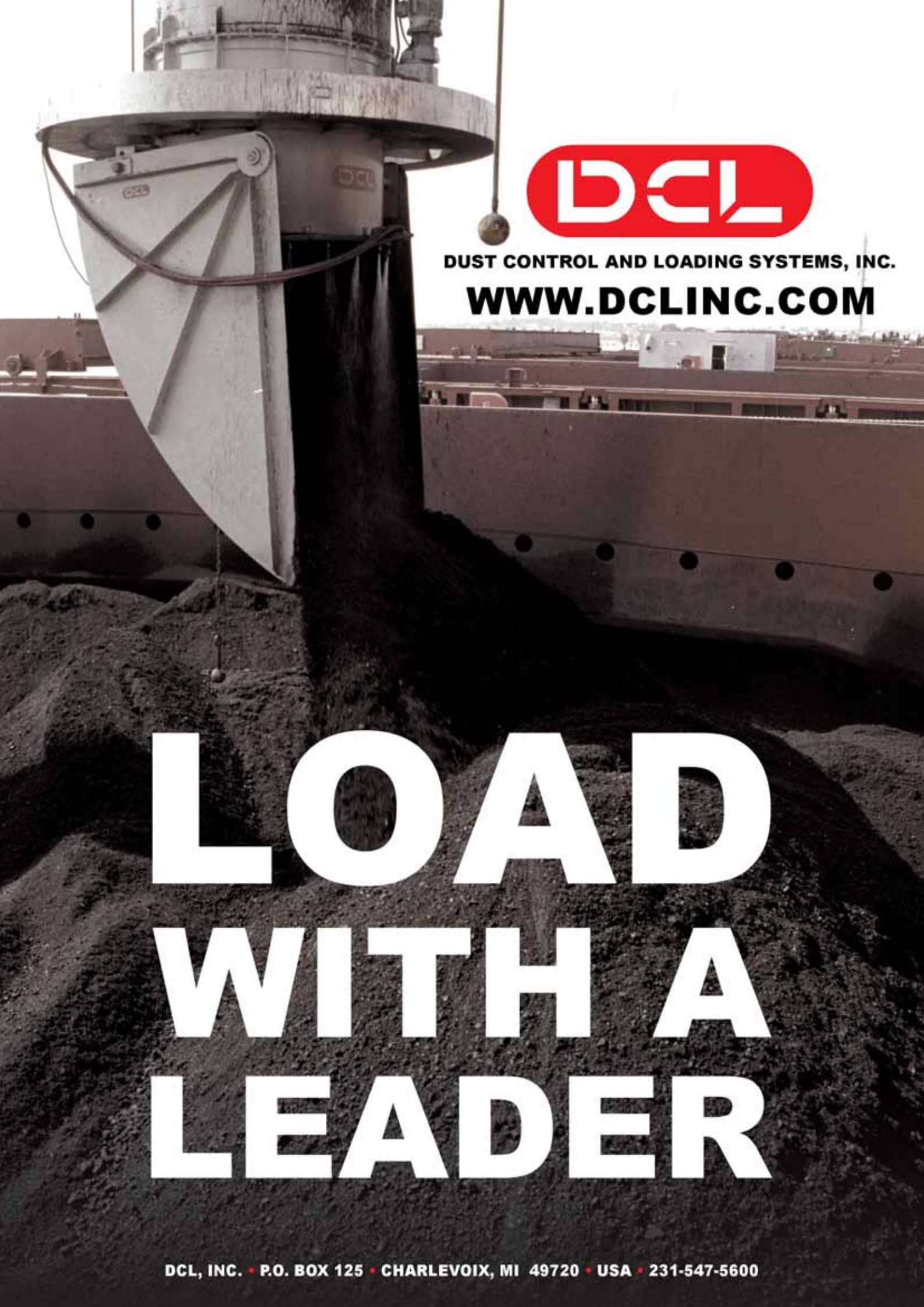
largest cement producers in the country with its headquarters in Chittagong and a production plant near Dhaka.

Originally commissioned in August 2011 this crane, with a maximum outreach of 26 metres and a duty-cycle capacity of 9.1 metric tonnes, now has close to 9,000 working hours in only 18 months of near continuous operation. This means it has achieved

Meghna Group of Companies.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Shah Cement.

a staggering 6,000 hours per year!

During the initial start-up and training period client was averaging an unloading rate of 250tph (tonnes per hour). Over time this has risen to an impressive 390tph. This single E-Crane is effectively replacing three rope cranes.

In the first one-and-a-half years of operation, this E-Crane has proven to be the most versatile, reliable and cost effective unloading crane for this client. The main electric motor is a mere 200kW, further proof of how efficient the unloading operation has become with the addition of the E-Crane.

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Shah Cement.

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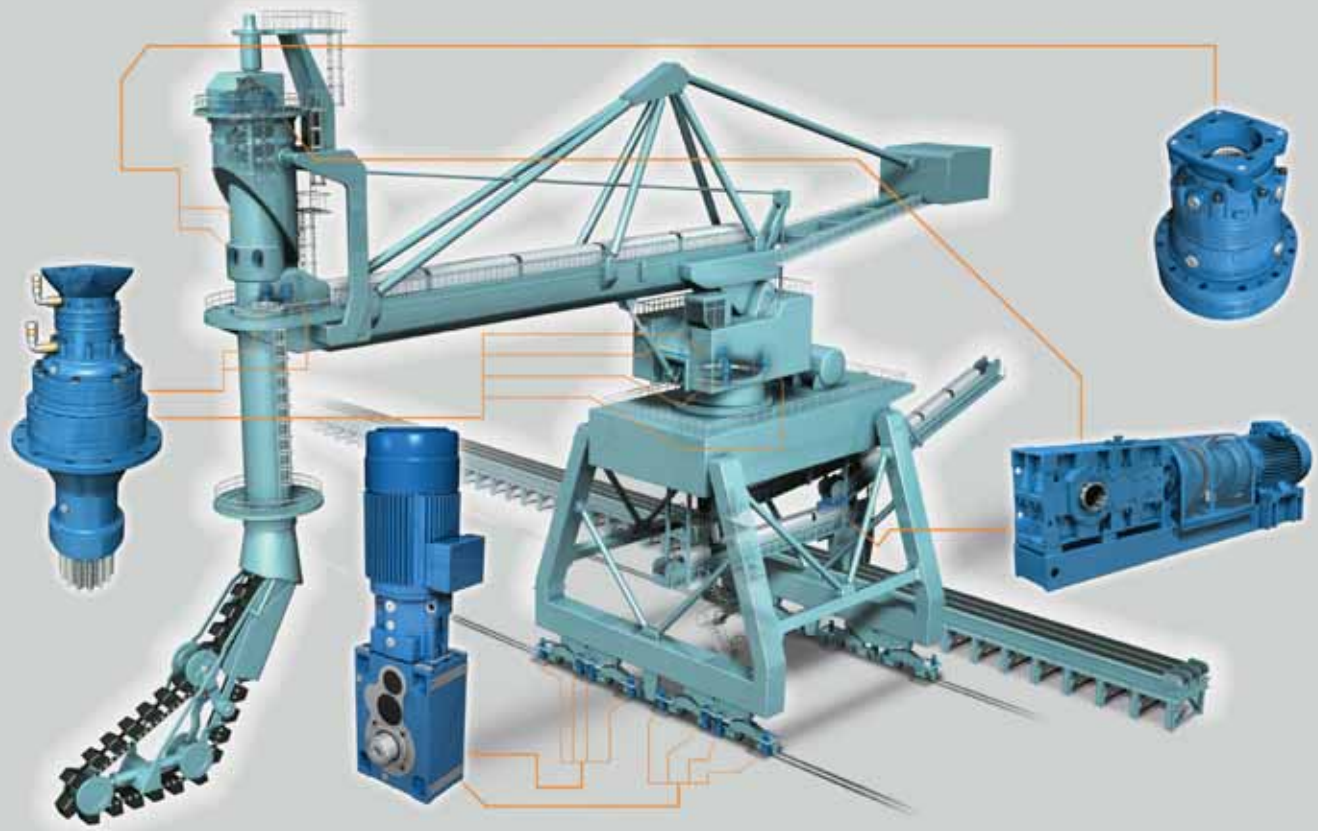

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Meeting the challenge of extreme weather

port handling with the Sennebogen 880 in Finland

Three new SENNEBOGEN 880 handling devices get the job done in the far north. In the middle of 2012, the Finnish sales and service partner Konekesko delivered two SENNEBOGEN 880 EQs and one 880 Classic to the Havator Group in Finland. Equipped with special features, the machines are able to operate in the face of double-digit subzero temperatures.

Since the 1980s, the Finnish Havator Group, a classic crane

"The new SENNEBOGEN 880 handling machines will be very useful in handling cellulose and paper at the Ajos harbour and will seamlessly fit into the existing logistics system for the Havator harbor cranes in Röyttä," says Kristian Nummelin, technical director of Havator.

service provider, has been present in Scandinavia and helping out at two harbours on the Finnish Baltic Sea coast through its subsidiary, Polarlift.

By commissioning two SENNEBOGEN 880 EQs as well as one 880 Classic, the company has further secured its position in the demanding field of harbour handling. One SENNEBOGEN 880 classic and one 880 EQ are working together in the Ajos harbour in the city of Kemi. The new material handling machines play a key role in handling cellulose and paper. Another 880 EQ works about 20km away in Röyttä near the city of Tornio and handle scrap in the harbour for the town steelworks factory.

With a range of 35m, various add-ons and robust crawler tracks, the SENNEBOGEN 880 EQ is an extremely flexible and economical solution for mobile harbour handling machines. Thanks to the equilibrium counterweight, which maximizes the balance of the 880 EQ, the two machines save significant energy and operating costs every day in comparison to conventional handling machines.

Reliable even at minus 30°C

Havator wanted equipment from SENNEBOGEN, as its products are always ready and reliable, even under extreme weather conditions. In co-operation with the local sales and service partner, Konekesko, a satisfactory solution was found. Equipped with an electrical preheating system for the engine block, hydraulic fluid and batteries, the machines can operate almost without any restrictions, even at extremely low temperatures. In addition, all machines are equipped with heating sleeves for the hydraulic cylinders. This new development was implemented together with an experienced supplier, to ensure reliable operation under Arctic conditions.

At temperatures as low as minus 30°C, three new SENNEBOGEN 880s are working reliably on the Baltic coast in Finland.

For the driver, the SENNEBOGEN Portcab offers an excellent view through extensive safety glass from its elevated position, and it is highly ergonomic, offering safe and comfortable working conditions. Particularly when loading and unloading ships, the variable Skylift 600 elevation system offers a commanding view.

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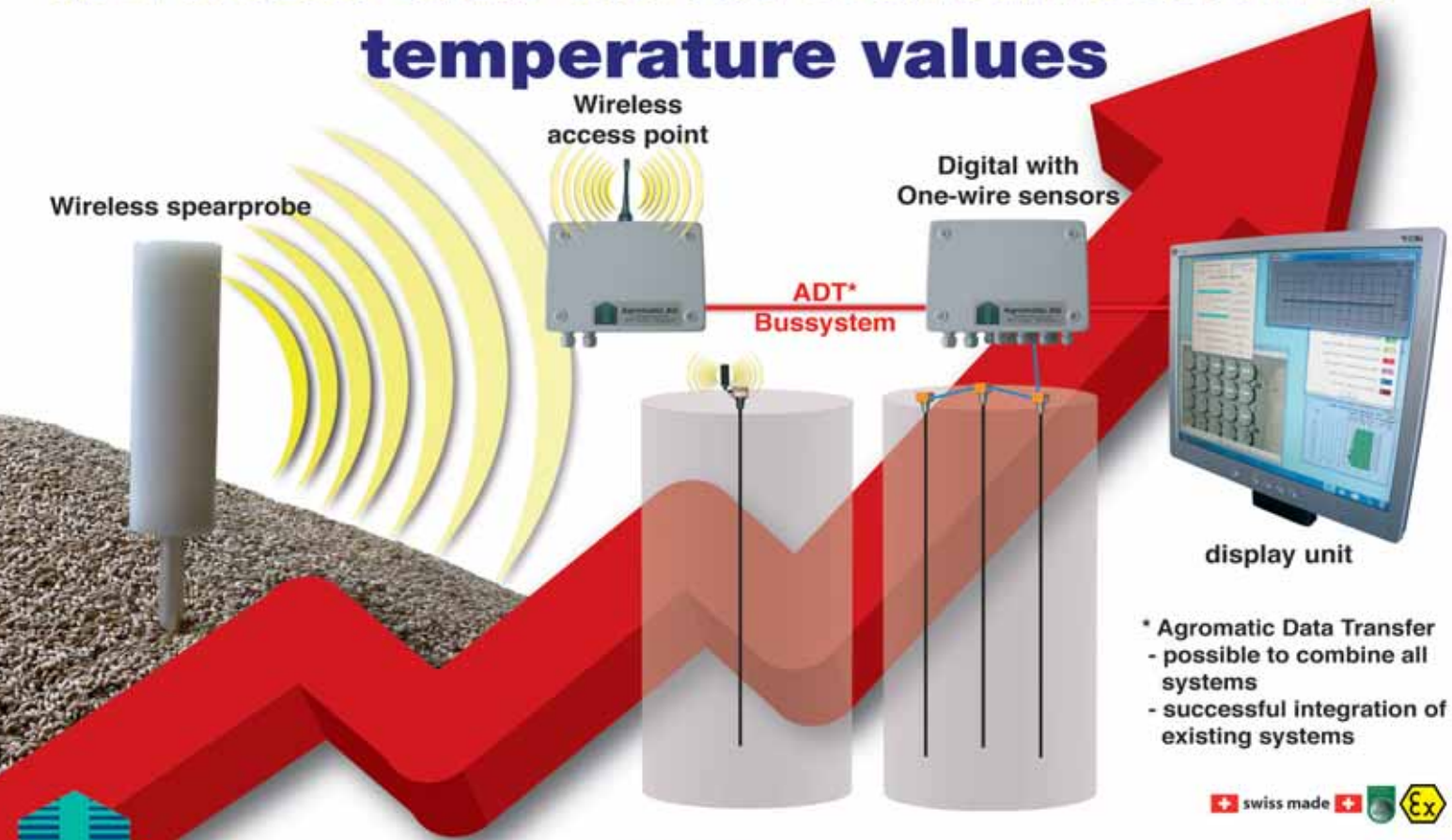

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Collaboration drives optimized supply chains

Alex Pey shares insights on how Australian bulk material handling, bulk ports, and heavy haul rail expertise are collectively providing innovative and cost effective solutions for export supply chains in the mining industry.

Trends in the mining industry mean the viability of resource projects requires robust export infrastructure and reduced operational costs. So, irrespective of the extent or state of the infrastructure, mining companies need to undertake significant up-front capital investment before they can build or expand their mines and transport their products.

Changes over the last decade have had a significant impact on the expansion of existing, and development of new, export supply chains for the coal industry in Australia. A review of the change impacts offers some valuable lessons for the resources industry.

Commodity supercycles

The Colorado School of Mines studied the long-term trends in coal prices. In particular, they were searching for the existence of supercycles for these energy commodity prices. Although the researchers found evidence of supercycles in metals prices, it is unclear whether one would expect to find them for coal, due to differences in market structure and relative importance in the industrialization process during different periods.

The report concludes that long-term trends have varied over time, with real coal prices trending downward post-World War II, with different implications on the depletion-technology battle. As seen in Figure 1, there appear to be four supercycles in coal prices over the period 1800–2009 (with two uncertain periods). These coal supercycles roughly match the timing of those for oil and metals prices after WWII, but not in the pre WWII period — and their timing suggests episodes of industrialization and urbanization in various countries or regions in the global economy were the cause. Thus, the post WWII evidence is consistent with the super-cycle hypothesis.

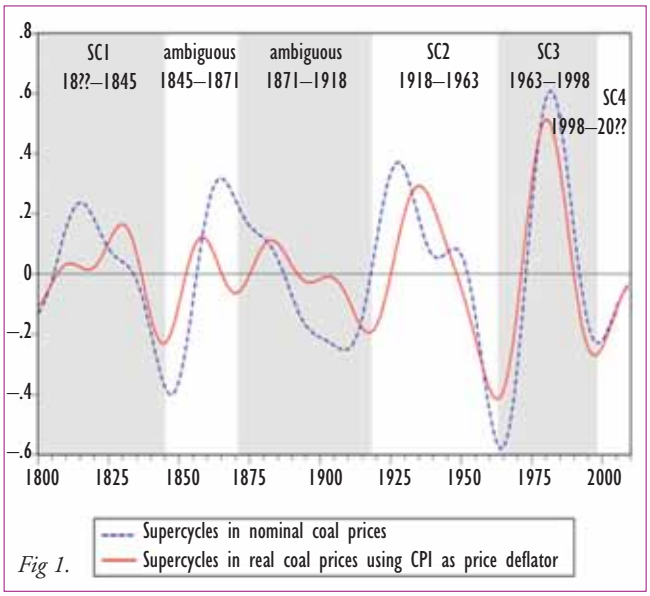

Fig 1.

As this research takes a global view, the Australian coal industry in recent years may not have noticed too much of a super cycle presence in coal, due to the dampening impact of the currency exchange rate. In addition, the speed of future capacity adjustment may impact on the presence or absence of any future supercycle.

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Recent Australian Perspective

As previously mentioned, the Australian coal industry may not have noticed the presence of a super cycle. Figure 2 shows thermal coal prices, expressed in Australian Dollars at a fairly stable (low) level for the decade or two prior to 2005, after which demand for this product significantly increased prices to more than A$100 per tonne in 2008.

During this latter period, demand for rail and port capacity in Australia was high. The long queues of ships off the coast were evidence to that.

A significant number of coal mining and logistics infrastructure projects were studied, these included:

- new mines in undeveloped coal basins (Surat, Galilee);

Fig 2: Thermal coal for export, Australia

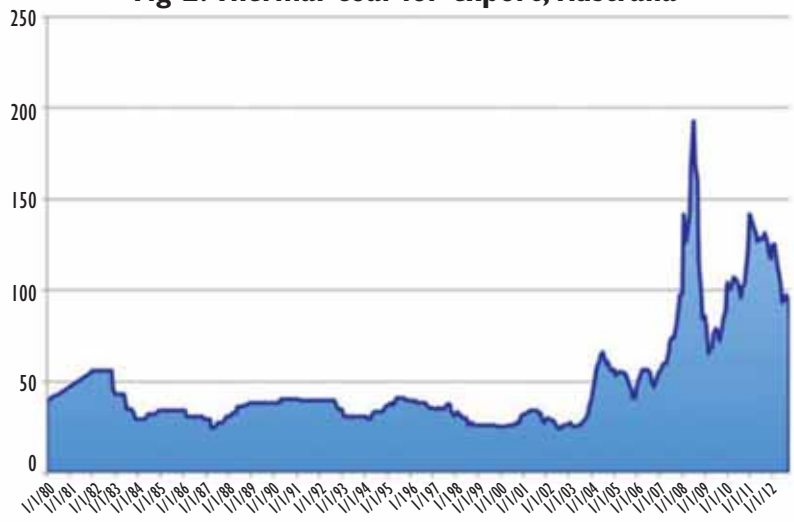
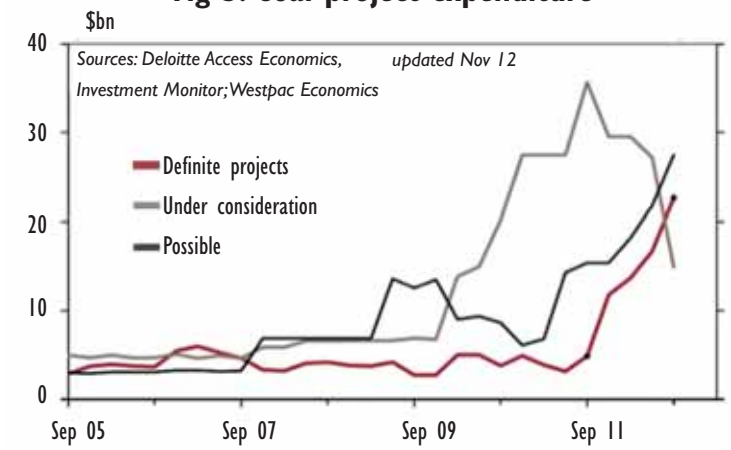


Fig 3: Coal project expenditure



- rail lines to service these new basins;
- new mines in existing basins (Bowen Basin);
- expansions of existing mines;
- new export terminals along the east coast of Queensland; and
- expansions of existing export terminals.

Expenditure on projects significantly increased over that period. The race was on to develop mines, rail and ports to satisfy the demand from China and India.

The opening up of the Galilee Basin provided an excellent example of this race to meet the market demand.

The Galilee Basin

The Galilee Basin is one of the last remaining, undeveloped coal resources in Queensland, Australia. The expectation is that it will become the largest coal producing region in Queensland, if not Australia. More than 20 companies are exploring in the area, which holds approximately 14 billion tonnes of coal (predominately thermal). Five proponents have proposed sizable coal mines, with a combined capacity of more than 200mt (million tonnes) per annum. All these proposed mines need access to an export terminal.

Until recently, all major proponents were pursuing their own rail corridor development from the Galilee Basin to Abbot Point, a distance of approximately 400km to 600km. This was despite the significant economies of scale of a dedicated heavy haul rail line of such length.

A high level economic assessment will demonstrate the benefits of a joint development. But first, let us take a brief look at the major proponents in this basin.

Proponent 1 — Alpha Coal Project

The Hancock Coal/JVK proponent proposes to develop a 30mtpa (million tonnes per annum) open-cut coal mine in the Galilee Basin, with future development expansions. An adjacent sister mine, Kevin's Corner has a similar planned output. The combined potential is in the order of 50 to 60mtpa.

This proponent proposed to develop a 495km standard gauge railway to a planned port development

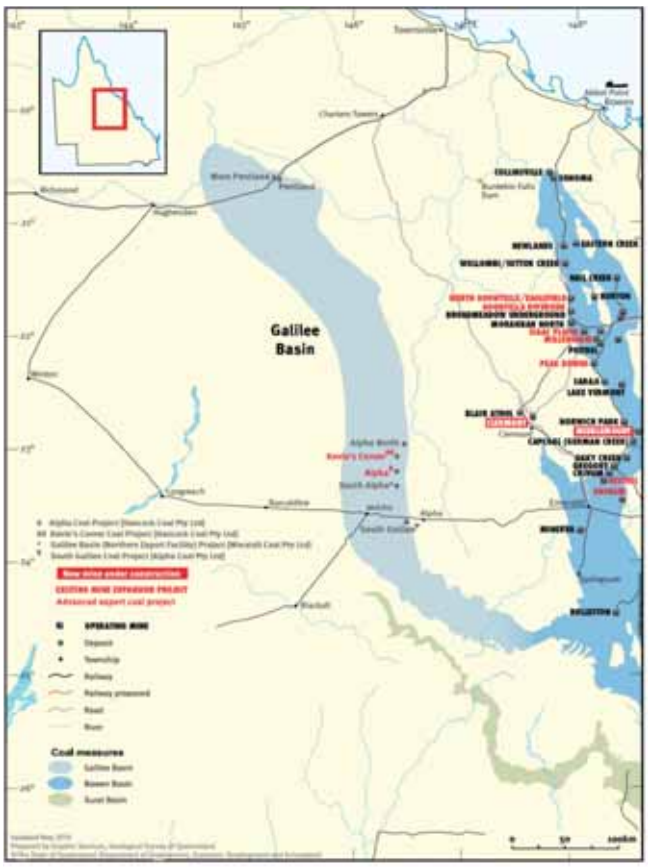


Figure 4: The Galilee Basin (Map courtesy of Qld Department of Infrastructure Planning, 2010).

1. Some proponents may in recent times have modified their proposed rail infrastructure or sought to implement a more staged approach to their development.

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at Abbot Point. They plan to operate dedicated heavy haul, 25,000-tonne payload trains on predominately single track with passing loops to a new export terminal at Abbot Point to bring their product to the market.

Proponent 2 — China First Coal Project

Waratah Coal is leading this project, which involved the development of a 40mtpa coal mine not far from Hancock Coal/ JVK's Alpha and Kevin's Corner mines. The proposed rail line, also single line standard gauge with passing loops, is estimated to be approximately 471km long, also going to Abbot Point. Payloads of 24,000 tonnes are being considered for this operation.

Proponent 3 — Carmichael Coal Project

Adani Coal is leading this project, which involved a potential 60mtpa coal mine north of the proposed Alpha, Kevin's Corner and China First coal mines. The proposal involved a narrow gauge connection to the Aurizon network to facilitate export through the planned Dudgeon Point export terminal, as well as a standard gauge rail line to Abbot Point.

The case for co-operation

Rail infrastructure displays by its very nature a high degree of economies of scale. Increased capacity can quite readily be accommodated by increases in train sizes, axle loads, speed, and the number of paths available for revenue services. A single line track for example can be expanded by increasing the number of passing loops, and/or duplicating critical sections. The planned volume of product from the Galilee Basin supports a dedicated rail network to Abbot Point, and would certainly benefit from combining the effort, especially in the early ramp up phases of many of these new developments.

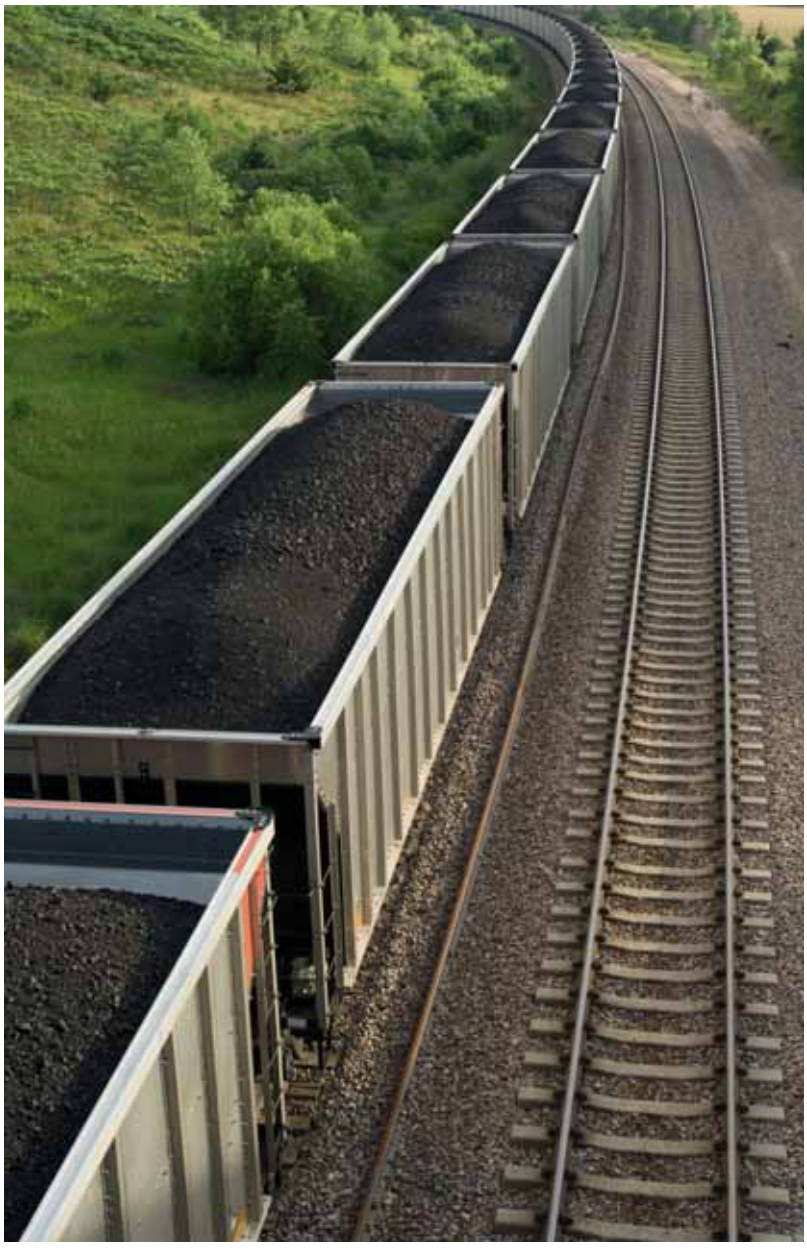
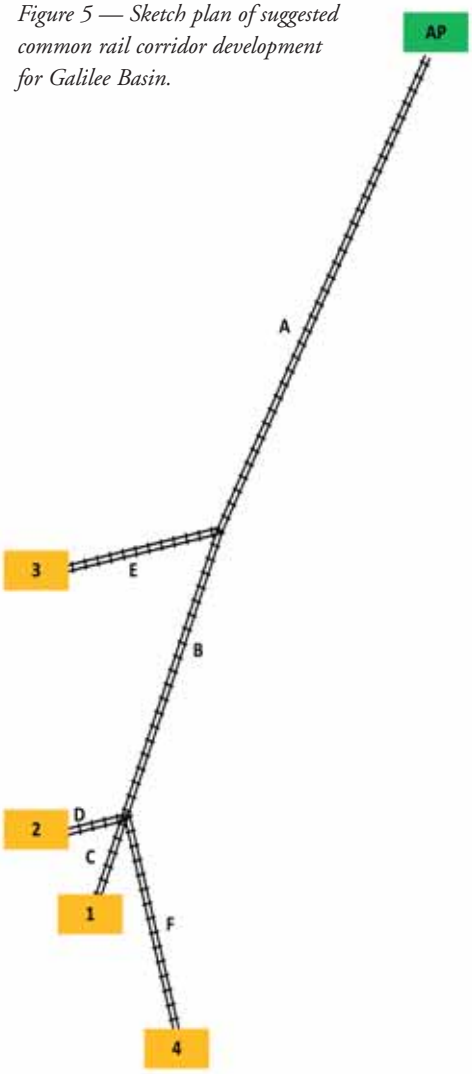


Figure 5 — Sketch plan of suggested common rail corridor development for Galilee Basin.



It is acknowledged that standard gauge rail infrastructure involves marginally higher construction cost due to longer sleepers, wider formation, additional ballast requirements and potentially more land use (due to requirements for less tight curves). However, the advantages in other areas make this gauge choice compelling.

Sum of parts not equal to total

The following calculations illustrate the potential savings in capital cost attainable through co-operation in the Galilee Basin development, with Figure 5 illustrating a notional rail corridor spine with connections to the various proponents' mines:

- provision of estimates for capital cost to construct was through understanding the volumes over each segment. For example, segments A and B are likely to involve fully duplicated track in a combined system, however, if only servicing one mine, would involve a single line with a number of passing loops;

- generally, it is expected that volumes will drive the extent of track required (i.e. the number of passing loops); and
- this formed the basis of calculation of a high level estimate of the rail infrastructure for the individual proponents (i.e. if they only developed their parts) and the combined system required to facilitate the export of their targeted coal volumes from the Galilee Basin. For example, Mine 2 would only require segments A, B and D.

A summary of the construction costs follows. Each individual proponent, if developing its own stand-alone rail infrastructure to Abbot Point, can expect to pay between A$2.3 and 3.6 billion for this privilege. The expectation is that a jointly developed system will cost around A$6.3 billion, more in total but less than the sum of the parts.

TABLE 1

High level capital cost estimates for the Galilee Basin rail network

	A	B	C	D	E	F	Total Investment ($m)
Mine 1	1,788	1,176	294				3,258
Mine 2	1,716	1,152		120			2,988
Mine 3	1,692				648		2,340
Mine 4	1,692	1,128				768	3,588
Combined	2,700	1,800	294	120	648	768	6,330

Even if the proponents do not directly fund the construction of the rail infrastructure upfront, ongoing capital charges (depreciation and return) will flow back to them for their use of the infrastructure. By translating estimated capital costs into ongoing capital charges it was possible to approximate the potential impact of collaboration. To simplify the comparison the assumption used was a 30-year project life and a 10% annuity.

On that basis, and combined with the expected volumes on each segment, capital charge per tonne was calculated. Each individual proponent, if developing its own stand-alone rail to Abbot Point, can expect to pay between A$5.76 and A$25.37 per tonne for the infrastructure capital charge, as shown in Table 2.

TABLE 2

High level capital charge (per tonne) for the use of the rail infrastructure

	A	B	C	D	E	F	Total ($m)
Mine 1	3.16	2.08	0.52				5.76
Mine 2	4.55	3.06		0.32			7.92
Mine 3	7.18				2.75		9.93
Mine 4	11.97	7.98				5.43	25.37

The equivalent capital charge for each individual proponent is expected to be much lower in a jointly developed Galilee Basin rail system, as illustrated in Table 3.

Collaboration in the Galilee Basin can yield significant savings. The combined benefit is roughly A$600 million per annum capital charge, or an average of A$4.43 per tonne.

Individual miners can expect to save between A$1.53 and A$16.24 per tonne, i.e. savings between A$92 and A$244 million

TABLE 3

Potential savings (A$ per tonne) for different proponents

	Individually developed Galilee Basin rail	Jointly developed Galilee Basin rail system	Savings
Mine 1	5.76	4.23	1.53
Mine 2	7.92	4.02	3.90
Mine 3	9.93	4.80	5.13
Mine 4	25.37	9.14	16.24
Average	9.22	4.80	4.43

per annum in capital charges. Economies of scale in rail infrastructure are driving this reduction in cost per tonne. Figure 6 illustrates this, moving output from Q to Q2 the average cost reduces from C to C1.

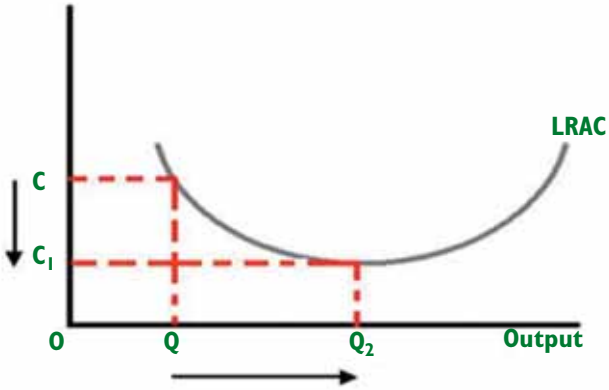


Figure 6.

How to prepare for cooperation

A Special Purpose Infrastructure Vehicle (SPIV) can facilitate collaboration to organize/arrange ownership structure and cost/revenue sharing. It requires a clear understanding of the roles, contributions and ownership shares within the SPIV. The benefits of a SPIV include:

- enabling foundation members to attract other coal producing partners, thus further reducing the unit cost of the rail infrastructure;
- providing an easier means of facilitating additional users at a later stage (post Bankable Feasibility Study and construction);
- facilitating the organizational arrangement, i.e. role definition and responsibilities of the parties. This will result in improved and speedier project development, where owners (parties to the SPIV) have already developed principles and consensus views on a majority of issues and documented these in the SPIV agreement. This will also enable the easier development of ongoing access charges for the use of the rail infrastructure;
- assisting in debt funding from banks (the bank only have to deal with the SPIV consortium and not individual companies); and
- facilitating equity funding from other, silent investors.

Concluding comments

The benefits of jointly developing greenfield export supply chain infrastructure, such as the rail infrastructure from the Galilee Basin to the port of Abbot Point is compelling. The effort to work together is well worth it. The Galilee Basin is an excellent, but by no means the only example, where collaboration and

effective co-ordination can reduce the costs for individual users.

Collaboration of users in the development of supply chain needs to be complemented by the integration of the supply chain. Users can achieve maximum benefits if they collaborate in the design of the supply chain and cooperate and integrate their operations on an ongoing basis. Such integration would involve information sharing; coordination of long-term planning across mine, rail, bulk material handling and port, maintenance by all supply chain members and problem solving; opportunistic operations to make best use of changes in capacity anywhere in the system and maintenance when the system is down.

Abbot Point Coal Terminal.

About Alex Pey

Alex has a long history in railway accounting and railway economics. He has an expert understanding of coal rail development in Queensland and the coal logistics chain. He was the author of QR's *Coal Rail Infrastructure Master Plan* which contemplates development and growth of the QR coal rail network. Alex has considerable experience in planning, designing and costing rail logistics supply chains. His expertise also involves rail economics, rail access pricing and cost modelling. Alex is the Heavy Haul Rail Services Leader for Aurecon which involves developing the scope of services Aurecon is offering globally under the Heavy Haul Rail banner. He is currently providing advice on projects in Australia, South Africa, and Indonesia. DCi

Stockyard systems

ThyssenKrupp blending yard machines in an iron ore concentrate plant in Brazil.

ThyssenKrupp's material handling equipment for Liberian port and mine

In Liberia, iron ore was already being produced before the Liberian civil war. Today, ArcelorMittal is again engaged in the production of iron ore and the product is being shipped as a raw material. In future, iron ore will be excavated from the Yekepa Mine, where it will be upgraded to a high-value concentrate product. It will then be moved by train to the port of Buchanan, whence it will be transported to further processing steel mills.

At the end of 2011, ThyssenKrupp Fördertechnik (ThyssenKrupp) won a milestone order from ArcelorMittal Liberia (AML). This contract included the engineering, supply and construction assistance for materials handling equipment for AML's iron ore mine and port in Liberia.

Louise Dodds-Ely

THE MATERIALS HANDLING EQUIPMENT SUPPLIED BY THYSSENKRUPP COMPRISE:

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- ROM iron ore blending yard stacker and bride type bucketwheel reclaimer; and
- product (iron ore concentrate) stockyard stacker and bucketwheel reclaimer.

Port site

- high capacity railcar dumper;
- product (iron ore concentrate) stockyard stacker and bucket wheel reclaimer; and
- high capacity shiploader.

The mechanical, hydraulic and electrical equipment is engineered and manufactured in Germany and Western Europe, while the entire steel structures of the machines are fabricated in China. The steel structure and mechanical parts will be manufactured there under the permanent quality assurance/quality control of ThyssenKrupp and then assembled with all mechanical, hydraulic

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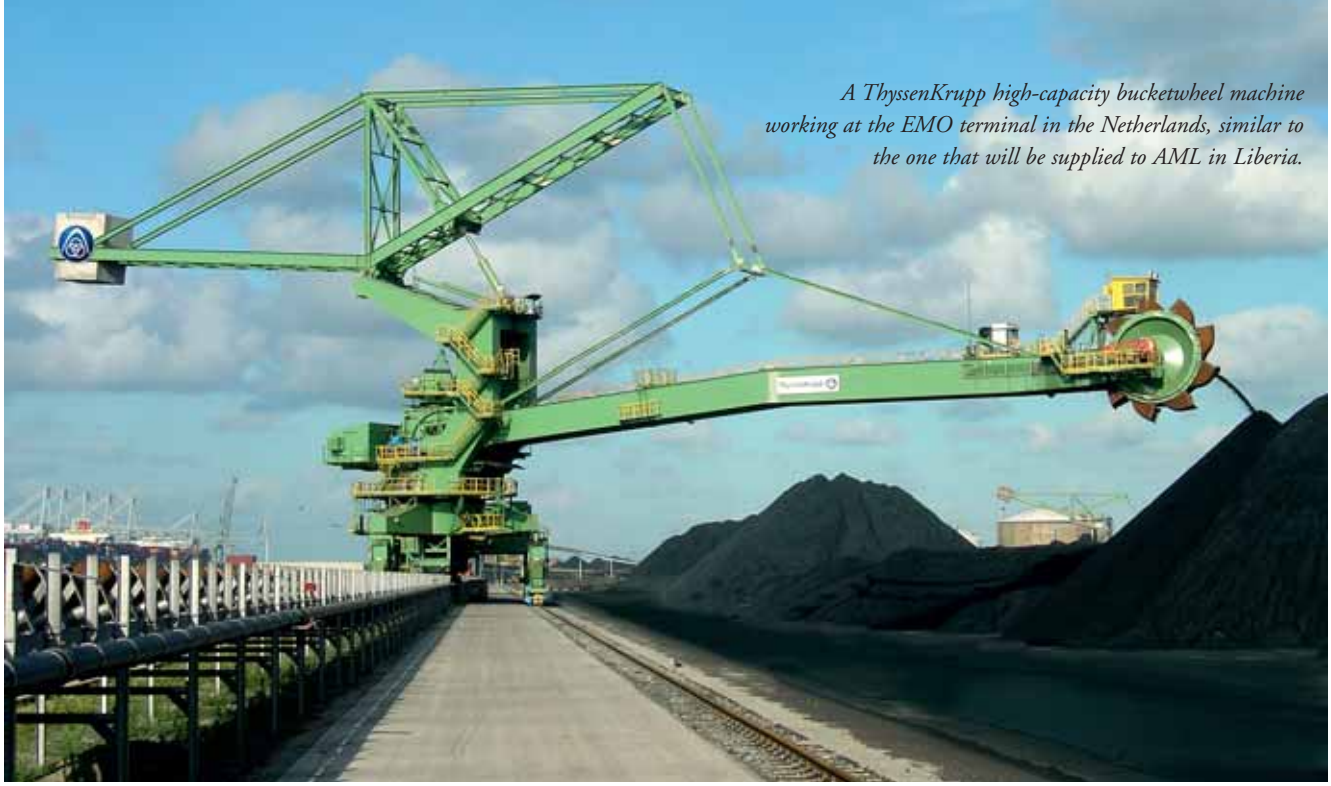

A ThyssenKrupp high-capacity bucketwheel machine working at the EMO terminal in the Netherlands, similar to the one that will be supplied to AML in Liberia.

and electrical parts delivered from abroad.

The iron ore concentrate plant at the Yekepa Mine is equipped with a blending yard and product stockyard. ThyssenKrupp will design and supply the blending equipment as well as the stockyard machines as follows.

The blending yard stacker is designed for stockpiling ROM (run of mine) iron ore in layers with a capacity of 8,300tph (tonnes per hour), while the bridge type bucketwheel reclaimer, with a design capacity of 5,600tph, will feed the concentrate process plant continuously for controlled mixtures of raw materials.

After the process plant, a stockyard is arranged with a stacker and a bucketwheel reclaimer for buffer storage of iron ore concentrates. The stacker receives the materials from the plant and stockpiles them at a rate of 2,500tph.

For the shipment of the product, a bucketwheel reclaimer takes the stockpiled material back to the conveyor system and further to the railway train loading station. To match the train loading operation, the reclaimer will feed the conveyor line at a design rate of 6,000tph.

The end product of iron ore concentrate will be transported

ThyssenKrupp high-capacity stockyard machine in operation.

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to the port via railway for export. At the port, three key components from ThyssenKrupp will be constructed for operation:

- one high-capacity railway car dumper;
- stockyard equipment consisting of one stacker and one bucketwheel reclaimer; and
- one high-capacity shiploader

The car dumper is designed as single cell tippler, designed for a maximum capacity of 5,400tph.

The stacker is designed for the handling capacity of 6,000tph to match the car dumper capacity, while the design capacity of bucketwheel reclaimer and the shiploader is 10,000tph each. This configuration gives the port operator one distinct advantage over its competitors in that region, which will also help cut costs by reducing the ship's berthing time.

ThyssenKrupp high-capacity car dumper in operation.

One of three ThyssenKrupp shiploaders built for FMG at Pilbara, Australia.

Modern drive control and PLC system is incorporated in the machines, operation is mainly controlled via the computerized operator's panel for the stockyard machines and in the operator's cabin for the shiploader. The high degree of automation and the visually assisted operator's guide the operating staff to operate the machines easily and in a comfortable fashion.

vibrafloor

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- *NO VIBRATION OR STRESS TRANSFER TO STRUCTURE*


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Malt Barley


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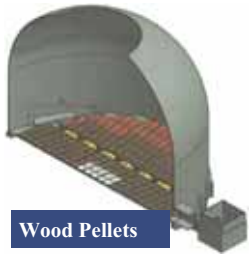
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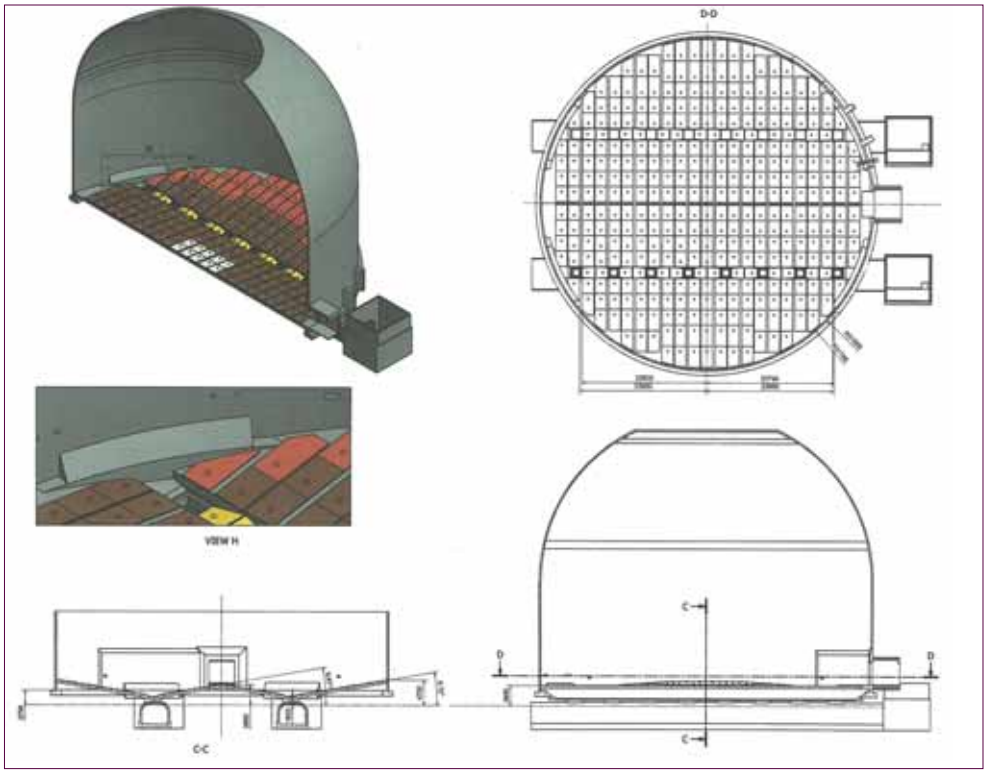
100% reclaim from the largest fully automated wood pellet store in the world

VibraFLOOR was selected to provide the technology to reclaim pelletized biomass from the concrete dome buffer storage vessels currently under construction at Drax Power Station, located near Selby in North Yorkshire, UK.

The project to convert three of the power station's generating units to run on sustainable biomass in place of coal includes the construction of a biomass fuel unloading, handling and storage facility.

The VibraFLOOR system was chosen by both the client and Shepherd Construction Ltd as the preferred bulk reclaiming option following extensive due diligence, because of the significant advantages over other existing reclaiming technologies.

The advantages included the ability of the system to achieve 100% clearance of stored product without generating dust or degrading the pellets. The capability of removing dust residue safeguards against the risk of self ignition of dust in a storage vessel.



Another decisive advantage is the ability of VibraFLOOR to remove product at very high rates, up to 4,600m³/h.

In addition, a vibrating floor requires no routine maintenance because of the lack of major moving or wearing parts. Automatic operation avoids personnel entering the storage vessel while factory assembled modular construction provides inbuilt redundancy, with the wave action avoiding feedstock bridging.

VibraFLOOR works by creating a wave in the flexible surface plate of each module, instigated by a low power centrifugal vibrating motor, which undermines and collapses the leading edge of cohesive and free flowing material through a low pressure zone, creating a progressive avalanche of the stored material. The collapsed material is gently swept away by the wave action (much as the effects of erosion on coastal cliffs), without causing any product degradation or dust generation, constantly undermining any obstruction or bridged material held in the store.

This flagship project is the first of a number of major developments for utility and port facility companies that VibraFLOOR are involved with, demonstrating the confidence amongst major operators within the UK, Europe and the US in VibraFLOOR's capability to reclaim pelletized biomass safely and efficiently.

Other activities

The marine sector is another field of intensive activities, with six ships on order ranging between 2,000t and 5,000t, all to be delivered in 2014.

A woodchips barge is under commissioning in Chile, with a 2,000m³ unloading capability, and a second barge is under construction in Valdivia harbour.

Amongst new developments, self-unloading woodchips trucks are been equipped in Brazil, and self-cleaning flour containers with a single side opening are being fitted with VibraFLOOR in Indonesia.

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

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

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

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CONDUCTIX wampfler

DELACHAUX GROUP

Conductix-Wampfler reels in customers with new focus market organization

Conductix-Wampfler is part of the Delachaux Group, which was founded in 1902. The company specializes in the design and production of power, data and media transfer systems for mobile applications. Active on every continent, the company has Centres of Excellence, responsible for production, R&D, engineering and central support functions located in Germany, France, USA and Italy, with dedicated production centres in Ireland, India, UK, China, Australia and Brazil.

Conductix-Wampfler's activities are market driven, with emphasis on five focus markets: mining & bulk material handling; ports & container handling; automotive industries; intralogistics; and overhead cranes. The company also works in other markets, such as theatre and stage, people carriers/transit, offshore and construction.

Traversing arrangement on a stockyard crane powered and controlled through conductor rails.

Stockyard applications

Conductix-Wampfler is heavily involved around the globe in this market, which comes under its mining & bulk material handling focus market. Supplying a range of solutions for the whole range of mobile applications e.g. tripper conveyors, stackers, bucket wheel reclaimers, stacker/reclaimers, bridge reclaimers, barrel reclaimers, circular reclaimers, it is able to offer a complete package for the transmission of power — both low and high voltage, control signals, data and media e.g. water for dust suppression, compressed air or hydraulic/lubricating oil.

Commodities handled

Conductix-Wampfler's solutions are used on a wide variety of mobile/moving equipment, handling the full range of dry bulk materials, from coal and iron ore, to sulphur, pelletized fertilizers, wood chips and grain, plus any other material which requires bulk handling equipment that traverses, slews or rotates during operation.

Solutions

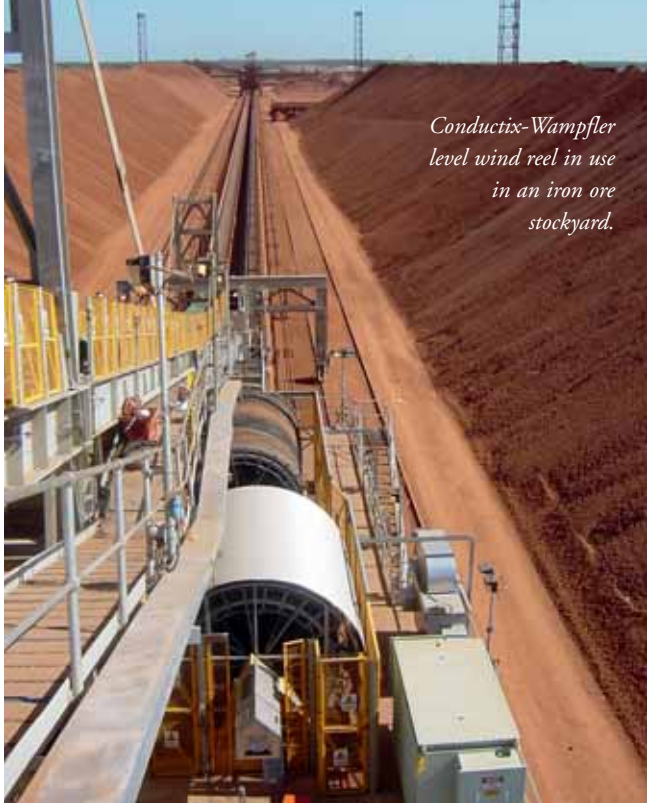
With the benefit of a wide range of potential solutions, Conductix-Wampfler's choice for each application can be made dispassionately, being wholly dependent on the operational and engineering requirement of the application and/or customer preference. The company's portfolio of products includes:

Motor & spring-driven reels and reeling cables & hoses

For long travel of customers' equipment, Conductix-Wampfler's range of cable reels is capable of accommodating reeling lengths of 2,000m or more. There is a range of power and control options, from variable-frequency drive, torque motor and hydraulic drive to the company's patented MAG drive magnetic coupler. The company was the first to patent this technology in 1974 and its designs include monospiral, level wind, 323 and random or semi-wide spools.

With its long history and experience in this field, Conductix-Wampfler is in a position to have many cables manufactured to

A Conductix-Wampfler BNA type reel, produced in Belley, France controlled by a MAG drive magnetic couple system. The operation is a shiploader.



Conductix-Wampfler level wind reel in use in an iron ore stockyard.

its own design. It can offer a huge range of HV and LV cables, many with integrated control and data capability. Utilizing its fibre optic rotary joint, it is able to handle cables with integrated fibre optic cores, which have the ability to transfer large amounts of data quickly and efficiently. This gives the opportunity for the customer to consider automation or remote control and monitoring of his equipment. The company works with premium cable manufacturers, whose quality products complement its well-engineered and manufactured reeling systems.

Festoon systems and cables/hoses

Conductix-Wampfler's festoon systems are used extensively in the stockyard environment. Large I-beam festoons feature on such applications as car dumpers, stacker/reclaimers and trippers, providing multi-cable solutions in the harshest environments. Conductix-Wampfler's festoons are hot dip galvanized and have the additional benefit of stainless steel fasteners as standard. Available with a range of roller diameters and configurations, they can be set up to accommodate a wide range of I-beams, with either parallel or tapered flanges, as specified either by the customer, as suggested by Conductix-Wampfler or to fit an existing installation.

BNA reel installed in a typical stockyard environment. The reel is operating on a traversing bucket reclaimer, taking the difficult environment in its stride.

Energy guiding chains and cables/hoses

For short travel distances or on applications that require a slewing capability, Conductix-Wampfler can offer a range of steel cable chains, complete with cables designed specifically for this challenging application. Available in hot dip galvanized or stainless steel, the range also includes chains with ATEX certification. For slewing applications, the company has supplied many circular chains on stockyard machines.

Slip ring assemblies

Where applications require infinite rotation of assemblies, for example circular stacker/reclaimers, Conductix-Wampfler can offer a range of solutions engineered in line with operational requirements. Site environmental conditions can be accommodated with a range of Ingress Protection (IP) ratings up to IP67 and with ATEX 21 and 22 certification.

Conductor rails

Conductix-Wampfler also produces a wide range of conductor bars in a variety of materials, specifically designed to accommodate the power requirements and difficult environmental conditions associated with this field

Major clients

Conductix-Wampfler's major clients are spread throughout the globe, from major mining houses such as BHP Billiton, Vale, Rio Tinto etc, through ports operators such as ABP, Kinder Morgan etc, to mineral end users such as Tata Steel and numerous power generators.

Recent contract awards

Conductix-Wampfler has recently been awarded a contract to supply five motor cable reels for FAM Förderanlagen, Magdeburg, Germany. The reels, which are in two different designs — three with level wind and two with monospiral spools, are to be installed on stacker/reclaimers at Minera Escondida, Chile. The stacker/reclaimers demand a 3.6kV supply, with a run length of up to 891m. The cables are HV (3 phase +PE) core cross section up to 240mm^2, with integrated single control core and 24 single mode fibre optic cores for data transfer. Due for delivery in March and April 2013, the reels will be produced in the Centre of Excellence for cable reels in Belley, France.

Continuous improvement

Conductix-Wampfler is continuously improving its products. Its patented magnetic clutch system has undergone numerous changes since its initial design and the CN version is the latest incarnation. This is now available as standard on many of its reels. Conductix-Wampfler's fibre optic rotary joint, the TFO, is wholly designed and manufactured by Conductix-Wampfler and has been specifically designed for use on reeling drums. The company's competitors do not have such a unit and need to rely on technology which is 'borrowed' from other applications. The TFO provides high integrity transfer of fibre optically transferred data between the rotating spool and the static part of the reel. The TFO has also recently undergone a makeover, with a re-engineering exercise which has resulted in a smaller, more easily installed unit.

Focus markets

As mentioned above, Conductix-Wampfler has recently undergone a major internal reorganization, implementing a focus market organization, which is designed to enable closer customer focus across the globe. The appointment of a global market manager and global application specialist dedicated to each of the focus markets will ensure, along with the nominated local market managers in each of the specific focus regions, that the company provides the service that its customers expect.

Telestack supplies stockyard management system to AES Kilroot

HF 521 tracked mobile hopper feeder with a capacity of 18m³.

Telestack has recently installed and 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 fully tracked mobile hopper feeder.

TS 542 radial telescopic stacker stockpiling coal from HF521 tracked mobile hopper feeder, loaded from wheel loaders.

HF 521 tracked mobile hopper feeder feeding TS542 radial telescopic stacker stockpiling at up to 500tph.

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 costs.

Now, wheel loaders carry the coal to the Telestack tracked

The HF521 tracked mobile hopper feeder can be used as a link in the feed system to the telescopic conveyor to gain distance.

Mobile Coal Handling Systems

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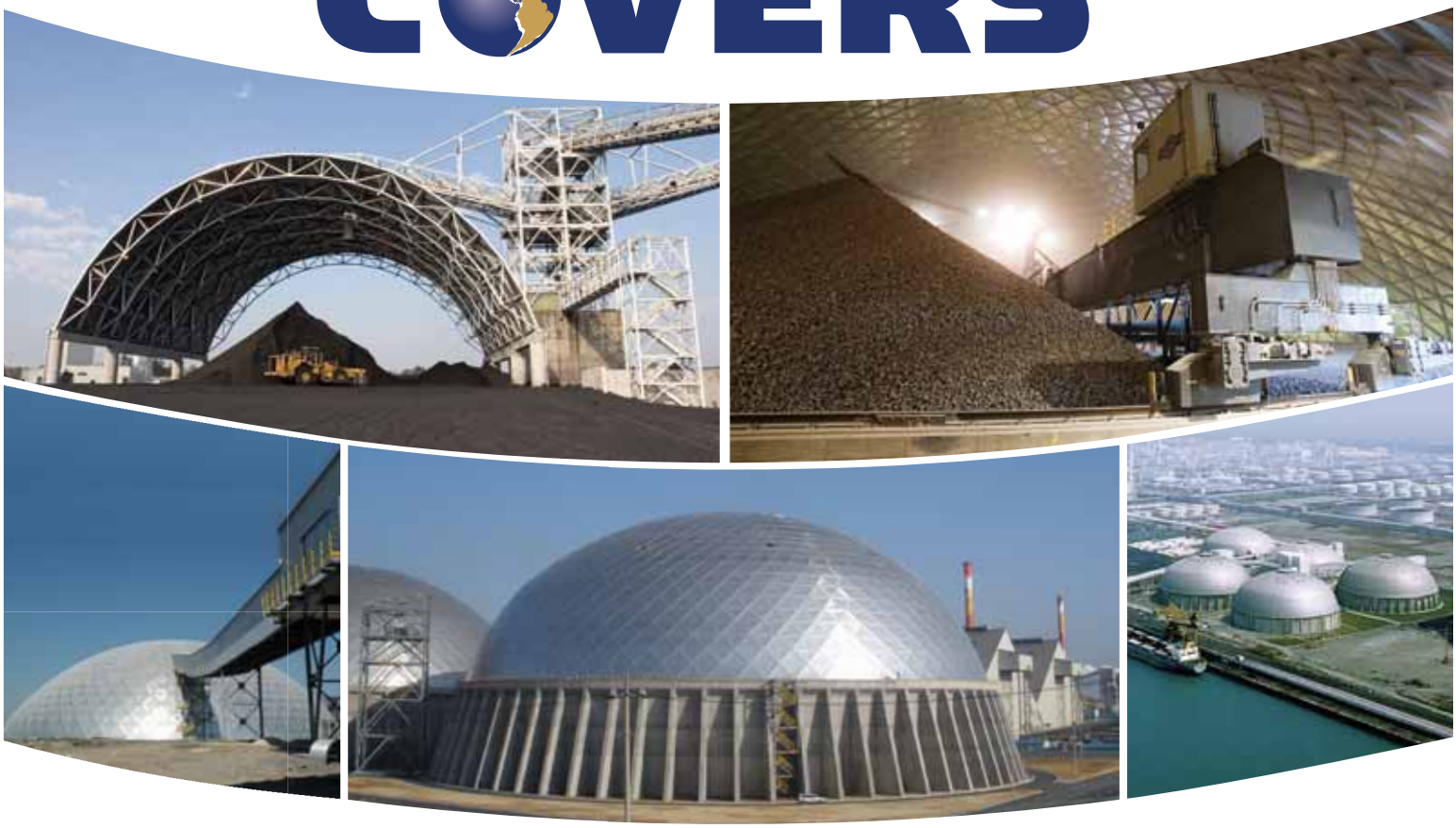

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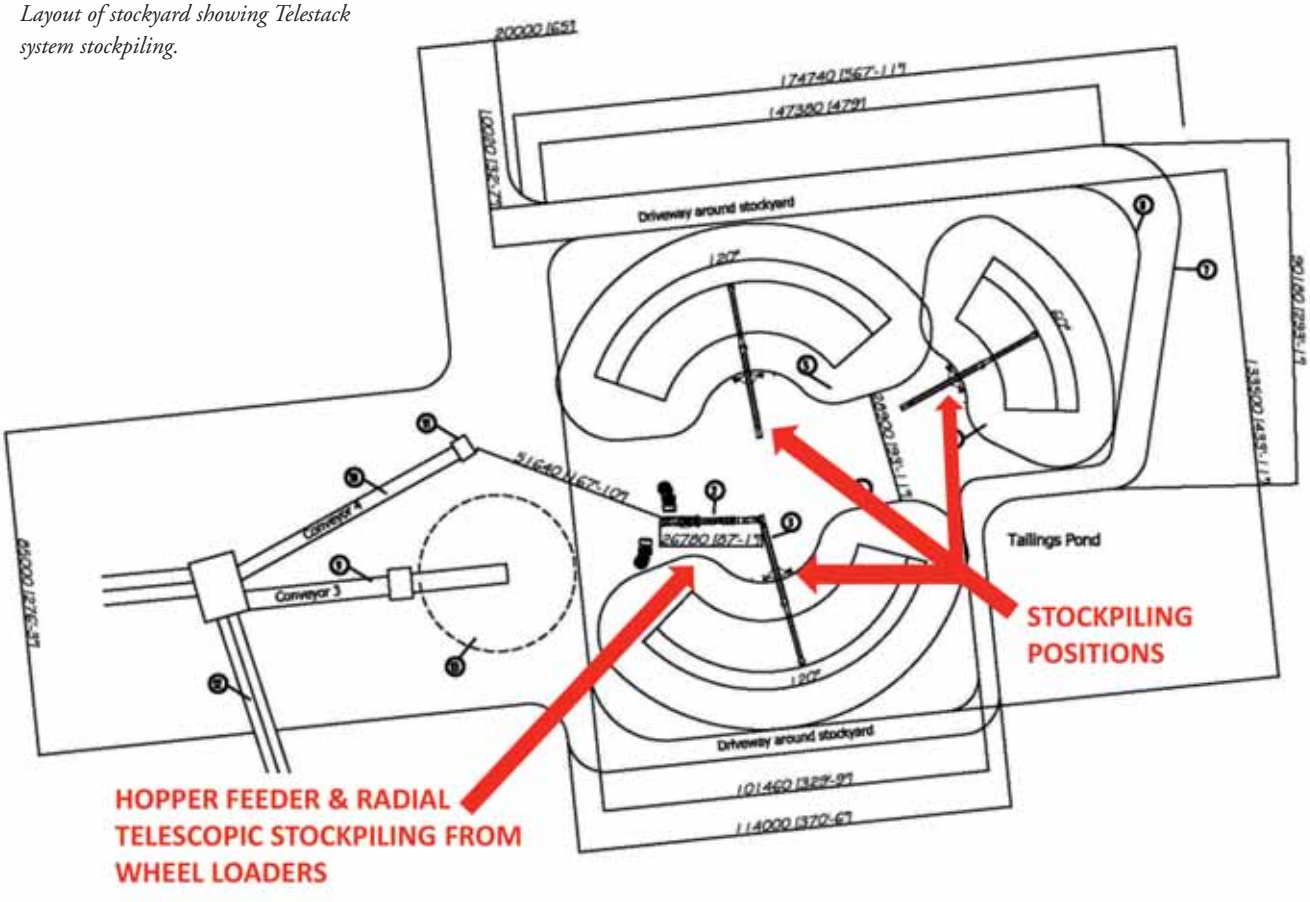
HF521 tracked hopper feeder used as an independent stacker.

mobile hopper feeder which then feeds onto a radial telescopic stacker which stockpiles the coal at speeds of up to 500tph (tonnes per hour) at 1.0t/m³.

With the new Telestack conveyor technology now in place, the wheel loader use is limited. Therefore, there are no wheel loaders 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. 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 18m³ 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

Layout of stockyard showing Telestack system stockpiling.



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Groundbreaking Solutions.

FLSmidth's stockyard equipment is designed and manufactured to satisfy the requir
1 million m³ at rates up to 16,000 t/h. Based on innovative modular design, FLSmidth systems ensure efficient material handling at low investment and operating cost, combining a wide variety of proven components for tailor-made solution according to customer's specifications.

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

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FLSmidth

TS542 radial telescopic & HF 521 tracked mobile hopper feeder reclaiming from stockpiles.

TS542 radial telescopic conveyor stockpiling coal at up to 500tph.

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 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

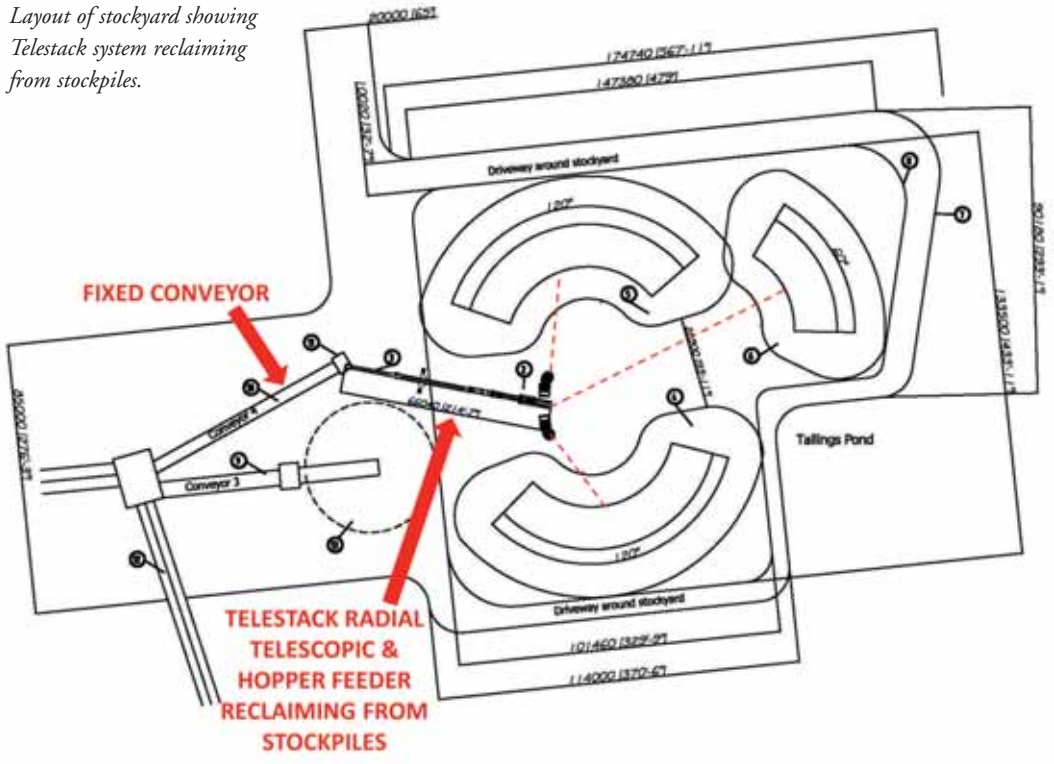
Before the Telestack system, wheel loaders had to carry the material to the fixed conveyor system. Now, the wheel loaders carry the material over a much shorter carry distance as the new Telestack system makes up a length of 66 metres. This has increased productivity and reduced the downtime necessary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

With fewer loader movements in the stockyard, the site becomes a safer site to work on with less noise. With the new Telestack stockyard system, it also leaves the site more environmentally friendly as it reduces the carbon footprint.

In addition, with the fully mobile Telestack system, AES is able quickly and easily to relocate the equipment around the site.

Telestack offers a range of mobile bulk material handling solutions which are in operation across the globe handling materials such as coal, iron ore, aggregates, fertilizer, grain etc in mines, ports, quarries, power plants, steel mills and cement kilns.

Layout of stockyard showing Telestack system reclaiming from stockpiles.



BEDESCHI

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Bedeschi in Indonesia

Gresik, Indonesia

In July 2012, Petrokimia commissioned Bedeschi to upgrade an existing fertilizer handling plant. The stockpile will have a length of 200m, width of 50m and storage capacity of 50,000 tonnes.

The design phase of the two independent booms and all the other parts is currently in process and the plant will be supplied by the end of summer 2013.

Bedeschi in Krakatau Indonesia

Dong Yang has commissioned Bedeschi to supply four semi-portal lateral scraper reclaimers at a new plant for Posco Steel Company located in Krakatau.

These new machines are equipped with double receiving hoppers with tilting plates. The machines are very particular, because they can unload all material in two different parallel receiving belt conveyors through the double hopper and double lifting impact tables.

This installation required particular effort from Bedeschi's designer staff in studying the solution that could offer the best performance.

Currently Bedeschi's technicians are in Krakatau busy supervising and mounting all the parts; the company has therefore fulfilled its required obligations, much to the satisfaction of the client.

Citeureup, Indonesia

In February 2012, Bedeschi signed a contract with Indocement (Heidelberg Group) for the supply of a cement additives crushing storage stacking/reclaiming and transport system.

The system will improve a capacity expansion of the existing plant located in Citeureup Indonesia. Under the collaboration between Bedeschi and its subsidiary, CTP Team has supplied all the filters for the equipment detailed below:

The project will consist of the following:

- one crusher facility;
- one TRASS storage facility;
- one circular limestone storage facility; and
- several belt conveyors and filters to serve the machines mentioned above.

The crushing group is particularly noteworthy, as the primary roller size has been installed above the secondary one, together with an apron feeder and the circular limestone storage facility that will replace an existing one supplied by a competitor.

The equipment supplied is made in Italy as well as Asia, according to the client's request.

Stockyard systems and equipment from Loibl AllenSherman-Hoff GmbH

Loibl ASH, based in Straubing, Bavarian city of Germany, manufactures a wide range of equipment, largely focused on mechanical bulk solids handling. Its equipment includes a variety of stockyard equipment.

The company, formerly known as Anlagenbau und Fördertechnik Arthur Loibl GmbH (Loibl) prior to its November 2011 acquisition by Diamond Power International, Inc (DPII), offers equipment and systems including:

- plant engineering;
- dry building material plants;
- shiploaders;
- alternative fuel handling;
- mechanical-biological treatment plants;
- composting plants;
- conveyor belts;
- closed-loop conveyor systems;
- troughed chain conveyors;
- sidewall belt conveyors;
- worm conveyors;
- wet slag/ash dischargers;
- apron conveyors;
- elevators;
- bucket elevators;
- silos and hoppers;
- charging boxes; and
- recycling equipment.

Loibl AllenSherman-Hoff GmbH is a strong believer in reliability and customer service, which means that it has always been in strong demand from customers who demand a high level of service. It is able to supply an individual, tailor-made solution

Loibl AllenSherman-Hoff benefits from Diamond Power's backing

At the end of November 2011, Diamond Power International, Inc (DPII) acquired, via an affiliate, the privately held Anlagenbau und Fördertechnik Arthur Loibl GmbH (Loibl). The company now operates as Loibl AllenSherman-Hoff GmbH.

The acquisition positions DPII's Allen-Sherman-Hoff unit to continue diversifying and expanding its products and services portfolio, and its global reach to customers. Loibl serves a variety of power generation and industrial markets in Europe, complemented by the introduction of Allen-Sherman-Hoff's fly ash and bottom ash handling technologies. Likewise, Loibl products provide broader technology solutions to customers as well as growth opportunities for the Loibl Allen-Sherman-Hoff business.

"Loibl's outstanding reputation, advanced technology and more than 50 years of experience are valuable additions to DPII's portfolio of products," said Eileen Competti, formerly President of DPII. "Allen-Sherman-Hoff is a globally recognized leader in ash handling solutions for the power generation and other industries. Combining the capabilities and global reach of these two leading companies will bring new technologies and solutions to our customers and will allow us to serve a variety of new industries."

DPII is a globally acknowledged market leader in all aspects of boiler cleaning and ash handling. For more than 100 years, DPII has consistently provided innovative technologies and solutions for power generation, pulp and paper, and industrial marketplaces. Diamond Power is headquartered in Lancaster, Ohio, USA, with more than 80 field sales, service support, distribution and manufacturing locations throughout the world.

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for each customer. Loibl ASH builds complete plants — from the foundation to the single machine. This article will focus on some of the company's stockyard equipment and systems.

Loibl ASH's stockyard equipment is used to handle a wide variety of products, including alternative fuels like RDFs, waste wood and bulky waste. The company's products include systems for silo and storage technology, processing plants with grain size fractioning, FE and NF discharge or separation, as well as the required crushing technologies and their handling systems.

Conveyors

Loibl ASH manufactures conveyors for: power plants; biomass and waste-fired plants (WtE); salt mines; the sugar industry; general industry (e.g. steel); and dry mortar plants. Conveyor systems used in bulk handling stockyards represent a major part of the company's portfolio. Loibl knows that conveyor belts are extremely important, as a joining element between material handling processes. At the same time, high equipment availability is vital. Loibl makes plants of all types for the industry, including troughed belt conveyors and flat belt conveyors. Belt widths vary from 0.2m to 2.8m+, as well as centre distances of up to several thousand metres. Conveying capacities are up to 10,000tph (tonnes per hour), showing the huge possibilities of Loibl's conveyor belts. Depending on requirements, the company can deliver stationary, reversible, mobile, swivelling and telescopic systems.

Loibl knows that it is essential to have accurate overall planning and appropriate detail engineering for trouble-free conveyor operations. Its conveyor systems are used in all industrial branches to handle materials such as slag, gypsum, recycling materials, aluminium, sugar or beets, sewage sludge, foundry sand, scrap, alloying aggregates, soot and much more.

Loibl's expertise has been combined with that of the ContiTech Group to develop the Sicon® system. This innovative system ensures dust-tight and protected material conveying from feeding to discharging without transfer points and environmentally harmful pollution.

Troughed chain conveyors represent an economical solution for many jobs in the bulk handling process. They are ideal, for example, for dust-free conveying, distributing, feeding and cooling of bulk materials. For all fields of application, Loibl's troughed chain conveyors are made as single- or multi-strand conveyors with centre distances of up to 250m. Depending on the requirements or the conveying capacity, Loibl delivers trough widths of up to 3m. In their construction, St 37 (steel), wear-retardant, anti-corrosive and heat-resistant materials are used, as well as forged fork-type plate bush conveyors or round link chains. Additionally, feldspathic ware, or cast basalt linings are used, depending on the respective application and material.

Other conveying systems offered by the company include worm conveyors, screw conveyor systems, bucket conveyors, vertical life conveyors and sidewall belt conveyors.

HOPPER SPECIFICATIONS

Hopper opening:	approx. 7 x 7 m
Hopper volume:	ca. 50 m³
Conveyed/handled material:	hard coal,
Grain size: approx. 0 – 50 mm	
Handling capacity on the average:	750tph/max. 1,000tph/ resp. 30,000 tonnes/day

Silos and hoppers

Loibl supplies round and rectangular silos, as well as feeding hoppers of all sizes and with a capacity of up to 10,000m³, with diameters of up to 6m. It also offers individual accessories, such as filling and emptying systems, level sensors, discharge aids, heated or cooled versions and supporting structures of sectional steel, insulation and special linings.

Elevators

Loibl manufactures vertical bucket elevators for the widest fields of application, either for bulk material or, in special cases, for unitized materials. Solutions are always tailored to customer request and specification.

Bucket elevators

Loibl produces chain and belt bucket elevators up to a bucket width of 1.25m and a centre distance of up to 80. Fields of application include: processing plants for foundry sand; concrete works; drying plants for sewage sludge; coaling plants; the sugar industry; steelworks and the metallurgical industry.

Recent order for hopper cars

In recent years, Loibl was awarded an order by an internationally operating German crane manufacturer to supply two laterally displaceable hopper cars including discharge conveyor and transfer chute with garland stations towards the following quayside conveyor for a Danish coal-fired power plant in Skodstrup.

Via coupling rods, the hopper cars are connected with a customer-supplied double jib level luffing crane.

Scandinavia, the UK and Poland are strongly growing markets, setting high standards especially for environmental protection and is very conscious of dust and noise emissions as well as of the energy balance.

In order to minimize possible dust emissions for handling in this area where coal is fed into the hopper, both hopper cars are equipped with three-sided dust protection walls of approximately

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3m in height with an upper curve of approximately 500mm as mechanical dust protection and a water atomizing system.

In order to reduce possible dust emissions, the feeding onto the conveyor belt for the transfer to the longitudinal quayside conveyor has also been equipped with a fogging system.

Special single-component nozzles spray water with a droplet size distribution of 100–500µm.

The booster stations required for the fogging system, valves, valve unit with solenoid valve for atomizing start and stop as well as diaphragm valves for pressure setting are located in heated pump containers.

The hot-dip galvanized piping to the nozzles is protected against damage due to freezing by means of an insulation and heating.

The fourth water-side front wall of the hopper is designed as spillage flap and can be opened and closed via hydraulic cylinder.

The necessary hydraulic units are installed at the respective hopper car. A cover grid with a mesh size of 200 x 200mm retains larger grain sizes.

For noise emission reduction <94dB(A) the hoppers are lined with wear-resistant and sound-absorbing rubber-steel sheet elements and the hopper corners with polyurethane-steel sheet elements to minimize the product deposits.

Additionally, two pendulum-type vibrators on the two lateral faces of the hopper are used to remove the possible coal residues. If necessary, these can be operated alternately and temporarily.

The hopper is monitored with a weighing system including evaluation unit and, if there is the danger that the material will pile up, the crane discharge is stopped.

Weighing electronics are integrated into the control system via Profibus.

For winter operations, the hopper walls and the water atomizing system are provided with an insulation and are heated with a flexible resistance heating cable.

Furthermore the hoppers are equipped with the required stair accesses and maintenance platforms each.

Hopper discharge is made with a sturdy discharge conveyor, which is suitable for use in winter, of 1,600mm belt width and a centre distance of 12,000mm with upstream needle weir. The discharge conveyor is designed with rubberized pulleys, thick-layered rubber belt, inner and outer belt cleaners, closed bottom, corrugated steel sheet cover and all necessary monitoring and safety equipment, as well as a discharging chute with buffer idler garlands and chute walls with wear-resistant and sound-absorbing rubber-steel sheet elements for sound emission reduction <94dB(A).

The overall system is designed to be operated at ambient temperatures from –25°C to +40°C, with a possible air humidity being up to 100% due to direct vicinity of the water.

Power supply to the hopper cars is supplied through the cranes and the speeds of the discharge conveyors are controlled by frequency converter included in the scope of delivery.

The electrical switching and control system to operate the hopper cars, as well as the fogging system, hydraulic system, heating system and lighting system were included in the scope of delivery.

For handling of other bulk material, such as wood pellets, the described version of the hopper cars can alternatively be equipped with an additional dedusting system. In this case, the cover grids of the hopper opening would be replaced by a Flex-Flap System and to reduce emissions a dedusting system with integrated filters be used.

Initial start-up of the sturdy hopper cars combined with the harbour cranes took place in March 2010 and proved their suitability for use in harbours.

Customer service

Loibl's customer support does not end after completion and delivery of the plant. It is at that point that a service begins which Loibl considers especially important — after-sales service. It offers maintenance and service of equipment that it has delivered, as well as for systems from other suppliers. Decades of experience are essential for satisfied customers placing orders with Loibl on the basis of fixed cost or cost-plus-work accounting.

Wieland vacuum cleaning systems for stacker/reclaimer halls

The modular concept of Wieland Lufttechnik GmbH & Co. KG's industrial vacuum systems means that it is possible to constantly design new tailor-made solutions.

A typical example is the use of a vacuum system in bulk storage halls for cement, clinker, corn, feeding stuff, gritting salt or fertilizer etc.

A lot of dust is created all over the storage hall when different kinds of materials are spread by the stacker. Transport routes, transport devices and conveyor belts inside the storage hall become extremely dirty, thus affecting the proper function of the production process. Moreover, costly raw material gets lost.

Wieland Lufttechnik advises the installation of a vacuum cleaning system designed according to the size of the storage hall. The heart of the vacuum system is a vacuum pump with a cyclone filter hopper. The extracted material is discharged onto a conveyor belt or a bucket elevator.

For flexible handling, a fixed pipework system is installed along critical points inside the storage hall. Suction inlets mounted in certain distances allow to connect highly flexible suction hoses for thorough cleaning.

The collected material which is returned to the production process allows a quick amortization of the vacuum system. Regular cleaning of the mechanical components of the conveyor equipment inside the storage hall minimizes maintenance costs and machine downtime, as wear and tear caused by adhesive material is essentially reduced.

It is also possible to connect a truck or trailer mounted vacuum unit to the suction pipeline instead the stationary vacuum pump.

Compared to manual cleaning with traditional means like brush and shovel, the use of vacuum equipment is considerably faster, more efficient and more economical. An important reason to use a vacuum cleaning system is the reduced physical stress for staff members who are constantly exposed to airborne dusts.

The vacuum system is even heatable in case hygroscopic material is being extracted which might create lumps inside. The system is also available in stainless steel for feeding stuff, animal food or similar.

This is only one example of many possible fields of application of Wieland Lufttechnik GmbH & Co. KG's industrial vacuum systems. Wieland Lufttechnik GmbH & Co. KG is furthermore specialized in the cement, steel and fertilizer industry as well as in power plants and cleaning contractor companies.

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Stockpile solutions from Cleveland Cascades

The diversity of stockpile installations poses many challenges for the bulk materials handling industry. Stockpiles are used in many different areas, such as power stations, refineries and manufacturing facilities and for many different types of material. These challenges are well known to Cleveland Cascades Limited, the Teesside (UK)-based manufacturer of bulk materials loading chutes.

"The original Cleveland Cascades chutes were designed for shiploading applications" says Commercial Manager, Chris Wise. "Our customers required a safe and controlled loading of problematic bulk materials, but with the added timescales demanded by port logistics. With stockpile loading, there may not be the exact time-bound demands of ship loading and demurrage charges; however, the requirement for efficient bulk materials loading is still the same, as it is for all our applications".

Materials that are stockpiled outside, for example coal and coke, tend to be of larger particle size, and maintaining this large particle size during loading and stocking is of high importance to operators, such as steelworks and power stations. The Cleveland Cascades Cascade System allows a controlled yet efficient transfer of material from conveyor to stockpile. The material is supported the full length of the chute by means of an arrangement of oppositely inclined cones. The material is loaded at a low velocity, yet high volume and this means products can be transferred with minimized generation of dust emissions and also minimized degradation and segregation of product.

"Since we designed and manufactured the first Cascade shiploaders in 1992, we have seen continued growth from all bulk handling applications, especially stockpile loading chutes. The year 2012 was another record for the business, not just with our Cascade chutes, but also our range of Freefall loading chutes."

Cleveland Cascades Freefall loading chutes are ideal for robust materials such as iron ore and limestone, or for materials with relatively high moisture content. Recent Freefall installations include limestone loading in the Middle East, iron ore in Russia and metal concentrates in Canada. Freefall systems can be designed to a 'C' (cone) specification or 'T' (tubular) specification, depending on the installation type, loading rate and material handled. Material distribution is further optimized with the addition of trimmer spouts and skirted outlets at the base of the chutes.

"We offer the customer the widest choice of stockpile loading chutes, from Cascade Systems to Freefall Systems, which can accommodate materials loading at rates from 50 to 6,000 cubic meters per hour. Our approach is for our commercial, design and engineering teams to work closely together, and with their customer counterparts, from project inception right through to project commissioning. What we believe sets us apart from our much larger competitors is that we are able to draw on our previous experience but we are constantly bringing in new ideas and incorporating those of our customers."

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Can you afford to buy cheap?

Getting the best value from your conveyor belts

Conveyors remain the most effective method of on-site cargo transportation, but their reliability can be critical factors in both productivity and cost management. The conveyor belts themselves are often the most vulnerable component because they have to cope with materials that can be very abrasive and, very commonly in cargo transshipment, products that can seriously damage the belt because they contain oil.

During recent years, the technology used to manufacture conveyor belts has advanced enormously and today's users of belts should rightfully expect a much higher level of performance and longer operational life. Apart from catastrophic accidental damage, conveyors used to transport coal, for example, should be able to run for many years before needing to be replaced. Sadly, this is often not the case. Getting the best advice and guidance is not always easy because for many suppliers and service companies, conveyor belts that last longer and require less maintenance are not good for business. All too often, their philosophy seems to be 'sell cheap and replace frequently'.

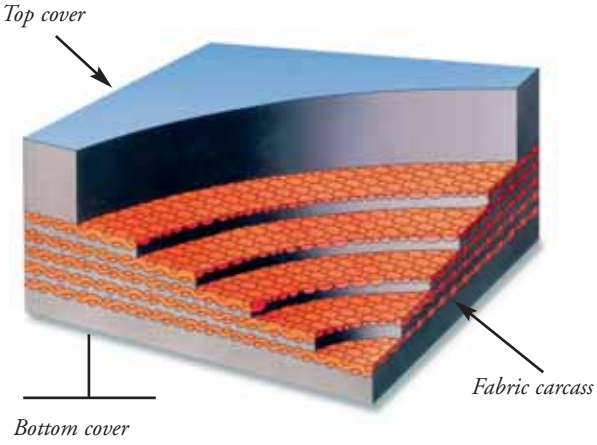
As if to confuse us even further, conveyor belt suppliers (and the companies that fit and maintain them) also seem to have developed a language all of their own. So, for the benefit of our readers who may not necessarily be conveyor belt experts, we asked for help from Netherlands-based Dunlop Conveyor Belting, one of the world's major conveyor belt manufacturers.

Below, Les Williams from Dunlop explains conveyor belt construction and gives some valuable guidance on how to select belts that will provide the maximum operational life and significantly reduce the amount of money that your company spends each year on conveyor belts.

Conveyor belts — the basic structure

Rubber belts with 'multi-ply' textile reinforcement are the most commonly used type and usually consist of two elements. Firstly, there is the carcass, which typically contain layers of extremely strong but flexible fabric embedded in the rubber. It is the carcass that provides the inherent characteristics of a conveyor belt such as its tensile strength and elongation (elasticity or 'stretch' under tension).

A conventional multi-ply conveyor belt



An outer cover of rubber protects the belt carcass. Different types of rubber compound are used for rubber multi-ply belting covers; each designed to withstand damaging effects such as

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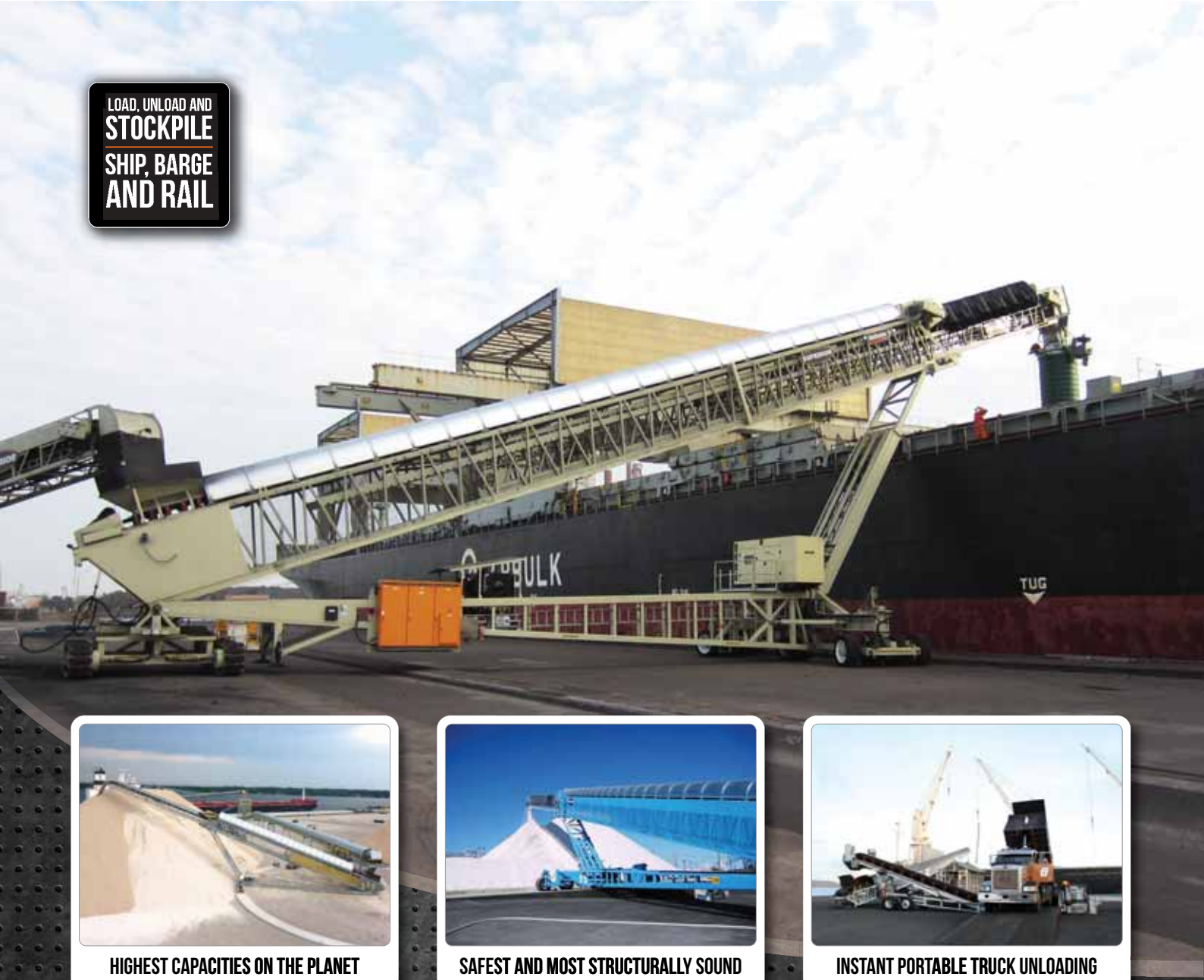

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wear caused by abrasion (the most commonly used type), tearing and cutting, heat, fire and oil penetration. These different covers are generally referred to as 'cover grade qualities'.

Making the right choice

Selecting the best type of outer cover will largely determine the operational lifetime and ultimately provide the truest test of its value for money. The wear resistance quality of a conveyor belt is usually the single most important factor that will determine its life expectancy. As a general rule, 80% of conveyor belt surface wear occurs on the top cover of the belt with approximately 20% of wear on the bottom cover.

Wear on the top cover is primarily caused by the abrasive action of the materials being carried, especially at the loading point or 'station' where the belt is exposed to impact by the bulk material and at the discharge point where the material is effectively 'accelerated' by the belt surface. Contrary to popular belief, short belts (less than 50 metres) usually wear more rapidly compared with longer belts because they pass the loading and discharge points more frequently. For this reason, the selection of a belt that has the highest possible resistance to abrasion is even more essential than usual.

Wear on the bottom cover of the belt is mainly caused by friction contact with the drum surface and idlers. The rate and uniformity of this type of wear can be adversely affected by many other factors such as misaligned or worn drums and idlers set at incorrect angles. Factors such as ozone penetration or an unclean environment where there is a build up of waste material can also dramatically accelerate wear. Belt cleaning systems, especially steel edged scrapers, can also cause wear to the top cover surface.

Thicker is not always better

The difference in thickness between the top cover and the bottom cover should not normally exceed a ratio of more than 3:1. In theory, the more abrasive the material and the shorter the conveyor, the thicker the cover should be. In reality, the actual abrasion resistance quality of the belt cover is much more important than the thickness. Many conveyor belt suppliers offer belts with covers that are thicker than are actually necessary in an effort to compensate for the poor abrasion-resistant qualities of the belt rubber that they are using. Having belts that are thicker than really necessary can potentially cause other operational problems.

Different types of abrasion

It is a common misconception that a belt specified as being 'abrasion resistant' should naturally be expected not to wear quickly. In actual fact, because of the variety of materials that are carried on conveyor belts, there are a number of different causes of wear and abrasion. For example, heavy and/or sharp objects such as rocks can cause cutting and gouging of the belt surface whereas materials such as aggregate, sand and gravel literally act like sandpaper constantly scouring the rubber cover. For this reason, there are different types (grades) of abrasion resistant cover.

There are two internationally recognized sets of standards for abrasion, EN ISO 14890 (H, D and L) and DIN 22102 (Y, W and X). In Europe, it is the longer-established DIN standards that are most commonly recognized and accepted. Generally speaking, DIN Y relates to 'normal' service conditions and DIN W for resistance to abrasion, cutting, impact (from high drop heights), and gouging caused by large lump sizes of heavy and sharp materials.

Each manufacturer uses its own mix or 'recipe' of polymers to create cover compounds that have different abrasion (wear) resistance qualities. The main polymers used are SBR (Styrene-Butadiene-Rubber) and BR (Butadiene-Rubber). Both SBR and

BR have particularly good resistance not only to abrasion but also tearing, cutting, ripping and gouging. Many manufacturers try to minimize the use of natural rubber (NR) wherever possible in order to reduce costs.

To provide a longer lasting and therefore more cost-effective solution, Dunlop's approach has been to develop a range of abrasion-resistant covers specifically designed to deal with both specific and combined causes of wear. As a result, Dunlop belt covers exceed international quality standards by a very significant margin. An excellent example of this is their RA 'standard' abrasion resistant cover, which exceeds the DIN Y standard by more than 50%.

For extremely abrasive and/or sharp materials, Dunlop's RS cover exceeds the highest abrasion standard (DIN W) by nearly 30% and the equivalent ISO 'D' standard by more than 40%, which under normal operating conditions should directly be reflected in the working lifetime of the belt.

The importance of ozone resistance

At ground level, ozone is a pollutant. The level of ozone exposure can vary depending on geographical and climatic conditions and is usually most concentrated in cities and coastal areas. Conveyor belts being operated in ports can be particularly affected. Scientific research has shown that exposure to ozone increases the acidity of carbon black surfaces and causes reactions to take place within the molecular structure of the rubber. This causes surface cracking and a reduction in the tensile strength of the rubber, which has a direct impact on the performance of the belt and its working life. There can also be significant environmental and health and safety consequences, especially when conveying materials such as grain because fine particles of dust penetrate the surface cracks, which are then discharged (shaken out) on the return (underside) run of the belt.

Because of the growing importance of ozone resistance, Dunlop introduced mandatory testing to EN/ISO 1431 international standards using an ozone testing cabinet some years ago and by using special additives in its rubber compounds, it has ensured that every Dunlop belt exceeds international standards by a considerable margin.

Oil resistance

Conveying materials that contain oil and fat can also have a very detrimental effect on the performance and life expectancy of a conveyor belt because it penetrates into the rubber causing it to swell and distort. This, of course, is a common problem within the dry cargo industry. Because ISO or DIN standards do not exist for oil resistance, Dunlop applies the ultra-demanding American ASTM D 1460 standard.

Oil and fat resistance can be divided into two sources — mineral oils and vegetable and animal oils and fats. Dunlop uses a very special compound formula in the ROM cover grade quality, which is specifically designed to resist the penetration and therefore minimize the damage that vegetable oils and fats can cause. Mineral oils are the most aggressive, and therefore demand a particularly high level of protection. As a result, Dunlop developed a special compound to create the extremely successful ROS cover quality.

An offer you can't refuse?

It is important that buyers of conveyor belts remember that DIN and ISO standards are only the minimum benchmark of acceptability. Wear-resistant covers that conform to international standards still often have to be replaced after unacceptably short periods. Despite the claims of the manufacturers and traders, laboratory tests reveal that more than 50% of belts tested are found to be significantly below the minimum standards.

The direct connection between the quality of the raw materials used to make a belt and the selling price is highly significant. Although there can never be a fixed formula due to the wide variety of individual belt specifications, a general 'rule of thumb' is that raw materials represent approximately 75% of the production costs whereas labour costs

generally only represent around 15%. For this reason, prices that seem 'too good to refuse' should always be treated with considerable caution.

When a supplier is quoting a price that is significantly less than a competitor (often 25% lower or more) for apparently the same DIN or ISO-compliant specification, it is logical to conclude that raw materials of questionable quality and/or dubious origin have been used to keep that price as low as possible. In addition, materials such as essential (but costly) chemical additives needed to create vital physical properties such as ozone resistance will have either been used in insufficient quantities or most probably not at all. The chances are that the 'irresistible' offer will result in a belt that needs to be repaired, re-spliced or totally replaced significantly sooner than the seemingly higher-priced option.

Seek advice

What is clear is that there is a lot more to conveyor belts than meets the eye and that the days when conveyor belts just seemed to be long lengths of black rubber is certainly a thing of the past. The attraction of low prices can prove to be a very expensive mistake. As often as not, the quality of a belt is reflected by its price so it is always worth the effort to check the original manufacturers specifications very carefully and ask for documented evidence of compliance and the length of the warranty.

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Bulk bag unloader streamlines filling station

National Bulk Equipment (NBE) has developed a bulk bag unloader and bag dump station, to supply secondary ingredients to 20,000 lb/hour bulk bag filling stations.

This bulk bag filler system; receiving input material from an integrated bulk bag unloader, an integrated bag dump station, and a vibratory conveyor system, enabled the material processing operation to effectively transition to an automated, 20,000 lb/hour, bulk bag filling process from a relatively low-capacity, operator-intensive, 50 lb bag filling system.

Multiple materials, all with differing characteristics, including: fast-flowing, dusty, sticky, and static-charged, enter the process operation based on the specific recipe selected at the system HMI (human–machine interface) by the operator. The NBE bulk bag unloader, receiving bulk bags of severely agglomerated material, starts an integrated, automated material conditioning sequence, including: massage paddles with 2,200 lbs of paddle pressure, and an agitator hopper to prepare the material for supply, via screw conveyor, to the bulk bag filler. For secondary ingredients, a bag dump station, integrated to the bulk bag unloader, enables manual introduction of material to the agitator hopper for conditioning, blending, and supply to the bulk bag filler.

The primary ingredient, supplied from downstream pneumatic conveying, is introduced to the bulk bag filling process through a 24" wide, 304-2b stainless steel, vibratory conveyor with a total material supply capacity of 20,000 lbs/hour. This automated, bulk bag filler and bulk bag unloader system was built to be compliance-ready at start-up and to conform to the specific, regulated processes and practices of the Class II, Div. 2, Group G process area, as well as explosion protection and control features for venting, directing, and releasing overpressure. NBE was the single-source provider of the system's controls and automation, and was singularly responsible for integration of the system controls to the facility's supervisory control and data acquisition system (SCADA).

This NBE bulk bag filler and bulk bag unloader system significantly increased line capacity, improved resource management, reduced operating burden, increased labour efficiency and safety, and extended equipment contribution and performance lifecycles.

Alcoa bemoans 'too much of a good thing'

Alcoa, the world's biggest aluminium maker by revenue wishes there were less aluminium in the world, but it says there is only so much it can do about it.

Alcoa Inc., traditionally the first out of the earnings season gate, is witnessing a seventh consecutive quarter of falling or flat raw aluminium prices on the London Metal Exchange, despite its own moves to curtail production.

The depressed raw aluminium price, which chiefly dents profit in the company's primary metals division, is the main reason company profit in the first quarter is expected to fall one cent to eight cents a share, even though many of Alcoa's biggest customers — makers of airplanes, cars and beverage cans — are either doing just fine or thriving.

Speculators are busy shorting aluminium, part of a wide selloff in commodities, causing turmoil in the broader mining and metals sector. More than 20 mining CEOs have lost their jobs over the past 18 months. Massive mining projects are being suspended or put on hold. Inventories in warehouses are at record highs. Production in China, the chief source of global oversupply, is expected to increase a whopping 9% to 24.3 million metric tonnes this year. The LME price has dropped to under $1,900 per ton, down from over $2,500 two years ago, and more than $3,000 before the financial crisis.

Klaus Kleinfeld, Alcoa CEO since 2008, isn't sitting on his hands. He closed smelters and production lines, slashing annual production capacity by 531,000 metric tonnes in 2012, or 12% of the company's total. "We focus on the things that we can control to maximize value," he told analysts.

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Starlinger to unveil FIBC loom at this year's Chinaplas 2013

For a long while, the news around looms for FIBC fabric has been rather quiet. Now the time has come for something new in this area: with the eight-shuttle circular loom RX 8.0 Starlinger & Co. GmbH is raising the bar. The new loom will be presented for the first time at this year's Chinaplas in Guangzhou, China, taking place from 20–23 May 2013.

The next generation of heavy duty fabric looms

An operator-friendly loom that produces high-quality tape fabric for heavy-duty applications, has low maintenance and spare part requirements and is cost-efficient — these were the set targets in the development of the RX 8.0 loom. Based on the well-proven Starlinger SL and alpha loom concepts, the new eight-shuttle loom ensures high-quality output, easy handling and smooth operation due to electronically controlled settings and well-engineered technical features. The use of new materials reduces strain and friction on the tapes and increases the lifetime of wear and tear parts, keeping maintenance and spare part expenses down.

The RX 8.0 is primarily designed for the production of PP and HDPE tape fabric for heavy-duty applications such as FIBCs, tarpaulins, as well as geo- and agrotextiles, and meets the specific machine requirements on the target markets. Nevertheless, also the production of lighter fabrics — down to 55g/m² — is possible. With its excellent price/performance ratio the RX 8.0 makes high-tech weaving possible at a competitive price.

Plastic production waste? Don't throw it, use it!

Be it polypropylene tape production waste, start-up lumps in extrusion, printed and coated fabric scraps and rejects from the conversion process, thermoplastic waste from film production, filament or nonwoven scraps — plastic production waste is too valuable to be wasted. Make the most of your input material in times of high resin prices and recycle your production waste for reusing it in the production process or selling it for use in other applications. The Starlinger recoSTAR recycling lines are renowned for handling demanding conditions especially in the field of production and post-industrial waste recycling, and can be configured to fit the individual requirements of different applications. Starlinger PET recycling systems produce food safe recycled PET granulate for bottle-to-bottle applications and are approved for use in food applications by many brand owners as well as various national and international authorities.

About Starlinger & Co G.m.b.H.:

Starlinger has been in the mechanical engineering industry since 1835 and has been exporting products worldwide for over 45 years. As a renowned supplier in the field of machinery and complete lines for woven plastic bag production and PET recycling and refinement, Starlinger has a strong presence in over 130 countries. The establishment of branches in Brazil, China, India, Indonesia, Russia, USA and Uzbekistan clearly underlines its focus on customer-oriented service and support.

Nigeria to become global leader in steel production from 2018

Nigeria is said to be on track to join the world's largest producers of steel from the year 2018, as the country's potential for iron and steel production is progressively transformed into actual capacity. CEO of African Foundries Limited, Sanjay Kumar, dropped the hint in Lagos when he announced that the steel giant has concluded plans to ship about 5,000 tonnes of fully-manufactured iron rods to Ghana in what would become its first major export deal.

Kumar said the company, which began steel production in Nigeria, 2010, churning out varied dimensions of iron rods for construction and other purposes, has now developed the business to a point where it has began to seek more market for its products outside the country.

"In the next five years Nigeria may be one of the world's largest producers of steel. It is one of the richest countries in the world in terms of unexplored iron ore, so if steel is developed, it will lead to more mining and more development for the nation's steel sector and the entire economy."

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COAL TERMINAL *directory*

2013

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

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BULK PORTS, TERMINALS & LOGISTICS 2013

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Antwerp, Belgium
12th–14th May 2013

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- *Demand outlook for major dry bulk commodities, the rise and fall of the Euro: consequences for the dry bulk trade.*
- *Chinese Macroeconomic Outlook (Dry Bulk Divergence / Capesize Comeback).*
- *Choosing Green Ships.*
- *European Dry Cargo shipping trends.*
- *Challenges Facing Dry Bulk Terminals in Developing Regions.*
- *Raw materials trades - EU Policy and the impact of developing countries on future trade flows.*
- *Performance Analysis and Benchmarking for Bulk Operations.*
- *Emerging techniques for clean bulk handling in ports.*
- *Advances in Biomass handling at ports and terminals.*
- *Safe Fertilizer Handling at Ports and Terminals.*
- *New developments in environmentally friendly bulk handling using Continuous Ship Unloaders.*
- *Handling and transshipment solutions at bulk facilities to cope with the increased trade of wood pellets from the USA to Europe. From bigger vessels to silos and river barges, the discharge of river barges directly to the power stations and efficient handling solutions*
- *The redesign of bulk terminals (on the design of new or expansions of existing bulk terminals).*
- *Large scale fuel storage silos for coal, petcoke and wood pellets.*
- *Quebec City Terminal management case study: Developments in materials handling equipment installations and analysis of tonnage throughput within the context of the St Lawrence Seaway, the "Northern Corridor" trade route.*

Current Speakers

Olle Östensson, President, Caromb Consulting

Dr Corina Hebestreit, Director, Euromines

Jeffrey Landsberg, Managing Director, Commodore Research & Consultancy

David Peel, European Manager, RightShip Pty Ltd

Prof.dr.ir. Gabriel Lodewijks, Head of Department-Marine and Transport Technology, Delft University of Technology

Han Ozturk, Director, The Nectar Group

David Trueman, Sales Director, DBIS

Geoff Lemont, Vice President, St Lawrence Stevedoring

Arjen van Bruchem MScBA B Eng, Business Developer/Project Manager|Heavy Industry & Logistics, HaskoningDHV

Professor Mike Bradley, Director, The Wolfson Centre

Mr Nicholas Dechamps, Managing Director, Vigan

J.P.J. Ruijgrok, Managing Director, ESI Eurosilo BV

Dr Holger Lieberwirth, Executive Vice President, TAKRAF GmbH

Philip Waddell, International Sales Manager, Telestack

Belan Velan, Managing Director, Scorpio Engineering Ltd

James Leake, Managing Director, ICAP Shipping Ltd

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info@dc-int.com +27 (31) 583 4360 www.drycargoevents.com

Grindrod is creating world-class logistics, rail and terminal solutions for key trade corridors throughout southern Africa, enhancing dry bulk transportation infrastructure on the continent for optimised delivery of cargo to and from world markets.

Grindrod Terminals Head Office
Grindrod Mews, 106 Margaret Mncadi Avenue,
Durban 4001
T: +27 (31) 302 7111
E: grindrod@grindrod.co.za
W: www.grindrod.co.za

AUSTRALIA

BRISBANE
North Queensland Bulk Ports Corporation Limited
GPO Box 409
Brisbane
Queensland
4001
Australia
Contact: Mr Brad Fish
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 Weipa, Abbot Point, Mackay, Hay Point & Maryborough
Vessel Size limitation: 220,000 DWT
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: 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: Newcastle Port Corporation (NPC)
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: PWCS 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
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)

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

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
Dalrymple Bay Coal Terminal (DBCT)
Martin Armstrong Drive
Hay Point
Mackay
QLD
4740
Australia
Contact: Mr Gavin Springorum
Job Title: Media & Corporate
T: + 61 7 4943 5645
F: + 61 7 4943 8466
E: andrew.garratt@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.

MACKAY
Hay Point Coal Terminal (HPCT)
Mail Service 283
Mackay
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 in Sarina Shire, 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.

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.

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
Vessel Size limitation: Max LOA 285m
Additional information: One gantry shiploader - nominal loading rate 1,000 tonnes per hour

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
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

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.

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
T: + 32 59 331 133
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: Ms Muriel Merthiers
T: + 32 4330 1713
F: + 32 4337 1008
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: Compania 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.

SANTOS
Tropical Agencia Maritima Ltda.

4th floor
Rua do Comercio, 55
Santos
Sao Paulo
11010-141
Brazil
Contact: Mr Francisco Garcia
Job Title: CEO
T: + 55 13 3213 8842
F: + 55 13 3219 2550
E: tropical@tropmar.com.br
W: www.tropmar.com.br

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 Denis Horgan
Job Title: Vice President and General Manager
T: + 1 604 946 3400
F: + 1 604 946 1388
E: horgan@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
Federal Marine Terminals

Suite 3500
1000 de la Gauchetiere Street West
Montreal
Quebec
H3B 4W5
Canada
Contact: Mr Mike Kirkpatrick
Job Title: Marketing Manager
T: + 1 514 868 6500
F: + 1 514 878 9168
E: mkirkpatrick@fedmar.com
W: www.fmtcargo.com

MONTREAL
Logistec Corporation

360 St Jacques
Suite 15000
Montreal
Quebec
H2Y 1P5
Canada
Contact: Mr George di Sante
T: + 1 514 844 9381
F: + 1 514 842 1262
E: gdisante@logistec.com
W: www.logistec.com
Import: Yes
Export: 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 24 ports.

MONTREAL
Strudes Inc

4700 De La Savane
Suite 218
Montreal
Quebec

H4P 1T7
Canada
Contact: Mr Henry Nowodworski
Job Title: President
T: + 1 514 731 6951 x 123
F: + 1 514 737 4146
E: nowodworski@strudes.ca
W: www.strudes.ca

North Vancouver
Neptune Bulk Terminals (Canada) Ltd
PO Box 86367
North Vancouver
BC
V71 4K6
Canada
Contact: Mr Tony Nardi
Job Title: VP Marketing & Transportation
T: + 1 604 985 7461
F: + 1 604 985 8941
E: tnardi@nbtcl.bc.ca
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: Ridley Terminals Inc.
Throughput Capacity: 12 million tonnes per year
Total Storage: 1.2 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: 150,000 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 Denis Gagnon
Job Title: General Manager
T: + 1 418 962 3073
F: + 1 418 962 3067
E: dgagnon@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.

Thunder Bay
Valley Camp Terminal, Inc.
174 Darrel Ave
Thunder Bay
Ontario
P7J 1K4
Canada
Contact: Mr Robert Van Patten
T: + 1 618 655 1201
F: + 1 618 656 1363
E: rmvanpatten@aol.com
W: www.namillyard.com

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

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 Harbour Administration
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
Compas SA
Via 40 Las Flores
Former Cementos Argos SA
Barranquilla
Atlantico
575
Colombia
Contact: Mr Uriel Duarte
Job Title: Terminal Director
T: + 575 3619 233
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
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 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. 11º 15' North. Long. 74º 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
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@sprb.com.co
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
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
CTS de Colombia
Crra. La. #10A-12
Muelle 6
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

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

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
LUKA Rijeka d.d.
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Rijeka
Hrvatska
51000
Croatia
Contact: Ms Tatjana Krilić
Job Title: President
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E: marketing@lukarijeka.hr
W: www.lukarijeka.hr

RIJEKA
Terminal Bakar
LUKA Rijeka dd
Riva 1
Rijeka
51000
Croatia
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Job Title: Terminal Manager
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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: Port Manager
T: + 53 24 88248
F: + 53 24 88127

DENMARK

AABENRAA
Ensted Transit Harbour I/S
Flensborgvej 185
Aabenraa
Jutland
6200
Denmark
Contact: Mr Chresten Nissen
Job Title: Harbour Master
T: + 45 99 55 1500
F: + 45 74 62 05 00
E: chrni@dongenergy.dk
W: www.dongenergy.dk
Import: Yes
Export: Yes
Location: Denmark, East coast of Jutland
Ownership: Dong Energy A/S; Vattenfall AB
Throughput Capacity: 2,000tph
Total Storage: 155,000sqm
Vessel Size limitation: LOA 350m, Draught 18m, DWT 170,000

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
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F: +45 9955 0699
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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
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
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

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

VIIMSI VALD
AS Stivis
1 Koorma Street
Viimsi Vald
74115
Estonia
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
CIPHA Multibulk Centre
182 Quai George V
BP 1142
Le Havre
76600
France
Contact: Ms Miugendit
T: + 33 232 74 24 80
F: + 33 235 21 38 15
E: lechevallier@shgt.fr
W: www.cipha.fr
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

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

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

Sète
Sea-invest Sète
Z.I. portuaire Darse 2
B.P. 68
Sète
Cedex 34201
France
Contact: Mr Pierre de Boutray
T: + 33 467 51 63 10
F: + 33 467 48 30 85
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W: www.sea-invest.be

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mail@duisport.com
www.duisport.com

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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 draft 13.50m, Max LOA 225m
Additional information: Project to double storage capacit

GERMANY

BREMEN
Weserport GmbH
Huettenstrasse 20
Bremen
28237
Germany
Contact: Mr Michael Appelhans
Job Title: Managing Director
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W: www.weserport.de

BREMERHAVEN
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Am Strom 2
Bremerhaven
27570
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DUISBURG
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47119
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EMDEN
EVAG Emder Verkehrs und Automotive
Gesellschaft mbH
Schweckendieckplatz 1
Emden
Lower Saxony
26721
Germany
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W: www.evag.com

HAMBURG
H J M (H Jürgen Müller GmbH)
1 Hafenstrasse 12-14
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21079
Germany
T: + 49 40 725 86 90
F: + 49 40 725 86 929
E: info@hjm-hamburg.de
W: www.hjm-hamburg.de

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
Rhenus Midgard GmbH & Co. KG, Terminal Hamburg
2. Hafenstr. 4
Hamburg
21079
Germany
Contact: Mr Peter Steinmeyer
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F: + 49 40 766 003 59
E: peter.steinmeyer@de.rhenus.com
W: www.rhenus.com

LEER
Rhenus AG
Hafenstrasse 14
Leer
26789
Germany
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F: + 49 491 92512 66
E: info@de.rhenus.com

NORDENHAM
Rhenus Midgard GmbH & Co KG
Midgardstr. 50
Nordenham
Lower Saxony
26954
Germany
Contact: Mr Jürgen Kleemeyer
Job Title: Projects / Marketing & Sales
T: + 49 4731 81 214
F: + 49 4731 81 114
E: juergen.kleemeyer@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 120.000 sqm
Vessel Size limitation: Fully laden panamax and/or partly laden cape size
special permission for more than 270 m loa
arrival draught up to 13,10m (43`) fw
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
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F: + 49 911 6429 410
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W: www.gvz-hafen.com

PAPENBURG
Schulte + Bruns GmbH & Co. KG
Papenburg
Germany
Contact: Mr Smidt
T: + 49 4961 8060
F: + 49 4961 806116
E: Schulte-bruns@schulte-bruns.de

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 4731 818 114
E: juergen.kleemeyer@de.rhenus.com
W: www.rhenus.com
Import: Yes
Location: Coalterminal 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: 2.5 Million tpa coal (under construction for up to 10 Million tpa)
Total Storage: 900,000 tons coal (160.000 sqm) - extension up to 3,000,000 tons
Vessel Size limitation: Fully laden cape size up to 250.000 t; without special permission loa up to 290m; beam up to 45m, draught up to 18.50m sw
Additional information: Under construction for a discharging rate > 50.000 tpd and storage capacity of abt. 3 Million tons of coal.

GHANA

TAKORADI
Takoradi Port Authority
Ghana Ports Authority
PO Box 708
Takoradi
Ghana
Contact: Mr J E Quanash
Job Title: Port Manager
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F: + 233 31 22814
E: takoradi@ghanaports.net
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
T: + 30 1 2898 111
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

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
T: + 91 44 25251666 / 1
F: + 91 44 25251665
E: svm@epl.gov.in
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
Job Title: Chief of Port Operations
T: + 91 3224 252150
E: kb_hal@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
T: + 91 40 4434 9999
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
Contact: Mr Shri P. Tamilvanan
Job Title: Chairman
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F: + 91 824 2408390
E: nmptchairman@sify.com
W: www.newmangalore-port.com

KOLKATA
Riverine Group
5 A , N . C. DUTTA SARANI
3rd Floor
Kolkata
West Bengal
700001
India
Contact: Mr Shrey Tayal
Job Title: Director
T: + 91 33 4005 4949
F: + 91 33 4005 4909

E: shreytayal@riverinegroup.co.in
W: www.riverine-group.com

Mumbai
J.M. Baxi & Co
Sapt Building
2nd Floor
18 J.N. Heredia Marg
Ballard Estate
Mumbai
400 001
India
Contact: Mr John C. Alexander
Job Title: Senior VP Business Development
T: + 91 22 2270 3779 / 82
F: + 91 22 2210 3629
E: jca@jmbaxi.com
W: www.jmbaxi.com

Mumbai
Seacrest Marine Services Pvt. Ltd.
201, Remi Biz Court A Wing
Plot - 9, Shah Industrial Estate,
Veera Desai Road,
Andheri (w)
Mumbai
400053
India
Contact: Captain Sanjay Kumar
T: + 91 22 27 566 813
F: + 91 22 27 566 815
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
Contact: Mr Anton Tri Agung
Job Title: Shipping Superintendent
T: + 62 51 153 670
F: + 62 51 152 552
E: inaport3@pp3.co.id
W: www.pp3.co.id

Jakarta
Balikpapan Coal Export Terminal
PT Dermaga Perkasapratama
The Landmark Centre Tower B
29th Floor
Jl Jend Sudirman No1
Jakarta
14310
Indonesia
Contact: Mr Edward Djumali
T: + 62 21 570 155
F: + 62 21 570 145
Export: Yes
Location: Balikpapan Coal Export Terminal
Ownership: PT Dermaga Perkasapratama
Throughput Capacity: 9 million tpa
Total Storage: 0.52Mt
Vessel Size limitation: Max draught 13.3m, Max LOA 230m, Max beam 43m, 80,000dwt

Jakarta
North Pulau Laut Coal Terminal
PT Arutmin Indonesia
Mid Plaza 2, 9th Floor
Jalan Jenderal Sudirman Kav. 10-11
Jakarta
10220
Indonesia
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
P T Indominco Mandiri
Ventura Building
8th Floor
J1 RA Kartini No 26 Cilandak
Jakarta
12430
Indonesia
Contact: Mr Suriya
Job Title: President Director
T: + 62 021 750 8376
F: + 62 021 750 8380
E: dharmasubur@cbn.net.id

Jakarta
PT Indonesia Bulk Terminal
Jl. HR Rasuna Said
Blok X-5, Kav. 1-2
Menara Karya, 23rd Floor
Jakarta
12950
Indonesia
Contact: Mr Bram Surjadi
Job Title: Marketing
T: + 62 21 5211 265 / + 62 21 25533000 ext 3244
F: + 62 21 522 4341
E: marketing@ibt.co.id
W: www.ptibt.com

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
Contact: Mr B T Kuan
Job Title: General Manager
T: + 62 21 522 9250
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
T: + 62 721 31098
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
T: + 62 734 4510 96
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
T: + 62 711 512 617
F: + 62 711 511 388
W: www.bukitasam.co.id

Ireland

Cork
Port of Cork Company
Custom House Street
Cork
Munster
Ireland
Contact: Ms Sara Dymond
Job Title: Marketing Executive
T: + 353 21 427 3125
F: + 353 21 427 6484
E: sdymond@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
T: + 353 42 9334096
F: + 353 42 35481
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
T: + 353 1 8900466
F: + 353 1 8900575
E: info@moneypoint.ie

Israel

Ashkelon
The National Coal Supply Corporation (N.C.S.C)
Ashkelon Coal Terminal
Ashkelon
Israel
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
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

Hadera
The National Coal Supply Corporation ltd (NCSC)
Hadera Coal Terminal
Hadera
Israel
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.

Italy

Ancona
Ancona Coal Terminal
Ancona
Italy
Contact: Mr Paolo Galli
T: + 39 071 2071664
F: + 39 071 2077736
E: operativo@anconamerci.it

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
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 Logistics SpA)
Uff. Circondaiale Marittimo
P. Le Premuda 19
Piombino
Livorno
57025
Italy
Contact: Captain Gianfranco Passalacqua
T: + 39 335 730 1097
F: + 39 02 624 69444
E: n/a
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 MT PY
Total Storage: N/A
Vessel Size limitation: Max beam 42, Max Airdraught 15
Additional information: Equipped by self discharging conveyor system.
Commercial Contact: Capt. Giordano Scotto
Coeclerici Logistics Spa
Piazza Diaz 7
20123 Milano, Italy
email: newprojects@coeclerici.com

Savona
Port Authority of Savona
Via Gramsci, 14
Savona
17100
Italy
Contact: Ms Renato Pastorino
T: + 39 019 85 541
F: + 39 019 827399
E: authority@porto.sv.it
W: www.porto.sv.it

Vado Ligure (SV)
Terminal Rinfuse Vado
Via Montegrappa 1
Vado Ligure (SV)
17047
Italy
Contact: Mr Vittorio Barzilai
Job Title: Marketing and Sales
T: + 39 019 216 06253
F: + 39 019 216 06299
E: vittorio.barzilai@terminalrinfuseitalia.it

Japan

Chiyoda-ku
Idemitsu Bulk Terminal-Chiba
c/ Industrial Energy Dpt. Ildemitsu Kosan
1-1 Marunouchi 3-chome
Chiyoda-ku
Tokyo
100-8321
Japan
Contact: Mr T Nio
T: + 81 3 3746 8721
F: + 81 3 3746 3645
W: www.idemitsu.co.jp

Hiroshima
Port of Takehara No 1P/S
3035-13 Nagahama
Tadami-cho
Takehara-shi
Hiroshima
729-23
Japan
Contact: Captain Yamada
T: + 81 846 27 0211
F: + 81 846 24 1506

Hokkaido
Tomato Coal Center
622 Aza-Hamaatsuma
Atsuma-cho
Hokkaido
059-17
Japan
Contact: Mr Masatoshi Machida
T: + 81 1452 83121
F: + 81 1452 83123

Kitakyushu City
Yawata Hibikinada
Port/Harbour Bureau of Kitakushu City
2-7 Nishikaigan
1-Chrome
moji-ku
Kitakyushu City
801
Japan
T: + 81 93 331 1331
F: + 81 93 321 5915

Minatoku
Niihama Coal Centre
Sumitomo Coal Mining
204, 3-Chrome
Nishi-Shimbashi
Minatoku
Tokyo
Japan
Contact: Mr Yoshitoyo Nakayama
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F: + 81 3 5404 0447

Mubanti
Shukuzu Coal Centre
Koowan-Bu
Hokkaido Muroran-shi
Kaigan-Choo
1-Chrome
Mubanti
Japan
Contact: Mr T Nakamura
Job Title: Manager
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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
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

Yokkaichi City
Chubu Coal Centre
2-16 Kasumi
Yokkaichi City
Mie-Pref
510-0011
Japan
Contact: Mr J Deguchi
Job Title: Director
T: + 81 593 63 0671
F: + 81 593 64 7871

Latvia

Riga
Riga Central Terminal, LLC
15 k-1 Eksporta Street
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
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

Ventspils
JSC BALTIC COAL TERMINAL
39B Dzintaru Street
Ventspils
LV-3602
Latvia
Contact: Mr Ilya Sokolov
Job Title: Chairman 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 15 m
Additional information: Enclosed storage for coal for all clients,. Service of sorting, crushing and magnetic cleaning of coal.

Luxembourg

Luxembourg
Euroports Holdings S.a.r.l.
4th floor
6, rue Jean Monnet
Luxembourg
Luxembourg
L-2180
Luxembourg
Contact: Mr Richard Jennings
Job Title: Chief Commercial Officer
T: + 352 621 555 866
F: + 352 26 75 41 05
E: Richard.jennings@euroports.com
W: www.euroports.com
Import: Yes
Export: Yes
Location: Pietarsaari Finland, Rostock Germany, Liege Belgium, Tarragona Spain, Vado Italy, Genoa Italy, Venice Italy (these are the facilities where we handle coal – we have other port locations in Rauma, Antwerp, Le Havre, Changshu)
Ownership: Individual terminals are all owned by Euroports
Name of Port Authority: Various
Throughput Capacity: 15 mill tonnes pa (of coal)
Total Storage: 1.2 mill sq.m (dedicated to coal across our portfolio from a total of nearly 5 mill sq.m)
Vessel Size limitation: Varies at each port – Handy in Finland to Cape in Spain
Additional information: EUROPORTS is Europe's most diversified port operator. Operating with 16 terminals in 7 countries EUROPORTS is one of the largest port operators in Continental Europe.

Malaysia

Kuantan
Kuantan Port Consortium Son Bhd
PO Box 199
Tanjung Gelang
Kuantan
Pahang Darul Makmur
25720
Malaysia
Contact: Mr IR Ho Phea Keam
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F: + 60 9 583 9393
E: irpkho.kuantanport@ijm.com
W: www.portal.kuantanport.com.my

Pulau Indah
Westports Malaysia Sdn Bhd
P O Box 266
Pulau Indah
Port Kelang
42009
Malaysia
Contact: Mr Nathan
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F: + 60 3 3169 4119
E: info@westportmalaysia.com.my
W: www.westportsmalaysia.com/

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

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
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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
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F: + 64 6 751 0886
E: rweaver@porttaranaki.co.nz
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
T: + 64 7572 8972
F: + 64 7575 2000
E: Dean.Camplin@C3.co.nz
W: www.c3.co.nz
Location: New Zealand

Pakistan

Karachi
Pak Shaheen Group
36-A/2, Lalazar, Opposite Beach Luxury Hotel
Off M.T. Khan Road
Karachi
74000
Pakistan
Contact: Mr Yussuf Farrukh
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T: + 92 21 3285 1800
F: + 92 21 561 2230
E: yfarrukh@pakshaheen.com.pk
W: www.pakshaheen.com.pk

Peru

Callao
ENAPU SA
Port Terminal of Callao
Callao
1No260
Peru
Contact: Mr Luis Vargas Caballero Cooban
Job Title: President and Chief Executive
T: + 51 1429 9210
F: + 51 1469 1011
E: principal@enapu.gob.pe
W: www.enapu.com.pe

Moquegua
ILO Port Terminal
Jr Matara
Moquegua
104 100
Peru
Contact: Mr Julio Zamorano Calvo
Job Title: Ofice Manager
T: + 51 1429 9210
F: + 51 1 465 6717
E: info@enapu.gob.pe
W: www.enapu.com.pe/

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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F: + 51 4443 7359
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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
Name of Port Authority: Port Handlowy 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 90% of import. Only Port in Poland that accepts Panamax Size Vessels with coal. 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
Av. Dr. Lourenço Peixinho, 15-5B
Apartado 593
Aveiro
3801-901
Portugal
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Job Title: Managing Director
T: + 351 234 378 790
F: + 351 234 378 791
E: socarpor@socarpor-aveiro.pt
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
Contact: Eng Ramalho de Nascimento
Job Title: Executive Director
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F: + 351 21 206 6629
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W: atlanport@atlanport.pt
www.ete.pt/Grupo/Empresas/Atlanport_E.htm

Lisbon
Poço Bispo Multipurpose Terminal - TMPB
ETE - Empresa de Tráfego e Estiva, S.A.
Largo do Corpo Santo, 21
Lisbon
1200-129 Lisboa
Portugal
Contact: Cmdte. Pedro Virtuoso
T: + 351 211 128 039
F: + 351 211 128 045
E: tmpb@ete.pt
W: www.ete.pt/Grupo/Empresas/Ete_E.htm
Import: Yes
Export: Yes
Location: Lisbon, Portugal
Ownership: ETE - Empresa de Tráfego e Estiva, S.A.
Name of Port Authority: Port of Lisbon
Throughput Capacity: 1mtpa including Coal
Total Storage: 20,000t warehousing

Lisbon
Silopor - Empresa de Silos Portuários, S.A
(Beato Bulk Foodstuffs Terminal)
Av. Infante D.Henrique
Terminal Portuário do Beato
Lisbon
1900 Lisboa
Portugal
Contact: Mr Carlos Silva
Job Title: Trade 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

Sines
Porto de Sines SA
Apartado 16
Sines
750-953
Portugal
Contact: Ms Anna-Rita Rosa
Job Title: Marketing
T: + 351 269 860 600
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
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
Comvex SA
Incinta Port Dana 80-84
Constanta
900900
Romania
Contact: Mr Viorel Panait
Job Title: Terminal Manager
T: + 40 241 639 016
F: + 40 241 639 010
E: viorelpanait@comvex.ro
W: www.comvex.ro

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

Russia

Tuapse
Port of Tuapse Authority
8 Gorkogo Street
Tuapse
352800
Russia
Contact: Mr Oleg Antonov
Job Title: General Director
T: + 7 86167 76 4 00
F: + 7 86167 76 4 03
E: map@tuapseport.ru
W: www.tuapseport.ru

Vanino
Vanino Commercial Sea Port, PJSC
1 Zheleznodorozhnaya Str.
Vanino
Khabarovsk Territory
682860
Russia
Contact: Mr Apollon Shengeliya
Job Title: General Director
T: + 7 421 37 5 09 23
F: + 7 872 140 26 10
E: market@vcsp.ru
W: www.vcsp.ru

Slovenia

Koper
Luka Koper d.d.,Dry Bulk Cargo Terminal
Vojkovo Nabrežje 38
Koper
SI-6501
Slovenia
Contact: Mr Bojan Tomisic M. Sc.
Job Title: Terminal Manager
T: + 386 5 6656 631
F: + 386 5 6395 027
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 2008; 4,000,000 tonnes Coal, 2,000,000 tonnes Iron Ore
Total Storage: 400,000 tonnes Coal, 350,000 tonnes Iron ore
Vessel Size limitation: Limit is arrival draught of 17.2m

South Africa

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
E: seanr@grindrod.co.za
W: www.grindrod.co.za

Durban
Transnet Port Terminals Head Office
Kingsmead Office Park
Stalwart Simelane/Stanger Street
Durban
KwaZulu Natal
4001
South Africa
Contact: Ms Mbali Mathenjwa
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F: + 27 31 308 8336
E: Mbali.Mathenjwa@transnet.net
W: www.transnetporterminals.net

Richards Bay
Grindrod Terminals
PO Box 10744
Meerensee
Richards 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

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.

Saldanha
Saldanha Bulk Terminal
Private Bag X8
Saldanha
4395
South Africa
Contact: Mr Christopher Gomez
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F: + 27 22 703 4828
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South Korea

Pohang
Port of Pohang
Pohang District Maritime & Port Authority
58-7 Hangku-dong
Pohang
South Korea
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
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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
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

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

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
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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
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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. Railway connection.

Sweden

Helsingborg
Helsingborg Coal Terminal
PO Box 821
Helsingborg
S-25108
Sweden
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W: www.port.helsingborg.se

Karlstad
Vänerhamn AB
Stuvargatan 1
Karlstad
652 21
Sweden
Contact: Mr Tobias Uhn
Job Title: Sales Manager
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F: + 46 54 21 33 16
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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 Nina Hochstrasser
Job Title: Communication Officer
T: + 41 61 639 9597
F: + 41 61 639 9514
E: nina.hochstrasser@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
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
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
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
Rietlanden Stevedores BV
Corsicaweg 10
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

Badhoevedorp
IGMA
Schipholweg 337 D
Badhoevedorp
1171 PL
The Netherlands
Contact: Mr Rob Hansen
Job Title: General Manager
T: + 31 20 5801 613
F: + 31 20 5808 606
E: info@igma.nl
W: www.igma.nl

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.

Europoort - Rt
Ertsoverslagbedrijf Europoort C.V. (EECV)
Markweg 131
Europoort - Rt
Zuid-Holland
3198 NB
The Netherlands
Contact: Mr Sven Wappler
Job Title: Management Assistant
T: + 31 181 25 77 02
F: + 31 181 25 77 03
E: Info.eecv@thyssenkrupp.com
W: www.eecv.nl
Name of Port Authority: Ertsoverslagbedrijf Europoort C.V. (EECV)
Throughput Capacity: 5.5 million tons
Total Storage: 750,000 tons
Vessel Size limitation: 180,00 DWT

Ijmuiden
Nebam BV
PO Box 512
Ijmuiden
1970 AM
The Netherlands
Contact: Mr Marcel Botterhuis
Job Title: Manager Agency Dept
T: + 31 251 495521
F: + 31 251 470279
E: marcel.botterhuis@nebam.nl
W: www.NEBAM.nl

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 Beheer
Name of Port Authority: Port of Rotterdam
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.

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
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

Rozenburg
EP Shipping & Trading BV
PO Box 1050
Rozenburg
3180 AB
The Netherlands
Contact: Mr Eddy Van de Wijngaart (snr)
T: + 31 181 402 788
F: + 31 181 402 689
E: eps@epship.nl
W: www.epship.nl

Schiedam
Nieuwe Waterweg Silo
Nieuwe Waterwegstraat 53-55
(Port 542-543)
Schiedam
3115 HE
The Netherlands
Contact: Mr Jan Maasdam
Job Title: Manager
T: + 31 10 427 12 30
F: + 31 10 473 75 73
E: jm@nwsilo.nl
W: www.nwssilo.nl
Location: Rotterdam, The Netherlands
Total Storage: 5,000 tonnes
Vessel Size limitation: Draught: 8-8.5m, width: 20-25m, length: 200m

Terneuzen
Ovet BV - Terneuzen Terminal
Mr F.J. Haarmanweg 16 d
Terneuzen
Zeeland
NL-4538 AR
The Netherlands
Contact: Mr Jan Agten
Job Title: Commercial Manager
T: + 31 115 676 700
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: 1/3 Hes Beheer ; 2/3 Manufrance
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

Terneuzen
Zeeland Seaports
PO Box 132
Terneuzen
4530 AC
The Netherlands
Contact: Mr Arno Dirkzwager
Job Title: Communication Manager
T: + 31 115 647 400
F: + 31 115 647 500
E: arno.dirkzwager@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 2012: 12 mio tonnes
Vessel Size limitation: Max draught 17,5 LAT
Additional information: Terminal operator for coal: OVET B.V. www.ovet.nl

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 Jan Agten
Job Title: Commercial Manager
T: + 31 115 676 700
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: 1/3 Hes Beheer ; 2/3 Manufrance
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/ trainloading system 1500 t/h as from July 2013.

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
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E: aydin.erdemir@toros.com.tr
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Tekkeköy/Samsun
Toros Tarım San. ve Tic. A.
Samsun Ordu Karayolu 14.km
Sanayi Mah
Tekkeköy/Samsun
55300
Turkey
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W: www.toros.com.tr

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
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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

Canningtown
European Metal Recycling Ltd
Bidden Street
Canningtown
London
E16 4SZ
UK
Contact: Mr Bob Garwood
Job Title: Southern Director
T: + 44 20 7476 3104
F: + 44 20 7474 5633
E: bob.garwood@emrltd.com
W: www.emrltd.com

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 1412218733
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
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

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

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 DWT: 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.

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.

Liverpool
Mersey Docks & Harbour Company
Maritime Centre
Port of Liverpool
Liverpool
Merseyside
L21 1LA
UK
Contact: Mr Vic Brodrick
Job Title: Business Development Manager
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F: + 44 151 949 6300
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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

Near 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

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: 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
Vessel Size limitation: Max LOA: 198m
Max Beam: 25.5m
Max draught including approach channels 10.4m, basis brackish with an SPG of 1016. 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: Mr Andy Fulds
Job Title: Commercial Manager
T: + 44 191 455 2671
F: + 44 191 454 1460
E: andy.fulds@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.

Swansea
ABP Harbour Office
Lock Head
King's Dock
Swansea
West Glamorgan
SA1 1QR

UK
Contact: Mr Clive Thomas
Job Title: Deputy Port Manager
T: + 44 870 609 6699
F: + 44 1792 332255
E: cjthomas@abports.co.uk
W: www.abports.co.uk

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
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
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
3259 E. 100th Street
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: 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
9114 Stevedoring Road
Convent
LA
70723
USA
Contact: Mr John C Crane
Job Title: Vice President
T: + 1 225 562 3919
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: 25 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.

DARROW
Burnside Bulk Marine Terminal
4258 Highway 44
Darrow
LA
70725
USA
Contact: Mr Mike Tenchuk
Job Title: CEO
T: + 1 225 474 3792
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

Darrow
Cooper/Consolidated
PO Box 242
Darrow
LA
70724
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

Davant
U.S. United Bulk Terminal
14537 Highway 15
Davant
Louisianna
70040
USA
Contact: Mr Brian Miles
T: + 1 504 301 9193
F: + 1 504 834 2772
E: brian.miles@united-mar.com
W: www.unitedbulkterminal.com

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
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

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.

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
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
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 Phil Rogers
Job Title: President
T: + 1 304 453 6161
F: + 1 304 453 1117
E: phil.rogers@nscorp.com
Location: Neal, WV
Throughput Capacity: 7 million tons
Total Storage: 250,000 tons

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
Metropolitan Stevedore Company
Port of Long Beach
Berths 212-214
1045 Pier G Avenue
Long Beach
California
90802
USA
Contact: Mr Malcolm Pitt
Job Title: Terminal Manager
T: + 1 562 983 8400
F: + 1 562 983 8520
E: malcolm.pitt@metsteco.com
W: www.metroports.com

Long Beach
Oxbow Carbon & Minerals LLC
330 Golden Shore
Suite 210
Long Beach
CA
90802
USA
Contact: Mr Jimmy Roachell
Job Title: Facility Manager
T: + 1 409 944 3508
F: + 1 409 944 3551
E: jimmy.roachell@oxbow.com
W: www.oxbow.com

Louisville
Cooper/T. Smith Stevedoring
Louisville Jefferson Riverport Terminal
6900 Riverport Drive
Louisville
Kentucky
KY 40258
USA
Contact: Mr Joe Knight
Job Title: Operations Manager
T: + 1 502 935 7226
F: + 1 502 935 7296
E: joe.knight@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.

Mason
Coal Network
1111 Western Row Rd.
Mason
Ohio
45040
USA
Contact: Mr Ramesh Malhotra
Job Title: President
T: + 1 513-398-2625
F: + 1 513-398-5419
E: rmalhotra@uscoalnet.com
Location: Ohio River, Kenova, WV
Throughput Capacity: 2.2 million tons
Total Storage: 40,000 tons

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
Alabama State Port Authority
PO Box 1588
Mobile
AL
36633
USA
Contact: Mr James K. Lyons
Job Title: Director
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.

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

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: 60 acres of open storage and 60,000 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

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
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

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

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: + 1 907 746 7414
F: + 1 907 745 1248
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

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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
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
Import: Yes
Export: Yes
Location: West Coast of the United States
Ownership: Private Marine Terminal
Name of Port Authority: Levin Richmond Terminal
Throughput Capacity: 800,000 tpa
Total Storage: 50,703 sqm
Vessel Size limitation: Panamax-size vessel
LOA 228.6 m
55,000 MT Max Cargo
Additional information: Also own Richmond Pacific Railroad. Load and 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
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

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

Seattle
Stevedoring Services of America
1131 SW Klickitat Way
Seattle
WA
98134
USA
Contact: 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
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.

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.

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

Wilmington
Metro Ports
348 Shipyard Blvd
Wilmington
California
NC 28412
USA
Contact: Mr Rob Waterman
Job Title: Vice President, Bulk Operations
T: + 1 310 816 6557
F: + 1 310 816 6519
E: rob.waterman@metsteco.com
W: www.metsteco.com

Venezuela

Maracaibo
BDV - Bulkguasare de Venezuela, SA
(subsidiary 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
Tel: + 39 02 62469435
Fax: + 39 02 62469444
email: 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

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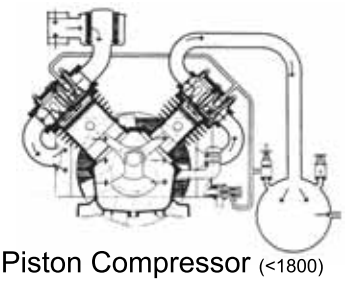


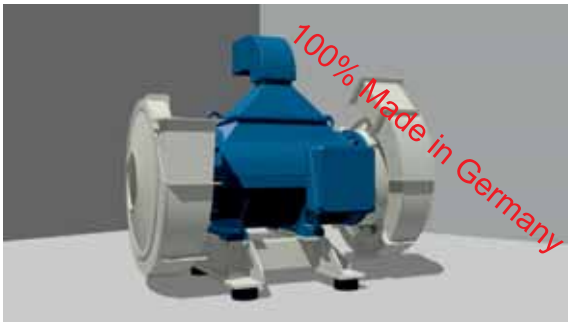
Piston Compressor (<1800)

Roots Blower (1900)

Fan with Air Flow Regulator (1960)

Fan with frequency inverter and automatic belt tension (2000)

TURBO POWER single stage (2009)



TURBO POWER double stage (2011)

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- 100% BLOWER DIRECT DRIVE - No V-Belts, No cardan joints, No bearing blocks...

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✉ Neuerostr. 1 ● 49324 Melle ● Germany
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