

A new box on the block



In global terms, the 45ft container is still very much a 'special', seen primarily in the transpacific trades and to a lesser extent in the Asia-Europe trades. Elsewhere, 20ft and 40ft ISO containers have a virtual monopoly on deepsea routes.

In Europe though, there is a different type of 45ft container, the 2.5m wide, so called pallet-wide (pw) container, and these are being ordered in ever-increasing numbers by shortsea shipping lines. As a result, many European terminal operators are having to adjust their handling operations to accommodate these non-standard units.

European shortsea carriers, or intermodal operators as many prefer to be described, offer door-to-door services and point out that they are in direct competition with road hauliers using 13.6m (44.6ft) long trailers. Since 45ft pw containers can match 13.6m trailers in being able to load 33 pallets measuring 1.2m x 0.8m or 26 pallets

measuring 1.2m x 1.0m, they have become an essential tool in enabling intermodal operators to compete heads-to-head with road hauliers.

In comparison, a 40ft ISO container can load just 25 of the smaller pallets or 21 of the larger size.

Although 45ft pw containers can be lifted using 40ft spreaders and mixed with 40ft ISO containers in stacks, terminal operators do need to make allowances for the extra width.

New designs mean new challenges

Now though, there are special 45ft pw containers now coming into service which present additional handling considerations.

Because intermodal operators are competing with trailers, they have sought for many years to develop a container offering full side access. Many shippers and consignees still seem to prefer unloading pallets from the side using conventional forklift trucks rather than via end doors and specialised loading bays or ramps.

Now, operators such as Geest North Sea Line and specialist 45ft pw supplier UNIT45

are trialling 45ft pw curtainsided containers. From the customer's point of view, they satisfy the desire for side access but for terminal operators, they need special consideration. Inevitably, when compared with a steel-sided container, they are more vulnerable to damage whether that be from careless handling or from would-be thieves.

45ft pw reefers have been around for a while and they differ from other pw containers in that they are 2.6m wide rather than 2.5m. This increase in width, which is also permitted with reefer trailers, recognises the increased thickness of sidewall and enables them still to carry Euro-pallets three abreast or the larger pallets two abreast. However, due to the loss of internal length due to the need to accommodate the reefer unit itself, capacity had been restricted to 32 Euro pallets rather than 33.

45ft-plus requires extra care

Now though, designers have managed to squeeze 33 pallets into a 45ft reefer container but only by allowing the refrigeration unit to protrude slightly beyond the end frame. Operators say that this isn't a major prob-

45ft palletwide reefer boxes are being built in increasing numbers, many by MCI in China, to replace refrigerated trailers on certain routes. Coolboxx is a joint venture between Geest North Sea Line and two specialist reefer trucking companies and its new containers are primarily being used between Continental Europe, the UK and Ireland.

lem as the expensive reefer unit is protected from damage when being handled and stacked by strategically located steelwork. It is also stated that those terminal operators who must handle these units have been made fully aware of the special treatment required. Nevertheless, the manufacturers of container refrigeration units are now being urged to develop even slimmer products so that they can be housed safely within the container envelope.

As with 40ft reefers, terminal operators do need to bear in mind at all times that when handling empty 45ft reefers with FLT's or reachstackers, the centre of gravity of the container is significantly offset due to the weight of the refrigeration unit at the front of the container.

Kalmar around the World

A GLOBAL BUSINESS MAGAZINE FROM KALMAR INDUSTRIES, NO.3/2005

Giant straddle carrier order



Kalmar has been awarded an order for 53 straddle carriers from South African Port Operations (SAPO), the terminal operating subsidiary of South Africa's transportation conglomerate, Transnet Limited.

www.kalmarind.com/newsroom

Port of Hamburg goes electric

Kalmar has reinforced its role as the main supplier of handling equipment to the German ports industry with recent orders for 24 straddle carriers for delivery to HHLA and Eurogate.

www.kalmarind.com/newsroom

Innovative approach



"Lack of space and the need for high productivity were the main reasons behind the decision to combine RTGs and shuttle carriers," says Sergei Artjomov, Chairman of the Board, Muuga CT.

www.kalmarind.com/newsroom

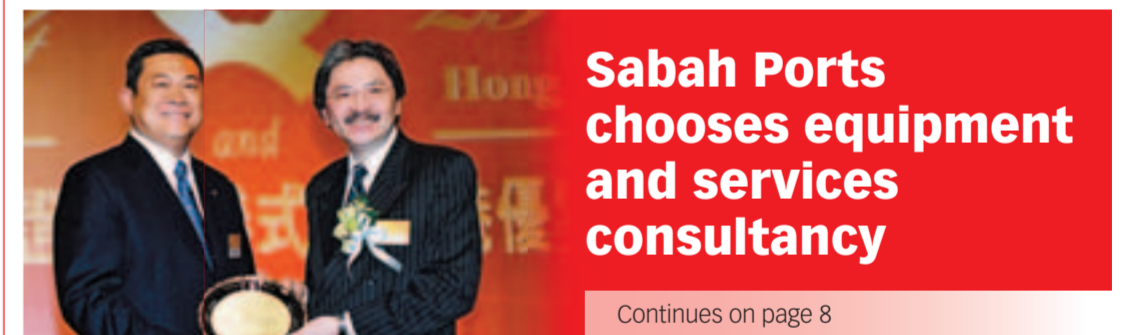
Smart solution for South America



Remote maintenance and Smartrail® technology combined with E-One's, significant fuel savings and the promise of less downtime, is a particularly smart solution for those operators who want high productivity with the minimum environmental impact.

Long-time Kalmar customer Sociedad Portuaria Regional de Cartagena (SPRC) in Colombia has ordered four E-One RTGs.

www.kalmarind.com/newsroom



Sabah Ports chooses equipment and services consultancy

Continues on page 8

"Kalmar cranes have an excellent reputation", says Simon Bird, Chief Executive Officer of the Bristol Port Company.



Continues on page 9



16 terminal tractors for STAM

Kamel Khelil, Directeur Central of Société Tunisienne d'Acconage et de Manutention (STAM), performs a final inspection of the company's 16 new Kalmar TRX 182 terminal tractors. The units are due to join the 14 Kalmar terminal tractors delivered to STAM in 2001.



In good mood and with confidence

Kalmar has doubled its turnover in the last five years, mainly through organic growth. Acquisitions have contributed only about 10% of this increase.

Our greater strength has enabled us to become much more global and has also expanded our product offering remarkably. Our growth is a combination of the success our customers have enjoyed and the work Kalmar has done to meet the changing demands from the market. We are both proud of and humble in sharing this development with our customers.

Our transformation moving closer to our customers and leaving component manufacturing to our partners, has increased the number of "Kalmarians" working side by side with our customers. It gives us unique opportunities to learn first hand of our customers needs and what is most important to them.

This major change to our structure has however not changed our strong belief in the necessity to develop and deliver

good products. The Kalmar brand must continue to be the landmark of good quality and support for the product all over the world. We don't categorise products based on where or how they are manufactured because in order to qualify for carrying the Kalmar brand the products and services must meet our global quality standards. We are well aware of the fact that quality is a continuous challenge and needs continuous attention, but we will not compromise on this one core value.

With only a few months left of 2005, we can all see that this year too will be one more year in the tremendous development of our industry. Over the past few months, we in Kalmar have been pleased to announce a large number of new major orders showing that our products continue to move well. We are grateful for the confidence so many customers have shown in us and at the same time it is a pleasure to see the strength in their business. We enter 2006 in good mood and with confidence.

Christer Granskog
President and CEO
Kalmar Industries

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Stora Enso chooses precise and gentle paper roll handling

Paper rolls represent such major financial values that it is vital they are handled with precision and exactly the right amount of pressure. For six months Stora Enso's newsprint paper mill in Hylte, Sweden, has been testing Kalmar's new 8-tonne truck, complete with integrated paper clamp. The evaluation has shown that the machine entirely satisfied Stora Enso's requirements.

As such, Stora Enso is now ordering a further five DCE 80-9 HE trucks with hydrostatic operations for its Hylte facility. Two Kalmar ECE80-6 electric trucks have also been delivered to Stora Enso's cardboard mill in Skoghäll, equipped for the same type of handling.

At Hylte the new trucks will collect paper rolls that have travelled on conveyor belts from the paper machines and take them to storage locations in the paper warehouses. The trucks will also be used in onward movements from the warehouses. Handling is intensive, involving both long and short cycles.

During the six month evaluation period, an 8-tonne machine was used for daily operations. The results of the trial demonstrated the truck's high level of accessibility, which was crucial to the deal. Kalmar has subsequently adapted the machine to

Hylte's ergonomic and safety requirements.

Automatic precision

The trucks are equipped with integrated functions. Clamp pres-

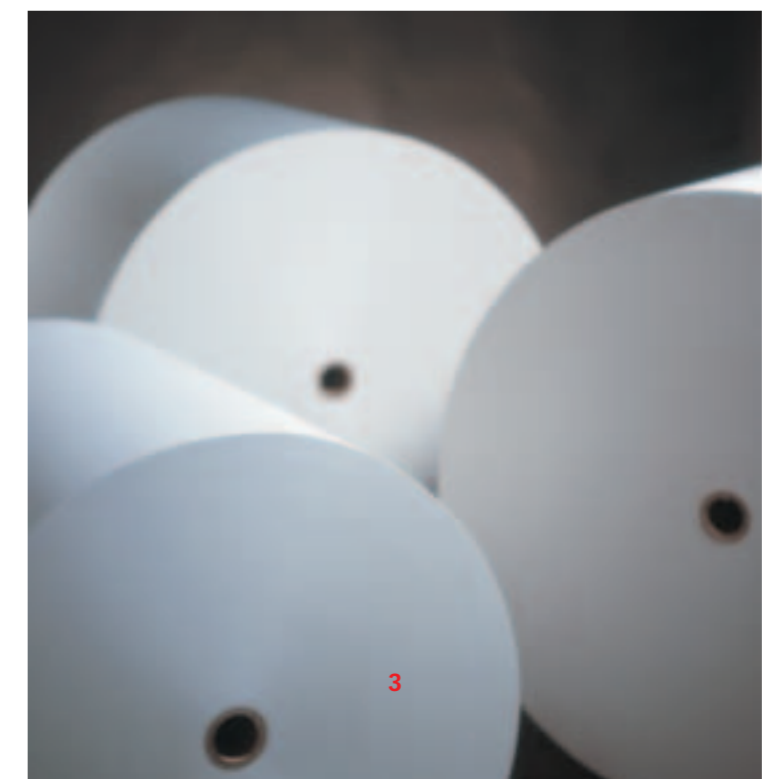
sure is precision-adjusted so that the paper roll can neither slide nor suffer any damage. The rolls are deposited at exactly the right angle and the lowering speed is automatically controlled so that setting down takes place gently.

New pedal set

The trucks for Hylte will be equipped with newly developed twin pedals. The pedal set activated acts as a foot support when in resting position, thus reducing strain on the feet and legs. The new pedal set represents a significant ergonomic improvement.

Revolving driving compartment

The trucks are equipped with Kalmar's Spirit Delta Space, a modified and amply proportioned cabin for optimum vision and comfort. The driving compartment can be rotated through 180° and turning of the driver's seat involves a distinct yet gentle movement. The entire driving compartment, including pedals, steering wheel, controls and computer equipment, follows the movement of the seat.



Kalmar around the world

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Estonia's main dedicated container handling facility, Muuga Container Terminal (Muuga CT) in the port of Tallinn, has placed an order with Kalmar Industries for two all-electric E-One rubber tyred gantry (RTG) cranes and two Shuttle Carriers®.

Once in operation in April 2006, the shuttle carriers and 6+1 wide, 4-high E-Ones will form the backbone of the handling system at Muuga CT's new container terminal expansion, to be built on a five-hectare expansion site during winter 2005/2006.

Innovative handling solution for Tallinn's Muuga CT



The order also includes one ContChamp DRF reachstacker.



The order also includes one ContChamp DRF reachstacker, which will complement the Kalmar fleet of reachstackers and terminal tractors already in operation. The existing terminal will continue working with reachstackers.

Lack of space and the need for high productivity were the main reasons behind the decision to combine RTGs and shuttle carriers.

Sergei Artjomov, Chairman of the Board, Muuga CT, says: "We are convinced that, as our volumes grow, we can further develop this new operating concept to ensure high levels of productivity for the future. RTGs enable dense stacking but can also be moved from one stack to another according to work load demands. Shuttle carriers, meanwhile, guarantee fast and flexible transportation between the stacks and the truck interchange area as they can independently handle containers."

An added benefit of a shuttle carrier system is that it also gives the terminal operator the ability to minimise the amount of traffic in the container yard. Explains Mr Artjomov:

"We have always tried to eliminate unnecessary traffic in the terminal to improve the safety of the truck drivers and the security of the containers.

"By using shuttle carriers under the RTGs we will be able to eliminate trucks in the stacking area. This reduced traffic will

create a less stressful environment for our reachstacker, portal truck and shuttle carrier drivers. Moreover, replacing trucks with shuttle carriers under the RTGs will make for greater productivity because shuttle carriers are more flexible in that they can lift one container over another. Trucks, on the other hand, require more manoeuvring space and therefore impact on terminal productivity."

Because of the shape of the Muuga CT facility, the driving

distance from the quay to the stacks can be up to one kilometre. As such, terminal tractors with multitrailers will continue to handle transportation between the quay and stacks.

"If our plans to develop the terminal further proceed as planned, the facility will expand on reclaimed land in front of the quay. This will shorten the distance between the quay and the stacks and will enable us to in-

troduce shuttle carriers there as well," explains Mr Artjomov.

"The majority of the equipment in our terminal is from Kalmar and we are impressed by the service level and quality the company delivers."

Container throughput of Muuga CT this year will be around 125,000TEUs, with both the Estonian economy (Estonia joined the European Union in 2004) and transit cargo to and



The key to the success of the Shuttle Carrier®, the so-called one-over-one design, is its ability to operate independently, leading to a more efficient work cycle.



Muuga CT will become the latest in a long line of terminal operators to order the E-One, including Global Terminals, which ordered these units for operation at the Port of New York / New Jersey.



from Russia and Asia guaranteeing annual growth of about 10%.

Regional pioneer

Muuga CT will be the first container terminal operator in the Baltic region to introduce a handling system that combines RTGs and shuttle carriers. Kalmar terminal development service was involved in the planning process with layouts, equipment recommendations and overall costs analysis.

Muuga CT was also the first terminal operator in the region to introduce the reachstacker concept in 1993 and a harbour mobile crane in 1999.

Because of the shape of the Muuga CT facility, the driving distance from the quay to the stacks can be up to one kilometre. As such, terminal tractors with multitrailers will continue to handle transportation between the quay and stacks.

Baltic boom

The fast growing economies in Russia, the Baltic States and Poland are creating an increasing demand for transport services. This is putting pressure on these countries to expand port cargo handling facilities and several new terminals are now under construction,

Between 120m and 140m people live around the Baltic Sea. The new EU member states have relatively low GDPs but the fast development of the economies in these countries suggest strong future growth. GDP growth forecasts for Poland, Russia, Latvia, Lithuania, and Estonia exceed 4%.

Transit cargo to Russia provides big volumes for many ports in the Baltic States and Finland. Combining those container terminals handling transit cargo to Russia with the various Russian Baltic port terminals, the total container flow has risen from 0.8m TEU in 2000 to 1.7m TEU in 2004.

Albeit from a low level, container handling growth in the Baltic region during the period 1993 to 2004 was the highest in the world at 14.6%. In 2003–2004, it was still amongst the top growth areas achieving 18.2%, second only to the Middle East's 18.7%. Forecasts through until 2012 predict Baltic container traffic growth at around 8% per annum, exceeding the global average of 7%. (Drewry Shipping Consultants).

The projected increase in handling capacity between now and 2008 should see a doubling from the current 4.3m TEU to 8.1m TEU. Major growth is expected in Russia (302%) and Poland (183%)

while Finland and the Baltic States are expected to enjoy more modest growth. (Drewry Shipping Consultants).

Amongst the Baltic terminals currently increasing container handling capacity are St Petersburg, Gdynia, Gdansk, Klaipeda/Klaipeda Smelte, Tallinn/Muuga Container Terminal and Helsinki/Vuosaari.

Kalmar's CEO Christer Granskog comments on the special characteristics of the Baltic trades:

"We will not see 8000TEU container ships in the Baltic Sea. These ports will continue to be serviced by feeder or regional container services. However we should expect the average size of these shortsea/feeder vessels to grow as volumes increase. There are many feeder lines operating in the Baltic, carrying containers to and from the large container ports such as Hamburg and Bremerhaven, Antwerp, Rotterdam and ports in the UK.

Within Northern Europe, pure freight ro-ro ships are seen as being able to offer the most competitive logistics solutions.

However, shortsea/intermodal operators utilising 45ft palletwide containers are gaining a significant market share due in part to the rising costs of road transport, especially in Germany.

Kalmar in the Baltic

Deliveries of Kalmar equipment to ports within Baltic region include RTG cranes, straddle carriers, reachstackers, heavy and medium fork lift trucks and terminal tractors.

Kalmar has long and strong presence in Russia. Kalmar's Russian subsidiary in Moscow is supported by Kalmar Sales and Service Office in St. Petersburg. In Poland, the long term partnership with the Port in Gdynia has been successfully supporting the growth for both parties. In the Baltic States Kalmar is presented by the Intrac Group. This company has established its own local organisations in Estonia, Latvia and Lithuania.

Oil shipments on the Baltic Sea have increased considerably in line with the heavy growth of Russian oil terminals. Annual oil volumes are now 200 million tonnes and climbing. Such sharp growth inevitably increases the risk of accidents. To address this, a mandatory ship reporting system (GOFREP) has been introduced in the Gulf of Finland and a separate route is being planned for tankers.

"According to our forecasts, oil shipping volume on the Baltic Sea will come close to 250 million tonnes by 2010, as it seems that the planned port projects will materialize. New oil terminals are under development in St Petersburg, and the Sillamäe port at the mouth of Narva river will soon be opened in Estonia. Rumours are circulating about other port projects as well, but they are unconfirmed," says the Director-General of the Finnish Maritime Administration, Markku Mylly.

Just a few years ago, Muuga Port in Tallinn, Estonia was the biggest oil terminal in the Gulf of Finland with an annual production of around 30 million tonnes. However, a total volume of more than 60 million tonnes is now being shipped from the Russian ports of Primorsk, Vysotsk and St Petersburg and by 2010, Russia's oil shipping volume from Gulf of Finland ports is estimated to grow to 190 million tonnes.

Bigger and better vessels

In the region is being transported on increasingly larger vessels. A 150,000 dwt tanker is a common daily sight on the Baltic Sea. But the trend is now towards even bigger ships. According to unconfirmed data, one shipping company is currently engineering a 'Baltimax' tanker of 250,000 tonnes. This vessel will be relatively short and fairly wide, mainly because the draught cannot be increased. While a vessel of such proportions seems unthinkable on the Baltic at present, volume growth in oil production means that the emergence of such a monster is ultimately inevitable on these waters.

According to Mr Mylly, the technical condition of oil tankers has shown a marked improvement over previous years. For example, all oil to Primorsk is now transported on a new double-hulled fleet. After an EU ban, single-hull ships are only allowed to transport light oil products on the sea. However, Mr Mylly believes that Russia still sends crude or heavy oil products on single-hull tankers.

Nonetheless, the EU ban has

resulted in vast improvements. Muuga port was visited in 2003 by 700 vessels, all carrying heavy oil products. Some 70 per cent of them were fitted with a single hull. This situation is now changing and new, large, ice-strengthened tonnage is in the pipeline, which will help improve things further.

However, the good condition of vessels alone does not prevent accidents. Ships' crews must also be able to navigate on icy seas – a skill, unfortunately, that not all of them have.

Horror scenario – a tanker accident

The heavier the traffic, the bigger the risk of an accident, whether caused by the human error factor or through technical fault or structural failure of a vessel. Safety has improved on the Gulf of Finland thanks to GOFREP, a joint initiative between Finland, Estonia and Russia. However, no system can guarantee the total elimination of all accidents.

Says Mr Mylly:

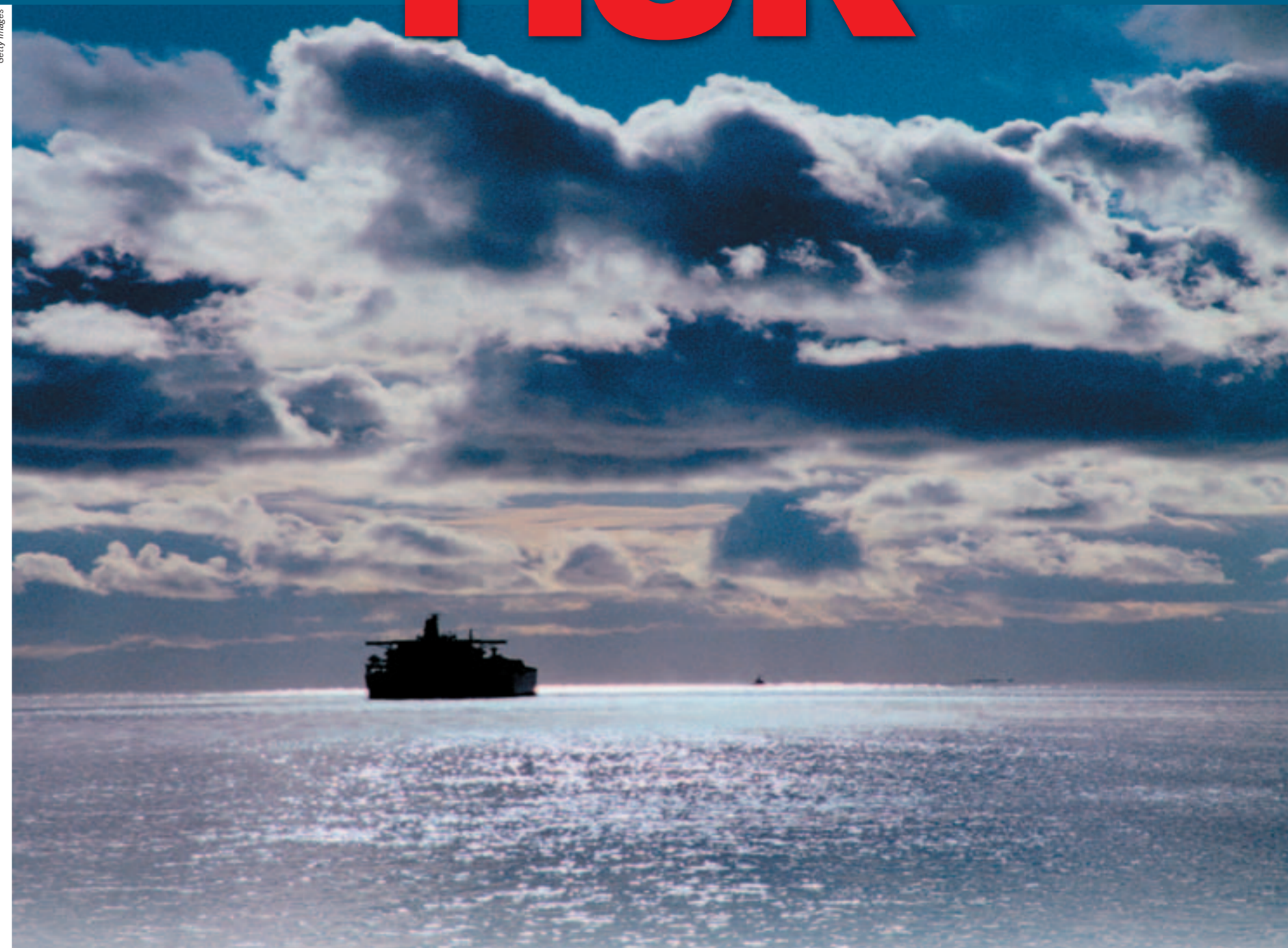
"A worst-case scenario would be an incident involving an oil tanker on icy seas. We currently have neither the equipment nor the techniques to combat oil spills in icy waters and building the necessary equipment is no mean feat. Finland has been planning to acquire an oil combating icebreaker, but there are huge technical problems," Mylly says.

One oil-combating icebreaker would not help a huge deal anyway in the event that a storage tank on a large tanker burst. If 30,000 tonnes of oil spilled in an icy sea, it would be hopeless to try to control it. An oil-combating icebreaker could only clean up a fraction of it.

The Baltic Sea is also a busy passenger route with 300 ships in the high season crossing the Gulf of Finland. At its narrowest point the gulf is just 40 miles wide. Mr Mylly says that congestion is beginning to show during rush hours owing to heavy cross traffic. "Although you cannot speak of real congestion yet, it is useful to remember that the world's busiest shipping lane, the English Channel, is about the

Reducing risk

Getty Images



same shape and is crossed daily by 600 ships."

No restriction on traffic volumes

A shallow basin, the Baltic is vulnerable and sensitive to pollu-

tion. Mr Mylly believes that an accident would be the greatest risk to the environment, while heavy traffic is also a major cause of air pollution. Every once in a while a vessel releases oil into the water but, overall, illegal discharges have been brought under control quite well in the area.

"The problem on the Baltic Sea is that the turnover of water is slow. Any discharge into the water, whether deliberate or a consequence of environmental damage, will add to the already-high load. However, I don't see the restriction of traffic volumes

on the sea as a realistic option," Mr Mylly says.

Quality requirements for vessels will be tightened and more strictly monitored. The GOFREP system serves its purpose well according to Mr Mylly, and more safety enhancing measures are underway. A risk indicator, integrated into GOFREP, is being developed for all sea traffic on the Gulf of Finland.

The first phase of the project involves a simulation model of the crossing traffic on the Gulf. The model can be employed as a strategic tool to find out how risk levels change as key elements of the traffic vary. Sea traffic centres, shipmasters and port and environmental authorities should be conscious of high risks in real time.

"The Baltic countries have

also agreed on the building of a common route division system. Big tankers would be directed to a separate deep water route, which would not be available for other traffic. Other ships would steer clear of the tankers, which have limited manoeuvring facilities. Ongoing measurements on the Baltic will ensure that the draughts are correct," Mr Mylly explains.

"The depth of tanker routes must be secured to avoid surprises, such as that experienced in Gotland where measurements revealed a shoal south of the island, which resulted in the outward movement of tanker traffic."

According to Mr Mylly, the route distribution system will be in operation in a few years' time.



Sabah Ports Sdn Bhd has placed an order with Kalmar Industries for seven Shuttle Carriers®, four ContChamp reachstackers, nine 5-high empty container stackers and 26 Kalmar Ottawa terminal tractors for its facility at Kota Kinabalu, Malaysia. Meanwhile, Suria Capital Group, owner of Sabah Ports, has also engaged Kalmar Asia to provide consultancy to another subsidiary, SP Satria, to improve support services to the port through a training and consultancy agreement.

The order of seven Shuttle Carriers represents a breakthrough for this new design in Asia. The so-called one-over-one unit was created for transporting containers as quickly as possible from the quay crane to the terminal area and back. The lightweight machine has a lifting capacity of 40 tons.

Sabah Ports plans to use its seven Shuttle Carriers to support the newly acquired mobile harbour cranes operating on extended piers. Prior to the purchase of the Shuttle Carriers and mobile harbour cranes, Sabah Ports employed a ship-to-shore crane to load and offload directly to a terminal tractor that would then transport containers to the stacking area.

Shuttle Carrier can operate independently, leading to a more efficient work cycle for both harbour cranes and transportation equipment.



Pictured Kalmar Shuttle Carrier® at Hesse-Noord Natie, port of Antwerp.

Sabah Ports chooses equipment and services consultancy

According to Suria Capital Group's Managing Director, Haji Abu Bakar Haji Abas, the Group is positioning itself to provide world-class port services. As part of its efforts towards achieving this, the Group has hired Kalmar Asia to train SP Satria personnel to provide quality services, particularly in the handling of port equipment.

As part of the agreement, two staff from Kalmar Asia in Hong Kong will be stationed at Kota Kinabalu Port for one year to ensure the smooth implementation of the programme. Kalmar Asia will assist SP Satria with its management control systems, key performance indicators, training plans and workshop and warehouse management systems, as well as instilling a quality preventative maintenance culture based on its work experience in Hong Kong.

Since 2003 Kalmar Asia has held the Hong Kong Q-Mark Award, which recognises organisations for developments in the areas of quality control, safety enforcement, human resources, job clarity and training scope. The award is accredited every three months.

Suria Capital Holdings Berhad is a public-listed company on Malaysia's stock exchange, Bursa Malaysia Berhad.

The Hong Kong Q-Mark Plaque was awarded to Mr Ken Loh, President of Kalmar Industries' Asian Operation (left) by Mr John C Tsang, JP Secretary for Commerce, Industry and Technology, Hong Kong SAR Government.



'Royal' STS order

Kalmar has received an order for one post-Panamax ship-to-shore (STS) container crane from the UK's Bristol Port Company, destined for the Royal Portbury Dock. With an outreach of 45 metres, this heavy-duty crane will be capable of handling 17-wide containerships.

The crane is destined for the existing deepsea terminal in Bristol, which has a total quay length of 500 metres on which two ship to shore cranes are already in use.

Simon Bird, Chief Executive Officer of the Bristol Port Company, explains why the order went to Kalmar:

"At Bristol Port Company we attach a great deal of importance to the costs of ownership, reliability and productivity of our cargo handling equipment and in this respect Kalmar cranes have an excellent reputation. Furthermore we are very satisfied with the performance of our existing Kalmar fleet and the product support we receive through Kalmar Limited, which helps us provide efficient and reliable services to our customers." David Fairweather, Managing



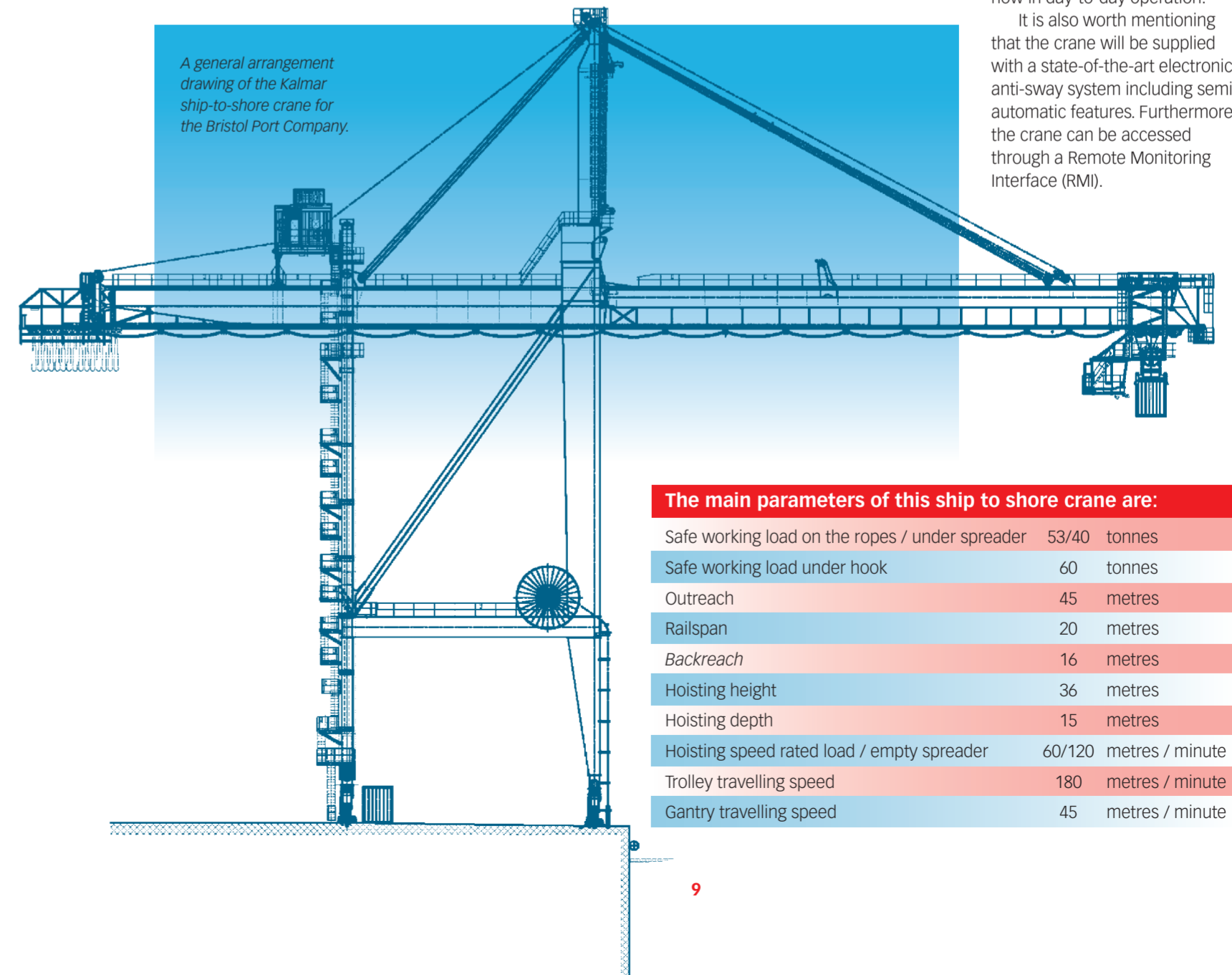
"Signing the contract for the new Kalmar STS crane are Simon Bird, Chief Executive Officer, Bristol Port Company (left) and Rene Kleiss, Vice President Cranes Kalmar Industries."

Director Kalmar Limited, comments on the recent order: "Kalmar has previously supplied various cargo handling equipment and services to The Bristol Port Company. In the last

5 years we have delivered reachstackers and light and medium lift-trucks. We are now delighted that the port has chosen Kalmar to supply its new ship-to-shore crane."

The design of the crane will be identical to that delivered recently to Interforest Rotterdam, with a single box girder and semi-rope trolley. More than 30 units of this proven and reliable design are now in day-to-day operation.

It is also worth mentioning that the crane will be supplied with a state-of-the-art electronic anti-sway system including semi-automatic features. Furthermore the crane can be accessed through a Remote Monitoring Interface (RMI).



A general arrangement drawing of the Kalmar ship-to-shore crane for the Bristol Port Company.

The main parameters of this ship to shore crane are:

Safe working load on the ropes / under spreader	53/40 tonnes
Safe working load under hook	60 tonnes
Outreach	45 metres
Railspan	20 metres
Backreach	16 metres
Hoisting height	36 metres
Hoisting depth	15 metres
Hoisting speed rated load / empty spreader	60/120 metres / minute
Trolley travelling speed	180 metres / minute
Gantry travelling speed	45 metres / minute



Facing rigorous demands in California



Although the three new Kalmar DCD370s at Pasha Stevedoring & Terminal's (PST) Port of Los Angeles facility have only been on the job for little more than one month, they have already more than met PST's expectations according to Jay Foose, PST's manager, gear and equipment.

The heavy-duty container forklift trucks at PST's facility are used mostly to off-load large steel slabs from vessels, although occasionally they are used to move large 23-ton steel coils.

"The machines are rated at 85,000 pounds (38.5 tons) at a 48-inch (122cm) load center," Foose said. "But they consistently handle 90,000 pounds (41 tons) at a 24-inch (61cm) load center without a problem."

PST has truly perfected the art of stevedoring steel products, and the Kalmar machines used for the company's operations must consistently perform under extremely demanding conditions. The individual steel slabs weigh from 10 to 27 metric tons and with lengths from 13 to 36 feet (4m to 11m). Once the slabs are discharged from the vessel, they are moved to a railcar designed specifically by BNSF Railroad, California Steel Industries and PST. The railcars are 52.5 feet (16m) long, which is 12.5 feet (3.8m) shorter than the standard railcar, and can transport loads of 240,000 pounds (109 tons) versus the older limit of 180,000 pounds (82 tons). The new railcars are also built with safety uprights to eliminate slab shifting or rotating, also known as "helicopting."

The railcar improvements offer

many advantages for both the operator and the public as they increase capacity, production, and safety, while shortening overall train lengths. The new railcars have resulted in more slabs per train, more weight per car and more safety for the community. PST also invested in new tractors and equipment to support the higher production and capacity of the cars.

Modification

According to Foose, the Kalmar forklifts had to be modified for PST's steel slab operations.

"We have to remove the counterweight systems in order to place the machines in the ship's hold," Foose explained. "The counterweights are first removed on the dock and then the forklifts are lowered into the ship's hold with our rail-mounted gantry crane. The counterweights are lowered separately and then both are rejoined in the hold. The entire process takes about ten minutes, start-to-finish. It's only two picks, and it goes pretty quickly because of custom-designed landing legs and bridles to make the process as efficient as possible."

Once the forklifts are in the hatch, they get "hammered" pretty hard, Foose noted. The machines

are used once a week for three days straight, four or five shifts at a time. The forklifts are able to last for eight to 12 hours before refueling—the time typically required to clean out a hatch—which means the machines do not need to be pulled out mid-shift.

Despite the rigorous demands, the forklifts have run exceptionally well. In fact, the superior engineering was a key selling point, and one that was a factor in PST choosing Kalmar over the competition.

"They're not in the mechanic's shop very often," confirmed Foose. "And, they are very well engineered. I've been familiar with Kalmar's machines for the past 15 years, and I know they're still in operation, which had a lot to do with our decision (to purchase the new forklifts)."

Environmental standards

At the same time, air quality is a major concern in the Los Angeles area basin, and the maritime and transportation industries in particular have been under increased pressure to meet strict environmental standards. The new Kalmar DCD370s were able to meet both U.S. federal and state regulations on diesel emissions, and this was critical in the purchasing decision.

Most importantly, the new Kalmar forklifts will help PST continue to provide excellent cargo handling services, which translates into reduced costs and competitive rates for the company's global customers.

Lara L. Sowinski

Expectations are met at TraPac Container Terminal

Kalmar machines are hardly new to the TraPac terminal in Oakland, Calif., USA. The terminal's equipment inventory includes four Kalmar reach stackers, two empty side handlers, one 30,000-pound (13.6 tons) forklift and one five-high top handler.

"Our facility made its first purchase of a four-high empty handler in 1990, and two years later we added a ContChamp reach stacker to the line-up," said Mike Gilchrist, manager of equipment and facilities maintenance. "Both are still running fine. We haven't had to perform a major overhaul yet."

Recently, TraPac purchased a DCD450-12CSG container top handler, which will assist in handling the growing needs of this busy U.S. West Coast facility. TraPac's terminal at the Port of Oakland comprises 35 acres (14 hectares) and includes an administration building that serves as the command and control center for all gate, yard, and marine operations; a similarly sized maintenance and repair building; and a marine operations building. The facility's gate complex boasts eight transaction lanes, four weigh scales, and four transaction booths. The interchanging of equipment is a computerized automated process supported by video and audio connections.

Gilchrist said the terminal is developing an additional 22 acres (9 hectares) that is scheduled for completion late next year or in early 2007. "This will give us a second vessel berth and a total of four gantry cranes," Gilchrist said. "TraPac is fortunate to have available land for the expansion, considering most of the seaports along the U.S. West Coast are pretty much built out right now."

Even with land at a premium, freight volumes and vessel activity are expected to continue increasing, especially eastbound from Asia to the U.S., which demands improved productivity levels and quicker turns.

TraPac's major customers in the Port of Oakland are Mitsui O.S.K. Lines (MOL), APL, and

Hyundai Merchant Marine. The three ocean carriers are partners in The New World Alliance (TNWA), which operates 11 fixed-day weekly services in the Trans-Pacific trade. Gilchrist said the terminal performs roughly 200,000 gate moves annually, although there are occasional volume spikes when seaports in Southern California experience congestion, which then pushes more freight to Oakland.

The high expectations placed on TraPac's operations means that the equipment is under constant demand to perform reliably. And in this regard, Gilchrist has nothing but praise for the Kalmar machines.

"The down time that we incur with Kalmar equipment is for the most part 'self-inflicted,'" Gilchrist explained. "In other words, it's usually the operator that does something to cause damage to the equipment rather than the equipment failing."

The other factors that are important to TraPac when it comes to equipment are price and availability. The recent purchase of the Kalmar container top handler is a case in point. Although another equipment manufacturer was in the running, the Kalmar bid was more competitively priced, and the equipment could be delivered right away, as opposed to the 10- to 12-month lead-time required for the other manufacturer's equipment.

Gilchrist pointed out that through the years he has experienced a noticeable improvement in getting parts for his Kalmar equipment.

"They're usually able to provide most parts overnight from either of two distribution centers in the United States—one in New Jersey and the other in



Tacoma, Washington," Gilchrist confirmed.

Furthermore, in terms of Kalmar's customer service, one of the best advantages for Gilchrist is that he can call directly to the U.S. distribution centers to inquire about the availability of parts and how soon they can ship.

In addition to the Kalmar equipment currently in use at TraPac's Oakland terminal, the terminal operator's facility in the Port of Los Angeles uses at least 10 to 15 machines.

TraPac's future facility in the Port of Jacksonville, Fla., (JAXPORT) will open up a major opportunity for Kalmar. The new \$200 million TraPac terminal is scheduled for completion in late 2007 and will mark the first Asian service for JAXPORT. The first phase of the project calls for the construction of a 158-acre (64 hectares) container handling facility, which will include two berths, six post-Panamax container cranes and other infrastructure necessary to accommodate Mitsui O.S.K. Line's operations. Additional phases of the project could expand MOL's container facility to more than 200 acres (80 hectares).

"I'm sure Kalmar will be considered for all of our handling needs there, too," remarked Gilchrist.

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Ante-Holz acquires front-mounted fork lift trucks and one logstacker

The Ante-Holz Group in Bromskirchen-Somplar, Hesse, Germany, is one of the most efficient companies in today's European timber industry. The family concern, founded in 1972, employs 532 people in Winterberg-Züschen, Bromskirchen-Somplar and in Kozuchów, Poland.

In 2005 approximately 1.4 million cubic metres of common spruce will be processed into sawn timber, laminated wood, machined timber and timber for the garden. This is possible because all grades of timber resulting from forestry operations are sold – from fence timber to heavy pine timber. With the construction of the heavy pine timber sawmill, commissioned in 2002, heavy timber from class 4 up can also be processed. The dry chips produced are processed into 36,000 tonnes of wood pellets for low-cost, environmentally friendly heating and are sold throughout Germany.

Only modern Kalmar front-mounted fork lift trucks (FLT), with loading capacities of 8t to 15t, are used for internal transport, feeding the sorting plants and loading and unloading up to 210 trains per day. Ten DCD80-12 (8t/1,200mm LSP), one DCE8-600 ECS, four DCE120-12



19 Kalmar fork lift trucks with loading capacities of 8 to 15t operating at the 75 hectare factory site at Ante-Holz – one of the largest timber processing companies in Europe.

(12t/1,200mm LSP), one 13.6t and one 15t front-mounted fork lift truck are on their way for multi-level use in the 75-hectare stores. An RTD2626 log stacker for a load of 26t is also being delivered to feed a sawing line with trunk wood.

Ante-Holz is purchasing the Swedish quality machines on good advice because of the sensible price-performance ratio, high quality and low maintenance cost. Driven continuously, the FLT's complete around 5,500 hours per annum. Even though the machines have to cope with tough operating conditions and

are almost always employed at the load limit, no unplanned breakdowns have been recorded so far. They are serviced every 500 operating hours. Consumables are stocked locally at the Ante-Holz workshop, but when special spare parts are required, Kalmar's 24-hour delivery service in Hamburg is called upon, which can deliver orders received before 4pm on the same day.

Ante-Holz's machines feature comfortable cabs with air-conditioning and can operate outside on any surface all year round. The machines

are equipped with standard 1,200mm long forks with a prong adjustment unit which incorporates a horizontal thrust. Duplex lifting platforms, with lifting heights of at least 4,000mm, have been recognised as the best choice for the internal logistics of Ante-Holz.

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The new Kalmar medium-weight FLT's were just what Bergene Holm AS was after to improve the efficiency of its handling operations. The new trucks have replaced six machines that have been in action at the plant for 20 years.

"Even though we now have one less machine in operation we are already finding them to be more efficient. We are now able to rely on the five big forklifts which are all the same size and have the same capabilities and are able to do everything that we need them to do. "We are also experiencing the benefits of a modern forklift fleet that offers ergonomically designed operator environments."

A remarkable change

Bergene Holms AS, one of Norway's biggest timber-processing companies, has replaced its entire forklift fleet at its plant in Fossum. The new fleet comprises five Kalmar forklift trucks (FLT's) each has a 12-tonne lifting capacity. The machines have taken over the handling of sawn timber products, both in the production and unloading areas of the plant.

Eivind Ulvin, Site Manager of the Fossum plant, is very pleased with the new investment:

All five forklifts have been fitted with Kamar's Spirit Delta cab which is proving to be highly successful with the drivers at Bergene Holm AS Fossum plant.

Mr Ulvin explains further: "For the drivers, these new Kalmar forklifts are a highly valued improvement. They are now able to drive machines that provide good driver-comfort and the best visibility imaginable. Also, with the forklifts being identical, it is easy for a driver to help out

with all handling tasks, both in the production and the unloading areas."

Bergene Holm AS already uses Kalmar forklifts at several of its plants throughout Norway – a factor that influenced this choice of machines for Fossum. However, the deal was sealed by Kalmar's high degree of availability the provision of a good service and a competitive price tag.

The forklift fleet has been carefully developed by Kalmar; understanding the needs of the customer is what makes its machines so successful. As such, the new FLT's will be able to meet the company's logistical and handling requirements effectively and efficiently.

Mr Ulvin talks about the innovation in design that he is particularly pleased with:

"The new forklifts have been fitted with longer forks, allowing trucks to be loaded and unloaded from just one side. "Handling tasks can now be done using one less forklift,

meaning a significant saving in terms of investment, operating costs and maintenance."

The Bergene Holm AS and Kalmar relationship

Kalmar Norway has also supplied new forklifts to Bergene Holms AS' plants in Kirkenær and Mosjøen where Kalmar machines have been in operation for many years. Bergene Holm AS has ten sawmills and plane mills supplying sawn timber products to both the Norwegian market and the export market. Annual production within the group is about 390,000 cubic metre of sawn products, of which approximately 260,000 cubic metre are plane products.

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Fewer forklifts, greater handling efficiency





Maersk Sealand secures shipments every step of the way

Exporters and their clients desire that cargo be delivered to a destination safely and in perfect condition. Nevertheless, the delivery process is associated with a number of risks and unexpected damage may occur during transit. Therefore, most cargo carriers sign up to insurance policies to cover against the potentially high risk of damage to a customer's product.

Maersk Sealand, one of the world's leading ocean carriers, foresees the importance of such insurance to cope with risk of damage to goods during shipment. Such a policy helps promote the company's commitment to a high level of reliability and security. In addition to insurance, Maersk has endeavoured

to improve the level of care with which it handles shipments at every stage of the process. Maersk Sealand Thailand's area claims manager Mr Suphachai Mungkiatsakul, a well-known expert in the field with a great deal of professional experience in risk coverage and cargo insurance. He talks of the need

to reduce the risk of damage and loss in order that goods can be transferred to their destinations safely and securely.

Mr Suphachai says: "With regard to their general role, exporters who have done shipping packaging in their factories or CY, must double check the condition of their shipping containers prior to loading their products. After finishing packing, all of the containers must be forwarded to a liner shipping company at a designated departure spot. The shipping company will then take responsibility for transiting the goods to the required destination. Importers are responsible for taking receipt of and checking the cargo upon arrival. If there is any damage to the goods, the importer must

report it to the shipping or insurance company within three days of obtaining the cargo."

Insurance regulations

According to insurance regulations, the shipping (or insurance) company will be solely responsible for cargo damage only if there is external damage to the containers. Insurance will cover lost cargo in the case of broken seals on the containers.

Where the insurance agents are unknown, importers or consignees can contact the exporters. Usually, the owners of the cargo insure goods to the sum of about 110 per cent of their value. It is down to the insurers to compensate for the damage based on the "sum insured", while the



container or shipping equipment be replaced if they consider it may prevent the cargo from reaching its destination safely. Secondly, the exporters are under a duty to load the goods into containers properly, ensuring that each package is lashed and secured to prevent products shifting while in transit."

Safe and secure shipments

Shipping companies differ in terms of their quality of service, particularly the investment in damage and loss prevention and the attention paid to each shipment. Mr Suphachai says: "At Maersk Sealand, our services are handled by a skillful sales team who can provide hands-on advice for customers on how to prepare their cargo for shipment. They can provide instructions on the best packing methods for particular goods, especially those requiring careful loading." The company has also set

high standards in terms of its shipping containers. Every shipment is organised by professionals and utilises modern handling equipment. Again safety and security are key, and the containers are kept in a special storage space that is monitored by 24-hour security systems.

Those containers not delivered to port areas are forwarded to Thailand's premier port, Laem Chabang via road or rail. This handling service is organised by Siam Shoreside Services (SSS), a subsidiary of Maersk Group. SSS, which holds an ISO quality certification, helps ensure all containers are transferred to the port safely and efficiently in order to meet shipment schedules.

Mr Suphachai says: "Maersk Sealand ensures every stage of container handling is monitored and controlled by an online tracking system that applies to both trailer transportation and container loading/discharging at ports. Operated by SSS,

the company's trailers are equipped with a global positioning system, enabling customers to track trailer positions country-wide and verify delivery status through the company's website www.maersksealand.com as soon as the data is uploaded. Moreover, Maersk Sealand has signed 'terminal and port agreement priority berth' contracts with every port of call, ensuring confidence and commitment to our customers in terms of shipment schedules, offering punctual container loading along with security and reliability."

The article is translated from Thailand's leading shipping Magazine, Logistics Manager.

Forklift ballet: At SCA's Witzenhausen factory the Kalmar FLT's have to load 120 truck and trailer units every day – high-performance technology is the basic prerequisite, thus only heavy Swedish technology is used.

The Witzenhausen Paper Factory, north of Kassel in central Germany, has invested in 21 Kalmar DCE 80-6 forklift trucks (FLT's) to handle paper reels and waste materials. The factory, founded in 1975, became part of the Swedish group, Svenska Cellulosa Aktiebolaget (SCA), in 1995 and is one of the biggest factories in the group. In 2004 it processed 318,000 tonnes of waste paper into 300,000 tonnes of cardboard packaging, creating a need for greater handling capacity.



SCA calls on Kalmar expertise

The FLT's have been fitted with special lifting gear, comprising a 6.25m lifting height. They are equipped with inclined cylinders above the air conditioned driver's cabin, due to the considerable forces of torsion that arise when picking up the paper reels. A protective grid has been inserted between the inclined cylinders effectively protecting the Spirit Delta cab. They are each

powered by an 85kw Perkins low-emission engine installed with soot filters. A Bolzoni-Auramo paper-reel clamp has been incorporated in the design of the machines, which automatically regulates the contact pressure between paper and fork.

Peter Booß, Workshop Manager at the factory, comments:

"SCA's top priority is safety

in the workplace. Kalmar's DCE 80-6 has been designed to meet the requirements of a safe, modern workplace and is also environmentally friendly.

"Running an operation of this size is tough, especially on the machines and so it is essential that the equipment we employ is able to stand up to the tasks at hand. We are confident that Kalmar has the expertise to

accommodate our needs."

Each machine, shared by two drivers, operates 24 hours-a-day. Between 6am and 10pm the FLT's have to unload around 120 truck and trailer units with the waste paper being stacked in the open air. At least three DCE 80-6s unload the trucks, three are employed in loading and further machines are used for feeding balls into the paper machine, which has to be fed constantly. Another FLT removes the finished paper reels, weighing up to 3.5 tonnes, from the apron conveyor and takes them to the warehouse.

The machines have been fitted with converter transmission and pneumatic tyres, which are the tried and tested technical aids for frequent reversing manoeuvres. These are important features considering the machines clock up 4,000 to 5,000 hours per year.

Outdoor operations at SCA's waste-paper storage site are tough. The Kalmar DCE 80-6s can lift up to 6 of the 500kg balls at a time with their clamps and move them to any where in the mill.

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SCA's Kalmar FLT's have been fitted with special lifting gear and offer a 6.25m lifting height. They are equipped with inclined cylinders above the air conditioned driver's cabin due to the considerable forces of torsion that arise when picking up the paper reels.

Kalmar has launched a new generation of log stacker, the RTD1623, to replace the RTD1523, which has been on the market since the early 1990s. Compared to its predecessor, the new RTD1623 offers more capacity, increased stability and even better manoeuvrability, despite having a wheel base 250mm longer.

The new machine incorporates many of the proven and popular features of its predecessors, the RTD1523 and RTD3026 models, but also offers a number of new developments.

A more spacious cabin

The RTD1623's new cabin is based on Kalmar's Spirit Delta design but offers a longer frame and provides a number of advantages, including:

- a 100mm increase in operator leg room
- larger front screen tilt angle to reduce the level of reflection
- re-positioned top beam for better upward visibility when stacking

Enhanced access to controls has been achieved with the seldom-used switches being concentrated on the right hand side door panel. Noise reduction has also been further improved.

ECC electronic climate control

The RTD1623 cabin is fitted with an automatic climate control system (ECC) as standard, ensuring optimal temperature conditions for the driver.

Integrated graphic user interface with colour display

An integrated computer displays all of the machine functions, warnings and alarms, as well as allowing adjustment to be made to the log stacker's parameters, properties and functions.

The multi-page graphic settings screen features operator, service technician and factory levels, all with different access rights.

Scania D112 engine with ZF 4WG-261 transmission

The log stacker comes with a Scania D112 engine with

243kW at 2000rpm (1589Nm at 1400rpm). The new ZF 4WG-261 Ergopower transmission has four forward and three backward speeds. This unique system allows uninterrupted torque even during shifting.

New front tyres for more stable operation

The RTD1623 is equipped with new low-profile 35/65 R33 front tyres with extremely wide foot-steps. These ensure excellent traction in all conditions as well as being stable during complex manoeuvring. Single tyres, at 3710mm, were selected to keep the log stacker's width within reasonable limits. The tyre width plays an important role in stacking efficiency, especially when dealing with short logs.

New single cylinder steering axle

The RTD1623's steering axle construction is totally new, consisting of a single vertical plate to which the hydraulic cylinder is attached. The piston rods of the steering cylinder are well protected against damage from external particles.



Wide range of grapples available

The new model comes with a 4.8m² grapple as standard, although customers can opt for grapples of between 3.0m² and 7.0m². Kalmar has traditionally engineered the grapple according to the requirements of the individual customer.

Well adapted for sawmill operations

Busy sawmill operations are very demanding. After picking logs from the sorting line, it is necessary to level the log ends by pushing them lengthwise against a concrete wall. The customer can opt for a grapple equipped with tilt suspension in order to protect the log stacker's steel structure against extreme shocks. For additional pro-

tection, the grapple hangs free at speeds below 3km/h, unless it is force-tilted hydraulically.

Optional boom suspension for a smoother ride

To ensure a smooth drive, customers can opt for lift cylinders equipped with hydro-pneumatic accumulators designed to ensure better suspension, especially useful in terminals with rough ground. The suspension stabilises the ride and effectively reduces the shocks and boom movements, thus eliminating high stress peaks in the structures.

Excellent service access

The new log stacker is built for easy service access. The cabin can be tilted laterally to the left with an electrically operated pump, thus allowing excellent access to the engine, transmission and hydraulic pumps.

The hydraulics are primarily concentrated on the left hand side of the chassis and the main valves and are easily accessible through the door on the side panel. For bigger overhauls, the step module, or cover plate, can be easily removed.

Electrical cabinet and filters for transmission and fuel are positioned behind the door on the right hand side.

All daily checks are easily accessible from outside. The engine and transmission oil, coolant, and window washer tank are all situated next to the cabin access on top of the engine cover. The fuel fill, batteries and the reservoir for the central lubrication system are located on the right hand side of the machine.



Optimum comfort

When Kappa Kraftliner in Piteå, Sweden, was looking for five new lift trucks to handle the ever broader rolls of kraft liner that it is manufacturing, Kalmar was able to offer the best solution. The Spirit Delta Space cab, which Kalmar describes as a driving environment with optimum comfort and a high level of safety, was much appreciated by Kappa but the decisive factor proved to be the rotating driver's seat.

Kappa Kraftliner's operational engineer, K-G Fältmark, explains:

"We are producing increasingly broad and heavy rolls of liner and this imposes specific requirements on the trucks that we use to handle the rolls. They must be capable of lifting and transporting two rolls at a time, which considerably restricts the driver's view when driving forwards. Kalmar's rotating driver's seat enables the trucks to be driven safely in reverse at normal operating speeds and is thus a crucial prerequisite for safe, fast and efficient handling."

Kappa Kraftliner, which with two paper machines produces 700,000 tonnes of kraft liner a year in Piteå, believes that the correct choice of truck is critical, noting that these machines play a key role in the production process. They are used to handle the finished products both within the warehouse and for loading trucks or trains. The five new trucks will handle around 40% of the company's total pro-

duction, the remainder being loaded automatically onto special trailers for onward transportation by sea.

Integrated unit for precise handling

The trucks selected by Kappa Kraftliner are Kalmar DCE 80-6s that have been developed to handle two rolls stacked one on top of the other. They are fitted with integrated clamp units manufactured by Cascade.

With these attachments, lifting is precise and always produces the correct gripping pressure. When the driver has clamped onto the rolls, he turns his entire driving seat through 180o and can thus drive the truck without his view being blocked by the load. The automatic clamp unit is also responsible for the load being positioned correctly when it is to be unloaded.

Mr Fältmark explains that all of the professional groups as-

sociated with product handling have been involved in the selection work:

"One by one, we have looked at all of the suitable models of truck on the market. We have also had close contact with other users of Kalmar's paper-handling trucks."

The trucks are diesel-powered and equipped with particle filters and catalytic exhaust purification, have a conventional drive line and have been modified to facilitate optimum handling of the wide rolls. For example, the plates that hold the rolls have been extended by 40% in order to ensure a precise and gentle grip on the rolls of kraft liner, the largest of which weigh up to 4.3 tonnes each. The current average weight of Kappa's rolls is 2.3 tonnes.

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A revolution in log stacker technology



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Innovation creates successful partnerships



For decades the Danube-based sawmill, Donausäge Rumplmayr, has been committed to Kalmar, employing 14 of the company's machines in its production and logistic operations. The timber industry represents by far the most important export sector in Austria. Donausäge Rumplmayr, with plants in Altmünster and Enns in Northern Austria, ranks among the Austrian timber trades' top four exporters.



Four Kalmar log stackers are currently in use at Enns.

a number of different options with regard to lifting gear, four power trains are offered, guaranteeing high torque even at low engine speeds, with a performance bandwidth spread over 116 to 237 HP. In addition, a choice of three different transmission types is available.

What all these variants have in common is that the very best of drive components have become an established part of Kalmar's medium-size forklift family.

RTD1523 log stacker

Kalmar offers three basic models with 15t, 26t and 30t carrying capacity for a variety of different needs and applications. Rumplmayr uses the RTD1523 log stacker to unload cargo from ships and HGVs and for loading as part of the operational production process. The RTD1523 excels for its static tipping load of 74t (in the driving position) or 27.5t (in the receiving position). The gripper's 3m horizontal extension path, a bunching height in excess of 8.8m and a gripper cross-section of 4.5m² also make for impressive basic specifications on the RTD1523. As with all Kalmar's log stackers, even the "smallest" boasts maximum load-ability, user-friendliness and minimal maintenance costs.

The customer proximity consideration

Apart from the high quality of the machines, Rumplmayr values the proximity of Kalmar's cus-

Anyone entering the company's Enns plant is immediately aware of the active hustle and bustle. HGVs drive up to the company's grounds and then exit the 22-hectare site again within minutes. All operational cycles are planned down to the tiniest detail; every tiny cog has to engage precisely with the next like clockwork, 24 hours a-day, seven days a-week. Any breakdown in the production and logistics chain would obviously have far-reaching consequences. As a result, all machinery must not only be extremely durable and reliable, but must also demonstrate long maintenance and servicing intervals so as not to be withdrawn from the process too often.

Toughest requirements: a case for Kalmar

Kalmar's professional trump card

is its ability to meet extremely high demands. Whether it's log stackers or forklifts, Rumplmayr fully backs machinery from the Swedish manufacturer, whose Austrian branch is based in Klagenfurt (Carinthia).

Helmut Steiner, Works Manager at the Danube-based sawmill at Enns comments on the Kalmar service:

"For more than 40 years, Rumplmayr has been a customer of Kalmar. It is the only company to cover the entire spectrum of machinery."

The sawmill currently has 14 of Kalmar's machines in use, comprising four log stackers and 10 forklifts ranging from 7.5t to 16t. Machines included in the latest generation are the DCE80-9 and DCE160-12 type forklift trucks and the RTD1523 log stacker.

DCE80-9 forklift

Kalmar's DCE80-9 type forklift ranks high among the new series of forklift trucks with a lifting capacity of 6-9t. The DCE80-9 is

powerful, sturdy and designed for many years of high-impact loading. Its particular merits lie in the unique style of the driver's cab, low operating costs, minimal servicing outlay, low fuel



consumption and a new electronic control system.

In the case of the cabs, Kalmar's worldwide driving position comes clearly to the fore in terms of ergonomics and efficient operative surroundings. The variant preferred by Rumplmayr, the "Spirit Delta", offers ultimate conditions of visibility in all directions. Control of all functions has also been considerably facilitated. Thanks to the cab's roomy design, ample space remains for integral computer and communications equipment.

Modern power trains ensure effective drive mode with a minimum of emissions and fuel consumption. A geared engine and a drive axle with service and parking brakes have each been combined into a single unit and designed for maximum performance and a lengthy service life. The diesel engines supply high

torque even at low revs, and thus deliver high acceleration coupled with refreshing manoeuvrability. The lifting gear on the DCE80-9 is characterised by a highly stable structural design and good vision. A large number of forks and/or attachments are optional and can be easily combined.

Optionally available on all models in this series (apart from those with Flex Cab/Flex Guard cab designs) is KCS – the Kalmar Control System. This electronic control system is based on high-performance processors and modern CAN bus technology. Information is viewed on a large display on the steering wheel console, including messages detailing operations, diagnostics and any errors. Add-on equipment allows the ma-

chine to be customised for specifics such as pre-selected lifting height, joystick control or protection against sagging lift chains.

DCE160-12 forklift truck

The DCE160-12 type forklifts are in constant operation at the plant. These also incorporate the Spirit Delta cab type, which is designed in accordance with state-of-the-art scientific know-how in ergonomics, clarity and intuitiveness, and sound insulation. Developed for intensive heavy-duty handling under demanding working conditions, this series of models stands out above all for its minimal service outlay and high-end availability. Extended

service intervals, every 500 operating hours, have lead to 15% lower operating costs. As well as

customer service division in Vorchdorf, which can be on site in just over half an hour if necessary. Furthermore, spares can be supplied from the well-stocked Klagenfurt stores at short notice or overnight from the central spare parts stores in Metz. Trained staff in Klagenfurt specialising in Kalmar products support the mechanics on location.

This customer is committed to Kalmar for a number of outstanding reasons that are important to a huge number of enterprises around the globe.

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What's lurking in your container?

The invisible hazards of wood packing

Warehousing and container freight station staff would do well to exercise caution when unstuffing containers with taped up vents or unusual odours. Even if there is no labelling to signify the presence of gaseous substances, this is no guarantee. In particular, boxes containing methylbromide, a hazardous pesticide commonly used to treat wood packing, are regularly turning up without the appropriate hazardous warnings – and for those exposed to high levels of the pesticide, there can be potential health risks.

On 1 March 2005 EU Member States adopted the Food & Agriculture Organisation's International Standard for Phytosanitary Measures, (ISPM) 15, which details the approved methods of keeping wooden packing for goods transportation, such as pallets, free of live pests. One of these methods involves the use of the pesticide gas methylbromide, with which the packing is treated prior to a container's dispatch and which is potentially hazardous.

All containers whose contents have been treated with methylbromide should be ap-

propriately labelled. However, shipping a unit under fumigation means more hassle for the shipper and, consequently, many choose to forego the requirements. As a result, containers are arriving at their destinations without the required warnings, thus posing a health risk to staff at the receiving end of the transport chain such as container freight stations and warehouses.

Turn up the heat, not the gas

ISPM 15 is a positive initiative meant to protect crops and the natural world against pests. While these pests will not harm humans, they would, if given the opportunity, play havoc with the Black Forest. Therefore, to elimi-

nate the chances of their travelling in containers and spreading to destinations across Europe, all wooden packing must be debarked and undergo either heat treatment or fumigation.

Heat treatment, at a minimum core temperature of 56 degrees centigrade for at least 30 minutes, is by far the least damaging solution for the environment. Moreover, it has no ill-effects for workers at the receiving end of the transport chain. However, it is more expensive and laborious than simple gassing, thus making it a less popular option. And even if heat treatment is used, a shipper will sometimes also use gases such as methylbromide, formaldehyde and phosphine as an additional precaution.

A permissive community

The problem is, too many shippers are not alerting the receiver of the goods to the presence of the noxious gases.

"The irony is that there is no reason for the gas to remain in the container in the first place," says Evert Wijdeveld, Environmental & Safety Affairs Officer at the Rotterdam Port Association, Deltainqs. "The container could be fumigated prior to shipment by ventilating it in a remote corner of the yard for a few hours. Dutch law actually requires export containers to be fumigated

prior to loading onto an outbound ship. However, this is not a requirement everywhere and, instead, fumigation takes place at the container's destination."

This would be straightforward enough if all the containers were labelled. Indeed, the IMO's IMDG-code is specific in the fact that containers must be labelled as a 'unit under fumigation', information which must also be recorded on the manifest.

"But the fact is that this isn't done with all containers – not by a long shot," Mr Wijdeveld says. "This is mainly because shippers want to avoid the Hazard Class 9

seafreight surcharge."

"If you entered and then left a gassed container, methylbromide wouldn't kill you and there are no records, for example, of it being carcinogenic," Mr Wijdeveld says. "However, there are various standards throughout Europe governing the safe levels of exposure to methylbromide and they certainly exist for a reason."

Indeed, rules state that no persons should be allowed within a ten metre radius of high levels of methylbromide and no offices or other manned buildings should be located within

one hundred metres of the gas.

As such, Mr Wijdeveld advises that the best procedure when dealing with the gas is to use a professional gas level assessment with proper sensor devices. But unfortunately, at present, people are just not taking the risks seriously.

"There is a permissive approach to working around the gas," explains Mr Wijdeveld. "But it is important to remember that, regardless of whether or not a container bears warning labels, if its vents are taped up and there is a smell emanating from it, then the box must be properly ventilated before it is unstuffed."

Contaminated cookies

Given the risks of pesticides such as methylbromide, the Port of Rotterdam was alarmed when the Dutch Health Ministry earlier this year published statistic relating to imported containers carrying noxious gases. The assessment revealed an unacceptable number of unmarked containers as well as providing evidence to suggest that methylbromide was also escaping from the goods in warehouses, shops or at home over a long period of time. The pesticide was even identified in medicines, cookies and other foodstuffs.

Although the media attention over the findings was short-lived, the debate had given the Rotterdam shipping community uncomfortable flashbacks to the controversial fireworks issue it had encountered a few years earlier. This involved the expulsion from the port of a large containership carrying Chinese fireworks, the explosive value of which had been falsely classified as too low. Dutch authorities believed that the false declaration had been deliberate.

Explains Mr Wijdeveld: "In that particular case the Chinese exporters involved were personally visited by a Port of Rotterdam delegation, and since then the false classification has all but disappeared. It would be ideal if the same approach could be taken with methylbromide, but the problem is too widespread. Whereas the fireworks incident involved an isolated group of manufacturers, any shipper anywhere using wooden pallets or packaging can be using methylbromide and not labelling the container properly."

As such, Mr Wijdeveld believes that importers must be

educated about the use of the pesticide and consequently be responsible for educating their overseas suppliers. Ideally, they should insist that all containers are either degassed prior to shipment or that they carry the correct cautionary labels.

"Moreover, it is vital that all importers have sophisticated risk analysis procedures in place. Remember, it is every employer's obligation to protect their staff," he adds.

"There is a checklist of simple questions that all importers can follow: Where is the container coming from? Do we know this specific shipper's ethics and standards? Has he used wooden pallets before? Sadly, a recent campaign by Dutch labour inspection found that 65 of the total 76 importers checked lacked any risk-inventory system for imported containers."

Championing the cause

Deltainqs plans to lobby the Dutch Transport Department to advocate official Europe-wide action enforcing correct labelling. Lobbying to avert Dutch unilateral rules affecting the level playing field is also a key aim of the association.

Dutch health and environmental officials point out that an alleged 80% of all gassed containers have been handled free of import regulations or goods acts. Meanwhile, toxicologists suggest that the levels of methylbromide that have penetrated the plastic wrapping of cookies might be so low that the amount of cookies one must consume for it to be dangerous is more harmful to one's health than the pesticide itself.

However, the same toxicologists add that, as most methylbromide escapes in the first couple of hours of a container being opened, warehouse staff contract the highest emission by far and are indeed vulnerable to potential health risks.

Methylbromide will, thankfully, be banned in 2015. However, there's a lot of scope for damage over the course of a decade, so proper caution when coming into contact with the gas is imperative.

Harry de Wilt



Like methylbromide, other pesticides can carry a health risk. The only safe treatment is heat treatment.

Assessing the Occupational Exposure Limit or Threshold Limit Value.

When in doubt, to measure is to know.

(Fotos: REST, Rotterdam)

