New service and maintenance centre in the port of Kotka

Committed to improving the services it provides to its customers in the container and forest products industries, Kalmar has opened a new 1,400m² service and maintenance centre at Kotka Container Terminal in Mussalo, south-eastern Finland.

The centre offers technical expertise and support for local industries, which operate hundreds of machines for container and materials handling duties. Initially, the centre mainly provides maintenance support to the cargo handling and straddle carrier company Finnsteve. This will cover its fleet of straddle carriers, lift trucks and terminal tractors at Kotka Container Terminal to ensure that it has constant access to well-functioning machines. Finnsteve started container operations at Kotka Container Terminal in Mussalo at the beginning of 2005.

Kotka Container Terminal has been designed to handle 500,000 TEUs per year. Various loading container feeder lines have committed to providing an almost daily service between Kotka and the major deepsea parts of continental Europe.

“Kalmar is a company that differentiates itself from its competitors by constantly developing innovative solutions for our customer segments and helping them to reach their optimum performance levels,” said Christer Granberg, President and CEO of Kalmar Industries.

“Kalmar is now introducing a new terminal tractor for RoRo handling, the i-model, the world’s first series of tractors to be completely integrated with electronic control system through CAN-BUS technology.”

Kalmar has been developing machinery for advanced RoRo handling since the 1960s. Leading industries, such as steel mills, require specialised knowledge, which is what we can offer,” said Granberg.

Kalmar is now introducing a new terminal tractor for RoRo handling, the i-model, the world’s first series of tractors to be completely integrated with electronic control system through CAN-BUS technology.

Kalmar crosses the bridge to Yangshan

Kalmar has opened a new 1,400m² service and maintenance centre at Kotka Container Terminal in Mussalo, south-eastern Finland.

Kalmar offers the most comprehensive range of terminal tractors meeting the needs of customers around the world. The range includes models for lighter distribution to those machines designed to handle demanding duties for heavy industries, such as steel mills.

Kalmar has been developing machinery for advanced RoRo handling since the 1960s, leading the way in developing its terminal tractor offering. Kalmar is now introducing a new terminal tractor for RoRo handling, the i-model, which will be used to test and develop service and maintenance solutions and techniques, and the maintainability of the machines.

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Kalmar crosses the bridge to Yangshan

A convey of eight Kalmar empty container handlers (ECHO), two Contichamp DRF reachstackers and 38 terminal tractors made a striking picture when they crossed the East Sea Bridge from China’s mainland bound for the massive new Yangshan Deepwater Port Phase I, on 20 September 2005. Among those guests on hand to witness the spectacle, was Gui Mo, President, Headquarters of Shanghai Deepwater Port Construction, Port Branch. The Yangshan Port equipment orders have been placed in conjunction with other machinery orders from Yangtsheng Logistics Park. In total, Kalmar will deliver three 1 over 5 high and 6 + 1 wide RTGs to the Yangtsheng Logistics Park, 38 empty container handlers, including two to Yangtsheng, eight DRF reachstackers, including six to Yangtsheng; and 73 terminal tractors, five of which are destined for the logistics park.

From the left Gui Mo, President, Headquarters, Shanghai Deepwater Port Construction, Port Branch, Eric Culn, President, Kalmar Asia and Chris Granogak, President, Kalmar Industries.

Kalmar around the World

Kalmar crosses the bridge to Yangshan

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Automated solutions for the future

In recent years most western ports have been struggling to keep pace with demands for increased efficiency and capacity. Automation is now emerging as a key tool with which to achieve this. The challenges facing terminal operators are tougher today than they ever have been. The giant capacity of the latest containerships puts increased pressure on handling speeds and productivity at the world’s major ports. By 2006, the slot capacity of the global container fleet will be almost double what it was in 2004, meaning that demand for faster and more efficient handling at ports will continue to intensify.

As the world’s leading container handling equipment supplier, we have responded swiftly, each year introducing improved machines that offer better and faster handling capacities, while at the same time making less noise and providing cleaner operations.

In this issue we introduce another new product line – namely, the DCF toplift series and J-series terminal tractors, which provides the platform for our latest generation machine and will be able to support add-ons such as automation and driver assisting features. Automation has quickly become a core element of our product and service range at Kalmar as it serves as a link to our customers’ operating dilemmas – from efficient use of terminal space to operator safety.

At Kalmar we strongly believe that customers benefit from our combined knowledge of equipment and automation, including on-board smart features, integrated systems and remote maintenance for container handling equipment.

Many terminal operators also share that view. HHLA’s recent decision to convert Container Terminal Burchardkai in Hamburg to an automated stacking crane (ASC) system in cooperation with Kalmar was partly born out of the terminal operator’s wish to work with a single responsible supplier for its equipment, automation systems and related technology (more about this on pages 4, 6 and 7). In association with Patrick Stevedores, we have accomplished the world’s first fully automated straddle carrier terminal at Kalmar’s island, Brisbane, Australia. Employing 18 unmanned edrive® straddle carriers, the facility operates 24 hours a day, 365 days a year in nearly all weather conditions. Through automation, Patrick has achieved a smoother overall operation, a reduction in fuel and maintenance costs and a greatly improved safety record. I am confident that all is just the beginning. Encouraged by successes in Hamburg, Hamburg and several other terminals that use our on-board smart features (Smartpath® and Smartpath®), integrated systems and remote maintenance products, we at Kalmar are embracing automation in our ongoing research and development efforts.

Although in its infancy, automation has already proven its worth in releasing a number of our customers’ operating dilemmas – from increasing productivity needs and addressing labour shortages to controlling costs and fulfilling environmental responsibilities. I believe that there is much more it can do for our industry and that Kalmar, as the leading company in our field, has a duty to find out what that might be. One thing is for sure: automation will be a big part of our future.

Chris Granogak, President and CEO, Kalmar Industries
Kalmar once again demonstrates its capability and market leadership with the first terminal tractors on the market to use the new CAN-BUS control system.

The new TTX182i, TRX182i, and TRL182i feature a new engine and transmission for greater power and torque and the new CAN-BUS control system offers faster, safer, simpler operation with less maintenance.

Kalmar’s new i-models tractors are the start of a new era. What does the “i” signify?
For starters, it shows innovative solutions. The CAN-BUS control system’s many intelligent features help drivers and service technicians to do their jobs much more effectively and safely. The total integration of the engine, transmission and entire machine with the CAN-BUS control system simplifies the design while still enabling full advantage of the new features.

The greatly improved performance of the new i-models can be felt in many ways, such as in the better pulling capacity, very smooth automatic gear change and CAN-BUS features, which bring a completely new level of easy operation. This gives the driver the freedom to concentrate on the essential – getting the job done.

The new CAN-BUS control system provides comprehensive information generation and collection, so the users can operate more productively. For example, the driver and service technician can better plan their tasks.

They offer very smooth and soft automatic gear changes and a proportional lift boom control with auto rev-up that adjusts the hydraulic oil flow to the optimum level. Drivers no longer need to rev-up the engine with the pedal, as the i-models adjust to the correct flow automatically.

CAN-BUS further helps the driver with several new-standard safety features, such as blocking the engagement of forward-reverse, 4WD, king pin spanning and range change when the tractor is moving.

Move heavier loads easier
With the new video TACVS® and optional Sisu Diesel (both EU stage 3A and EPA/CA4B Tier IV emission level), the TTX182i, TRX182i and TRL182i offer greater power and torque, with less service. Both engines offer high and stable torque at a wide range of engine revs, the key to smooth, effective tractor pulling operation.

Both engines feature a new transmission, the Dana RTE 1582i, based on the well-proven 32000 series but with new improvements. The automatic gear change is now standard, but drivers may still select the manual operation mode as well.

Also a notable change is the wheelbase increase to 3100 mm in the TRL182i model in order to offer enough swing clearance, for example for trailers with freezer units.

A completely new element of control
All of these new developments result from careful Kalmar research and development. Harri Turpeinen, Kalmar Trailer Handling’s R&D Manager, “New, modern engines and transmissions with electronic control systems generate a huge amount of information. It is obviously hard to control, but the biggest challenge is really to take full advantage of the information and diagnostics they offer. The only way to do this is to have these systems, meaning the engine and transmission, communicate with the rest of the tractor. For this reason, it was obvious we needed to develop the CAN-BUS control system for the whole unit."

“With CAN-BUS, it is possible to collect more precise operational data about the tractor, such as driving positions, fuel consumptions, power utilizations, and so forth. All this new very accurate data can be used in further R&D projects with the customers,” he concludes.

With CAN-BUS, there are one-third less of the wire harnesses of the traditional system, no circuit boards, one display showing all warnings and information, and identical electrical components regardless of the model. CAN-BUS also overcomes the increased number of engine and transmission sensors and enables more customer-specific options.

Less downtime, higher runtime
This is mainly due to its detailed and well-presented information and diagnostics on the driver’s display, including all new standard information and functions. The diagnostics submenu offers detailed information about the alarms and their codes, as well as operational data. Reestablishing now only takes seconds, so CAN-BUS shows more precise information, such as possible faults in sensors or connections.

CAN-BUS can also connect to the Kalmar RMI (Remote Maintenance Interface) system for better service planning and fault diagnostics from the office or through the Internet.

**What can the new i-models promise?**

**i CAN...**

... make the driver’s tasks easier and faster
... give more power and torque
... offer trouble-shooting in 1/10 of the time
... simplify electrical system and maintenance
... give longer service intervals
... meet the new environmentally-friendly regulations

A new era starts with i

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**i CAN...**

say new tractors for trailer handling

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**The world’s widest terminal tractor range**

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A new era starts with i
Brisbane automated straddle carrier terminal enters a new dimension

After years of intensive research, development and testing, the world’s first fully automated straddle carrier (AutoStrad) system started large-scale operations in Patrick Corporation’s Fisherman Islands’ facility in Brisbane, Australia when Berths 7, 8, and 9 officially opened for business on 1 December, 2005.

In phase one of the terminal conversion, Kalmar will equip the first five yard stacking blocks with 15 ASCs, along with their automation and control systems, during 2007 and 2008. The first crane will arrive at Burchardkai at the beginning of 2007. The Burchardkai terminal handled approximately 2.3m TEU last year. HHLA plans to increase its capacity to 5.3m TEU by re-engineering the operation and converting the main part of the conventional straddle carrier container storage area to an ASC system by the year 2015. HHLA also expects to improve productivity significantly. During the conversion process all present terminal operations must be able to continue uninterrupted, while capacity increases gradually.

By 2015 Container Terminal Burchardkai will be operated as a ‘block’ system, with 30 yard blocks, stacking ten containers wide, five high and 44 TEU (330m) long. Each block will employ two smaller ASCs capable of straddling the ten-wide, five-high blocks and one wider and higher ASC, capable of passing over the smaller machines with a loaded container. Operating on separate sets of rail tracks, the cranes are capable of moving freely within the block. From the quayside, containers will be transported by straddle carriers to a buffer area, where they will be collected by the ASCs. Outgoing containers will also be handled through the buffer area using the same system. On the landward side of the block, the ASCs will either perform loading and unloading of road trucks, operated through a remote control system by terminal control room staff, or handle containers automatically in a straddle carrier buffer lane. The contract includes an option for an additional 75 ASCs.

Make things easy Commenting on this decision to cooperate with Kalmar, Container Terminal Buchardkai’s Managing Director, Christian Blauret, said: “Kalmar has been a long-term partner for HHLA and has shown, over many years, true dedication to developing the business. We are convinced that we benefit from Kalmar’s combined knowledge of equipment, container handling systems and automation features. It makes life much easier for us to deal with one responsible supplier. Kalmar places strong emphasis on automation development through its business unit, Intelligence & Automation, which focuses on the marketing and development of onboard smart features for container handling equipment, integrated automation systems and on-line remote maintenance products and services. Jorma Tirkkonen, President of Kalmar Intelligence & Automation, said: “We are very proud that HHLA has chosen to work with us on this project, which is leading the way for the whole industry. Automation will be a solution for many terminals looking for ways to improve their capacity and productivity in a safe and environmentally friendly way.”

The Port of Hamburg’s biggest container terminal operator, HHLA, has chosen Kalmar Industries for the supply of its automatic stacking crane (ASC) system and related technology for the first step in the conversion of its Container Terminal Burchardkai facility to a semi-automated operation.

Kalmar Intelligence and Automation

The facility now operates with 18 automated Kalmar EDRA® straddle carriers, the first such machines to be purpose-built for unmanned operations. The automated 65-tonne straddles are fitted with motion control and navigation systems which allow them to operate unmanned 24 hours a day, 365 days a year, in very nearly all weather conditions. Between them, the 18 straddle carriers will handle over 400,000 TEU during the first year of operations on the 25-hectare site. They will be responsible for moving containers from the 750 metre quay, stacking them in holding yards and loading them onto vehicles.

Automated straddle carrier trial operations were initiated in 2000 and, following their success, the machines undertook their first commercial moves at Berth 7 of Fisherman’s Island in 2002.
After a successful trial period with five automated straddle carriers, Patrick decided to open a large-scale facility over three fully operating berths.

The terminal currently operates with the use of four Panamax 350-strip-to-stripe cranes. The older cranes were refurbished in 1994, at which time one of them was also raised by 6m. The terminal has two post-Panamax cranes on order: Once these are delivered, one of the older cranes will be scrapped, bringing the total crane count to five.

Kalmar Industries and Patrick have developed the AutoStrad terminal in Brisbane. The success in autostrad was to get the technology to work in Brisbane. The success in Australia has initiated a genuine demand in other parts of the world. 

“Kalmar and Patrick have a joint venture company – PTS – which is already using its expertise to help other terminal operators analyse how they can implement automation in their own terminals. Our initial focus was to get the technology to work in Brisbane. The success in Australia has initiated a genuine demand in other parts of the world.”

Kalmar Smartpath®

Kalmar Smartpath® is an automation package for straddle carriers and reachstackers. The system verifies and reports on the location of all containers to be handled and saves time by minimising unladen travel distances and optimising laden travel distances, thus providing significant improvements in productivity.

It reduces unproductive and unplanned container moves in the terminal and also ensures that misplaced containers can be retrieved easily. Since Smartpath® container positioning is completely integrated, it also lets the driver fully concentrate on his job by providing him with tools such as a terminal map and by creating automatically the container pick and place impulses to the yard management system.

The real-time container position information can be integrated into all leading yard planning and equipment control systems.

Kalmar Smartpath® is also machine and manufacturer independent and is therefore developed for use with machinery produced by all manufacturers.

Kalmar has been contracted by APMT Zeebrugge to fit 23 straddle carriers with its Smartpath® container position verification system. Delivery of the fully Smartpath® enabled machines is due to take place during next few months.

Smartpath®

- Practically maintenance free and always fully automatic container position message sending. 
- position detection always with the data from GPS and/or on board sensors; no magnetic nor metallic tags in the yard surface, no white line painted on the surface, no wire embedded in the surface
- easy updates: container yard as a data base in the memory 
- GPS antenna requires cleaning once or twice a year
- practically maintenance free and always fully automatic container position verification system.

Smartpath benefits

- nothing needed to be attached or embedded to the yard surface 
- no steel strips, no magnetic or metallic tags, no buried wire, no painted line for any camera 
- => no civil work required
- much more cost effective than these conventional systems
- => also practically service free
- all container moves reported 
- => no lost containers
- => no checkers needed
- => less people in container yard => improved safety
- => less keying in from the SC operators
- => improved ergonomics

Continued from page 7
The French island of Réunion is experiencing a frenzy of consumer activity. The port, which serves as the economic heart of the Indian Ocean department island, is happily enjoying the consequences of this newfound spending power. Year on year it is setting new throughput records, averaging an annual growth rate of more than 5% over the last decade.

The three stevedoring companies operating at the Port of Réunion, SAMIR, SOMACOM and SGM Handling, have thoroughly changed the landscape of the port and its development perspectives by jointly investing in 12 latest generation Kalmar straddle carriers. The machines feature Kalmar’s Smartpath® container position verification system, which provides real-time position verification for each container handled, enabling individual machines to be tasked in the most efficient way.

Exclaims Jean de la Perrière, President of SGM Handling: “One of the key benefits of Smartpath® is that it allows us to adapt quickly to new container handling systems. At Réunion, for example, we are switching from reachstackers to straddle carriers to handle growing container volumes. We expect the incorporation of Smartpath® into the new straddle to make the transition much smoother for our drivers.”

Catering to future growth, Port de l’Ile de la Réunion ranks third in size among French ports. “Our existing 180,000 TEU pay year box volumes put it far ahead of any other Indian Ocean port in terms of throughput,” says Mr de la Perrière.

Situated at the centre of the Indian Ocean island group, the port receives some 70% of European containerised traffic destined for this region and it is also well positioned on the Asia to East and West Africa routes. The world’s three largest container lines – MSC, CMA CGM and Mediterranean Line – already call at Port Réunion with regular liner or feeder services.

Because of its excellent geographical position and the combined operating expertise within the port, it is little wonder that Port Réunion has grand ambitions for the future, however, as Mr de la Perrière explains, Port Réunion is confronted with immediate growth issues.

“At present we are reporting the strongest growth of all French ports. To tackle this challenge, the Est Port extension is underway and is scheduled for completion at the end of 2006 after two-and-a-half years’ work. It will include the construction of a new 650m-long berth, as well as the widening of the approach channel from 150m to 160m and dredging to increase the draft from 12m to 13m, allowing us to handle even the latest generation container vessels.”

Kalmar’s input into the Est Port extension project will see substantial productivity increases in Port Réunion’s container handling operations. Last autumn the port took into operation 12 four-high CSC450 straddle carriers with twin-lift spreaders and two 19m/19m terminal truckers, each with a three-unit multi-trailer system. By switching from reachstackers – which require wider aisles and more space to manoeuvre – to a straddle carrier system, the port has realised a 50% increase in its container storage capacity.

“The greater flexibility offered by the CSC450 will also mean improved gate delivery times for drivers,” says Mr de la Perrière. “Moreover, this better manoeuvrability of the straddle carriers combined with the fact that they are equipped with 50-ton capacity twin-lift spreaders will result in considerably improved quayside operations.”

He continues: “Kalmar’s track record in being responsive to our after-sales needs has been excellent. As such, we now see Kalmar as a partner rather than an equipment supplier and are happy to extend our co-operation with them.”

Planning expertise Port Réunion also employed the services of Kalmar Terminal Development to help in its planning process, including estimation of the required fleet size and identification of optimal layouts, as well as other assistance associated with the conversion to straddle carrier operations. Kalmar Port Optimizer, a new simulation tool, was also used in the process.

In order to fully utilise the capabilities of its new Kalmar straddle carrier fleet equipped with the Smartpath® container position verification system, SERMAT – the association acting on behalf of the three individual stevedoring companies at Port Réunion in the Indian Ocean – has contracted a newly established service company for the full maintenance contract of both the equipment and systems.

Kalmar is playing a leading role in the new service company, Société Réunionaise de Maintenance Portuaire (SRMP). Its goals are to create a service structure capable of executing an eight-year machine maintenance contract with Port Réunion and to strengthen the sales and servicing activities in the Indian ocean area in general, including not only Réunion, but also Mauritius, Madagascar, Comores, Seychelles and Rodrigues. The total number of people on SRMP’s payroll is 11.

The maintenance contract covers full maintenance of 12 CSC straddle carriers for a period of eight years, commencing 1 July 2005, and full maintenance of two new terminal tractors for a period of six years from the same commencement date. Excluded under the contract is additional work such as damage repair and overtime.

Kalmar has a strong presence at Réunion thanks to the port’s 15-year collaboration with its local dealer, OMP.
Kalmar has launched the DCF series of toplifts, a new generation machine that combines high productivity and uptime with low operating costs and increased driver confidence. This machine can lift a 40-foot container to the 5-high position 26 seconds faster than any other lift truck available on the market today. It’s not difficult to work out the massive contribution to productivity this speedy machine can make in a high-volume container handling environment – not just in the long term but even on a daily basis.

The DCF toplifts operate at full capacity when lifting a 9’6” container to the five-high position, even when the spreader is extended. Retained lifting capacity independent of the spreader position means that there is rarely a need to reposition the machine when placing a container. It also offers significantly increased lifting speeds. The DCF 410, for example, can lift loads up to 50% faster than its predecessor. This is made possible by the use of the same technical solution adopted in reachstacker lifting cylinders, known as the regeneration system.

Traveling speeds have also been improved, while greater spreader mobility allows for more flexibility – and therefore more efficient – operations.

**More uptime**
Kalmar has also put easy maintenance high on its priority list in the development of the DCF series with the inclusion of features such as a maintenance-free steer axle joint and mast lubrication at ground level. Scheduled maintenance now runs at 500-hour intervals – the best in the industry.

Simpler hydraulics have also been incorporated to offer a well-organised layout and easy accessibility for service operations.

Thanks to the use of proven components and advanced diagnostic features, the machine is optimised for fast troubleshooting. Should there be a malfunction, the driver receives one of three different warnings, enabling him to determine the seriousness of the problem. In critical situations, the system stops machine operations altogether to prevent further damage, although the limp-home function will allow the machine to return to the workshop for repairs. Meanwhile, built-in self-diagnostics greatly reduces the time needed for identifying the problem and thus uptime is maximized.

The Kalmar DCF series of toplifts offers customers a range of benefits:

1. **Unrivalled performance** Improved cycle times through faster travelling and lifting speeds (up to 40% faster than its predecessor); greater lifting capacity – up to 100,000lbs (45 metric tonnes) when lifting a 9’6” box to the five-high position.

2. **Improved ergonomics** Intuitive and responsive operator controls; low noise and vibration levels.

3. **More uptime** Field-proven components and less maintenance – 500 hrs service interval; fast troubleshooting thanks to in-built diagnostics.

4. **Low overall costs** Best power-to-weight ratio combined with state-of-the-art drive train technology – lower fuel costs; longer service intervals and reduced tyre wear – lower service costs.
Long Beach terminal impressed with the new DCF toplift

With the continuing boom in imports from Asia, operators of U.S. West Coast container terminals are looking for ways to enhance productivity while reducing operating costs. Kalmar’s new DCF series toplift is providing such a solution at the Port of Long Beach, California, where it has been busy moving containers since its November 2005 introduction.

“We have been impressed with it,” said Ed Mitchell, Senior Manager for corporate planning for International Transportation Service (ITS). “It’s certainly a step above the competition and even other Kalmar equipment.”

“Business is growing hand over fist for us,” said Mitchell, who noted that he was quick to put the new DCF 410 to work as soon as possible after Kalmar officials demonstrated it at the Port of Long Beach. “It has been used every day since,” Mitchell smiled.

The new DCF 410 brings to an even dozen the Kalmar toplift contingent at the ITS Long Beach terminal. Mitchell said he has been well pleased with all the Kalmar machines that he has been putting to use at ITS Long Beach since beginning a transition from a competitor’s units in 2000.

Extra-special

But the DCF 410 toplift already is proving to be extra-special. “For one, the new machine has a faster hoist speed,” Mitchell said of the Kalmar DCF 410 toplift. In fact, its speed is as much as 50 percent faster than that of its predecessor.

He noted that the Kalmar DCF 410 also boasts greater lifting capacity – up to 45 metric tons when lifting a 9-foot-6-inch-high box to the five-high position. “The machine is larger, so it has increased stability, too,” Mitchell said. “And it has greater ergonomics, including wider view angles for the operator.”

Other operators also have been impressed with the DCF unit’s intuitively responsive operator controls and its low noise and vibration levels.

A reduction in the number of hydraulic lines and other factors, such as a maintenance-free steer axle joint and mast lubrication at ground level, bode to help lessen maintenance needs.

“More ‘up’ time means greater cost-efficiency for our operations,” Mitchell noted.

Other early orders, in addition to that from Long Beach, have included one for six DCF units from Global Marine Terminal in Jersey City, New Jersey, the only privately owned and operated container terminal at the Port of New York and New Jersey. And even terminal operators from far beyond North America, including one in Italy, have placed early orders for Kalmar DCF series toplifts.

International

Transportation Service, ITS is terminal operator for the Port of Long Beach. Lines served include “K” Line, COSCO, Yang Ming, Hanjin, Hamburg Sud, CP Ships, Maersk, Polynesia Lines, OOCL, NYK Line, P&O Nedloyd and Hapag Lloyd. It is one of the busiest such facilities anywhere in the world.

The Port of Long Beach combines with the neighboring Port of Los Angeles to move containers at a pace of some 15 million TEUs (20-foot-equivalent units) a year, representing the third-busiest containerport complex in the world, behind only No. 1 Hong Kong and No. 2 Singapore.

Investing in India

Kalmar has established its own subsidiary company in India through the acquisition of 51% of Indlift, which has been the agent for Kalmar products in India since 2000.

Indlift employs 17 staff and has operations in Mumbai, Khandla, New Delhi, Vizag and Bangalore. The previous owner of Indlift, Vijay Kumar, will take up the position of Managing Director of Kalmar India.

Chester Granstog, President and CEO of Kalmar Industries, comments: “This acquisition fits in with Kalmar’s strategy of boosting its direct involvement in sales and services in its major markets. “Kalmar has enjoyed a successful partnership with Indlift. The company’s longstanding experience and dedication to customer service will form a basis from which Kalmar can establish its own operations in India.”

Mr Al McDougal

According to Mr Kumar, Kalmar’s investment in India marks its commitment to playing an integral role in the development of this country’s port industry: “India is opening up and becoming a key growth market for container and heavy materials handling equipment and related services. With the acquisition of Indlift, Kalmar will be well placed to bring the best available technology, service and support to its customers in India.”

There are several projects presently in place in India to modernise existing ports and establish new facilities. Total container volume is estimated to be more than 4 million TEUs in 2005, continuing the 10% average growth trend of recent years. India’s railway network is also one of the largest in the world, providing a healthy market for inland terminal development. Meanwhile, industrial activities are also developing.

Kalmar has a strong presence in India with around 200 Kalmar machines - ranging from RTGs and reachstackers to terminal tractors and FIDs – working in the country’s ports and terminals industry.
In July, Norske Skog, one of the world’s leading manufacturers of newsmprint paper, took delivery of two Kalmar DCE75-6HE forklift trucks at its paper mill in Albury, New South Wales, Australia. The trucks, all made to the same specifications, have a lifting capacity of 3,600kg and are fitted with the Kalmar hydrostatic drive system and a Legacy Twinhead vacuum suction lift attachment.

Norske Skog made the order when plans to increase production of 50,000 tonnes were put into operation. Presently the mill produces 250,000 tonnes of newsmprint annually, a figure that is expected to rise by 20% when the extension is completed. This increase caused Norske Skog to reconsider its logistics operations at the mill and led to the acquisition of the forklift trucks.

Peter Tolsher, a warehouse operator at the mill in Albury, comments on Norske Skog’s design specifications: “We were looking for real ‘work horses’ — machines that would be able to cope in a tough handling environment, while at the same time providing excellent working conditions, such as a superior driver’s environment encompassing good visibility.”

“The work is intense, with approximately 400 tonnes of paper being moved in and out each day, so it is of the utmost importance that the drivers’ working conditions are of an optimum standard to ensure that a good and safe job is carried out.”

The newsmprint paper is made up of 40% recycled fibre and 60% plantation pine. It is essential that the rolls are handled very carefully and without being damaged. Norske Skog’s and Kalmar’s solution was to equip the forklifts with Legacy Twinhead vacuum suction lift attachments, which have been designed to avoid clamp damage to the paper rolls. The attachment, able to lift two paper rolls weighing approximately 1,300kg simultaneously, is to be positioned on the standing rolls, while the vacuum is built to suck and lift the rolls for further transportation in the warehouse. It also incorporates an automatic vertical mast function, which holds the rolls in a vertical position. This minimises the risk of damage to the end of the rolls when placing them on the floor, onto truck flats or when they are stacked.

The forklifts operate a Perkins diesel engine with particle filter to achieve environmental standards and the Spirit Delta cabin has an EEC standard air conditioning system, to suit Australian climate conditions. To achieve the best driving performance the forklifts are equipped with Kalmar’s patented electronic monitoring program, KCS.

Before the trucks were shipped to Australia, Mr Tolsher visited the Kalmar factory in Ljungby, Sweden, with fellow warehouse operator Wayne Bryce to perform a thorough final check and test drive: “We were more than satisfied with the comfort and accessibility of the forklifts. Kalmar adapts its machines to meet customer’s wishes, adapting them to the customer’s needs. Kalmar has a lot of experience in the paper handling industry and is able to meet the exact requirements of the customer, while meeting their budget. We provide them with the best outcome for each dollar spent.”

Bryce to perform a thorough final check and test drive: “We were more than satisfied that he was able to meet the customer’s wishes did he present the solution: “Our objective is to make life easier for the customer. They are experts in their own profession – in their customers’ eyes they are producers and distributors of high-quality newsmprint. With this in mind it was my job to find the optimum materials handling solution to suit their operation. “Kalmar has a lot of experience in the paper handling industry and is able to meet the exact requirements of the customer, while meeting their budget. We provide them with the best outcome for each dollar spent.”
P&O Ports has signed a full service contract with Kalmar for the provision of preventative and breakdown maintenance, engineering support and spare parts supply 20 Kalmar Edrive® ESC 7th generation straddle carriers operating at its new Antwerp Gateway terminal. The contract, based on a fixed hourly rate, is for 8,000 machine hours – the equivalent of approximately two years.

Piet Wauters, Director of Technical Services and Freddy Debue, Container Terminal Manager, believe that by joining forces with Kalmar, P&O Ports’ Antwerp Gateway can increase productivity and minimise operating costs.

P&O Ports has signed a full service contract with P&O Ports

The deal is more than just a service contract though, because it is based on close cooperation between the technical staff of P&O Ports and Kalmar. P&O Ports will also have full access to the engineering expertise and support at Kalmar’s factory in Finland.

P&O Ports is constantly evaluating the benefits of the cooperation. Explains Piet Wauters, Director Technical Services at P&O Ports Belgium:

“We are monitoring operating costs, availability and reliability closely at all times because this is the first time that our company has signed a full-service contract for a large scale straddle carrier operation.

“We believe that by joining forces with Kalmar we can increase productivity, and minimise operating costs. Moreover, making use of Kalmar’s expertise will enable us to concentrate on the efficient management of Antwerp Gateway.”

Despite being in its early stages, the cooperation has already impacted positively on the terminal’s handling capabilities, according to Mr Wauters:

“Not only did the first ship to call at Antwerp Gateway arrive late, it also arrived on a Sunday. However, Kalmar’s technical staff were still on hand to provide assistance.”

In practice, workload at the terminal is now divided between P&O Ports and Kalmar’s technical staff, whereby the former services of the machinery during the night and Sundays, and the latter during the day from Monday to Saturday. Briefings between shifts are held to ensure that both parties are well-informed regarding the overall operation at the terminal—a joint venture between P&O Ports, Maersk, DP World, Cosco Pacific and CMA-CGM, and managed by P&O Ports.

Kalmar’s 7th generation ESC straddle carriers were introduced last year to respond to the need for increased productivity, efficiency and environmental sustainability in the shipping industry.

Smooth operators on the Deurganckdok

Walter Anthonissen, Kalmar Belgium’s Senior Service Engineer, could be forgiven for feeling like he is working under a magnifying glass. After all, there are few assignments more high-profile than his: Mr Anthonissen is site supervisor at the Antwerp Gateway Terminal in the new 6 million TEU Deurganckdok facility, charged with managing the first full-service maintenance contract for P&O Ports’ twenty new 7th generation ESC straddle carriers.

Mr Anthonissen and two engineering colleagues from Kalmar Belgium are stationed full-time at Antwerp Gateway. They have been allocated their own office at the terminal while they service the 8,000 machine-hour contract.

By late February, the twenty ESC carriers had clocked up an average of 700 hours of operation. Most of the service and maintenance of the straddle carriers during this time has centred on official guarantee matters and the first 500-hour full check-ups, as well as the odd accident repair job.

Mr Anthonissen explains:

“We are proud to be playing a part in Antwerp’s continued growth. The port is booming and, as such, terminal operators are under pressure to maintain high levels of efficiency at all times. We are committed to making sure that Kalmar’s strads perform to all expectations. I believe our expertise with Edrive® straddles is a clear advantage, especially in technical areas such as programmable logic control (PLC) and the use of AC inverters.”

It takes three

Mr Anthonissen also discusses day-to-day co-ordination and planning with Werner Peeters, Head of Antwerp Gateway’s technical department in charge of rolling equipment. The client subcontractor relationship at Antwerp Gateway is smooth, professional and amicable. “We get along well. Werner used to be a colleague of mine for five years with Kalmar Belgium. We’ve ‘grown-up’ together in this straddle carrier business there,” he says.

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**Gruvön Sawmill delegates handling operations**

In cooperation with Stora Enso

Kalmar has developed a patent-pending double pedal for its hydrostatically powered forklift truck (FLT) range, to considerably reduce strain on drivers’ feet and legs.

Kalmar supplied Stora Enso with an 8-tonne DCE 80-9 HE incorporating the double pedal design in November 2004. An intensive evaluation was carried out and the machine fully satisfied the mill’s requirements and led to the order of a further five hydrostatically powered machines in April 2005.

Conny Christensen, Design Manager Industrial Handling, Kalmar Industries, explains the importance of the double pedal: “A good driver environment and an ergonomically correct working position lead to more efficient work and reduce strain on the driver during intensive driving.”

When the right pedal is depressed a few millimetres above its neutral position and is kicked, making a convenient support for the resting foot. To brake, you release the active pedal upwards. The resting pedal is activated when the driver depresses it making the opposite pedal the foot support. Safety is increased as the driver always has both feet on a pedal, making braking and changing direction more efficient.

“Stora Enso Hylte was seeking a new pedal system to resolve its drivers’ problems with unnatural angles on their ankles. We were quickly able to develop a prototype in accordance with their wishes,” says Jan Lönn, Kalmar Industries’ Design Engineer responsible for the double pedal. “The drivers’ reactions have been very positive after six months of intensive use.”

**Conventional double pedal**
- non-active pedal
- neutral position
- active pedal

**Kalmar’s new double pedal**
- non-active pedal = neutral position
- active pedal

**Double pedal demonstrates expertise**

Kalmar has developed a unique, patent-pending double pedal for its hydrostatically powered forklift truck (FLT) range, to considerably reduce strain on drivers’ feet and legs.

In conjunction with the transition Kalmar has supplied the mill with eight new 16-tonne, DCE160-12 forklift trucks handling sawn products at Gruvön Sawmill.

**Kalmar has supplied Stora Enso with**

- an 8-tonne DCE 80-9 HE incorporating the double pedal design in November 2004.
- a further five hydrostatically powered machines in April 2005.

**Kalmar’s RTD 3026 logstacker**

For efficient handling at the sawmill, Stora Enso Timber and has passed responsibility to Kalmar. The mill is part of its 30 staff involved with materials handling, to Gruvön Sawmill, Sweden, where more than 30 drivers trialled the prototype.

**Kalmar has developed**

- a patent-pending double pedal for its hydrostatically powered forklift truck (FLT) range.

**Focus on function**

The three new logstackers will be used in the unloading and storage of timber, the machines are all fitted with long range booms and a rotating gripper in order to efficiently unload timber from trucks and railway wagons, pile it up and drive it to the saw. The FLTs will handle the sawn products within the plant, at the warehouse and when unloading. Sawn and planed products are transported to customers by truck, sea and rail, and in containers.

**Conventional double pedal**

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VR Cargo is planning a container train service from Kouvola in Finland to Beijing and / or Tianjin in China. The project is still in its infancy but, if all the pieces fall into place, regular traffic on the Trans-Chinese railway could be a reality in the first quarter of 2007.

"Our hope is that, if the project gets underway, we will take a test drive in November this year to make sure everything works. Initially, there will be one weekly train, but the target is a train every day," explains Matti Andersson, who is in charge of VR Cargo’s international accounts.

According to Mr Andersson, the time is ripe for a container train service on this route. The basic infrastructure in the countries along the Trans-Chinese railway is good enough and the volume of freight high enough to enable profitable traffic. Moreover, the atmosphere is favourable for the project both in Russia and in China.

"So far only a few concrete steps have been taken towards the opening of this service. Preliminary investigations have been made and are agreements with the representatives of the Russian and Chinese railways to sit down at a conference table early this year. As it is up to the Russian railways to make the next move, the exact date for the meeting is to be set by them.

"Because the project is such a vast undertaking, there are a number of issues to be agreed upon. It will take some time for the parties to reach a mutual understanding on such matters as customs clearance and border crossings, not to mention tariff rates. The Russian tariff rate policy could put a spanner in the works for the entire plan. If we manage to agree on rates which are competitive with sea transport rates, the project has every chance of success, but if not, it will not be a viable option," says Mr Andersson. However, we have been given what it requires that the rates be set at a feasible level - after all, Russia sees this as a good business opportunity too."

Transport times halved

"Overall, Mr Andersson is optimistic of a successful solution. He concludes that the container train rates could be slightly higher than sea transport rates, but points out that because the transportation time is around half that of sailing times to and from the Far East, this is perfectly acceptable. As regards customs technology, this should pose no obstacles to opening the connection. The condition of the railway network is also fairly good and does not require any immediate improvement. Crossing points and customs clearance stations are in place, and both Beijing and Tianjin have a facility which can serve as a terminus. There is also adequate space for container loading and unloading, and the building of container yards will be necessary only if railway traffic grows remarkably," he explains.

Market demand

Mr Andersson estimates that freight from China to Europe would mainly consist of products from Western electronics companies with factories in China, while Finland would transport forest and metal industry products to China.

One interesting factor is that, according to press reports, the Chinese railway is expected to have been completed in early autumn 2005 and open for traffic in October of the same year. Mr Andersson says the service is still not available and is turning into a seemingly never-ending project. The well-documented political difficulties between South and North Korea have caused the Government to set up a task force to expedite the process of a common railway network.

"However, if the connection does one day become a reality, it will change the Trans-Siberian route dramatically. It will then be possible to send goods directly from South Korea to Europe via North Korea without the need for a sea leg," he says.

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From Finland to China by rail

CMA CGM first to use environment-friendly containers

Based in the southern French Mediterranean port of Marseille, CMA CGM is the first major company to obtain such containers following an agreement with blue sky intermodal, a UK-based service company operating in the container and transportation industry. Under the agreement, it leases 200 Twenty Foot Equivalent Unit (TEUs) eco-containers and purchases 200 40-foot boxes.

CMA CGM in January received the go-ahead to operate as a merged company after the European Commission approved its $660 million purchase of UK-based P&O Nedlloyd. The association of the two makes the French group the world’s third biggest operator of containers behind Maersk and including P&O Nedlloyd and the Mediterranean Shipping Company (MSC) in 2004-2005, 125 vessels, of which are in ownership and a further 75 vessels on order for delivery by 2009. Its container carriers call at 212 ports in 126 countries worldwide. Its modern container fleet of 860,000 TEU boasts an average age of four years.

The wood usually used to line container floors is Apitong, a rare hardwood that grows in the tropical forests of Malaysia and other countries of South-east Asia used to solid decking for the open flatbed container lies in the flooring, a glue-laminated timber made of bamboo harvested under a regular programme, making it an environmentally sustainable alternative.

So CMA CGM in an effort to fight rainforest deforestation and protect the environment has found a durable alternative to Apitong.

"The service would benefit all parties, because transport time has become a crucial factor. The route is also safe." says Mr Andersson.

Last year, 130,000TEU of merchandise was transported from Finland to the Far East on the Trans-Siberian railway. Mr Andersson estimates that, after two or three years of work, the Trans-Chinese railway would transport 40,000TEU. This would be just a fraction of the huge volume of goods which leaves China by sea, but still the route would offer a serious alternative. Traditionally, traffic on the Trans-Siberian railway has been bound for the westbound route to Finland, but Mr Andersson believes the new connection would increase eastbound freight volumes, which is where VR Cargo expects greatest growth.

Korean link delayed

There are also plans to connect South and North Korea to the Trans-Siberian or the Trans-Chinese railways. However, according to press reports, the project was supposed to have been completed in early autumn 2005 and open for traffic in October of the same year. Mr Andersson says the service is still not available and is turning into a seemingly never-ending project. The well-documented political difficulties between South and North Korea have caused the Government to set up a task force to expedite the process of a common railway network.

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