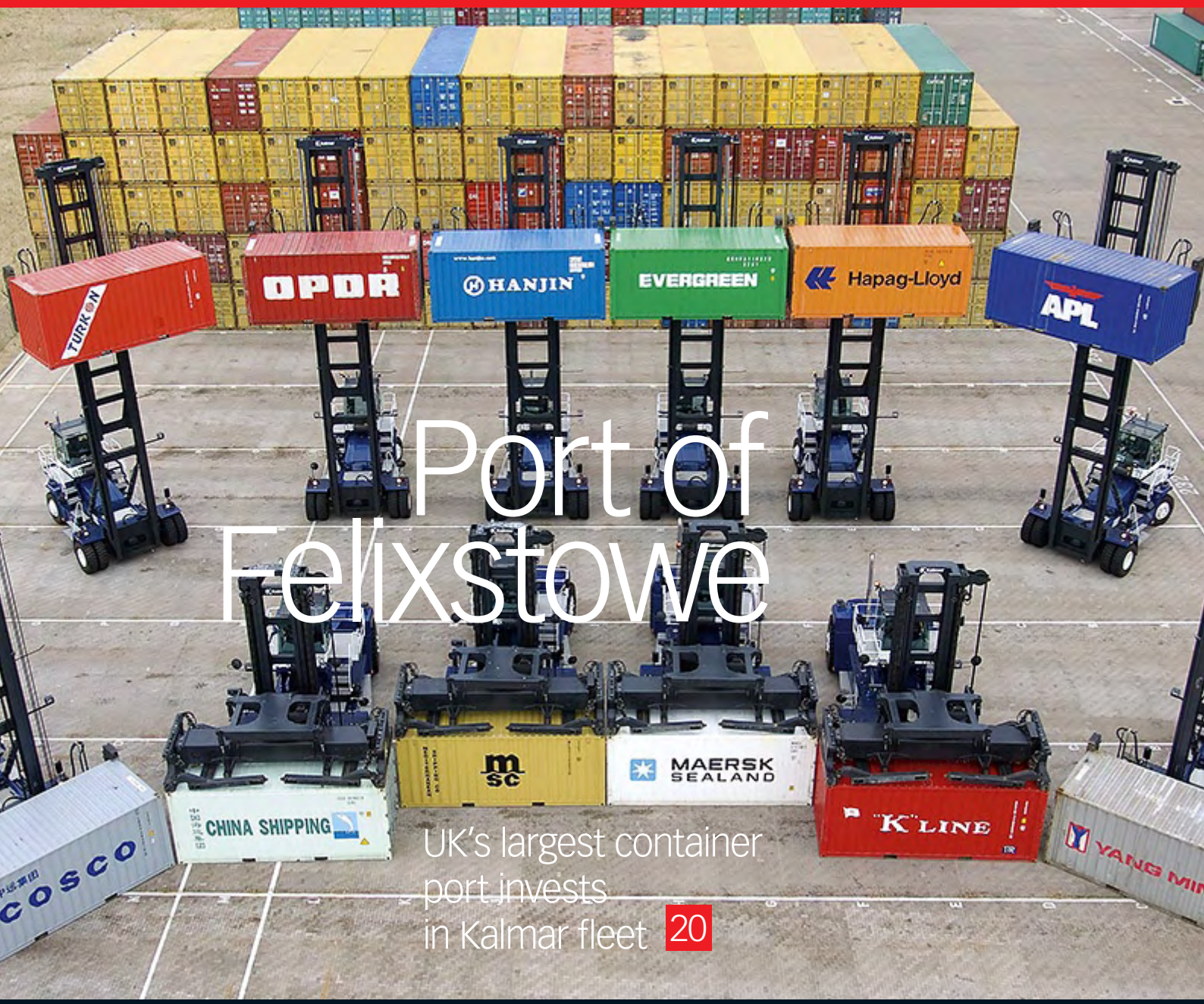
Kalmar

KALMAR AROUND THE WORLD

ISSUE 1 | 2009



Port of Felixstowe

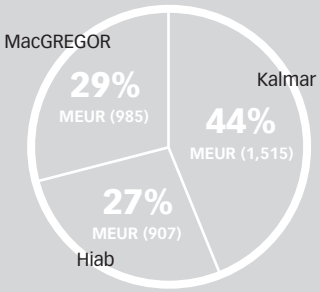
UK's largest container port invests in Kalmar fleet 20

ON AGENDA: Kalmar Commits to Environmental Development

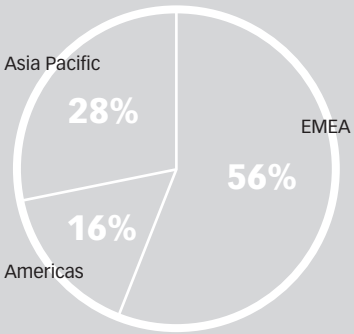
Cargotec – In Brief

CARGOTEC IMPROVES the efficiency of cargo flows by offering handling systems and the related services for the loading and unloading of goods. Cargotec's brands, Hiab, Kalmar and MacGREGOR, are global market leaders in their fields and their solutions are used on land and at sea – wherever cargo is on the move. Extensive services close to customers ensure the continuous usability of equipment. Cargotec is the technology leader in its field, its R&D focusing on innovative solutions that take environmental considerations into account. Cargotec's sales total EUR 3.4 billion and it employs approximately 12,000 people.

DIVISION SALES in 1–12/2008



By business area



By market area

KALMAR is the market leader in container handling equipment in ports and terminals where containers are handled by ship-to-shore cranes, yard cranes, shuttle and straddle carriers, reachstackers and empty container handlers. Moreover, Kalmar's forklift trucks are used by heavy industry, its log stackers by the wood and paper industry, and its terminal tractors by distribution and logistics centres.

DECADES OF EXPERIENCE in the special needs of customers and the life cycle of products has made Kalmar a forerunner in automation solutions for container handling in ports and the development of energy-efficient solutions.

KALMAR HAS PRODUCTION PLANTS in China, Finland, India, Malaysia, Sweden and the USA, and operations in more than 140 countries.

HIAB is the global market leader in developing and providing on-road load handling solutions. Thanks to customer-driven product and solution development, Hiab helps customers enhance their efficiency and productivity, and its versatile services ensure the safe functioning of equipment throughout its long life cycle.

MacGREGOR is the global market leader in providing engineering and service solutions for the maritime transportation and offshore industries. Products include hatch covers, cranes, equipment for RoRo ships and ports, solutions for cargo lashing, ship-based and terminal-based bulk handling, offshore load-handling and naval logistics. MacGREGOR also provides worldwide service and support.

SERVICES

LOCATED IN ALL MAJOR SERVICE HUBS worldwide, Cargotec is well-placed to maintain its own as well as other-branded equipment. Maximising machine uptime and improving the lifecycle costs of its customers' equipment remains Cargotec's top priority as the industry's leading solutions provider.

Port of Felixstowe Invests in Kalmar Fleet

COVER STORY

EDITORIAL TEAM
Publisher Cargotec, www.cargotec.com
Editor-in-Chief Pauliina Koivunen
Cargotec, P.O.Box 387, FIN-33101 Tampere
Tel +358 3 265 8111
pauliina.koivunen@cargotec.com

Contributors Tom Dodds, Elizabeth Gibson, Tarjei Isaksen, Andy Jelfs, Laura Miguel, Roger Moggs, Maija Veteläsuo, Letty Wong.

Text editing Moggs Marketing Communications.

Layout Viestintätoimisto Tulus, Finland. Layout renewal by Maggie custompublishing company, Finland.

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Kalmar's new terminal tractor TT616i for LoLo operations takes customising to a new level.

REPORTAGE

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30 Years of Close Co-Op

Kalmar is celebrating the sale of its 4500th straddle carrier in Bremerhaven in Germany – over 30 years after the first model was sold.

THAT FIRST MACHINE was purchased by BLG in 1977 and now the new milestone has been reached with the handing over of 48 ESC440W models to EUROGATE Bremerhaven during 2008.

According to ***Emanuel Schiffer***, EUROGATE's President, straddle carriers have always been the best option for the unique conditions at its Bremerhaven operation:

"When we examined local circumstances, labour costs and land use, we noticed that it is easier to react to economic ups and downs with a flexible straddle carrier operation.

"KALMAR'S STRADDLE CARRIERS have a reputation for good product reliability, which is imperative for our productivity. Bremerhaven plays an important role in Germany's exports, therefore we cannot compromise on quality and performance," says Emanuel Schiffer.


eration
Kalmar

"Bremerhaven plays an important role in Germany's exports, therefore we cannot compromise on quality and performance."

EMANUEL SCHIFFER President
EUROGATE

KLAUS EGER, Kalmar Germany
and Andree Ponty, Director, Purchasing, EUROGATE

RESPONDING TO CUSTOMER FEEDBACK. Kalmar has benefited from close and long term co-operation with EUROGATE and recognises the importance of discussing product development with customers. *Jorma Tirkkonen*, President of Kalmar Container Crane Systems Division, explains that customers often have needs that are related to their specific terminal, and are therefore looking for more bespoke product and service solutions:

"The delivery of our 4500th straddle carrier to Bremerhaven is a fantastic achievement. We have a long history of providing straddle carriers to EUROGATE built on the fact that both parties demand top performance in every aspect of their business. EUROGATE has challenged us to achieve the highest standards, which has led to even faster product development and accelerated learning about our customers needs. Engaging with our customers definitely benefits product development," he said.

REDUCED NOISE LEVELS. Kalmar's 7th generation ESC440W straddle carrier purchased by EUROGATE is equipped with an ultra low noise insulation package, a soft landing system and automatic

FACTS

Customer: EUROGATE

Operation: Bremerhaven terminal, Germany, 5.6 TEU, working close to the city

Kalmar equipment on site: ESC440W with noise insulation, automatic container picking

container picking system that minimises the noise generated through container handling. The machine features an electrically controlled engine, which lowers exhaust emissions and reduces fuel consumption – making it environmentally-friendly as well as cost-effective.

Emanuel Schiffer explains that the company is strongly focused on environmental issues and demands leading technology from its suppliers:

"Environmental issues are very important to us. Our biggest challenges in Bremerhaven are efficient fuel utilisation, controlling emissions and noise protection. Noise protection efforts are especially important when we work close to cities and indeed, Kalmar meets these requirements well. We are currently investigating the feasibility of using hybrid straddle carriers at the site."

HANDLING GREATER VOLUME. Bremerhaven is the biggest straddle carrier port in the world with a 5km quay length including the new CT4 extension. It has witnessed a significant increase of 50 per cent in container throughput during the last three years and currently handles 5.6 million TEU annually. EUROGATE has consequently increased its fleet of Kalmar straddle carriers to ensure continued efficiency despite the greater volumes.

EUROGATE awarded Kalmar a contract for the supply of 48 ESC440W machines in April 2008 and straddle carrier number 4,500 was handed over as a part of this delivery.

EUROGATE is Europe's leading container terminal and logistics group, operating at nine terminals across Europe and handling more than 13.9 million TEU a year.

ON AGENDA

Kalmar Commits to Er

"Kalmar is in a strong position to help raise standards in the industry."

Pekka Vauramo, President, Kalmar Business Area, outlines the measures and programmes the company has in place to ensure it contributes significantly to a more sustainable future.

FOCUS: Sustainability

Environmental issues have become more important to consumers, businesses and policy makers across the globe. Legislation and the future direction of many industries are being driven by the need to reduce the impact commercial activity has on the environment.

Many of our customers have environmental targets for the coming years, but few have suitable systems in place to actually meet them. Environmental regulations are the drivers for change, but this should be the minimum that equipment manufacturers aim to achieve. We need to offer more. As soon as the industry is able to offer customers economical solutions which are at the same time energy-efficient and less polluting, operators are able to change their behaviour. Containerisation, together with efforts to decrease the amount of energy needed to move a container, will make logistics more economical and ecological.

Kalmar is the market leader in container handling and as such, is in a strong position to help raise standards in the industry. Kalmar acknowledges its responsibility for the environment, recognises its influence on the market and is prepared to act accordingly. Developing environmentally-friendly products is a long term process – but one which Kalmar has already initiated.

The most fundamental task for the coming years is to meet Tier 4A emissions regulations by 2011 and prepare for the tightening of these regulations in 2014.

PRO FUTURE™ IN ACTION. In 2008, Kalmar launched the Pro Future concept. To qualify for Pro Future branding, equipment is

Baltic Sea

The Baltic Sea has been a key trade route between East and West for several hundred years. Today, it is the most polluted sea in the world – needing large-scale and definitive action to ensure its survival.

With Cargotec's business link to trade flows and sea cargo, the Baltic Sea is a natural choice for our support. Projects which help to maintain the Baltic Sea's eco-system are therefore major beneficiaries of Cargotec corporate sponsorship and the company continues to offer expertise and support for its protection.

nvironmental Development

PEKKA VAURAMO

rated against five criteria: energy efficiency, power source, emission levels, noise pollution and recyclability. With the help of Pro Future solutions, customers can genuinely develop environmentally sustainable operations and reduce fuel consumption.

A good example of our forward thinking is the launch last year of a straddle carrier which utilises hybrid technology. This new concept saves costs through a lower fuel requirement for transporting containers. Moreover, such hybrid technology cuts a straddle carrier's annual carbon dioxide emissions by 50 tonnes. Other Pro Future products in 2008 included the variable speed, rubber-tired gantry crane and an electric straddle carrier alongside an AC electrical forklift truck.

In addition to the Pro Future concept, Kalmar also enhances the productivity and sustainability of large port operations by offering automated solutions which decrease the need for fuel and increase the feasibility of 24/7 operations.

REDUCING GREENHOUSE GAS EMISSIONS. As part of the Clinton Global Initiative – which was launched in 2005 by the ex US president *Bill Clinton* – parent company Cargotec has committed to reduce the fossil fuel consumption of its equipment by 10% (the equivalent of 1 million barrels of oil). This process began in 2008.

It will be achieved through several group wide initiatives:

1. Energy-efficiency target is to be set and implemented as a permanent design factor of the R&D sector.
2. R&D as well as the production units will be supported by appropriate tools in order to achieve the set targets.
3. The cross-functional and cross-business teams will be created to achieve the best practice solutions.

This commitment will help reduce the global dependence on petroleum and decrease green house gas emissions.

With these measures and its ongoing commitment to providing world-leading levels of product sophistication and eco-friendly technology, Cargotec is determined to establish a more sustainable future.

UK Terminals Go Greener with Hybrid Straddle Carriers

In June 2008, Kalmar launched the world's first straddle carrier equipped with a hybrid drive system.

PRO FUTURE™

UK SUCCESS. With fuel costs increasing and growing pressure to reduce exhaust emissions, many terminal operators are now evaluating Kalmar's new 'hybrid' straddle carrier. In the UK, Tilbury Container Services and DP World Southampton were the first to start greener operations by introducing Kalmar hybrids.

Tilbury Container Services operates the only dedicated, modern, direct access deep-sea terminal within the Port of London. They took one of the first machines fitted with Kalmar's new Pro Future™ hybrid technology package as part of an order for six Kalmar straddle carriers. The remaining five Kalmar ESC W straddle carriers are capable of being upgraded to hybrids in the future.

DP World Southampton has ordered 15 Kalmar straddle carriers, two of which will be fitted with the new hybrid technology package from the outset with the option of the remaining 13 being upgraded to hybrid technology as required.

HYBRID TECHNOLOGY. The hybrid technology package is a modular option that can be fitted to the latest Kalmar ESC W straddle carriers and results in genuine fuel savings of up to 30%. By delivering more moves with less fuel, Kalmar estimates that this new technology can eliminate more than 50 tonnes of CO_2 emissions per straddle carrier, per year.

Kalmar's Pro Future hybrid technology package allows hoist motors to be used as generators when lowering containers – with the energy produced stored until it is needed. Similarly, when machines are braking or decelerating, energy can be drawn from the electric drive system and stored.

The machine's super capacitor energy storage system uses the retained energy before making further demands on the diesel engine for movement or lifting – thereby drastically reducing fuel consumption and emissions.

The straddle carriers incorporate a VSG (Variable Speed Generator) diesel-generator package with temperature-controlled fan technology. The VSG system monitors engine use, determining whether high or low engine power is needed. By automatically matching power output to demand, fuel consumption is reduced further and exhaust emissions are lowered.

FACTS

Customer:
Tilbury Container Services

Kalmar straddle carriers ordered:
1 hybrid ESC 350W,
5 ESC 350W

FACTS

Customer:
DP World Southampton

Kalmar straddle carriers ordered:
1 hybrid ESC 350W,
1 hybrid ESC 440W, 6 ESC 350W,
7 ESC 440W.

ILKKA ANNALA, Vice President, Kalmar Straddle Carriers driving a hybrid straddle carrier.

FOCUS ON ENVIRONMENT AND AUTOMATION

New AutoShuttle™

Kalmar has launched AutoShuttle™ – a unique concept which uses Automatic Stacking Cranes working together with Automated Shuttle Carriers®.

READ ON...

New AutoShuttle™ Delivers Productivity

Kalmar has launched AutoShuttle™ – a unique concept which uses Automatic Stacking Cranes working together with Automated Shuttle Carriers®.

ENVIRONMENT & AUTOMATION

The system involves automatic stacking cranes to stack and transport containers and for loading and unloading road trucks. The automated shuttle carriers transport containers between the ship-to-shore cranes and the automatic stacking crane buffer area.

The key productivity benefit of the AutoShuttle concept is the ability to leave and pick up containers from ground, almost completely eliminating waiting times. Ship-to-shore cranes place containers from the vessel on the ground, under the crane's back reach, where the containers are then picked up by the automated shuttle carriers and transported to the buffer area. The same process is repeated for the containers going to the vessel, but in reverse order.

JARI PIRHONEN

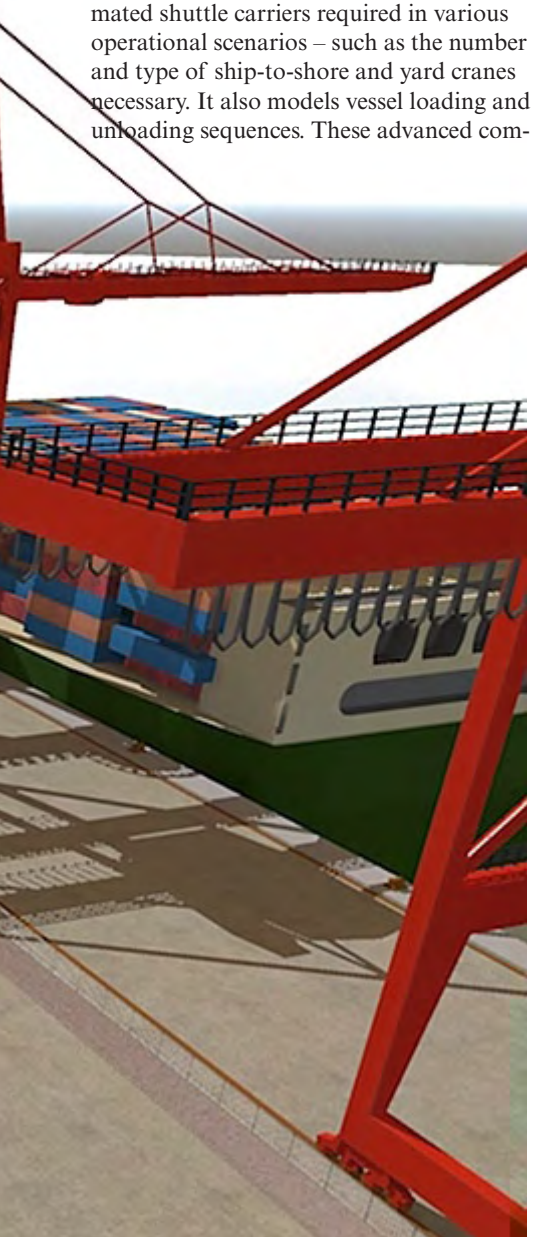
According to *Jari Pirhonen*, Kalmar Terminal Development's General Manager, the AutoShuttle concept enables excellent

and Emissions Benefits

productivity and results in very low environmental impact:

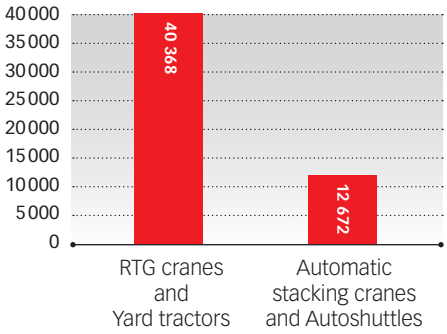
"This combination of equipment working together achieves higher productivity with only a low number of transport vehicles being utilised. This innovative concept also delivers increased storage capacity on site through high stacking, no traffic lanes in the stacking area and also no waiting areas in the quay side."

SIMULATED RESULTS. Since this is a new concept, Kalmar's simulation program Port Optimizer® has been used to model AutoShuttle operations. The program gives a realistic estimate of the number of automated shuttle carriers required in various operational scenarios – such as the number and type of ship-to-shore and yard cranes necessary. It also models vessel loading and unloading sequences. These advanced computer simulations have clearly demonstrated the gains in efficiency and productivity that are now achievable, when compared to conventional handling methods.

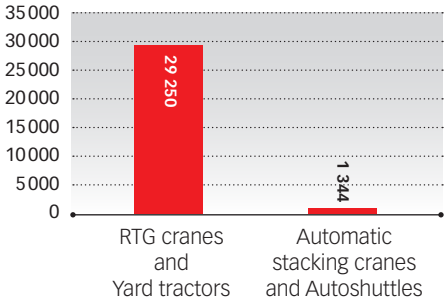


REDUCED TRAFFIC. Picking up and landing containers on the ground minimises waiting times for the ship-to-shore and yard cranes as they don't need to wait for the transport equipment. Because of the low number of transport vehicles needed, traffic jams are reduced, especially in those terminals handling big vessels where many cranes are used. Terminals using twin-lift and dual-hoist cranes will also experience productivity gains from the AutoShuttle concept.

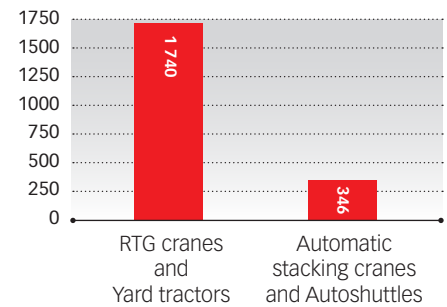
ANNUAL EMISSIONS: NOx + HC (kg)

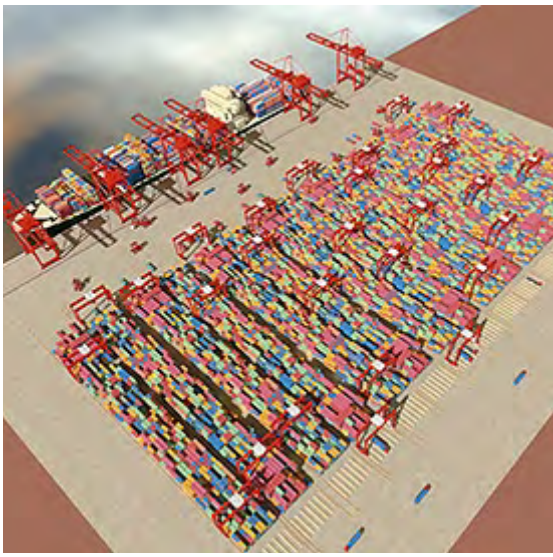


ANNUAL EMISSIONS: CO (kg)



ANNUAL EMISSIONS: PM (kg)





REDUCED TRAVELLING DISTANCES. By pooling equipment, the concept maximises vehicle utilisation and reduces average travelling distances. When compared to more conventional transport vehicles, such as terminal tractors or AGVs in automated operation, AutoShuttle uses less than 50 per cent of the transport equipment. The system can handle both 20ft and 40ft containers and can lift two 20ft boxes in twin lift operations. Loads can be up to 40 tonnes per single lift or 50 tonnes per twin lift.

ENVIRONMENTAL BENEFITS. Naturally, Kalmar's AutoShuttle results in significant environmental benefits. Assuming Tier 3 compliant engines are used, emissions are reduced dramatically, particularly when compared to conventional RTG and terminal tractor operations – as significantly less vehicles and vehicle movements are necessary.

"All businesses these days need environmentally practical solutions. Our research has shown that by addressing the environmental impact of a terminal's operations we can make an enormous difference to its operational efficiency," concludes Jari Pirhonen.

NEWS

South American Network Strengthened

Kalmar has signed an agreement to acquire Argentina-based materials handling equipment dealership – Equipos y Servicios para Terminales y Puertos SRL (ESTP).

ESTP was established in 2001 in Buenos Aires, Argentina, and thereafter appointed as Kalmar's dealer for Argentina, Uruguay and Paraguay. The company's sales in 2007 were close to 1 million euros and it employs 17 people.

In addition to new equipment distribution, the company provides equipment commissioning, technical and spare parts provision, and equipment repairing and refurbishing across South America.

The acquisition of ESTP will enhance Kalmar's distribution network and support capability in South America – ensuring the continued growth of the business in the region and guaranteeing even greater service for customers.

The Italian Job

Kalmar business solutions has acquired 80% of two Italian service companies, CVS Technoports S.r.l. and CVS Service S.r.l. The remaining 20% of the two companies will remain in the ownership of the CVS Ferrari Group.

MASSIMO FERRARIS, Managing Director of Officine Cargotec Ferrari – Kalmar Italy

The two companies' combined sales turnover in 2007 was approximately 8 million euros and they currently employ 65 people. The newly formed business – Officine Cargotec Ferrari – will focus on delivering quality support to container and material handling customers in Italy.

Following the acquisition, Officine Cargotec Ferrari will be able to offer wide-ranging services covering CVS, Kalmar and third-party equipment.

Kalmar Beefs up Sales in Argentina

In recent months Kalmar has achieved unprecedented sales in Argentina as the country's container throughput continues to rise.

In particular, the Port of Buenos Aires, has seen a significant increase in container activity with TEU figures between 2004 and 2007 rising from 1,128,500 to 1,709,000. Last year saw further growth of 9% for the container terminals of Puerto Nuevo and Dock Sud, which fall within the overall Port of Buenos Aires control.

Kalmar's largest order in the region has been placed by Terminales Rio de la Plata S.A which holds the concession to manage Port of Buenos Aires operations until 2019. The company has bought four DRF 100-54S6 reach stackers, one 37 tonne forklift, one 20-tonne forklift and 15 terminal tractors.

According to *Marcelo Massa*, Kalmar Argentina's Managing Director, several factors have contributed to this expansion:

"Firstly, this growth is not unique, the increase in containerisation cargo is a global phenomenon. However, specifically looking at Argentina, a new and better port infrastructure, the growth in agricultural exports and a reactivation of the country's imports have certainly helped trade.

"As a result of this increased volume of cargo, the port needed faster container handling capability. The new models have been purchased to replace older machinery, which in some cases had clocked up to 48000 hours, and to add more efficient technology and greater capacity. I believe they chose Kalmar as we have built up a strong relationship with the customer. They trust in our equipment, service and spare parts support," says Marcelo.

MARCELO MASSA, Managing Director of Kalmar Argentina

Kalmar Strengthens its Presence in the STS market

Kalmar is strengthening its global presence in the ship to shore (STS) cranes market by commencing STS production and engineering in Asia. Until now, Kalmar's STS cranes have only been offered to the European market.

Jorma Tirkkonen, President, Kalmar Container Crane System Division, Cargotec said:

"Our customers have asked us to consider delivering STS cranes to terminals outside Europe. We decided that now it is a good time to target increased volumes by starting to offer our STS cranes in all continents. The decision supports our strategy of growing our business and presence in the Asia Pacific region and the Americas, where we also have a strong local service network for our customers. Naturally we also value the lower production costs in Asia that makes it possible for us to maintain a competitive pricing."

As a consequence of starting production in Asia, the focus of the Kalmar STS unit in Rotterdam is changing from manufacturing to become a crane competence centre. The competence centre supports Kalmar globally with marketing, sales and product support as well as customer specific engineering. The regional organisation in Europe continues to provide spare parts and services including maintenance, inspection and training.

JORMA TIRKKONEN

The new global approach to manufacturing has led to a number of improvements to the product design. Jorma Tirkkonen said: "We have changed our cranes so that it is easier to make the final assembly on the customer's site. This makes transportation simpler and less expensive. Some customers may still need to have the cranes fully assembled before delivery, especially if they lack space for assembly at the terminal, but most will value the cost-effective logistics."

All Kalmar's STS cranes will be delivered with a new Kalmar crane control system that includes the crane's controls, crane management and fault diagnostics. The Kalmar system provides a greater flexibility in customer support for customer-specific issues.

Over the years Kalmar has delivered more than 100 STS cranes to Europe under the brand names Kalmar and Nelcon. Recent deliveries include two super post-Panamax cranes with an outreach of 24 containers to the MSC Home Terminal in Belgium, four Twin-Lift post-Panamax cranes to Finnsteve in Vuosaari, Helsinki and two wide-span monobox design STS cranes to Rotterdam Shortsea Terminal (RST) in the Netherlands.

TT616i LAUNCH

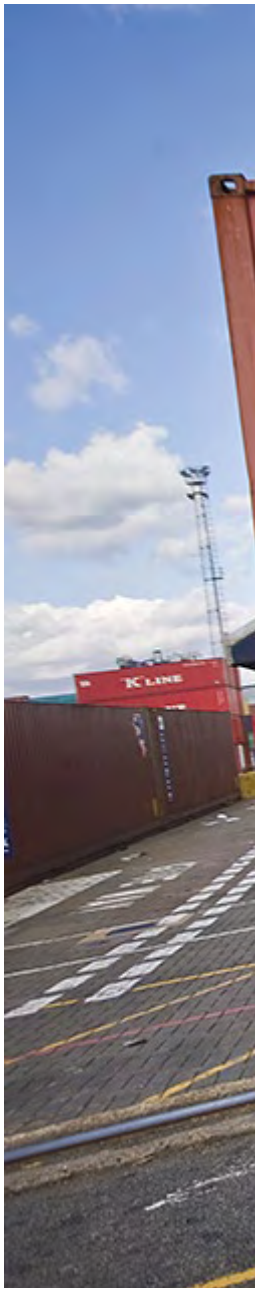
Kalmar TT616i

- New 4x2 LoLo terminal tractor
- Heavy duty frame
- Full CAN-BUS control system
- New cabin design


MSKU 120 6
32500

Tailor-made Terminal for Lo-Lo Operations

Kalmar is delighted to unveil a brand new 4x2 terminal tractor for LoLo (lift-on, lift-off) operations – the TT616i.



This flexible new terminal tractor can be tailored to meet the exact demands of customers who can choose from a range of features to transform the basic machine into a purpose built, customer specific tractor.

CUSTOMISED SPECIFICATIONS. According to *Timo Matikainen*, Kalmar Heavy Terminal Tractors' Director, the customer can choose to add the most suitable components to this powerful foundation:

"The new TT616i tractor can be customised to accommodate specific operations because it is based on a heavy duty frame and modules. The machine features a 95-tonne gross combination weight and at 36 tonnes, its fifth wheel load capacity is the biggest in the market.

"For example, the standard engine supplied is the Cummins 173hp, but for customers continuously operating with heavy loads, we recommend the more powerful Cummins 220hp engine and an elevating lift boom with a 36 tonne capacity. All in all, there are five different lift booms to choose from. Also, when the yard's operational distances are short, the customer can choose to fit an axle with a ratio designed for fast acceleration and sufficient maximum speed," says Timo Matikainen.

UNIQUE CONFIGURATION. Timo Matikainen continues: "There are many other additional options for the TT616i, which can be combined to make each machine unique. We can recommend features that enable our customers to carefully control emissions, keep noise levels down and achieve high uptimes. Our 'silent-drive' option is ideal if the operating area has strict regulations for night time noise levels and 'eco-drive' is perfect when emissions need to be minimised.

LOW EMISSIONS. LOW MAINTENANCE. LOW RUNNING COSTS. The TT616i features a full CAN-BUS control system which integrates all functions into a single system and shows full operational and service data on one display panel. The result is faster, safer and simpler tractor operations. Its state-of-the-art diagnostic capabilities also assist in service and maintenance planning – saving time, effort and cost.

The TT616i has Kalmar's proven power line, including the cleanest engine standards with Stage 3a / Tier 3 technology significantly reducing harmful emissions. The terminal tractor combines innovation with reliability, delivering low operating costs and reduced component wear as an added customer benefit. Easier maintenance also improves productivity and profitability with easy to access service points.

For the driver, the new terminal tractor provides superior ergonomics, a better, more comfortable working environment and excellent visibility. The cab design has been developed in conjunction with a vast amount of market research carried out at operational sites across the world, resulting in one of the most advanced operator environments available today.

Tractor


"TT616i tractor can be customised to accommodate specific operations because it is based on a heavy duty frame and modules."
TIMO MATIKAINEN Director
Kalmar Heavy Terminal Tractors

CUSTOMER

Port of Felixstowe Invests in Kalmar

Fleet

As the UK's largest container port, the Port of Felixstowe (PFL) handles more than 40% of the UK's freight containers, employs 3,000 personnel and operates twenty-four hours a day, seven days a week. The scale of the operation demands a highly efficient container handling fleet, which is why PFL has selected Kalmar.

PFL is a member of the Hutchison Port Holdings (HPH) Group – a subsidiary of the multi-national conglomerate Hutchison Whampoa Limited. HPH is the world's leading port investor, developer and operator with interests in a total of 47 ports, spanning 24 countries throughout Asia, the Middle East, Africa, Europe, the Americas and Australasia.

Prior to the new fleet of Kalmar trucks being installed at the port, PFL used a fleet of container handlers it had acquired over several years from different manufacturers. However, it has now chosen to invest in a new fleet of container handlers from Kalmar, a single trusted source that will ensure the highest levels of customer service, machine quality and productivity.

COMPLETE FINANCE AND SERVICE SOLUTION. After a comprehensive site assessment, Kalmar submitted specifications for a fleet of empty container handlers, loaded container handlers and reach stackers.

According to *Tim Clarke*, Kalmar UK's Area Sales Manager, it was Kalmar's ability to provide a complete rental and maintenance package that secured the business:

"There was no single incumbent supplier at PFL, because its original fleet had been made up of trucks from different manufacturers – Kalmar included. Having built up a solid working relationship with us, PFL was accustomed to our high level of customer service. But our real differentiator proved to be the complete solution we tailored specifically for this application.

"PFL wanted to be sure that the new trucks would not only be up to the task, but would have sufficient service back up to guarantee maximum uptime. Thanks to our proven service track record and because we have the greatest number of highly skilled service technicians dedicated to container handling equipment working throughout the UK, we were able to come up with an ideal solution to meet PFL's requirements," said Tim.

"PFL wanted to be sure that the new trucks would not only be up to the task, but would have sufficient service back up to guarantee maximum uptime."

Photo: Courtesy of the Port of Felixstowe

Port of

The solution was to supply the new fleet on contract hire which included Kalmar's Fleet Management service. Fleet Management is Kalmar's all-in-one solution to machine acquisition and usage, offering flexible finance and full maintenance for the duration of the contract at a pre-agreed fixed cost. The fleet at PFL is maintained by a team of resident engineers employed by Kalmar as part of the package.

PFL'S NEW FLEET. The new fleet comprises 12 Kalmar DCF 90-45 empty container handlers, 4 Kalmar DCF 410-CSG top-lift loaded container handlers and 1 Kalmar DRF Reachstacker.

Handling empty containers is a fast-paced job; they have to be moved or stacked quickly and efficiently. Kalmar's empty container handlers have been designed for use at ports and with ease of operation in mind. Excellent all-round visibility and ergonomic, easy to use controls in the cabin allow simple, precise placement of the load. With a stacking height of five x 9' 6" containers and a total weight lift capacity of 9 tonnes, the new trucks will provide PFL with much faster turnaround times and greater manoeuvrability of containers around the port.

Kalmar's contract support runs from 7am to 7pm weekdays and in the mornings at weekends. This enables all maintenance to be carried out at non-core times which increases utilisation of the fleet. Out of hours emergency cover is also provided to handle any operational demands and an on-site stock of parts ensures that first fix rates are maximised.

"Skilled people and clear communication are vital elements to providing an excellent service and we have a committed team of professionals working on this contract. Everyone understands the requirements of the port and effective lines of communication enable us to react quickly when needed," Tim concluded.

FACTS

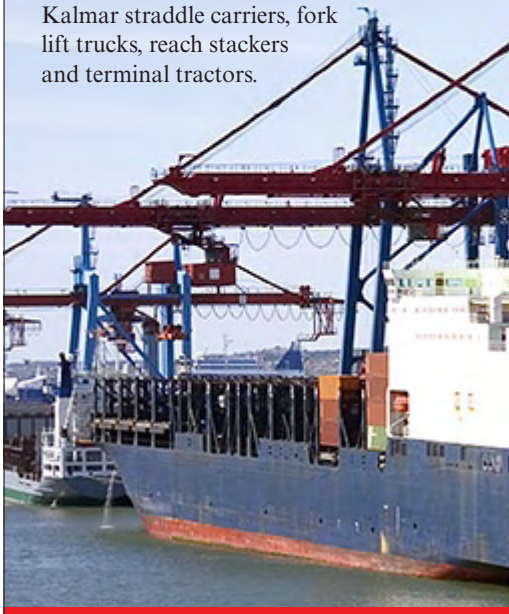
Customer: Port of Felixstowe
Operation: Complete finance and service solution on container handling fleet
Kalmar equipment on site: 12 Kalmar DCF 90-45, 4 Kalmar DCF 410-CSG & 1 Kalmar DRF.

The contract provides the Port of Gothenburg with a high degree of flexibility, ensuring that it always has the optimum amount of empty container handling equipment to meet its needs.

SVANTE ALVERONN

According to *Svante Alveronn*, Kalmar Sweden's General Sales Manager, the fact that Kalmar has worked closely with the Port of Gothenburg for more than 40 years, allows the companies to co-operate effectively and reach sophisticated solutions:

"The port has a mixed fleet of Kalmar straddle carriers, fork lift trucks, reach stackers and terminal tractors.



Kalmar was awarded a three-year contract to supply empty container handling capacity to the Port of Gothenburg's container terminal in Sweden. Under the equipment and service contract – which equates to providing seven DRF100 reachstackers at any given time – the responsibility for ensuring machine availability falls on Kalmar.

Gothenburg Entrusts Kalmar

"RMI allows the control room staff to monitor operations in real time, flagging up alarms, driver acknowledged information and operational data."

CUSTOMER

handling containers in small and medium sized ports. Kalmar's DRF100 is a dedicated empty container handling machine that is extremely reliable and boasts excellent performance. Its engine features low emissions, smooth, automatic gearshift and ergonomic driver controls.

The reachstackers are supplied with Kalmar's Remote Monitoring Interface (RMI), a system which enables a large number of machines to be monitored remotely by a single operator in the terminal control room. RMI allows the control room staff to monitor operations in real time, flagging up alarms, driver acknowledged information and operational data.

Situated on Sweden's west coast, the Port of Gothenburg is the largest port in Scandinavia. Last year the port handled 840 000 TEU and is a major goods hub for Sweden – one of the most trade dependent countries in the world. The port's vision is to become the natural goods hub for Northern Europe.

We feel that this new contract is a breakthrough in providing customer-focused solutions," says Svante Alveronn.

FLEXIBLE SOLUTIONS. Reachstackers are one of the most flexible solutions for

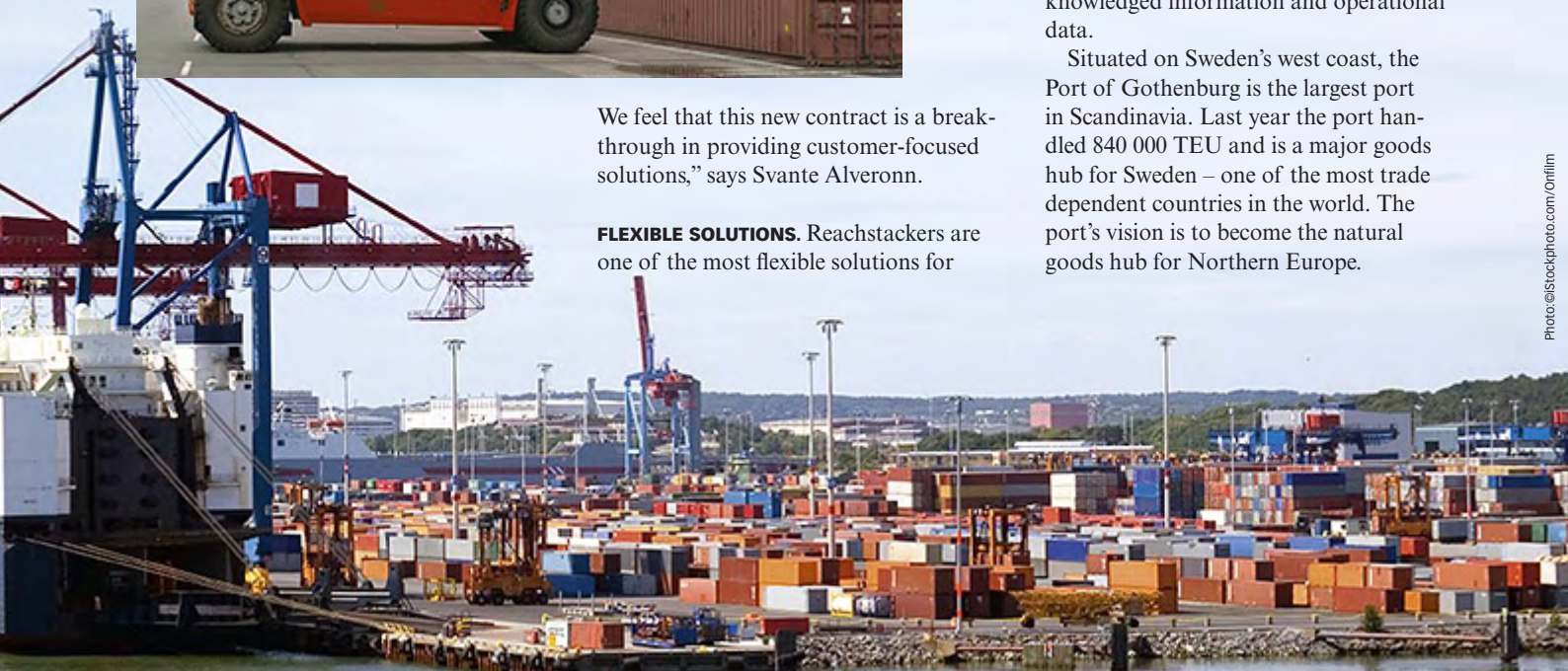


Photo:©iStockphoto.com/Onfilm

All machinery needs to be properly maintained if it is to perform at its best. To run machines efficiently and maximise on investment, customers need to regularly service equipment, replace worn or damaged parts and sometimes even carry out upgrades and modifications.

Kalmar Parts

Kalmar Around the World talks to *Hans Jansson*, Kalmar Parts' Vice President, about the company's unrivalled global offering of after-sales parts support.

KAW – What after-sales services do you offer to customers?

HJ – We do everything we can to support our machines with parts supply and other related services. Our main aim is to ensure that every piece of Kalmar equipment – old or new – is fully supported to provide each customer with maximum machine uptime, reliability and operational efficiency. We aim to provide the best customer service in the industry.

AVAILABILITY IS THE KEY

KAW – So how can Kalmar Parts help minimise machine downtime?

HJ – Kalmar understands that time is money and machine downtime is particularly costly for our customers. That is why we are committed to help minimise downtime by offering fast and reliable parts delivery. With state-of-the-art warehousing and logistics solutions we stock over 50 000 parts covering all types of Kalmar equipment and our availability rate is amongst the best within our industry.

Kalmar Parts boasts a network of warehouses strategically located around the world and this helps to ensure that customers get their parts quickly. To reinforce this offering, over the last few years we have invested in availability planning and simulation tools, opened a new warehouse in Brazil and increased parts stock in the Far East and the USA, to ensure even better availability to customers in those areas.

Even if a part is not in stock in a local warehouse we can usually distribute parts from our European Distribution Centre to anywhere in the world within 24 hours. Indeed, we currently deliver over 500,000 orderlines each year.

KALMAR MACHINES DESERVE KALMAR PARTS

KAW – How do Kalmar Parts contribute to the reliability of the machine?

HJ – Whether it is preventative or reactive maintenance, we strongly recommend that only genuine Kalmar Parts are used on Kalmar machines. As the Original Equipment Manufacturer we know our machine specifications best and our parts are built to the highest engineering standards. Kalmar parts fit right, first time and are purposely designed to work in conjunction with our own machines.

Inferior parts may reduce a machine's performance, depreciate its value and can even cause expensive damage to other main components. When customers have invested significantly in valuable machinery, it is not worth risking their integrity with spurious alternatives.

Trying to 'save' money with alternative replacement parts can prove to be a false economy. For example, there are cases where complete engines have had to be replaced, simply because a pirate filter was used which did not offer the same quality protection as an original Kalmar filter.

Genuine parts help safeguard residual values, ensure long term component protection and guarantee optimum performance. Customers simply cannot rely on any alternative.

MORE THAN JUST PARTS

KAW – Can Kalmar Parts offer any other benefits to customers?

HJ – As a business, Kalmar Parts is more

Leads the Way

HANS JANSSON

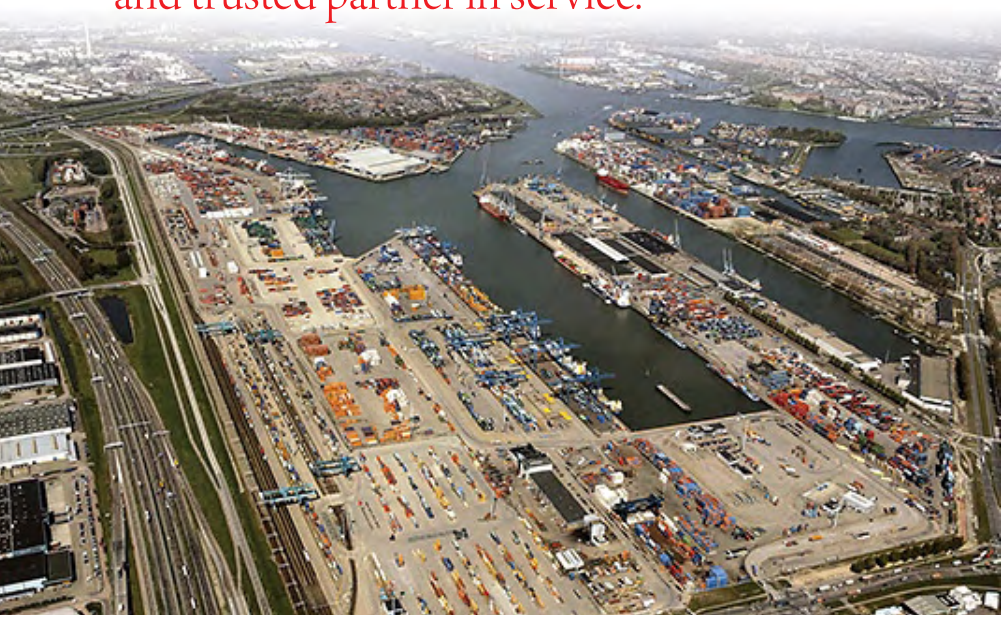
than just a distributor of quality replacement parts. It is about making things easy for the customer, and as such, we offer a host of further services:

- Easy 24/7 online ordering system
- Range of Exchange Products
- Special tools, large components and product modification
- Refurbishments and upgrades
- Consultative materials management
- Technical Backup Service
- Out of hours Emergency Services

We have earned a reputation for delivering excellent customer service globally. I believe one of the main reasons so many customers choose to deal with Kalmar is the assurance of the name and the extra lengths we go to. Parts support from Kalmar is an unrivalled total support solution.

The 'Ultimate' Service Solution

Offering customers the ultimate in operational flexibility, equipment availability and financial value, Kalmar is the industry's most experienced and trusted partner in service.



With the trend of outsourcing maintenance on the increase, Kalmar Around the World interviews *Rob van Hove*, Kalmar Service's President, on the reasons for its growth.

KAW – Can you explain why more port, terminal and industrial operators are choosing to outsource the maintenance of their equipment?

RvH – There are many factors that contribute to this shift in customer behaviour. In some regions, terminal and yard operators are faced with a lack of skilled labour yet the design and technology used in new equipment increasingly requires properly trained engineers to service it. Outsourcing maintenance is also appealing because it allows customers to focus on their core business.

As more ports are privatised, governments are selling their terminal operations, including the service operations. This creates the opportunity for changes to the way ports are managed. In the case of greenfield port developments, many new terminals opt to outsource so they can be more flexible and cost efficient from the beginning. Performance-based contracts and the need for faster parts delivery are also on the rise.

REDUCED CAPITAL INVESTMENT

Not only are the major industry players choosing to outsource their maintenance operations, but the medium to small-sized terminals are also considering it as a viable option. With this trend in mind, equipment rental and leasing is increasingly appealing to smaller operations because it does not require a large initial capital outlay. Off-balance financing means customers can plan better because their fixed-costs are known.

KAW – Why might some operators be reluctant to outsource their service operations?

RvH – Some customers see maintenance as one of their core competencies. Most terminals are outsourcing some of their maintenance, but that deemed to be 'critical' will often stay in-house. For example, quay cranes are viewed as a critical component in the handling operations of terminal owners, therefore they prefer to rely on their own resources to perform that type of service.

Our leasing agreements can provide machinery on demand as securing the availability of all types of cargo handling equipment – from terminal tractors to large gantry cranes – is Kalmar's speciality. Our technical expertise, skilled service people, and worldwide presence have resulted in many tailor-made maintenance agreements with different customer types and sizes all over the world.

KAW – What advantages can Kalmar offer those customers interested in outsourcing their maintenance activities?

RvH – Kalmar can offer customers greater flexibility because we can adjust our

ROB VAN HOVE

resources to meet the demands of the market. For instance, we can move service personnel between customer locations within the same port or region to fulfill certain requirements. This way customers only pay for the resource they use and are not tied in to expensive employment costs for a workforce which is under utilised.

Kalmar has developed best practice techniques for terminal maintenance thanks to its extensive experience and worldwide operations. Our service capabilities are even in use at highly automated terminals.

HELPING CUSTOMERS COMBAT THE CREDIT CRUNCH

KAW – Has the current economic downturn made it more or less likely for operators to outsource service functions?

RvH – In recent months, the number of customer requests for service contracts has increased as a result of their interest in reducing fixed costs. In the first half of 2008, Kalmar secured more maintenance contracts compared to all of 2007. Integrating service agreements in the initial sale of new equipment is another growing trend.

Kalmar's maintenance agreements offer advantages in operational flexibility and cost efficiency because the customer can more easily adjust his financial model to the current economic situation. It's important for any customer to reduce its fixed costs and outsourcing service can enable this.

It is always worth noting that no two customer operations are alike; each client demands a tailored solution. This fact never changes and Kalmar is well prepared to meet the varying needs of its customers.

Service agreements are appealing to customers because they eliminate some of their own risk, offer greater operational flexibility and are certainly more cost efficient. Kalmar is able to further meet these expectations with the industry's best global service network, a reliable parts supply chain and the expertise of a preferred equipment and solutions provider.

ECT's state-of-the-art Euromax container terminal on the Rotterdam Maasvlakte opened in September 2008 with an annual handling capacity of 2.3 million TEU (Phase 1).

Starmax Takes Full-Service Responsibility

Giving new meaning to the term full-service, Starmax – a joint venture of Kalmar Industries and Stork Industrial Services – has been maintaining the cranes and rolling equipment of the new, highly automated Euromax Terminal on the Rotterdam Maasvlakte since the terminal's grand opening in September 2008.

The terminal's owner, Europe Combined Terminals (ECT), sought the help of a combined service provider powerhouse to ensure the optimal availability of the facility's 16 quay cranes, 58 automated stacking cranes, 96 automatic guided vehicles and other site vehicles. The contract was awarded as a five-year deal.

"Starmax is proud to play a key role in the success of ECT's progressive concept in terminal operations," commented *Marco Plug*, General Manager, Total Terminal Maintenance. "The automated container handling process requires a high level of equipment dependability that only Starmax is able to secure."

Kalmar's Total Terminal Maintenance (TTM) is a tailored approach to comprehensive terminal maintenance planning. From greenfield sites to the expansion of existing operations, TTM delivers uncompromised productivity realised by a world-class service organisation. With its TTM offering, Kalmar transcends its role as just a manufacturer and steps up as a partner – sharing the risks associated with keeping terminal equipment up and running.

RTG Simulator Provides a Real True-to-life Training Experience

Kalmar rubber tyred gantry crane (RTG) operators can now undertake machine training using the latest in virtual reality simulation.

Thanks to Kalmar's new training simulator, it is possible to practice using the crane under simulated real-life conditions without taking a real machine out of service or compromising safety.

The new RTG simulator was completed ready for testing at the Cargotec office in Tampere, Finland at the end of 2008. The first simulator is being shipped to Santos Harbour in Brazil where it will be used for training.

The device was built at the Tampere factory, where the team, guided by Kalmar Project Manager *Tuomo Raami*, spent six months designing the control technology for the simulator. The company is extremely satisfied with the end result.

"The simulator uses authentic controls from Kalmar's RTG crane and the conditions correspond very well to real life. The view from the driver's cab to the harbour is realistic, and proper sounds and crane movements make it even more so," says Tuomo Raami.

"Simulators are going to play an increasingly important and cost effective role, allowing the real equipment to remain in service while new operators receive their training."

EVEN THE WEATHER IS SIMULATED. During the training, it is possible to choose from a diverse range of wind, weather and lighting conditions, simulating the most challenging circumstances that an operator is likely to face, in both day time night time scenarios.

According to Tuomo Raami, the simulator is a practical and flexible learning tool. "The instructor can easily monitor the learning process remotely from an office. Because the training does not disturb operations, it can be modified to meet individual needs, with more time being spent on some aspects rather than others as required. Operators quickly learn the correct techniques for lowering fuel consumption, reducing machine wear and tear and increasing efficency," says Tuomo Raami.

Cargotec's partner in this project is MeVEA, a Finnish company that provides simulation solutions. The simulation software developed by MeVEA is particularly suitable for real-time simulation of the dynamics of the machines and devices.

Kumport Expands with 8 Kalmar RTGs

Kalmar was awarded a contract to supply eight of its E-One+ rubber-tyred gantry (RTG) cranes to Kumport Liman Hizmetleri ve Lojistik A.Ş. for the expansion of Kumport port in Turkey. The equipment will be delivered to Kumport in August 2009.

ERKAY DERELLI, Managing Director, Kumport

The eight new RTGs will be fitted with Kalmar's Smartrail® autosteering and container position verification systems and variable speed generators (VSG) to improve fuel economy especially when power consumption is low. The RTGs will be joining the four existing Kalmar RTGs and other Kalmar equipment that has provided Kumport with trouble-free operation since 2002.

Erkay Derelli, Managing Director of Kumport, said: "We demand equipment availability and reliability of at least 90 to 95%, which is very important for our terminal business. We have been able to reach this with Kalmar equipment and service, and we are able to provide our customers with the best possible service levels.

"Proven availability, reliability, service and excellent machinery were the motives for our decision to choose Kalmar again."

Before its expansion, Kumport is currently the second largest private port and the third largest port in Turkey. Kumport is located at the European side of Istanbul on the Marmara Sea coast. Kumport is currently handling about 750,000 TEU per year and estimates that within five years it will be able to double that amount.

"Proven availability, reliability, service and excellent machinery were the motives for our decision to choose Kalmar again."

"There is also huge transit potential. Traffic is increasing, especially from the Far East to the Black Sea area. Our port expansion, which includes reclaiming land from the sea and building bridge connections, is all to be completed in five years," said Mr Derelli.

Kalmar's E-One+ RTG cranes come equipped with a low-emission diesel engine and all-electric trolley, wheel turning and spreader. This 'all-electric' concept, without the need for hydraulics, means that parts are easy to access and fewer components than ever require maintenance. The E-One+ RTGs offer reliability and cost efficiency while also meeting the toughest environmental standards on pollution, discharges, noise, safety and working environment.

Kalmar Asia Pacific Limited recognised as a Caring Company

Kalmar Asia Pacific Limited is a recognised as "Caring Company" by the Hong Kong Council of Social Services. To qualify as a Caring Company, the organisation has to demonstrate good corporate citizenship in Hong Kong.

Building on the success of its new F-generation range of empty container handlers in Europe, Kalmar is delighted to announce the first models have now been delivered to Asia.

First DCF to Asia

Singapore-based SH Cogent Logistics Pte. Limited has purchased two Kalmar DCF models for its logistics operations and the breakthrough sale was marked with an official hand-over ceremony in November 2008. Over 60 representatives of SH Cogent and Kalmar Singapore attended the event.

ENHANCED FEATURES. The new Kalmar DCF empty container handler range features a number of significant developments when compared to its predecessor – the DCE100 – which has proved to be extremely successful in the Asian market in its own right.

The new DCF100-45E8 is equipped with a hook spreader and can lift two containers simultaneously. It is also capable of stacking 8+1 containers high. The result is unrivalled productivity and sets new standards of performance in the empty container handling sector.

Now successfully entering the Asian market, the Kalmar DCF empty container handler is already well established in Europe having proved its worth in Germany, Holland, Belgium and Russia.

Background photo: ©Istockphoto.com/Nikontiger

Kalmar Asia Pacific Region

Kalmar Asia Pacific Region has won four prestigious business awards in recognition of organisational excellence.

Kalmar Asia Pacific Region was crowned Grand Winner 2008 at the Asia Pacific Business Excellence Standard (APBEST) awards in February. This was the first time that Kalmar Asia Pacific Region had participated in these awards.

Kalmar Asia Pacific Region was also named Best Logistics Company in the Asia Pacific and also carried off two individual awards. *Ken Loh,* president of Kalmar Asia Pacific Region, was named APBEST Strategist of the Year, and *Eugene Che,* senior TQM manager, was named APBEST KPI Achievement Driver of the Year.

Ken Loh said: "It was a proud moment for me and my team when we received these prestigious awards. Kalmar stood out as a clear winner for best business practice, with our holistic approach to our business, from our mission statement to our organisation structure, coupled with processes that ensure achievement of our goals.

"Although the examination process takes about 1 year, culminating in interviews with senior managers from Kalmar Asia Pacific Region, these awards actually acknowledge that we have worked for many years to ensure that we apply only the very best business practices."

APBEST was founded to enable companies in the Asia Pacific region to achieve business excellence, providing benchmarks for management and organisational excellence. Organisations are evaluated to assess their performance in leadership, customer focus, people management, process management, social responsibility and overall business results.

The APBEST judges are well-qualified and with profound experience as Business Excellence Assessors in Europe, North America and APAC.

Scoops APBEST Awards

Kalmar Asia Pacific Region was named Best Logistics Company in the Asia Pacific and also carried off two individual awards.

KEN LOH (left), President of Kalmar Asia Pacific Region, was named APBEST Strategist Of The Year.

The judges commendations recognised that Ken Loh's business strategy, based on partnerships delivering total customer satisfaction, reflected the dynamics and culture of the Asia pacific business environment. Ken's holistic approach was acknowledged as being effective in such diverse business conditions. Eugene Che's contribution, inculcating a culture of quality throughout the organisation, was commended for achieving change management in different and diverse Asian cultures.

Kalmar was commended for its strong leadership, a key ingredient in achieving the awards. The judges also praised Kalmar's well integrated logistics concept, connecting its supply chains from around the world, as a good example of a company embracing globalisation.

NEWS

Patrick Expands its Brisbane Terminal and Orders More Kalmar Automated Straddle Carriers

Patrick Terminals ordered Kalmar automatic straddle carriers for the Fisherman Islands terminal in Brisbane, Australia. The four new ESC350WA straddle carriers will be introduced into service in Brisbane before September 2009, taking the total number of Kalmar fully automated straddle carriers at the terminal to 27.

Kalmar to Supply Six RTGs to the Port of Livorno in Italy

Terminal Darsena Toscana (Contshipitalia Group) operating in the Port of Livorno (Leghorn), Italy turned to Kalmar for six E-One+ rubber-tyred gantry (RTG) cranes. The first two RTGs were delivered in 2008 and the other four RTGs during summer 2009.

Southern European Ports Expand Operations with Kalmar Container Handling Solutions

The ports of Koper in Slovenia and Evyap in Turkey are expanding their container handling capacity with Kalmar rubber-tyred gantry (RTG) cranes. The orders include Smartrail® autosteering and container position verification systems for the RTGs. The equipment will be delivered to Port of Koper during the third quarter of 2009 and to Evyap Port during the first quarter of 2009.

Transnet Equips for Cape Town's Expansion with 32 New Kalmar E-One+ RTGs

Kalmar will supply 32 E-One+ rubber-tyred gantry (RTG) cranes to Transnet Limited, the parent company of terminal operator Transnet Port Terminals (TPT). This latest agreement follows on from a series of recent orders received from Transnet, further demonstrating Kalmar's commitment to ensuring the smooth and efficient operation of South Africa's largest stevedore.

Piraeus Port Authority Orders Ten More Kalmar Straddle Carriers

Five Kalmar EDRIVE® ESC350 and five Kalmar CSC350 machines will be delivered to Piraeus Port Authority in Greece for its new Pier I terminal during the first half of 2009. This order further enhances Kalmar's long-standing relationship with Piraeus Port Authority, which began in 1992. It will bring the total number of Kalmar straddle carriers at the port up to 58. Piraeus also operates a fleet of 25 Kalmar terminal tractors and ten Kalmar empty container handlers.

Kalmar

More information about orders on our website **www.kalmarind.com**

See page 10 for hybrid straddle carrier orders.

Arshiya 'Goes Green' with Kalmar E-One+ RTGs and Reachstackers for its Logistic & Rail Terminals

Kalmar will supply seven E-One+ rubber-tyred gantry (RTG) cranes and 10 DRF450 reachstackers to Arshiya International Ltd, a global supply chain services company.

The agreement also calls for Kalmar to provide full maintenance and operators to ensure the efficiency of Arshiya's facilities.

Kalmar Celebrates the Opening of the Port of Vuosaari as its Fleet of Kalmar Equipment Reaches 240

The Kalmar has delivered four new ship-to-shore (STS) cranes and nine other new container handling machines to the Port of Vuosaari in Helsinki, Finland. This new equipment is being joined by other Kalmar machines that are being moved to Vuosaari from two existing smaller Helsinki ports and Port of Kotka, bringing the total fleet of Kalmar machines at Vuosaari to 240. Kalmar was also awarded maintenance contracts by the Finnish port operators Finnsteve and Steveco. Vuosaari Harbour will serve as Finland's main gateway for unitised cargo.

Fleet of Kalmar Terminal Tractors to Port of Salalah in Oman

Kalmar supplied 42 Ottawa 4x2 terminal tractors for the expansion of the Port of Salalah, located in the southern region of Oman. The equipment was delivered to Port of Salalah in the end of 2008.

Cargotec Receives Major Order in USA

Kalmar RT Center, LLC (KRTC) has been awarded a new 5-year contract to supply its Rough Terrain Container Handler (RTCH) to the Department of Defence. This new contract was awarded by the Tank-Automotive Armament Command (TACOM) in Warren, Michigan and is structured to have multiple delivery order releases over the term of the contract. The value of the initial delivery orders will be over 125 MUSD. KRTC expects to receive additional delivery orders in each of those 5 years. Total value of the 5-year contract is estimated to be approximately 385 MUSD.

GTI Expanded its Green, Productive Operations with 11 Kalmar E-One+ RTGs

Kalmar delivered eleven of its E-One+ rubber-tyred gantry (RTG) cranes to Gateway Terminals India (GTI) at Nhava Sheva, India in January 2009. This latest order, follows on from a contract to supply GTI with 29 E-One RTGs delivered in 2006.

SPRC Colombia and Kalmar Extend Their 10-year+ Partnership with an Order for More Green and Reliable Equipment

Kalmar was awarded a contract to supply Colombia's Sociedad Portuaria Regional de Cartagena (SPRC) with a variety of container handling equipment for its new Contecar terminal in Cartagena, on the Caribbean coast. The order includes 30 terminal tractors, seven E-One+ rubber-tyred gantry (RTG) cranes and five reachstackers. The smaller equipment is scheduled to be on-site by November, and the RTGs will be operational by May 2009.

A Nintendo Wii was handed over to the winner of the TOC draw
Luca Polleri won the prize Nintendo Wii at the TOC draw.
The prize was delivered to the VTE facilities in Genoa Voltri, Italy.

FREE WITH EVERY SERVICE.

When you specify Kalmar you not only get one of the best heavy-duty materials handling machines available but you automatically benefit from the support of the strongest team in the business. Our service engineers are heavy equipment specialists and through them we can provide you with a range of flexible service options, tailored to meet your business needs precisely. So, when it comes to maximising machine uptime and reducing operating costs make sure you get the best team in the business working for you.

Kalmar

www.kalmarind.com

Kalmar is part of Cargotec Corporation