ABP: TOS SOFTWARE OPERATIONS AT HAMS HALL & IMMINGHAM

Associated British Ports Ltd (ABP) is the UK's largest port group, operating 22 ports that form a UK-wide network capable of handling almost every conceivable type of cargo. ABP is backed by investment in cutting-edge facilities and equipment. It is also the owner/operator of one of the UK's premier inland rail freight terminals: Hams Hall.

Located near Birmingham, the UK's busiest inland container terminal is adjacent to the Nuneaton-to-Birmingham railway line and handles deep-sea and short-sea traffic to and from ports like Southampton, Tilbury and Felixstowe- as well as traffic via the Channel Tunnel and domestic traffic from Scotland. Ongoing expansion and investment since 2002 has seen operational capacity at Hams Hall treble; ABP Hams Hall currently handles around 100,000 containers per annum, yet still has capacity to accommodate further growth.

Hams Hall spans 11 hectares (110,000m2), is Channel Tunnel SACTIFF security-approved, has 6,000 TEU of secure storage, four railway sidings and two reception lines. With stackers, an RTG and a shunting locomotive, Hams Hall is well placed to serve its customers that include shipping lines, 3PLs, FOCs and truck companies.

DELIVERING CONTROL AND VISIBILITY

The key business driver for Hams Hall is efficient use of resources, space optimisation, minimising non-productive activity and maintaining truck/train turnaround times, in order to ensure customer service levels are maintained and costs are correctly matched to activity levels. At the heart of this efficiency drive sits Autostore, developed by leading intermodal supply chain integrators CSA Ltd, a part of Terex Corporation. Proven worldwide, Autostore is the market-leading software solution of choice for the UK's inland container terminals. For the Hams Hall Team, the central advantage of Autostore is the real-time visibility and fingertip control it delivers.

A full digital audit trail for every container movement on the site has enabled Hams Hall to create daily and seasonal traffic profiles. This enables the team to make the perfect match between resourcing on shifts and spikes in demand. For example, 7pm to 4am is the quietest period. With Autostore, the operations team can now switch resources accurately out of the quiet times and reallocate them to peak handling periods. The result? Controlled cost and optimised resources to maintain service levels- regardless of the time of day.

PROACTIVE TERMINAL MANAGEMENT

The proactive impact of Autostore on Hams Hall's people cannot be underestimated. The data allows us to prepare meaningful KPIs and identify improvement opportunities that are communicated to all the team so everyone knows what they have to do to achieve a goal. Running Autostore, average attended man-hours for yard labour have decreased by 42% and average productive lifts per man-hour have increased by 89%. Average truck turn times are under 30 minutes with gate-to-gate times as low as 12 minutes. Autostore's EDI messaging also gives Hams Hall's customers more flexibility, as they can now better plan their own container traffic flows. Conversely, Hams Hall can also maximise the revenue opportunities on-site using Autostore's Activity Charging Module (ACM). With repetitive data entry errors eliminated, the Hams Hall team can identify productive and unproductive lifts to ensure that all productive ones are chargeable. Invoices can be automatically generated and pre-approved, reducing the billing cycle and enhancing the cash flow position of the business.

Hams Hall is also looking to implement EDI with its customers so that they can plan their throughput in advance, pre-announcing containers before they arrive. This gives Hams Hall's customers greater control over their own scheduling decisions, cuts the opportunities for error and helps smooth the flow of containers.

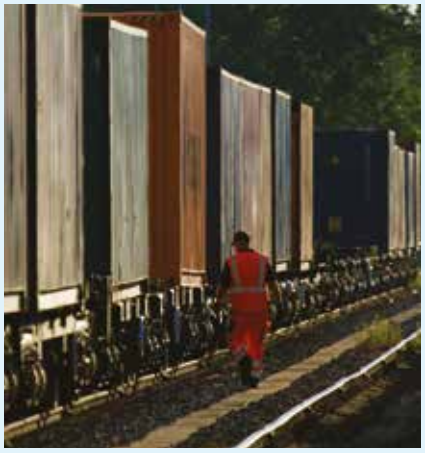
DGPS FROM CSA AT ABP IMMINGHAM

ABP's container operation at the Port of Immingham handles around 200,000 TEU annually. Such an extensive operation requires an advanced technology backbone- Autostore- now with the added control and precision of DGPS Container Positioning. The terminal employs around 120 people and a range of mechanical handling equipment that includes several reach stacker trucks plus free-roaming rubber-tyred gantry cranes (RTG), internal movement vehicles (IMVs) and two Liebherr ship-to-shore quay cranes. With around 200,000 TEU being handled annually in a round-the-clock operation, the Autostore terminal operating system (TOS) already helps to maximise the terminal's available capacity, raising container throughput, improving accuracy, cutting paperwork and delivering real-time management information in a variety of report formats.

Container throughput and turnaround times are critical success factors for the port and it is in this area where Autostore makes a major contribution to Immingham's competitiveness and efficiency. With a main stack that is seven containers wide by five high and forty long, the volume of containers is huge and its management demands absolute accuracy and safety. That's why Immingham has opted for the Autostore Container Positioning System (CPS), a position determination solution using a differential global positioning system (DGPS). This innovative GPS technology records which containers are where after each move and the exact positions of the RTGs at any given moment.

AN ELEGANT TECHNOLOGY SOLUTION

While a basic GPS device can determine positions to an accuracy of 10-20 metres,



such a margin is nowhere near accurate enough for container move management. Based on the known, fixed position of the DGPS base station, Autostore calculates the position correction for each of Immingham's RTGs. The central controller on board each RTG interfaces to Autostore over the wireless network and each RTG carries a DGPS hardware module that links to the static DGPS receiver at the gatehouse.

The programmable logic controller (PLC) on board each RTG connects to Autostore via the crane interface, enabling Autostore to monitor twistlock and spreader commands for each crane. Positioning data is information is transmitted to and from the RTGs, accurate to within less than 50 centimetres at any time. Supplementary position sensors then correct this tolerance to less than 10cm for maximum precision with container movements. Autostore converts the position data - in OS co-ordinates - into centimetre increments that enable it to determine which row and level in the container stack the RTG should be working.

The result? Autostore always knows the exact location of every container to almost the nearest centimetre, enabling ABP to manage all container movements and storage to and from the stack in a highly efficient way.

ABOUT THE ORGANISATION

Founded in 1988, Central Systems & Automation Ltd (CSA) is one of Europe's leading software development and integration companies for the intermodal and logistics industries. Headquartered in Leicester, UK, we have a regional office in Dubai, UAE plus a network of international Autostore partners throughout the EU and Middle East. We operate mission-critical Autostore sites for clients throughout the UK and Ireland to France, Scandinavia, as well as across the Baltic, Kuwait, Saudi Arabia, Qatar and Australia. Autostore is available in multiple variants: for warehouse and distribution centre management; for port-based container and cargo management; and inland terminal container management. In recognition of our exceptional technology export performance over many years, we are the proud holder of the prestigious 2012 Queen's Award for Enterprise in International Trade.

ENQUIRIES

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