

New automation systems offer greater accuracy than ever before, reports David Wilson, allowing operators to boost efficiency and save costs

Data systems come of age

Even if Terminal Operating Systems (TOS) are well designed and implemented, their performance can be undermined by poorly input or unreliable data, costing operators money through lost productivity. However, a number of companies are developing new types of terminal automation system designed to improve efficiency and reduce unwanted overheads.

UK-based International Terminal Solutions (ITS) targets mid-sized port/terminal operators and logistics companies. Since it was formed in 2002, it has steadily increased its market presence and in 2006/07 it doubled its turnover, according to managing director Richard Lambert. Its Port Automation division deals with the ports and terminals market, while its Terminal Solutions division handles industrial automation, security and access control, and logistics, transport and warehousing solutions. In 2006/07 clients included APM Terminals, Maersk Espana,

POSIDON - LOAD for bay 41 Moves held = 41

CONTAINER ID	FROM SHIP	TO YARD	TRUCK	DAMAGED	SEAL NUMBER
MAEU00001	H121	101	T1	NO	12341
MAEU00002	H122	102	T2	NO	12342
MAEU00003	H123	103	T3	NO	12343
MAEU00004	H124	104	T4	NO	12344
MAEU00005	H125	105	T5	NO	12345
MAEU00006	H126	106	T6	NO	12346
MAEU00007	H127	107	T7	NO	12347
MAEU00008	H128	108	T8	NO	12348
MAEU00009	H129	109	T9	NO	12349
MAEU00010	H1210	1010	T10	NO	123410
MAEU00011	H1211	1011	T11	NO	123411
MAEU00012	H1212	1012	T12	NO	123412
MAEU00013	H1213	1013	T13	NO	123413

Selected Move: MAEU00005 H125 105 T5 NO 12345

Assign Truck: T001 T009 T003 T023 T025 T099

Container positions on truck: ESTU12345678 MAEU12345678

ITS systems allow operators to track and trace individual vehicles and containers throughout the yard

Terminal Systems Inc and TNT, among others.

In ports and terminals, ITS's main area of expertise is track and trace technology. For example, it recently upgraded 20 new RTG cranes for APM Terminals at its western Mediterranean hub, installing GPS and container move ID systems. These allow operations to be monitored in virtual real-time, reducing the number of mishandles. The system includes an ITS radio data network that gives yard operators an uninterrupted link to management systems, and this in turn is linked to the main ITS PDS (Position

Determination System), using GPS satellite tracking and container move identification technology.

An ATI (Automated Truck Identification) module provides automatic ID of yard vehicles, containers and required grounding locations. It automatically displays container moves and includes a Twist-interlock module, which blocks any move from being carried out incorrectly – the wrong container being lifted or a container being placed in the wrong location, for instance. It also keeps track of high-security or suspect cargo.

ITS has also installed its equipment/operator security system for APM. Machine-readable ID cards prevent RTGs from operating without the correct driver for the shift, while a data link from the RTG to the terminal's ERP system automatically generates maintenance work orders.

ITS is currently working on a number of contracts to supply similar systems using RFID technology, including installations on eight new RTGs at the Deltaport terminal in British Columbia and a further two at the Vanterm terminal in Vancouver. It will install a further eight systems at Vanterm in late 2007.

The ITS LoadVIEW system is an alignment tool that gives drivers of trucks, trailer trains or straddle carriers a bird's eye view of the container and vehicle and allows them to judge the stopping point much more accurately. Cameras on the crane monitor the loading area, and target markers are overlaid on a composite image that is transmitted to the driver.

“LoadVIEW does not require an external operator, and can be configured to load and unload any combination of containers: 20 ft, 40 ft, 45 ft, or twin 20 ft. It can align two empty or loaded chassis side by side simultaneously for a tandem lift, and can also position empty chassis with twistlocks,” explains Lambert.