Enter the Interceptor

US-based container crane designer Paceco Corp is working with crane consultants Casper, Phillips and Associates (CPA), the Idaho Acceleration Center (IAC) and the Idaho National Engineering and Environmental Laboratory (INEEL) on a new product that can provide rapid, 100 per cent, non-intrusive inspection of containers for fissile materials, other potential weapons of mass destruction and contraband.

Called Interceptor, the container handling technology comes from Paceco/CPA and the inspection and detection technology from IAC/INEEL. CPA is responsible for the scanning trolley design and is managing the mock trolley test programme, which is currently underway.

This is aimed at verifying and calibrating the software for calculating radiation safety, evaluating safety from scatter radiation generated by various types of cargo, and demonstrating the ability to detect fissile material in 30-60 seconds of scanning time. The test criteria are still being determined by the Department of Homeland Security.

Interceptor can act as a platform for various non-intrusive inspection technologies

If the testing is successful, the project team will apply for funding from the federal government to build a full size prototype for testing in a US port. It is hoped to have obtained the support funding late this year or early next, and it will then take about six months to build the prototype.

Paceco makes the point that Interceptor is not a product that a port authority or terminal operating company would buy as it relates to national security issues, so political support is necessary in order to get it to the market.

The inspection processes are initially based on finding fissile materials or even a nuclear bomb, although it is envisaged that inspection for all WMDs can eventually be performed, including biological and dirty bombs.

Thus a full-scale, Interceptor machine would be a platform for various non-intrusive inspection technologies such as X-ray, biochemical, nuclear and so on. The inspections take place as the containers are being (un)loaded by the gantry crane, and there is no negative impact on (un)loading time.

● The four radiation detection gates at the Port of Rotterdam have given an alarm 5000 times since they were installed. But in none of the cases was illegal transport of nuclear material indicated. The gates seem to be sensitive to broccoli, ceramic tiles and PC monitors. In the four month test period some 200,000 containers were checked, without unacceptable hindrance of the logistical process. Despite the large number of false alarms, Dutch Customs are positive on the devices because of their preventive function. Gradually, 40 devices will be installed in the port area.

TSB lands MTL TOS contract

Hong Kong-based terminal operator Modern Terminals Limited (MTL) has signed an agreement with Korean software supplier Total Soft Bank (TSB) to develop and implement its next generation terminal management system. The system, called Modern Terminals Operations System (MOTOS), is described as "a blend of TSB's state-of-the-art container terminal solution and Modern Terminals' best practice."

The new system will be based on Java 2 platform Enterprise Edition architecture and consist of three major modules: planning module (vessel and yard planning); operations module (operational administration); and management module (documentation, EDI, web-based information, CFS and equipment maintenance and repair).

TSB is already using Java servers with its flagship CATOS terminal operating system but MOTOS is a new product with a new configuration designed to take advantage of the flexibility of J2EE.

The first terminal to deploy MOTOS will be MTL's Kwai Chung operation where the ship planning module will replace Navis SPARCS and be integrated with other in-house applications developed by MTL. The first site for full MOTOS installation is likely to be MTL's new development at Taicang near Shanghai.

MTL is one of several terminal operators looking for greater IT standardisation across its facilities and a more integrated terminal operating system (TOS). While some operators pursuing this strategy, notably Hutchison Port Holdings, have opted to develop their own core TOS most others are looking to partner with established market players.

TSB has already been successful in this regard, forming a strategic alliance with Embarcadero Systems Corp. (ESC), the daughter company of west coast stevedore Marine Terminals Corp and a joint venture with Japanese stevedore and logistics giant Kamigumi.

MTL's managing director Erik Bøgh Christensen said MOTOS would deliver significant increases in operational efficiency and productivity. Furthermore, the partners will "extend the solution into the mainland China market, enabling other industry players to experience a new level of manageability and automation over their business operations," added Christensen.

China Merchants International Holdings has a 22.1 per cent stake in MTL, opening further opportunities to deploy MOTOS at terminals where both companies are partners.

SAIC bags Jebel Ali/Latvia deals

Science Applications International Corporation (SAIC) has been awarded a contract by the Dubai Ports, Customs & Free Zone Corporation (PCFC) to supply and install an automated gate system at the Jebel Ali container terminal.

The Intelligent Intermodal Solutions (IIS) system from SAIC's Security and Transportation Technology Business Unit will identify trucks and containers as they move from the port entry to the inspection area, and then through the entrance and exit gates of the terminal. Vehicle and container identification lanes, optical character recognition (OCR) portal systems, gatestands, and automated equipment identification (AEI) readers will interface to the terminal's central operation system to provide integrated and comprehensive identification, inspection and tracking solutions.

PCFC handled 5.15 mill TEU in 2003. The new gate system will enable PCFC to more efficiently monitor and process traffic at Jebel Ali, thereby helping to improve throughput and enhance security.

SAIC has also announced that its MobileVACIS cargo, vehicle and contraband inspection unit has been selected by the US Department of State for deployment at points of entry staffed by customs and border control agents in Latvia.

VACIS inspection systems use gamma rays to non-intrusively inspect the contents of trucks, containers and cargo for purposes of manifest verification, contraband interception, and explosives, weapons or threat identification. The MobileVACIS unit is one of five available configurations and is truck-mounted for rapid inspection of both stationary and moving vehicles and containers.

Through its Export Control and Related Border Security Assistance (EXBS) programme, the US Government is assisting about 40 co-operating countries in preventing proliferation by granting training, equipment,and other forms of support that strengthen export controls, customs operations and border security.

The Greek Port of Piraeus has been supplied with 12 new Mafi ro-ro MT 30 F tractors, with the purchase conducted by Athens-based D F Sarantopoulos SA. The main features of the new tractors include 4 x 4 drivelines, incorporating the latest 174 kW Volvo engine model TAD 720 VE and the ZF 6 WG 200 gearbox type. The cabin is integrated fully with ROPS and meets the latest safety standards. Additional features include a fully automatic A/C unit designed for driver comfort as well as an air suspended rear axle, a Eurohitch-Holland fifth wheel plate and the newly-conceived swivel seat console. The Port of Piraeus has stated that low maintenance and service costs were a major contributing factor towards their decision for choosing Mafi

New Arck sensors

France-based Arck Electronique is set to introduce a new sway/skew sensor for RTGs, RMGs, OET cranes and other "low height" bridge cranes up to 20m hoisting height. In addition, it is introducing a new spreader positioning sensor.

The Sirrah LS08 sensor for yard cranes operates with infra-red beacons on the X and Y axes and can be incorporated in a closed loop anti-sway system with feedback control. Skew movement can be regulated through the fitting of additional sensors and beacons.

The new SP16 container detection sensor, fitted under the crane spreader, is an optical system based on six infra-red detectors, which measure the position of the edge of the container in relation to its optical centre.

The optical view angle is ± 8 deg, which allows a "square" optical detection area of ± 250mm on each side, at a distance of up to 1600mm. This allows for a 100mm gap between two stacks of containers, says Arck. To provide a complete solution, adds the company, six sensors are required - two on the waterside and on the landside and one at each gable end. An RS422 serial interface is provided to communicate with the crane's PLC.