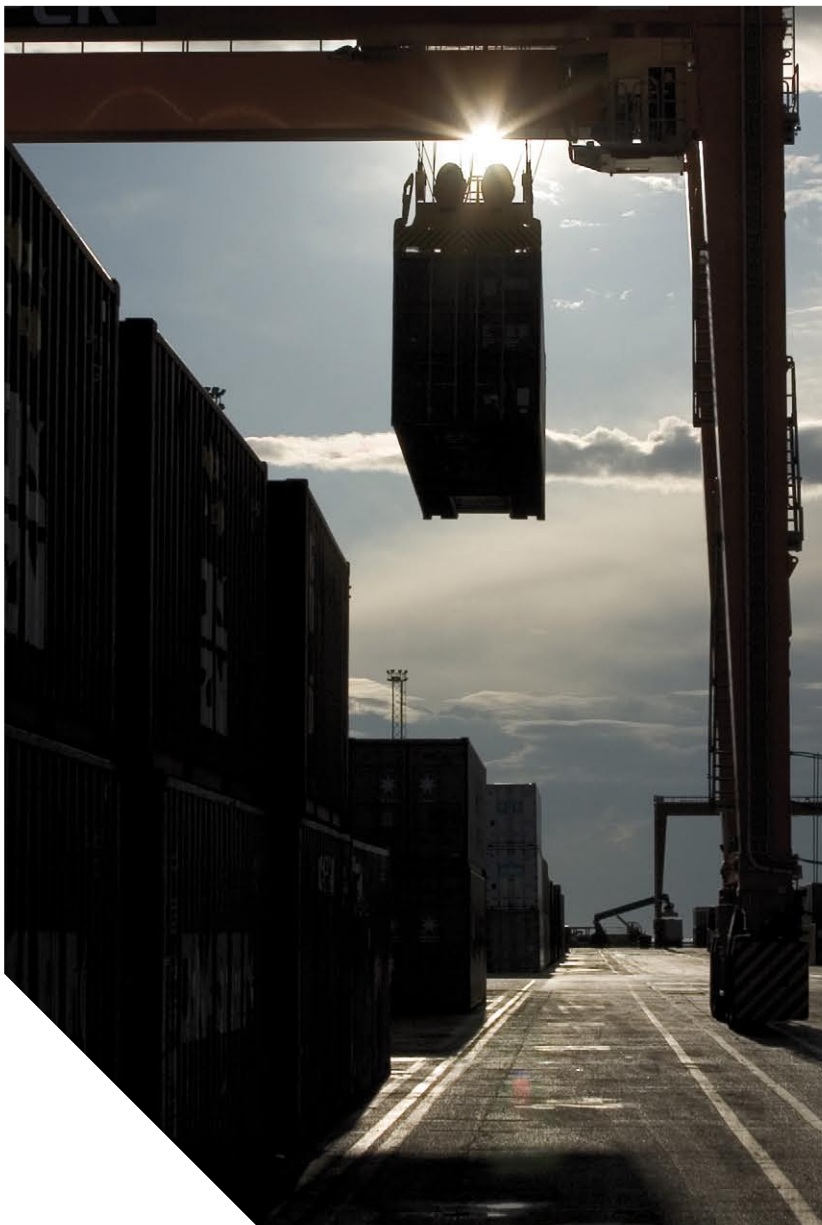


SERVICE
LIGHT LIFTING SYSTEMS
GENERAL FABRICATION
PROCESS EQUIPMENT
CONTAINER HANDLING
BULK HANDLING
SHIPYARDS

YARDIT

KONECRANES[®]
Lifting Businesses[™]

Combination of Excellence **CONTAINER POSITIONING INFORMATION SYSTEM**



THE BASIC PRINCIPLE OF THE CONTAINER POSITION INFORMATION SYSTEM (C-PIS)

Assuming that every container move in the yard requires active participation from a CHE and an engagement/release of twistlocks, the precise location of any container pick-up / drop-off can always be determined by combining the CHE position fix with the twistlock activity signal. When relayed to Terminal Operating System, this information keeps TOS constantly aware of what is really happening in the container yard – no matter whether the container moves follow TOS instructions, diverted from them or are completely unauthorized.

Key features of the YardIT C-PIS include:

- > Uninterrupted position fixes due to advanced DGPS combined with dead reckoning.
- > Data transfer via proprietary 450 MHz or standard 802.11b compatible networks.
- > Option of interfacing directly to the CHE PLC or completely bypassing the PLC.
- > Seamless server-to-server interface to all leading TOS software packages.
- > Situational awareness enhancing Graphical User Interface.
- > Interactive touch-screen displays.
- > Installs in all types of CHE's (Straddles, RTG's, RMG's, Reach-Stackers, etc.) If required, the C-PIS system can even block the operation of twistlocks in an unauthorized area of the terminal or by an unauthorized CHE driver.




C-PIS system consists of well defined modules:

- > Modulaire Accupack, which is a multi-sensor positioning unit installed in the CHE. The Accupack ensures uninterrupted position fixes even in GPS shadow areas by augmenting the DGPS positioning with dead-reckoning sensors. The position fixes are calculated and post processed in the CPU in CHE cabin.
- > Modulaire ModuLink agent software, which transforms the position fix information into row, bay and slot numbers. The agent software runs in the CPU in the CHE cabin and all position checks take place there.

- > Modulaire ModuLink client/server software, which forms the backbone to processing the position information into a format, which can be leveraged in container terminal operations. The client software with a Graphical User Interface runs in the CPU in the CHE cabin. The server software runs in a server PC in the back-office. All messages from TOS are routed via the ModuLink server. This enables the ModuLink software to make intelligent decision and assist the CHE driver even before the position information is relayed to TOS.
- > Modulaire TwistBlock, which blocks the operation of the twistlocks in an unauthorized location or area of the terminal.

The C-PIS system is proven in the field – the lead installation has been in production use since 1998.

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