

LaseLCPS-ML

LOAD COLLISION PREVENTION SYSTEM - MULTI-LAYER

The LaseLCPS-ML measurement system is a multi-functional laser-based solution that ensures safe and efficient crane operation by preventing collisions between the load and the stack or the spreader and the load in the stack and enabling precise load monitoring in container terminals and intermodal yards.

THE MEASUREMENT SYSTEM

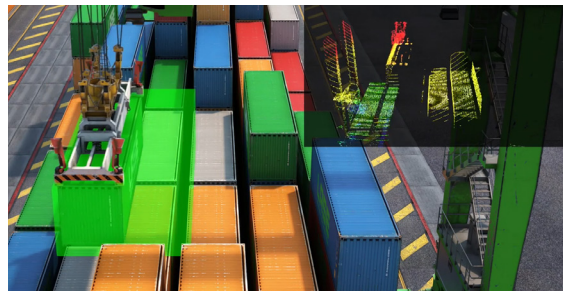
The LaseLCPS-ML system utilises robust, multi-layer 3D laser scanning technology to provide a comprehensive solution for collision prevention in operating and adjacent bays, as well as stack profiling and soft landing.

The system consists of 1–2 multi-layer scanners (LASE 3000D-4xx) mounted below the crane trolley, working in coordination with a central control unit (LCU) and software modules. Real-time 3D scan data is processed to monitor the environment around the spreader and container loads. The use of 1 or 2 scanners depends on the stack height and crane height.

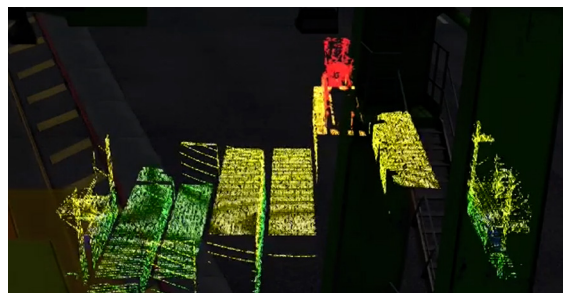
Key functions:

- » Stack collision prevention (operational and adjacent bay)
- » Soft landing to minimize mechanical stress
- » Stack profiling - Collision alarms

With self-check and calibration routines built in, the system maintains high measurement accuracy and reliability even under demanding environmental conditions. This ensures enhanced safety, operational efficiency, and equipment protection for automated and semi-automated crane systems.



The system creates a 3D profile of the container stack in the operating bay and adjacent bays.



Point cloud: A collision is imminent; an alarm signal is triggered.

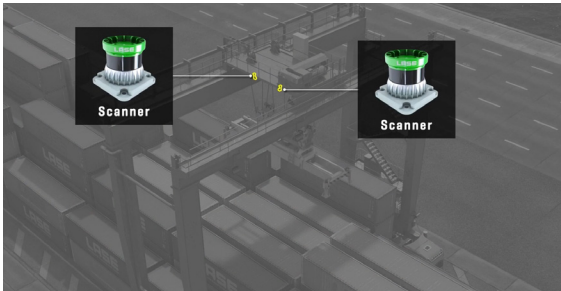
THE FEATURES

- ✓ 3D multi-layer collision prevention
- ✓ Soft landing of spreader and load during pick-up and deposit
- ✓ Stack height profiling in working and neighboring bays
- ✓ Real-time integration with crane PLC and scanner data logging
- ✓ Self-check and calibration with reference objects
- ✓ Load Indicator Panel for operator feedback
- ✓ Multiple interfaces available

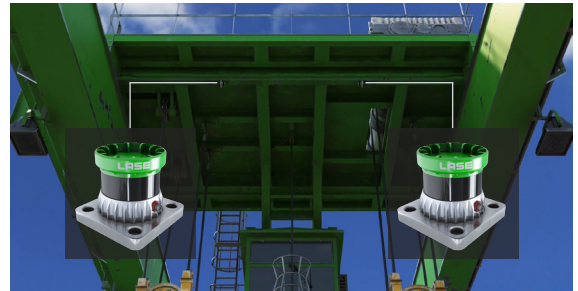
THE BENEFITS

- ✓ Prevents collisions
- ✓ Ensures gentle handling of loads and reduced equipment wear
- ✓ Reduces downtime and increases operational safety
- ✓ For new cranes or retrofittable
- ✓ Applied on several crane types globally

THE FUNCTION PRINCIPLE



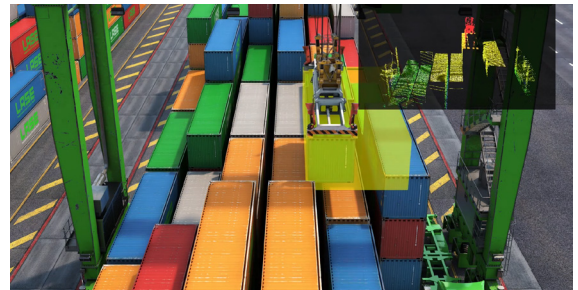
Retrofit solution: The scanners are attached to the RTG crane.^{*1}



The sensors continuously monitor the working area.^{*1}



When setting down the container, the speed is reduced as the distance decreases.

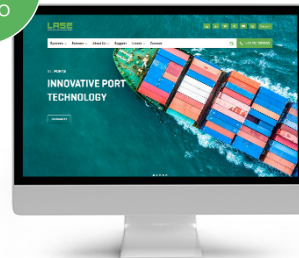


They continuously measure the distance to adjacent containers.



In the event of an imminent collision, a warning signal is triggered.

WATCH
THE
PRODUCT
VIDEO



SCAN ME



Scan the QR code with your mobile phone. Discover the product video and more innovative solutions from LASE!

GLOBAL PLAYER FOR LASER MEASUREMENT SYSTEMS

For more than 30 years, LASE Industrielle Lasertechnik GmbH has been the global contact for high-precision and robust laser measurement technology for the port sector. With our 1D, 2D, 3D and multilayer sensors as well with our high sophisticated application software, our systems stand for more accurate, safe and efficient container handling. Our goal is to drive the automation of the port industry forward. With 30 offices worldwide through subsidiaries and business partners, we are always at your side.

^{*1} Also available with 1 scanner.