



2D Symeo Position Detection Systems

Straddle Carriers, Rail Mounted Gantry Cranes (RMG), Rubber Tired Gantry Cranes (RTG), Automated Stacking Cranes (ASC)

- Precise detection of vehicle and spreader position
- Usable in all areas of container terminals, even under STS cranes and in transfer zones
- Usable for all types of vehicles and cranes
- Standardized data interfaces
- Easily usable with common Terminal Operating Systems
- Can be upgraded to an anti-collision system for free ranging vehicles
- Options: detection of load status (twist locks engaged) and spreader lift height, collection and transmittal of telemetry data

The satellite-based Symeo (D-)GNSS System enables reliable detection of straddle carriers, RMGs, RTGs and ASCs in all typical application fields of container terminals with slot accuracy, especially under ship-to-shore cranes and in transfer zones. The system can be used flexibly for collision avoidance or for optimization of inventory management. The highly-precise Symeo LPR®-2D System works independent from satellite systems. Due to the high accuracy and signal stability, it can be even used for automatic steering of straddle carriers and RTGs.

In addition to the position, the orientation and speed of the vehicle as well as the spreader position are detected. Optionally, information about the load status (twist locks engaged) and other telemetry data of the vehicle can be collected.

Symeo Position Detection Systems are suitable for all types of cranes and vehicles and are easy to integrate in existing TOS.

Application Fields:

- Inventory Management
- Collision Avoidance
- Process and Equipment Automation
- Fleet Management

Syмео GmbH

Syмео GmbH develops and markets systems for precise and contact-free distance and position measurement, as well as anti-collision solutions for cranes, industrial vehicles and fixed objects. Furthermore, the company develops certified, customer-specific telemetry solutions with mobile data transmission.

Syмео products are robustly designed and well-suited for applications in harsh industrial environments indoors and outdoors. The products are easy to retrofit and can be used regardless of vehicle or crane type. The LPR[®] sensors with unique patented radio technology are equipped

with industry standard interfaces. The company also provides industrial GNSS (Global Navigation Satellite Systems GPS, Glonass and Galileo) receivers that can be combined with LPR[®] and other movement sensors like encoders and inertial measurement units (IMU). This combination enables highly-available and precise positioning, even under the most adverse conditions and in areas with limited satellite availability.

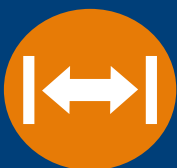
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Position Detection



Collision Avoidance



Distance Measurement



Telemetry/Data Transmission