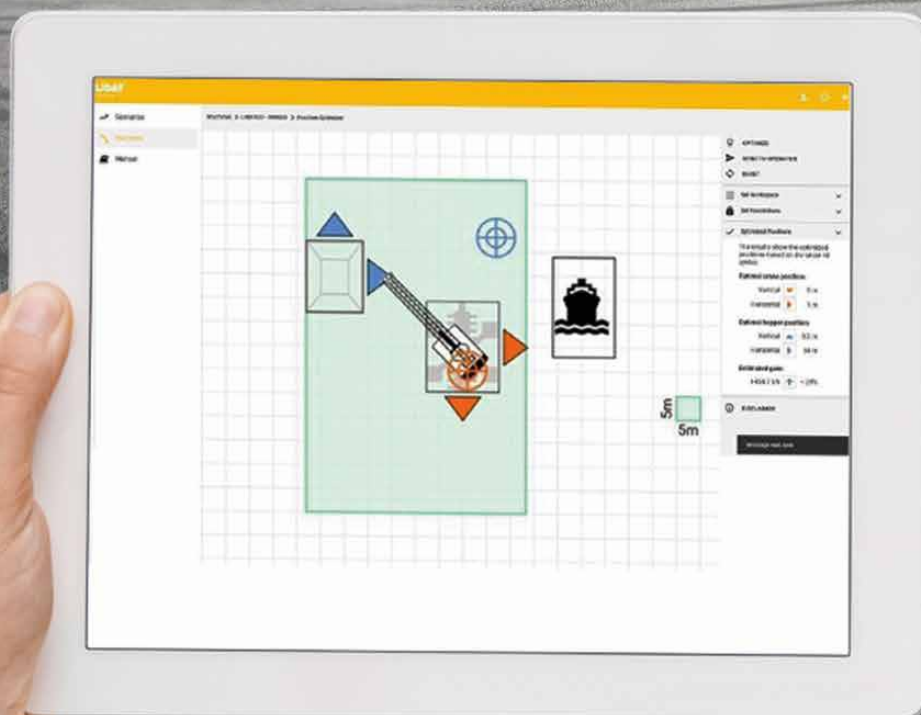


Big Data Analytics

LiDAT[®] smartApp



LIEBHERR

Optimise your performance with big data analytics



LiDAT® smartApp is an IT solution which supports port terminals in analysing and optimising cargo handling processes, performed by Liebherr mobile harbour cranes. The focal point is to make the processes faster, more environmentally friendly and more cost efficient. In real-time by transmitting cycle data directly after being generated LiDAT® smartApp gives a full overview of the equipment status and the process. By allowing detailed analysis the web application shows up starting points to improve the efficiency of cargo handling processes. A tailor-made feature in the Optimization Package additionally recommends specific optimisation actions.



Analysis

Detailed analysis of cargo handling process in real-time



Optimisation

Identification of starting points for optimisation activities



Direct access

Information obtained directly from crane control system, rather than from external sensors



Web app

Intuitive web application, available for different devices



Tracking

Comprehensive, informative data collection on process and machine statuses



Comparison

Direct comparison of multiple cranes during definable time periods

Benefits

Increased turnover efficiency

On basis of turnover cycles the Position Optimiser calculates the optimal position of both the crane and the hopper in relation to the ship in order to decrease the load path to a minimum. This makes the crane to work at his full performance what optimises the whole logistic chain.

Cost saving

Optimised turnover processes, projectable downtimes for refuelling and maintenance work minimise standstill times and save costs.

Eco-friendliness

Efficient turnover processes and reduced hours of non-productive operating minimise the impact on the environment.

Increased resale value

Less operation hours plus scheduled and realised maintenances increase the resale value of the crane.

Good process and machine overview

Dashboards for machines and definable process timeframes plus a bunch of relevant reports help to keep the overview to draw conclusions and to make decisions.

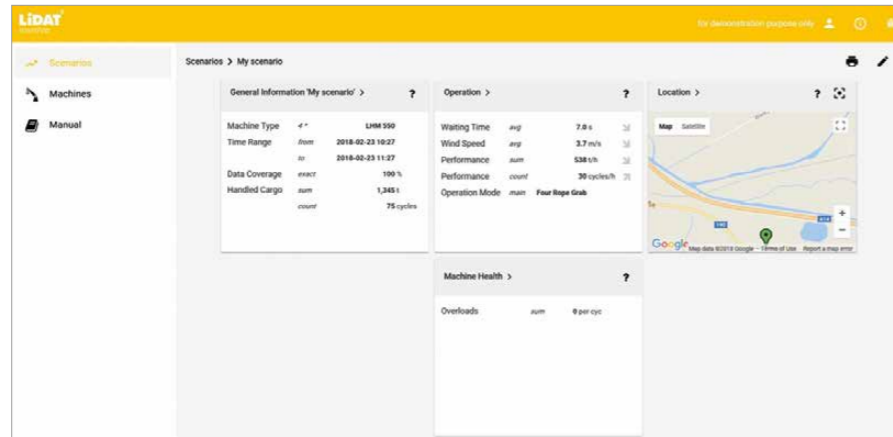


Packages and Features

Basic

Features

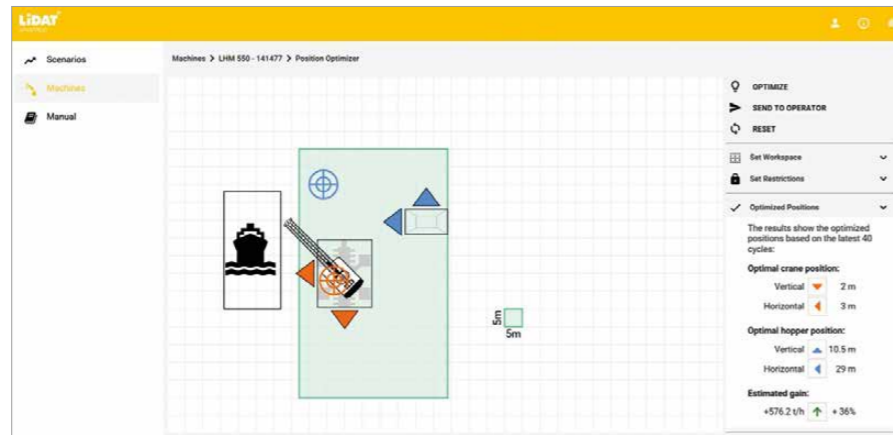
- Dashboards with basic machine and process data for a quick and easy overview (e.g. current location, handled cargo, operation hours)
- Basic operational key performance indicators
- Relevant data put into graphs
- Reports relating to basic machine data, machine use, safety aspects, messages from the machine control, maintenance and cargo handling



Optimisation

Features

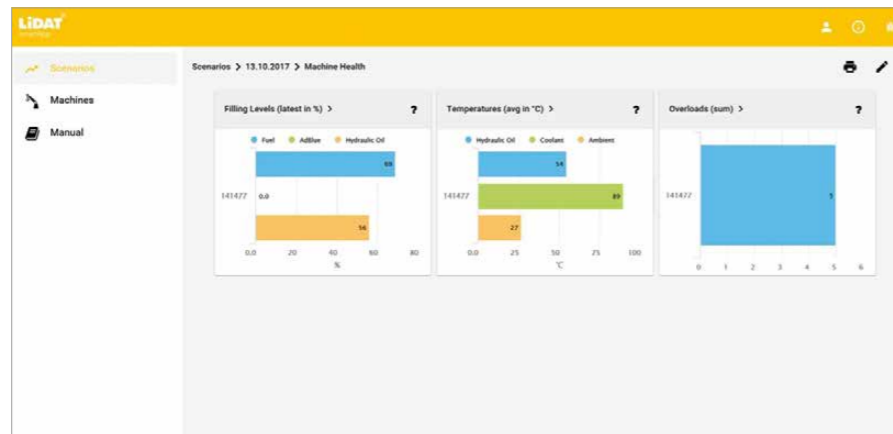
- Extended dashboards relating to operational and optimisation key performance indicators
- Extended reports relating optimisation key performance indicators
- Load Recorder data analysis
- Position Optimiser



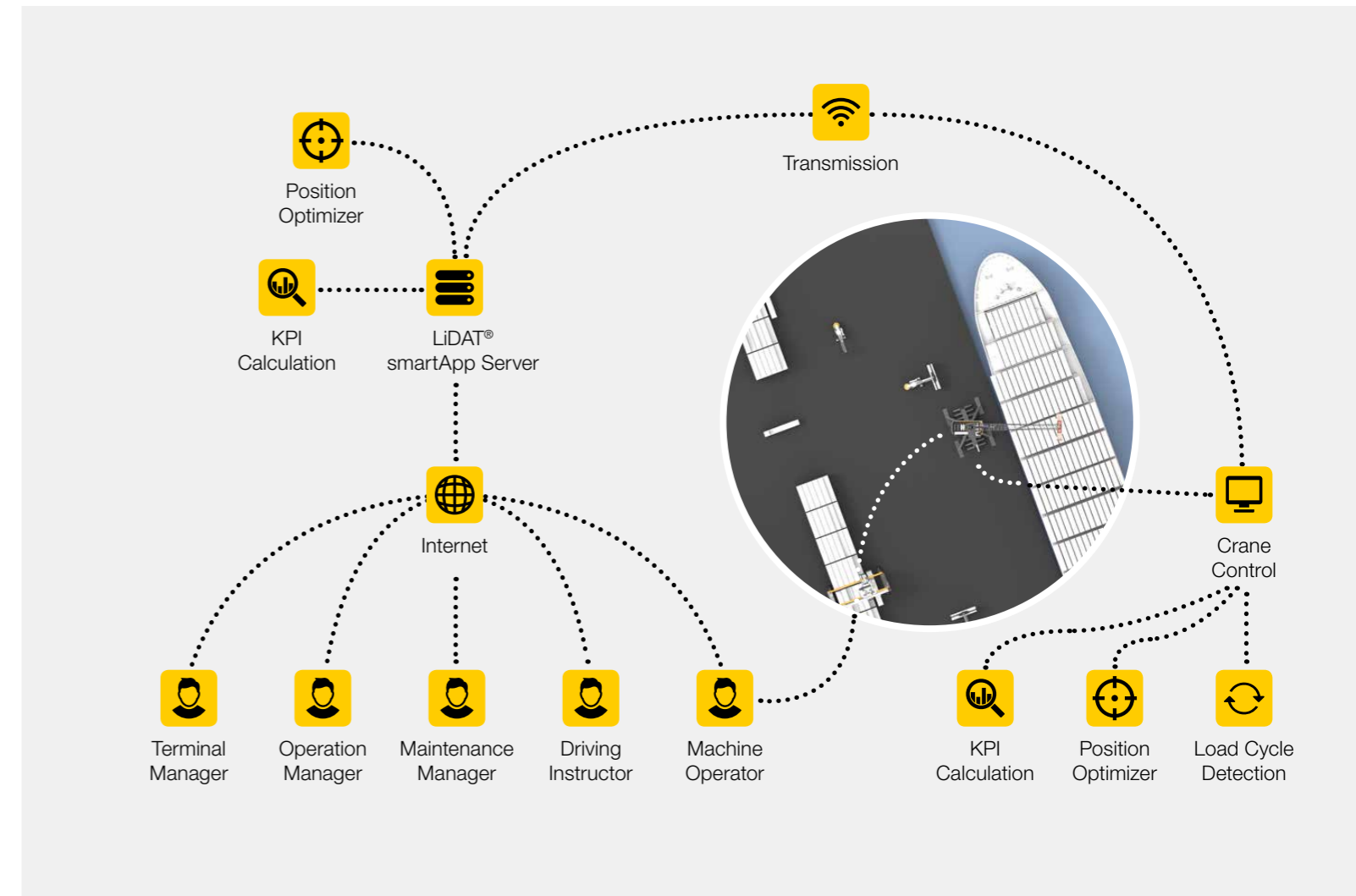
Maintenance

Features

- Extended dashboards relating to machine operation hours, filling levels and temperatures
- Extended reports relating to filling levels and machine operation hours
- Operation Monitoring
- Teleservice



Technical Description



The relevant data generated and preprocessed by the crane control system during operation are transmitted by the established LiDAT® Technology to the LiDAT® smartApp server to be stored and preprocessed. Authorised users can access and download the processed data via LiDAT® smartApp, a software solution which is designed as web application. Liebherr handles the setup and support of the transmission link, hosts the data and maintains the software during the active user subscription.

The Liebherr Group of Companies



Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical applications.

State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 41,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

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