

# Big data analytics

LiDAT® smartApp

# LIEBHERR



LiDAT®  
smartApp

Port and transshipment solutions

LiDAT  
smartApp

for demonstration purpose only

Scenarios > Test

General Information Test >		Operation >		Optimization >	
Machine Type	1 * CBG 250	Cycle Time	avg 379 s	Waiting Time	avg 76 %
Time Range	from 2018-07-25 14:09	Waiting Time	avg 290 s	Crane Utilization	avg 100 %
	to 2018-08-01 14:09	Wind Speed	avg 5.0 m/s	Hoisting Gear Speed	avg 35 %
Data Coverage	exact 100 %	Performance	avg 166 t/h	Load Path	avg 65 m
Operating Hours	sum 127 h	Performance	avg 9 cycles/h	Stewing Angle Path	avg 124 °
Handled Cargo	sum 87,650 t	Operation Mode	main Grab	Luffing Path	avg 0.22 m
	count 5,008 cycles				

Location >		Machine Health >		Load Recorder >	
[Location Icon]		Overloads	sum 547	Turnover	sum 85,147 t
				Turnover	count 4,829 cycles
				Cycle Time	avg 96 s
				Performance	avg 661 t/h
				Optimal Swivel Inactive	count 37 cycles/h
				Invalid Cycles	count 179 cycles

# Optimise your performance with big data analytics

LiDAT® smartApp is an IT solution which supports operators in analysing and optimising cargo handling processes, performed by Liebherr cranes. The main focus is to make the processes faster, more environmentally friendly and more cost efficient. LiDAT SmartApp gives a full overview of the equipment status and the process in real-time. By allowing detailed analysis the web application shows up starting points to improve the efficiency of cargo handling processes.



## Analysis

Detailed analysis of cargo handling process in real-time



## Web app

Intuitive web application, available for different devices



## Web service

Connect the smartApp to your own IT infrastructure



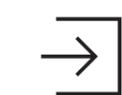
## Optimisation

Identification of starting points for optimisation activities



## Tracking

Comprehensive, informative data collection on process and machine statuses



## Direct access

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



## Comparison

Direct comparison of multiple cranes during definable time periods



# Benefits

## 01 Increased turnover efficiency

On basis of an automatic work cycle detection significant key performance indicators are calculated, which help to analyse turnover processes in order to optimise them and to use the full performance of the crane.

## 02 Cost saving

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

## 03 Eco-friendliness

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

## 04 Increased resale value

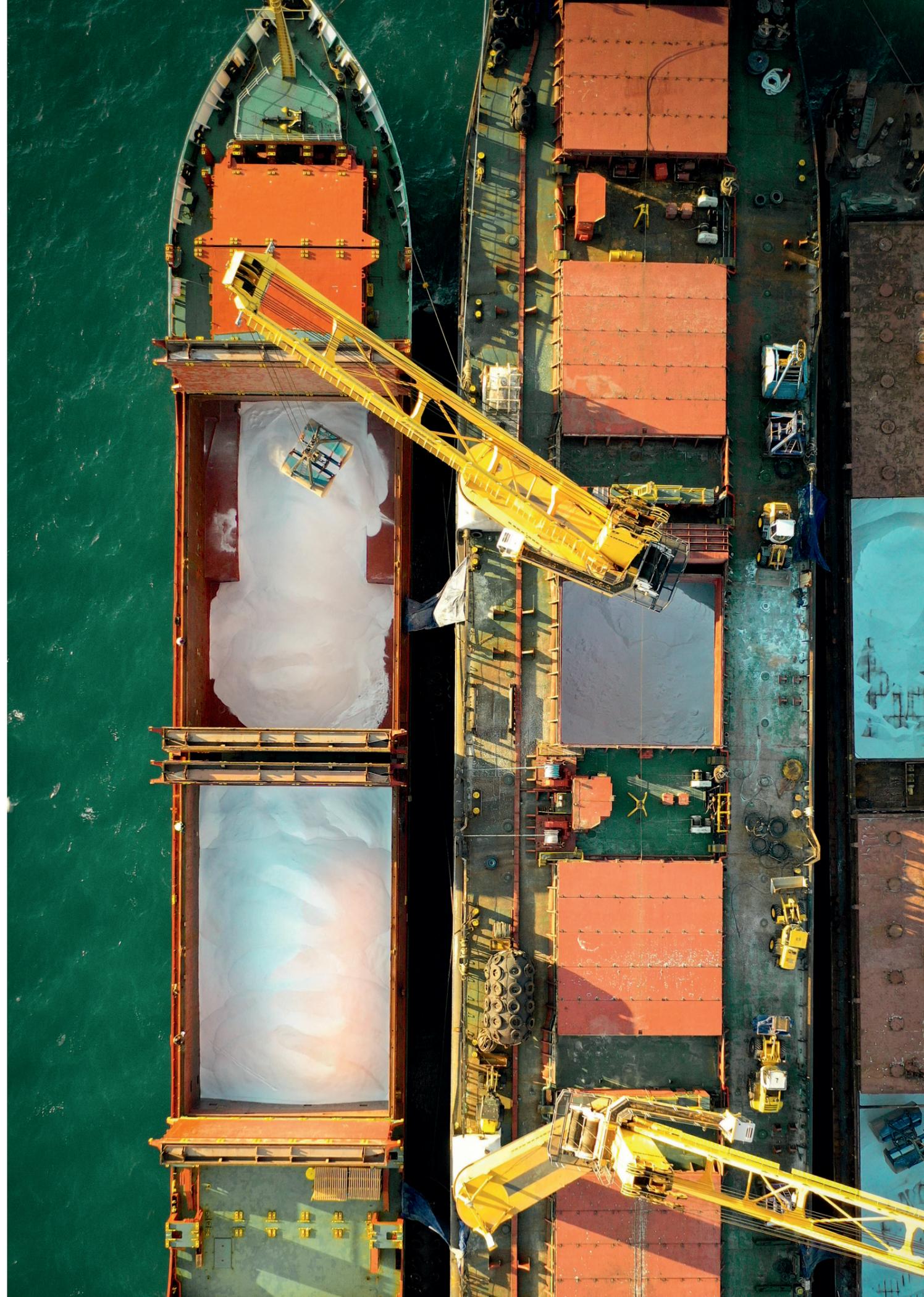
Less operation hours plus scheduled and realised maintenances increase the resale value of the crane.

## 05 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.



ISO certification  
Scan the QR code for  
more information.

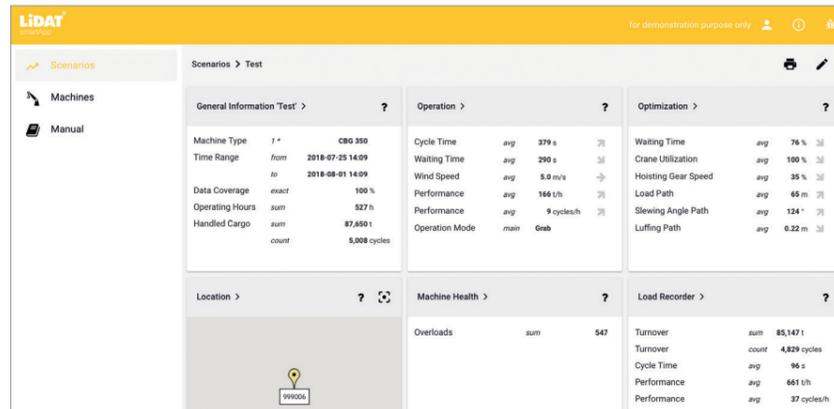


# Packages and features

## Basic

### Features

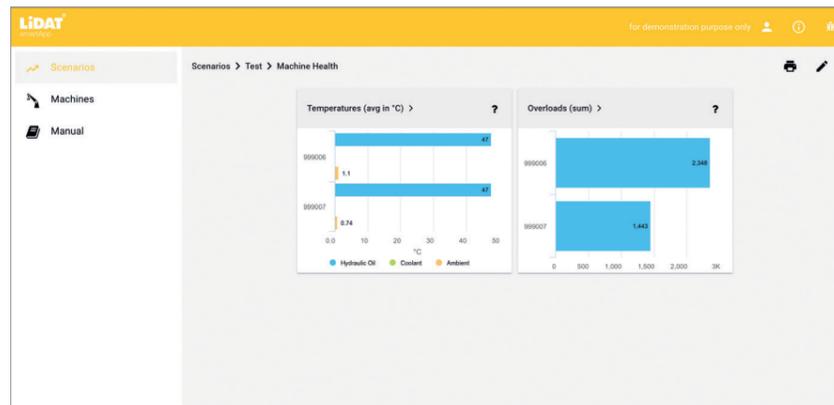
- Dashboards with basic machine and process data for a quick and easy overview (e.g. current location, handled cargo, operation hours)
- Basic operational key performance indicators
- Relevant data put into graphs
- Reports relating to basic machine data, machine use, safety aspects, messages from the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



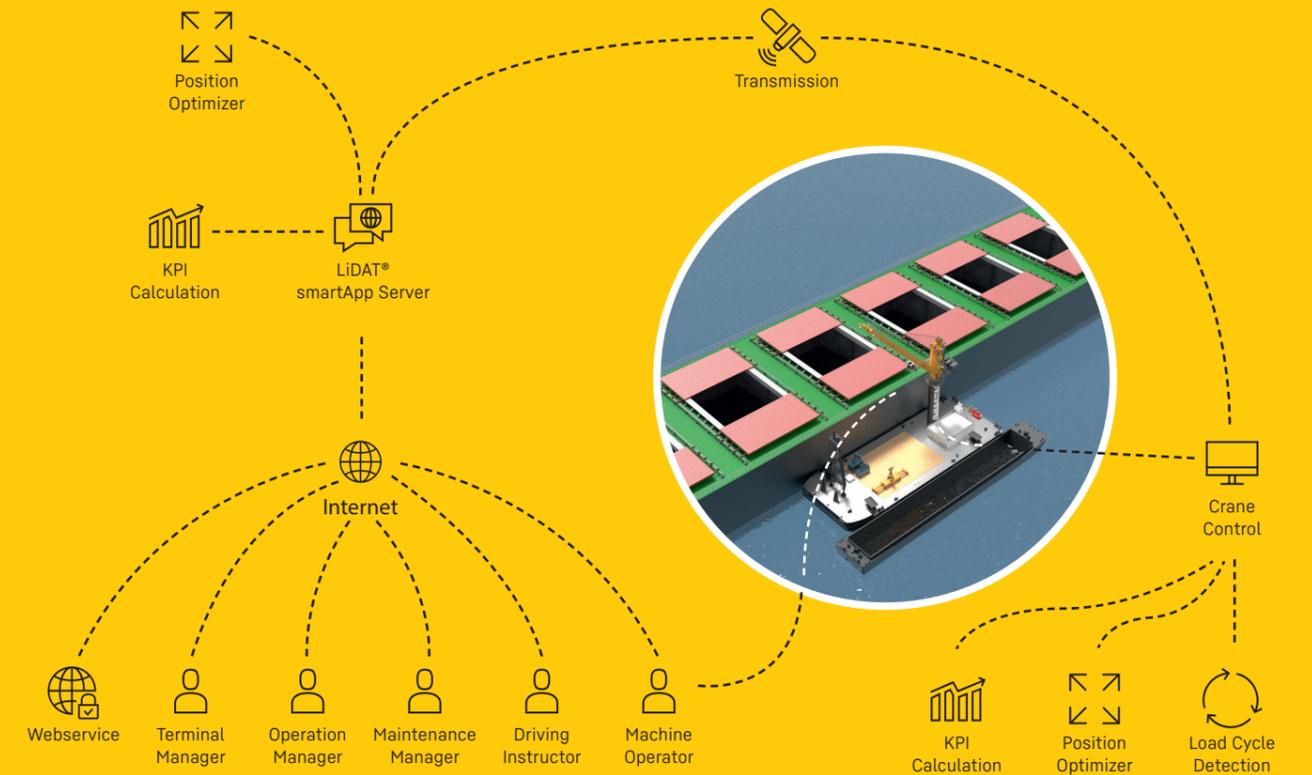
## Maintenance

### Features

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



# 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.

