

# LiDAT<sup>®</sup>

Data transmission and tracking system for  
crawler cranes, duty cycle crawler cranes and deep foundation machines



# LIEBHERR

GPS / GLONASS



GSM / GPRS



## LiDAT®

LiDAT® is a data transmission and positioning system for Liebherr machines and the machines of other manufacturers. Based on state-of-the-art data transmission technology, LiDAT® provides information on the location and operation of your machines, enabling their efficient management, optimal operation scheduling and remote supervision.

With LiDAT® all the most important machine data can be viewed at all times. Data are updated several times a day and can be accessed using a web browser. Particularly important information, such as when a machine leaves a predefined zone or notifications about specific operating modes and parameters, can be automatically delivered by email.



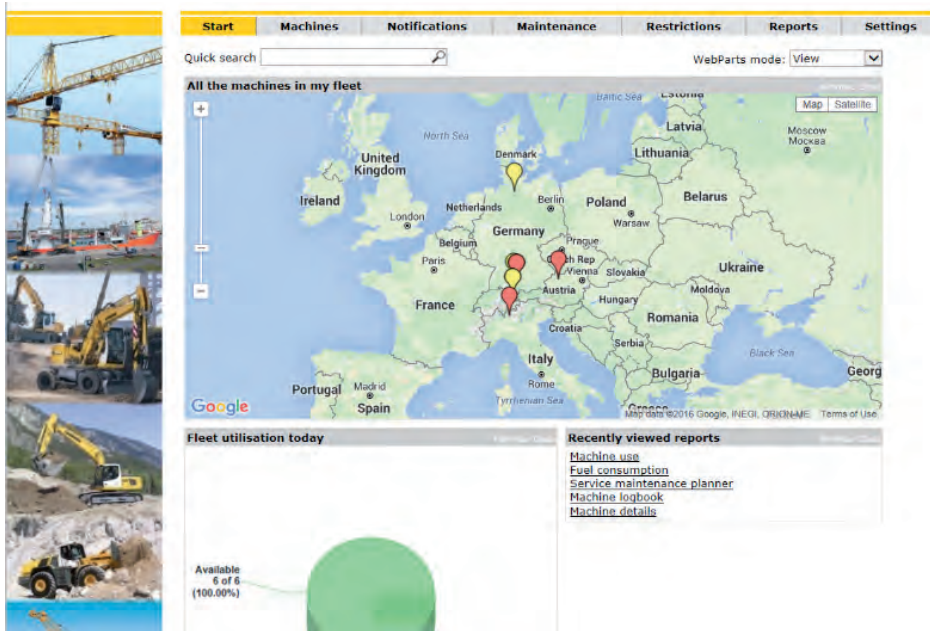
Data transmission through  
GSM, GPRS or WLAN\*



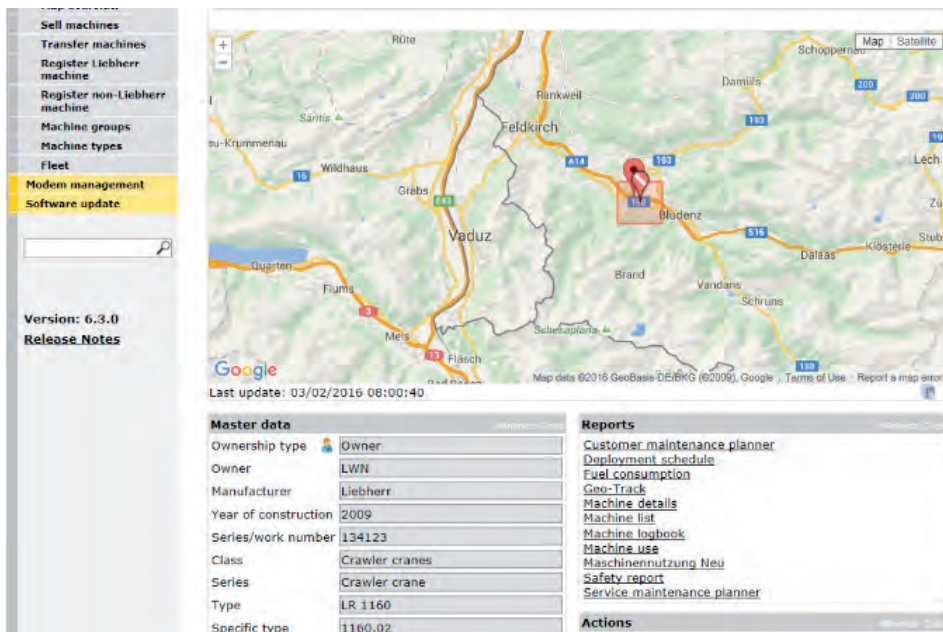
\* additional hardware necessary

# User interface:

- easy to use and individually adaptable ▶ arrange the interface according to your own requirements
- clearly arranged ▶ important information at a glance
- choice of 10 languages ▶ use LiDAT® in your own language



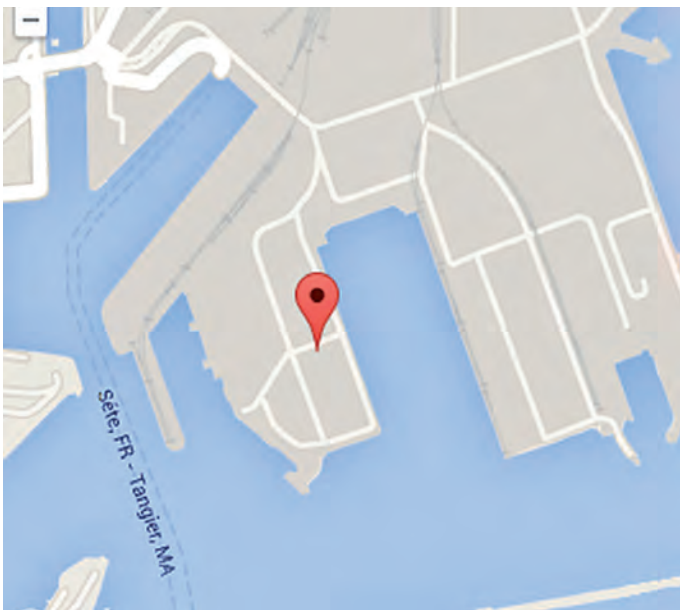
Overview of the fleet



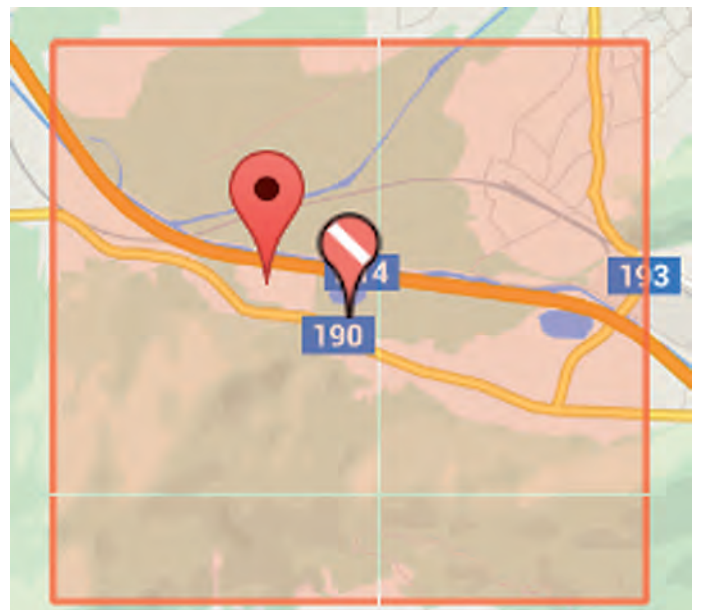
Machine details page

## Controlling the machine position and machine operation:

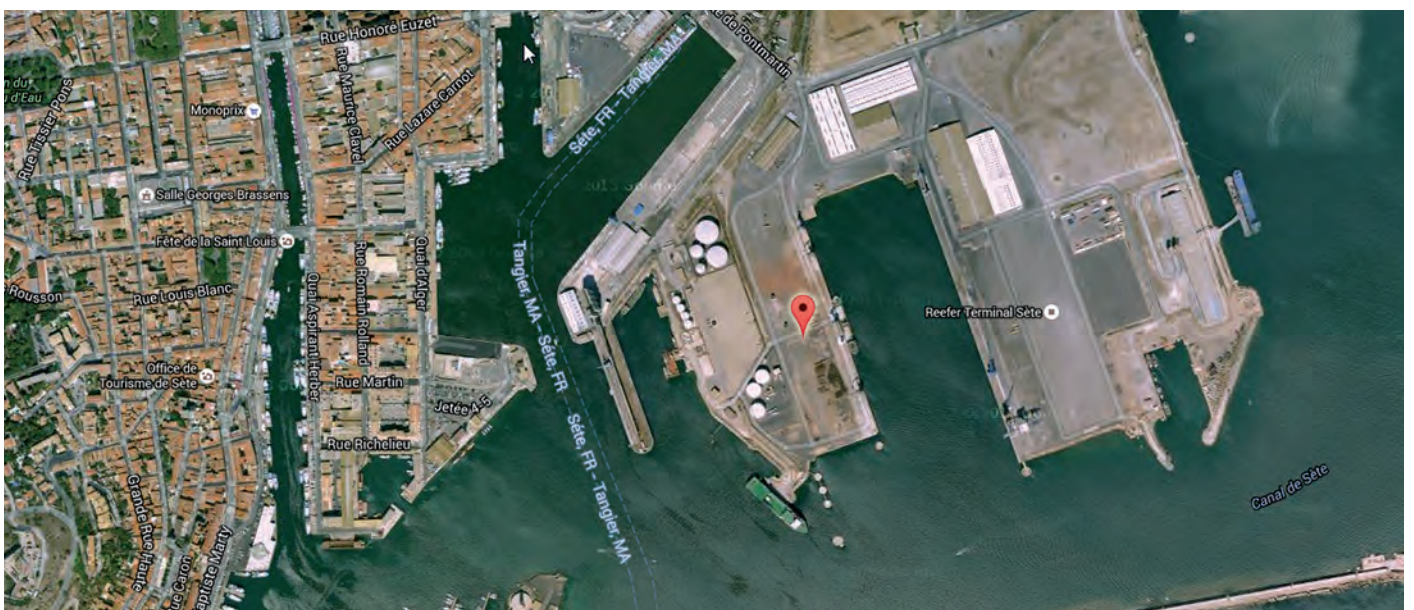
- accurate documentation of the machine position
- provision of a warning message if a machine leaves the predefined zone or operates outside the given time frame
- useful for planning: transport, refuelling, service jobs, etc.



Information about machine position



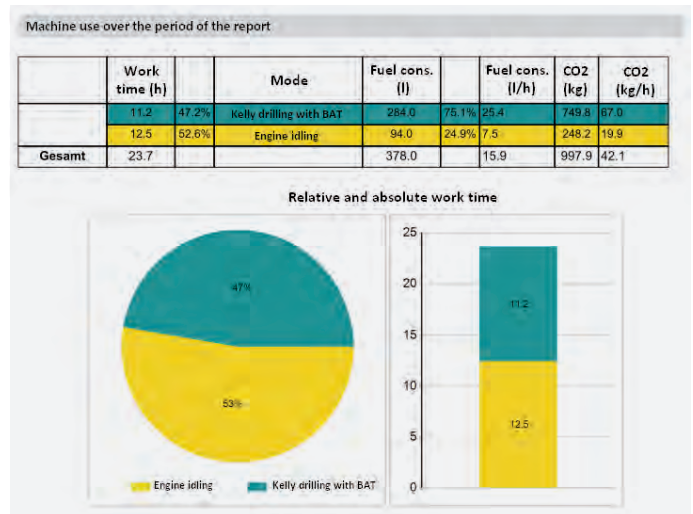
Defined area in which the machine may be situated



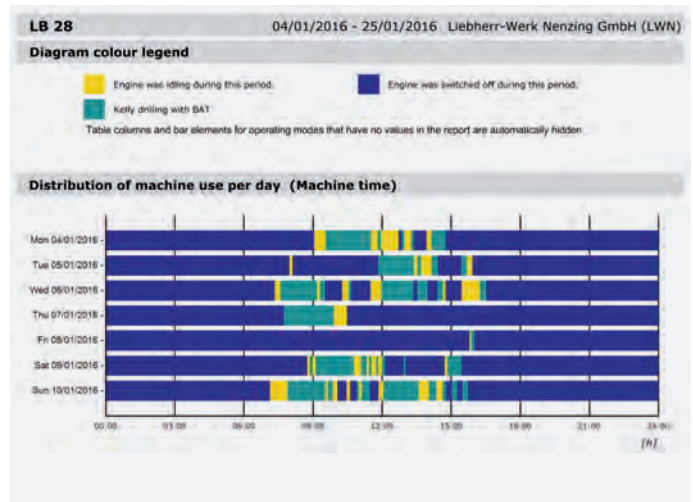
Information about machine position

# Machine report:

- machine use is transparent
  - ▶ thus less idle time and reduction in fuel consumption and operating hours
  - ▶ increase in resale value and decrease in the running costs
- combination of machine use and fuel consumption
  - ▶ thus conclusive analyses are possible
- through coloured marking different modes of operation are apparent
- list of the changes in mode of operation throughout one day (idle time, working time, driving, operating mode, etc.)
  - ▶ inefficient working periods can thus be recognized at a glance



Machine use combined with fuel consumption



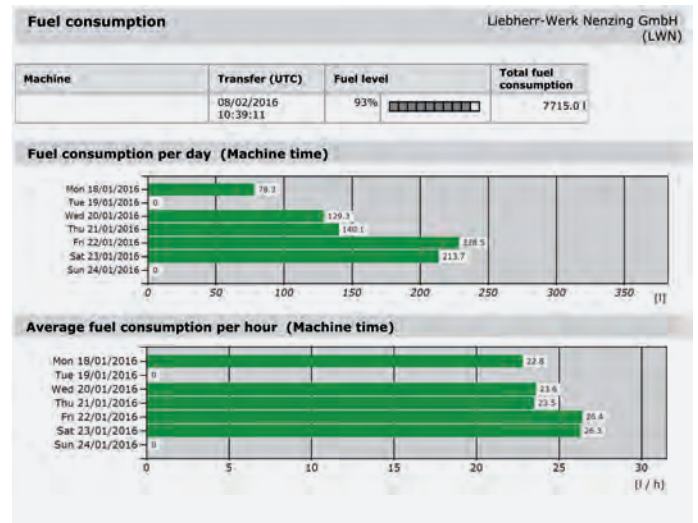
Presentation of the machine use

Detailed view of machine use								
Day	from	to	Duration	Mode	Fuel consumption (l)	Fuel consumption (l/h)	CO <sub>2</sub> (kg)	CO <sub>2</sub> (kg/h)
18.01.2016	07:41:09	07:48:05	00:06:54	Engine idling	2.10	18.52	5.67	50.00
18.01.2016	07:48:05	07:49:44	00:01:40	Kelly drilling with BAT	0.74	27.00	2.00	72.90
18.01.2016	07:49:44	08:35:06	00:45:21	Engine idling	9.84	13.20	26.56	35.64
18.01.2016	08:35:06	08:36:38	00:01:33	Kelly drilling with BAT	0.53	20.80	1.43	56.16
18.01.2016	08:38:07	08:38:13	00:00:03	Engine idling	0.01	14.20	0.03	38.34
18.01.2016	09:15:41	09:16:04	00:00:21	Engine idling	0.07	12.10	0.19	32.67
18.01.2016	09:16:04	09:17:17	00:01:12	Kelly drilling with BAT	0.50	25.60	1.36	69.12
18.01.2016	09:17:17	09:17:40	00:00:25	Engine idling	0.09	13.10	0.24	35.37
18.01.2016	09:17:40	09:19:55	00:02:13	Kelly drilling with BAT	0.96	26.40	2.60	71.28
18.01.2016	09:19:55	09:21:02	00:01:08	Engine idling	0.21	11.10	0.56	29.97
18.01.2016	09:21:02	09:23:53	00:02:52	Kelly drilling with BAT	1.35	28.60	3.64	77.22

Overview of the changes in operating mode

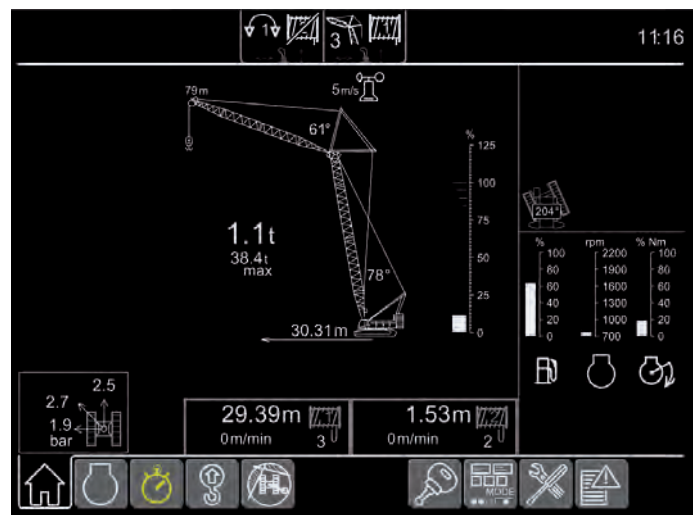
## Fuel report:

- trend analyses for optimization, operator training, machine comparisons and site comparisons
- display of the actual tank level
  - ▶ refuel planning
- presentation of average fuel consumption or consumption over a certain period
  - ▶ developments requiring explanation can be detected



## Operation monitoring\*:

- display of the machine monitors in the LiDAT portal in real time
- support for the machine operator in case of queries and adjustments
- control of the machine parameters wherever they are
  - ▶ e.g. for safety-critical operations



\* available for selected machines

## LiCHAT – bidirectional text channel\*:

- direct communication between the machine operator and the LiDAT portal
- sending of working information
- notification of work delays (e.g. delays in deliveries)
- status overview, whether notification has been sent, delivered or read

Type	User	Message	Sent	Delivered	Read
↔		This is Peter on 691338, reporting: There is enough concrete for approx. seven more piles and the new badge hasn't arrived yet.	✓	✓	?
→	Hans Müller	Hello Peter, the cement truck had an unplanned delay, please stand by.	✓	✓	?
→	Max Maier	Dispatch just reported in, that the truck had a defect and isn't available anymore due maintenance. Still checking for substitution.	✓	✓	?
→	Hans Müller	Another truck is on its way, ETA 25 minutes.	✓	✓	?

Overview of messages in the LiDAT portal

	This is Peter on 691338, reporting: There is concrete for approx. seven more piles and the new badge hasn't arrived yet.	↑
	Hello Peter, the cement truck had an unplanned delay, please stand by.	
	Dispatch just reported in, that the truck had a defect and isn't available anymore due maintenance. Still checking for substitution.	
	Another truck is on its way, ETA 25 minutes.	↓

Messages on the machine

\* available for selected machines



## Teleservice:

Liebherr service engineer can log directly on the machine in order to rectify faults:









- reduction in the downtime of the machine
- troubleshooting without the Liebherr service engineer having to travel
- lower service costs
- shorter fault analysis and correction times
- call up of information about the machine status
- configuration of the machine by the service engineer from the office
- transmission of data



## Additional package: Safety Package (LR, HS):

### Safety report:

- overview of safety-relevant information
- documentation of overloads, violation of wind speeds, etc.
- LML overview of sensor warnings, LML assembly operation, etc.

Safety package						Liebherr-Werk Nenzing GmbH (LWN)
<b>Machines</b>						
Machine	Organisation	Type	SN/WN	Manufacturer	Oh	
LR 1300	Liebherr-Werk Nenzing GmbH (LWN)	LR 1300		Liebherr	877.5 h	✓
<b>Utilisation of the bearing load</b>						
Date	From	To	Capacity utilization in percent			
16/02/2015	20:45:00	20:45:02	118.3 %			
16/02/2015	20:42:37	20:42:39	113.6 %			
16/02/2015	20:42:26	20:42:27	119.6 %			
16/02/2015	19:42:39	19:42:45	117.2 %			
<b>Notifications from sensors and switches</b>						
Timestamp	K	Notification				
16/02/2015 20:45:02		lml utilization less than 110%, maximum utilization: 118.3%				
16/02/2015 20:45:00		lml utilization higher than 110%				
16/02/2015 20:42:39		lml utilization less than 110%, maximum utilization: 113.6%				
16/02/2015 20:42:37		lml utilization higher than 110%				
16/02/2015 20:42:27		lml utilization less than 110%, maximum utilization: 119.6%				
16/02/2015 20:42:26		lml utilization higher than 110%				
16/02/2015 19:42:45		lml utilization less than 110%, maximum utilization: 117.2%				
16/02/2015 19:42:39		lml utilization higher than 110%				

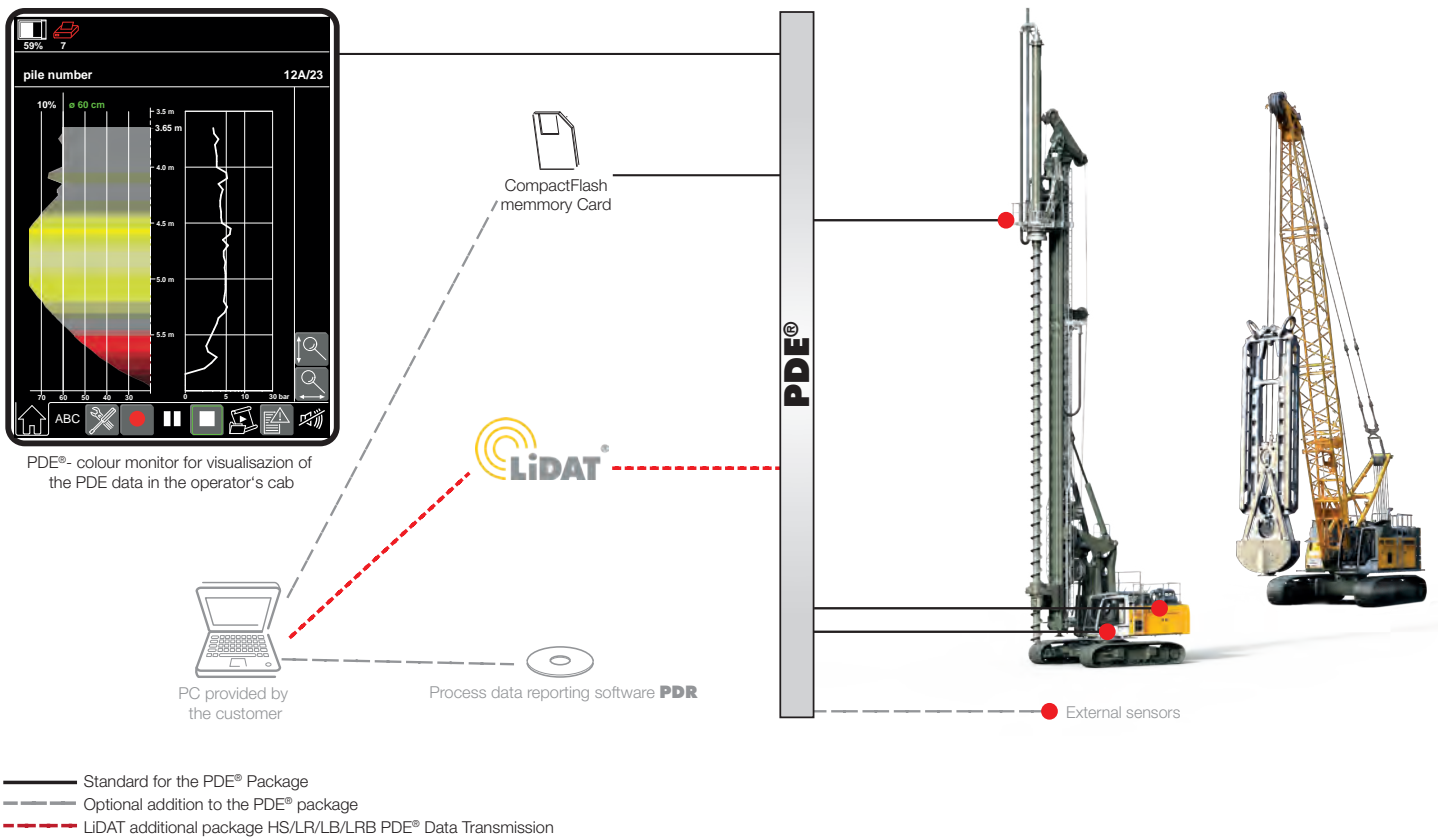
## Data logger report:

- optimized report for the use of machines in Singapore

Data logger report for crawler cranes and duty cycle crawler cranes						Liebherr-Werk Nenzing GmbH (LWN)
<b>Machines</b>						
Machine	Organisation	Type	SN/WN	Manufacturer	Oh	
	Liebherr-Werk Nenzing GmbH (LWN)	HS		Liebherr	1500.0 h	
<b>Utilisation of the bearing load</b>						
Date	From	To	Capacity utilization in percent	Radius	Load	
06/01/2016	04:58:07	04:58:07	105.2 %	7.9 m	43.1 t	
06/01/2016	04:57:51	04:57:51	100.8 %	8.0 m	41.5 t	
06/01/2016	04:54:33	04:54:33	109.3 %	7.9 m	45.0 t	
<b>Notifications of safety-relevant conditions</b>						
Timestamp	K	Notification				
01/01/2016 22:31:10		assembly operation off, set assembly operation: load on main boom: 0.4to, load on luffing jib: 0.0to				
01/01/2016 22:31:08		assembly operation on				
01/01/2016 22:30:43		assembly operation off, set assembly operation: load on main boom: 0.4to, load on luffing jib: 0.0to				
01/01/2016 22:30:38		assembly operation on				
01/01/2016 22:30:36		assembly operation on				
01/01/2016 22:30:36		assembly operation off, set assembly operation: load on main boom: 0.4to, load on luffing jib: 0.0to				
01/01/2016 22:30:35		assembly operation on				
01/01/2016 22:30:35		assembly operation off, set assembly operation: load on main boom: 0.4to, load on luffing jib: 0.0to				
01/01/2016 21:14:04		assembly operation off, set assembly operation: load on main boom: 0.5to, load on luffing jib: 0.0to				

## Additional package: PDE Data Transmission (HS, LRB, LRBH, LB):

- process data recorded by PDE is transmitted via LiDAT to the reporting software PDR (Process Data Report)
- easy handling of the data transmission
- no travelling to the machine
- central data management and archiving
- data can be transmitted without interrupting the operation of the machine



## Additional package: Web Service (LR, HS, LRB, LRH, LB):

- direct integration in an ERP system capable of web service
- automatic supplement of existing business processes with machine data
- AEMP ready



<b>Operating parameters:</b>	<b>LiDAT Plus</b> incl. Teleservice
Machine position data	■
Operating times and assignment times	■
Service interval information	■
Machine assignment scheduling	■
Machine rental	■
Machine management	■
Monitoring of geographical operating area	■
Monitoring of operating times	■
Notification of critical operating situations *	■
Teleservice	■
Fuel consumption information *	■
Product-, application and country specific supplementary packages available	■
Data transmission intervals	dynamic/event triggered **

\* dependent on control system    \*\* on average 11 transmissions per day

## Training and support:

We are able to offer training on site, in Liebherr-Werk Nenzing or via screen sharing. Please contact us at the indicated address.

## Requirements:

LiDAT requires a standard browser with broadband Internet connection. For optimum presentation, we recommend a minimum resolution of 1280 x 720 pixels.





# 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 about 42,000 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.

[www.liebherr.com](http://www.liebherr.com)

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