

LiDAT[®]

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.



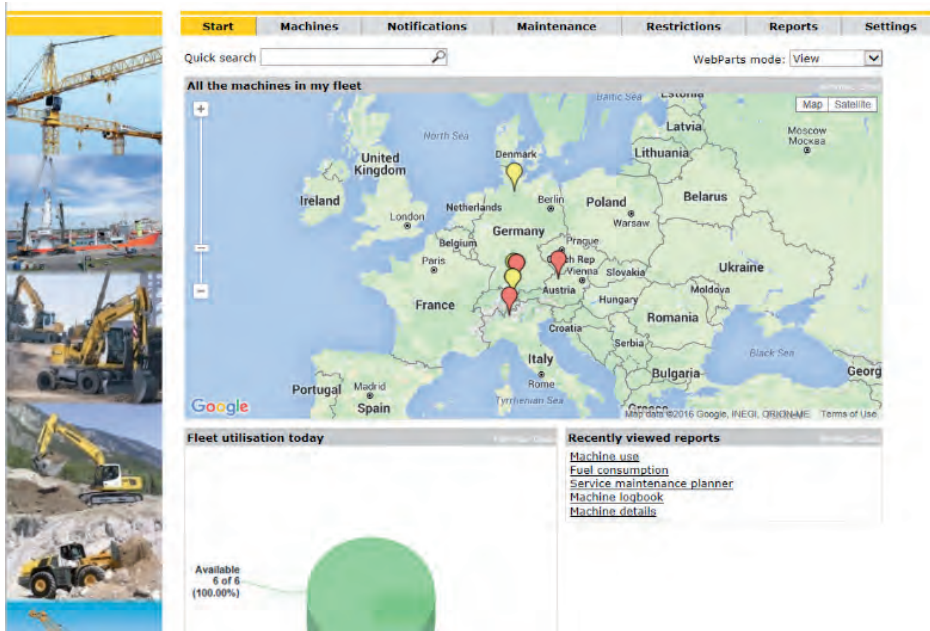
Data transmission through
GSM, GPRS or WLAN*



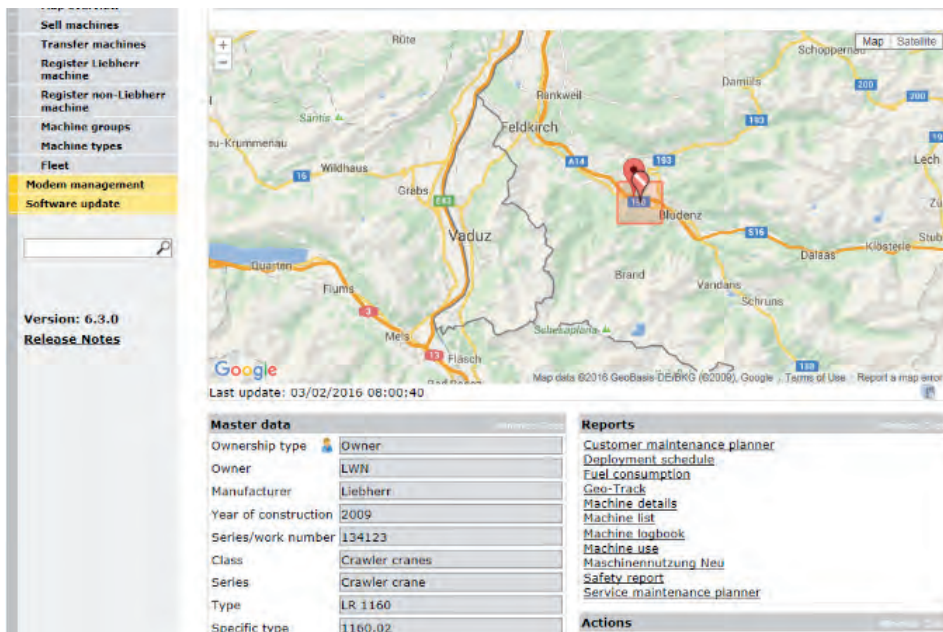
* additional hardware necessary

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



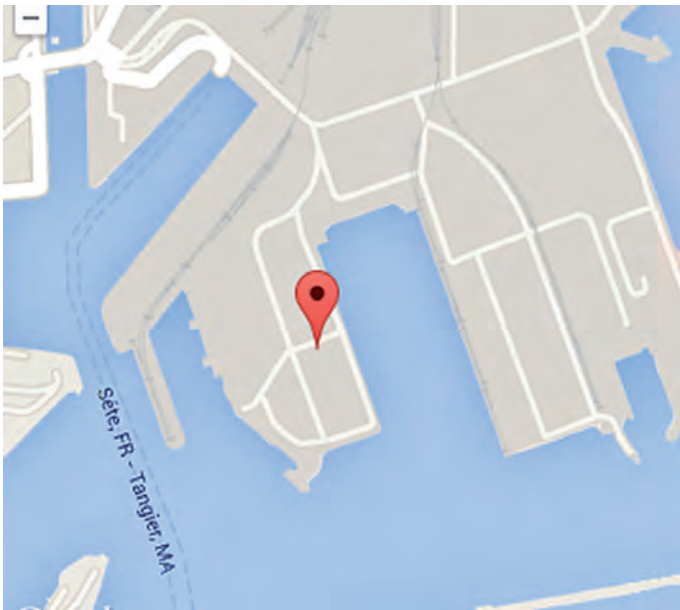
Overview of the fleet



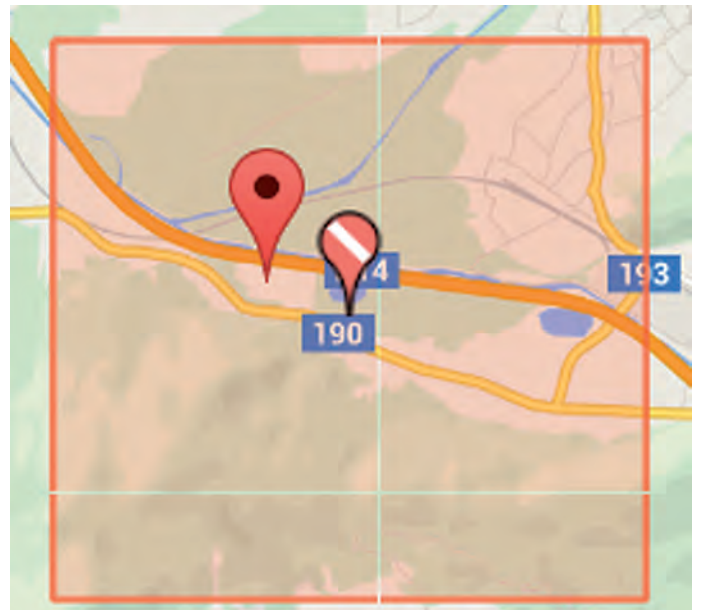
Machine details page

Controlling the machine position and machine operation:

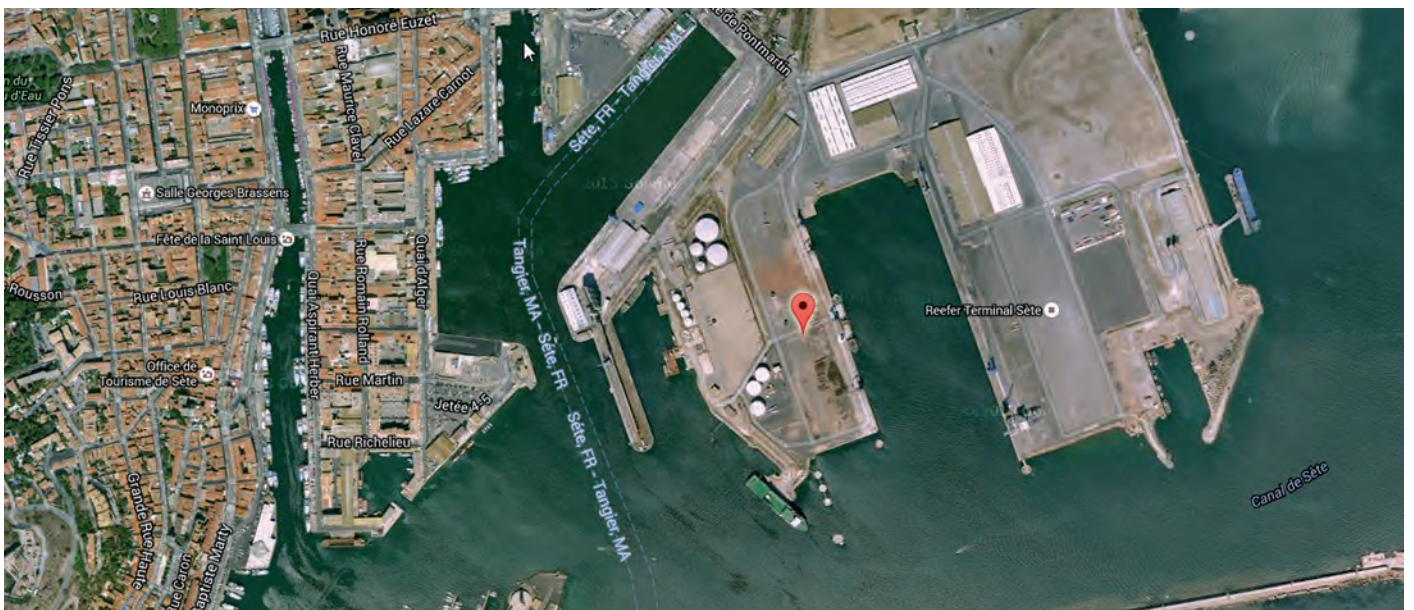
- accurate documentation of the machine position
- provision of a warning message if a machine leaves the predefined zone or operates outside the given time frame
- useful for planning: transport, refuelling, service jobs, etc.



Information about machine position



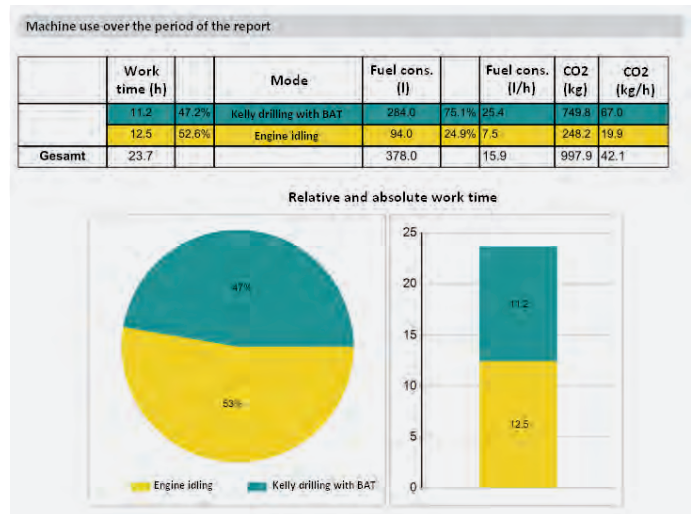
Defined area in which the machine may be situated



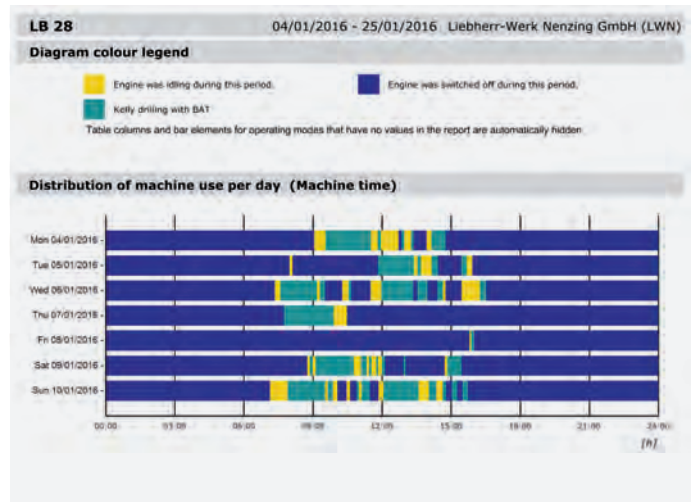
Information about machine position

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



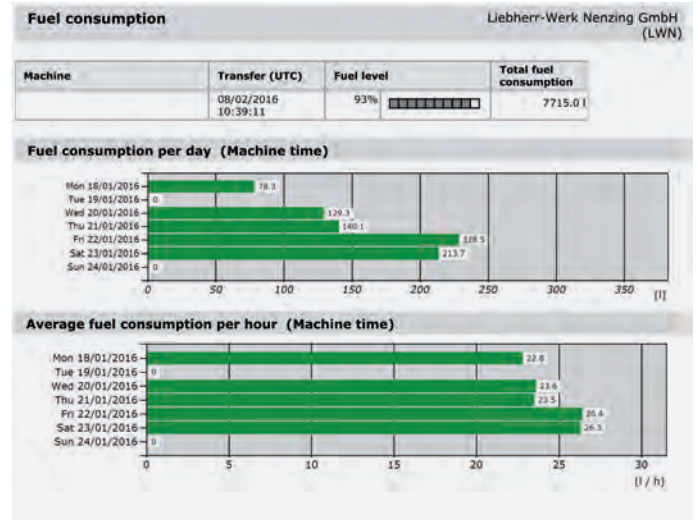
Presentation of the machine use

Detailed view of machine use								
Day	from	to	Duration	Mode	Fuel consumption (l)	Fuel consumption (l/h)	CO ₂ (kg)	CO ₂ (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

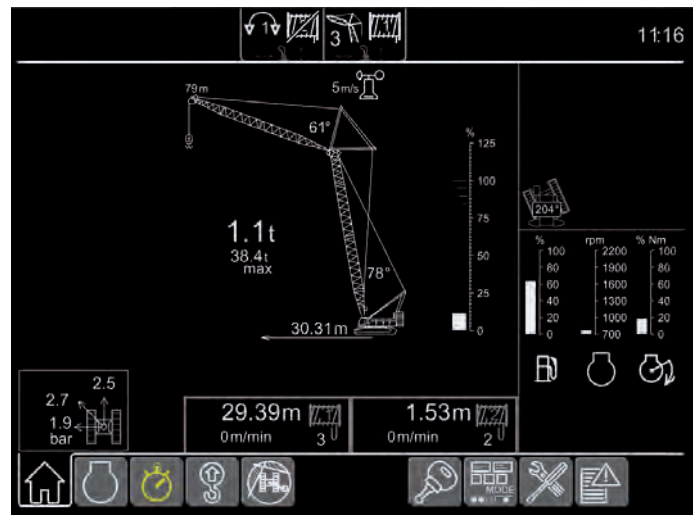
Fuel report:

- 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)	
Machines							
Machine	Organisation	Type	SN/WN	Manufacturer	Oh		
LR 1300	Liebherr-Werk Nenzing GmbH (LWN)	LR 1300		Liebherr	877.5 h		
Utilisation of the bearing load							
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 %				
Notifications from sensors and switches							
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%					

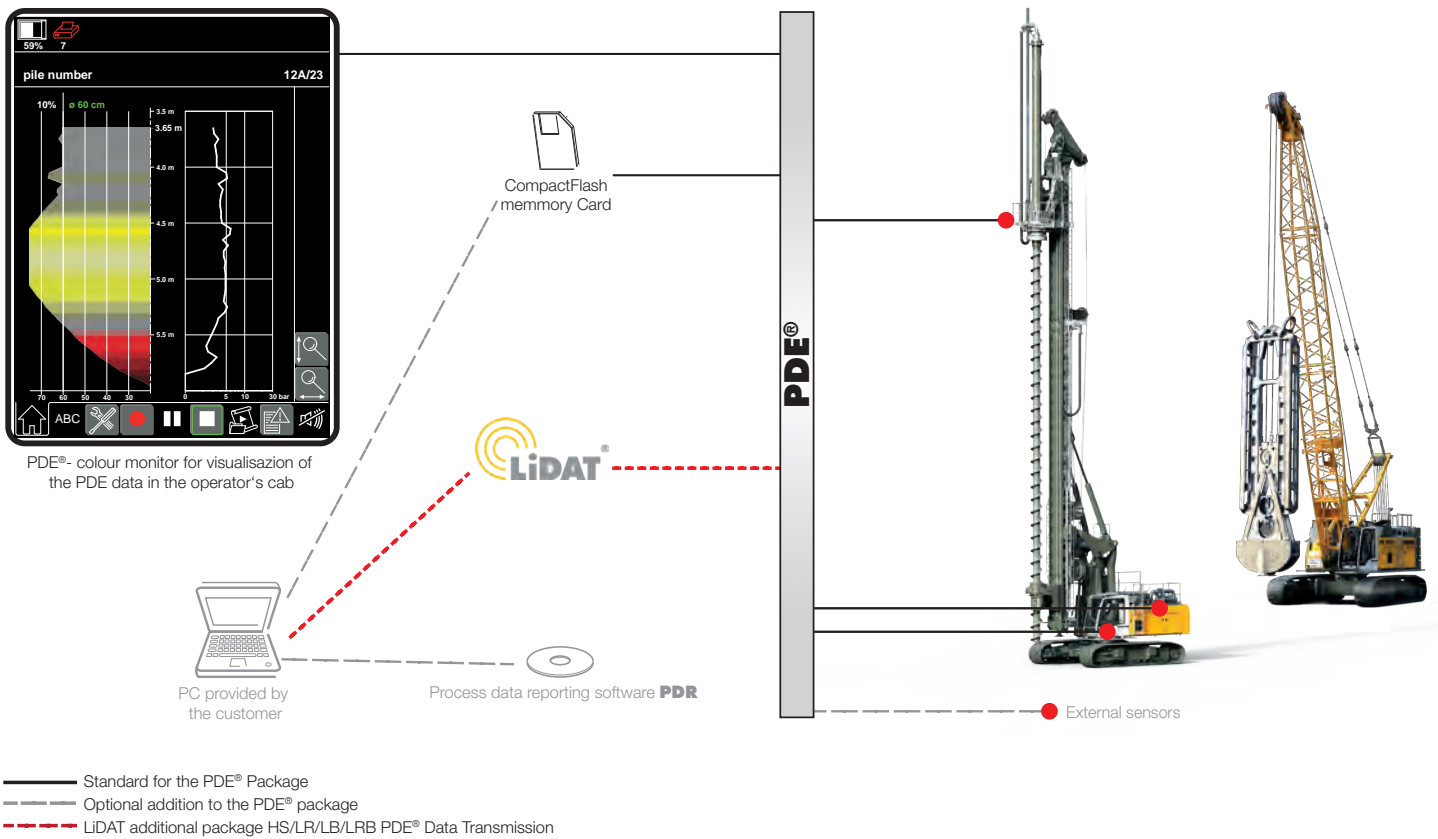
Data logger report:

- 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)
Machines						
Machine	Organisation	Type	SN/WN	Manufacturer	Oh	
	Liebherr-Werk Nenzing GmbH (LWN)	HS		Liebherr	1500.0 h	
Utilisation of the bearing load						
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	
Notifications of safety-relevant conditions						
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



Operating parameters:	LiDAT Plus 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

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