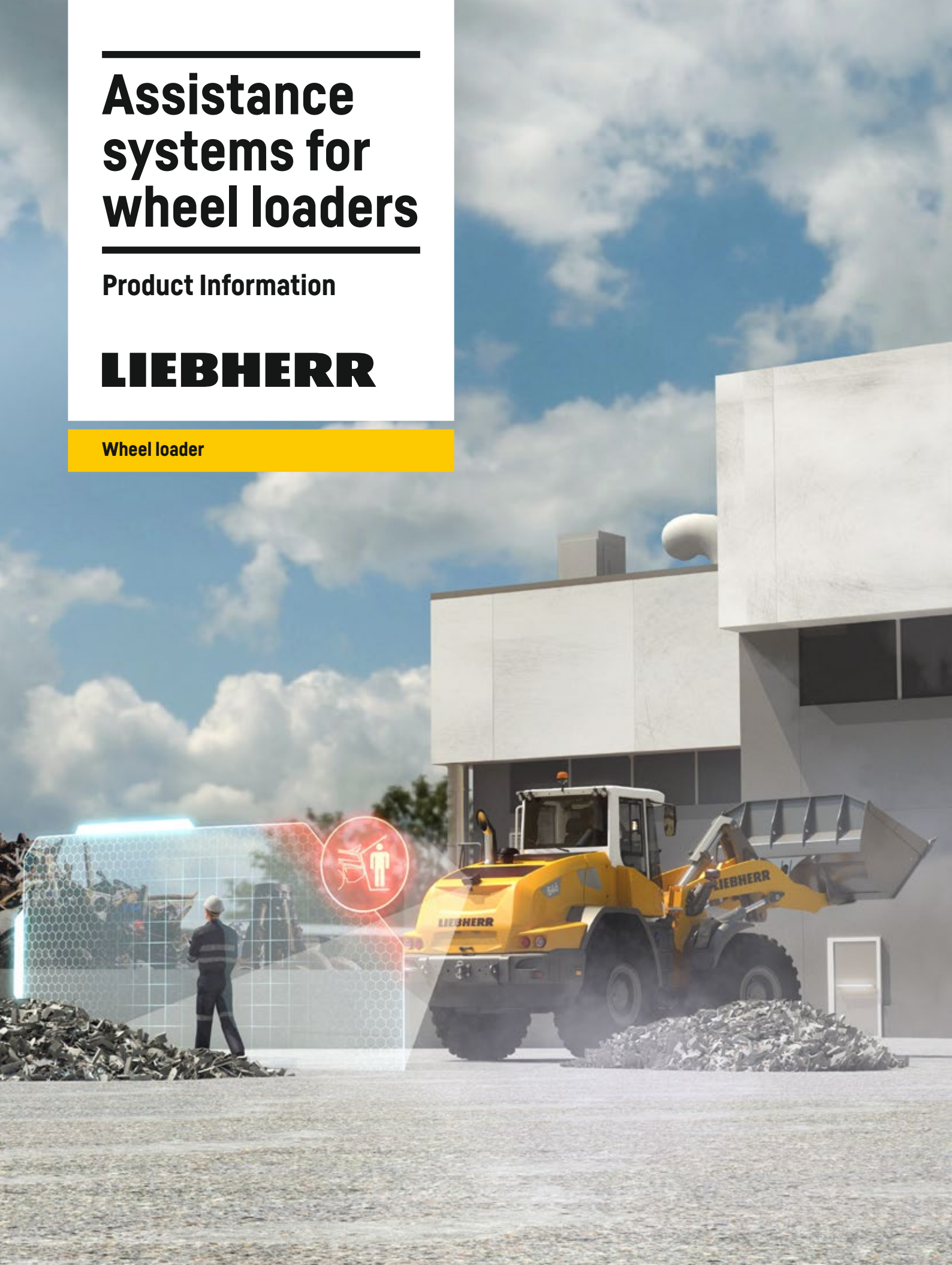

Assistance systems for wheel loaders

Product Information

LIEBHERR

Wheel loader





Contents

4	Assistance systems at a glance	11	Integral tyre pressure monitoring system
6	Liebherr weighing device with “truck payload assist”	12	Joystick steering with or without a steering wheel
7	Rear personnel detection with automatic braking	13	LIKUFIX
8	Skyview 360°	14	Automatic bucket functions
9	Roof camera for front area monitoring	16	Equipment
10	Adaptive working lighting		

Intelligent assistance systems for Liebherr wheel loaders

With the new intelligent assistance systems, Liebherr offers comprehensive solutions for wheel loaders in order to optimise safety and comfort, assist the day-to-day work of the operator and improve performance. All the systems have been developed by Liebherr and are therefore fully integrated in the machine control system. The useful assistance

systems are easy and intuitive to operate, allowing the operator to control the machine safely, efficiently and at the same time protecting the machine. This ensures maximum operator comfort while also increasing productivity. The Liebherr assistance systems are the ideal solutions for efficient use of wheel loaders.

Assistance systems at a glance

- 1 Adaptive working lighting
- 2 Rear personnel detection with automatic
- 3 Roof camera for front area monitoring
- 4 Integral tyre pressure monitoring system
- 5 Joystick steering
- 6 Operator's cab without a steering wheel - Joystick steering only
- 7 Liebherr key with remote control incl. Coming Home / Leaving Home function
- 8 Skyview 360°
- 9 Liebherr weighing device with "truck payload assist"





Liebherr weighing device with 'truck payload assist'

Intelligently balanced – the integrated weighing system not only determines the weight of the individual bucket loads, but Truck Payload Assist shows the operator the ideal target weight for each work cycle based on the total amount to be loaded. This helps make loading cycles faster and more accurate, protects the machine and increases productivity.

- Serves as a checkweigher and works automatically and intelligently with dynamic weighing range adjustment
- Weighing range extends over a large lifting range without having to reach a specific lifting height
- Weighing data is clearly shown on the operator's display, helping make work more precise and efficient
- Truck Payload Assist ensures precise, efficient and machine-friendly loading
- When the desired load weight is entered, the assistance system suggests the optimum bucket fillings and the number of loading cycles required for even loading
- Weighing data can be evaluated via LiDAT to help continuously optimise working methods
- Various summation memories and material assignments enable the individual weighings to be assigned to projects or material quantities



Rear personnel detection with automatic braking

Four eyes are better than two – active personnel detection helps the operator avoid collisions with people and obstacles. This is done with an active warning and an automatic brake assistant, and thus ensures increased safety and productivity while working.

- Monitors the rear area of the wheel loader and automatically signals hazards with a warning tone and a visual symbol on the display
- The personnel detection system uses the latest camera technology to distinguish between people and objects without them having to be equipped with transponders or sensors
- Since the system works independently, without operator input, risk due to stress or fatigue is significantly mitigated
- The personnel detection system reacts to people at a greater distance than to other obstacles, thus avoiding unnecessary warnings and braking interventions, and increasing operator acceptance
- Targeted warning with supporting, automated braking function helps to avoid injury and property damage and reduces the risk of accidents
- Potential risk zones can be identified and avoided at an early stage using the online hazard map."



Rear personnel detection with brake assist has already won many industry awards, such as the VDBUM sponsorship prize for 2022.

The active personnel detection option with brake assistant is a warning system developed by Liebherr for wheel loaders. Safe operation of the machine without accidents is the responsibility of the wheel loader driver and the operator of the site.

Skyview 360°



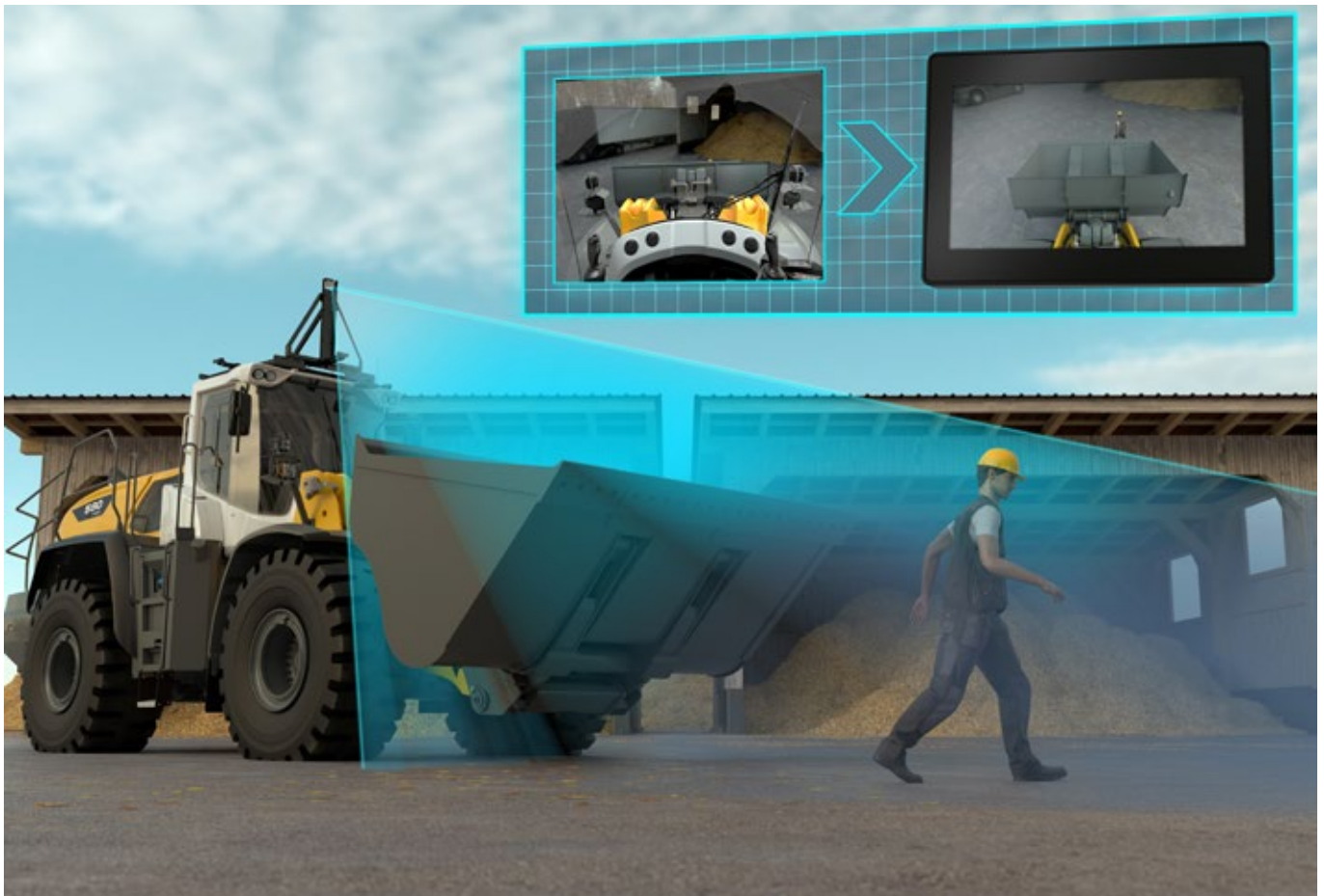
Everything in view – the Skyview 360° system has been fundamentally revised and now has impressive high-definition image quality. The system offers an overview of the whole area around the machine, so that potential hazards can be identified earlier and accidents prevented. The work cycles can be carried out faster, more efficiently and more safely, saving time and money.

- 360° view around the wheel loader at all times
- Four cameras capture the entire area around the machine
- Separate display shows a combined image from all the cameras in a bird's eye view so that all danger areas can be quickly viewed. Blind spots are almost completely eliminated"
- The new Skyview system has a significantly improved picture quality. It is also possible to switch between views on the display
- The Skyview 360° and Rear Active Personnel Detection assistance systems can be combined to offer the operator optimal monitoring of the entire area around the machine for safe and comfortable operation

Roof camera for front area monitoring

Extended view – the roof camera for front area monitoring greatly extends the field of vision in front of the wheel loader. Particularly when using large working attachments such as light material and high dump buckets, persons in the area can be identified more easily and quickly, thus greatly reducing the potential risk.

- Extended field of vision and excellent visibility in the front working area of the wheel loader
- More safety when using large working attachments
- Better and faster detection of people and obstacles in front of the machine"
- Camera image shown on a separate display in the operator's cab allows faster reaction to potential hazards
- Improved visibility into high containers, trucks and hoppers allows more efficient loading, thus increasing productivity



Adaptive working lighting

Optimally illuminated – the intelligent adaptive working lighting system reduces reflection of the headlights on the working attachment and thus greatly reduces glare for the operator when working in twilight and in the dark. This creates a less tiring working environment, which increases handling capacity and safety.

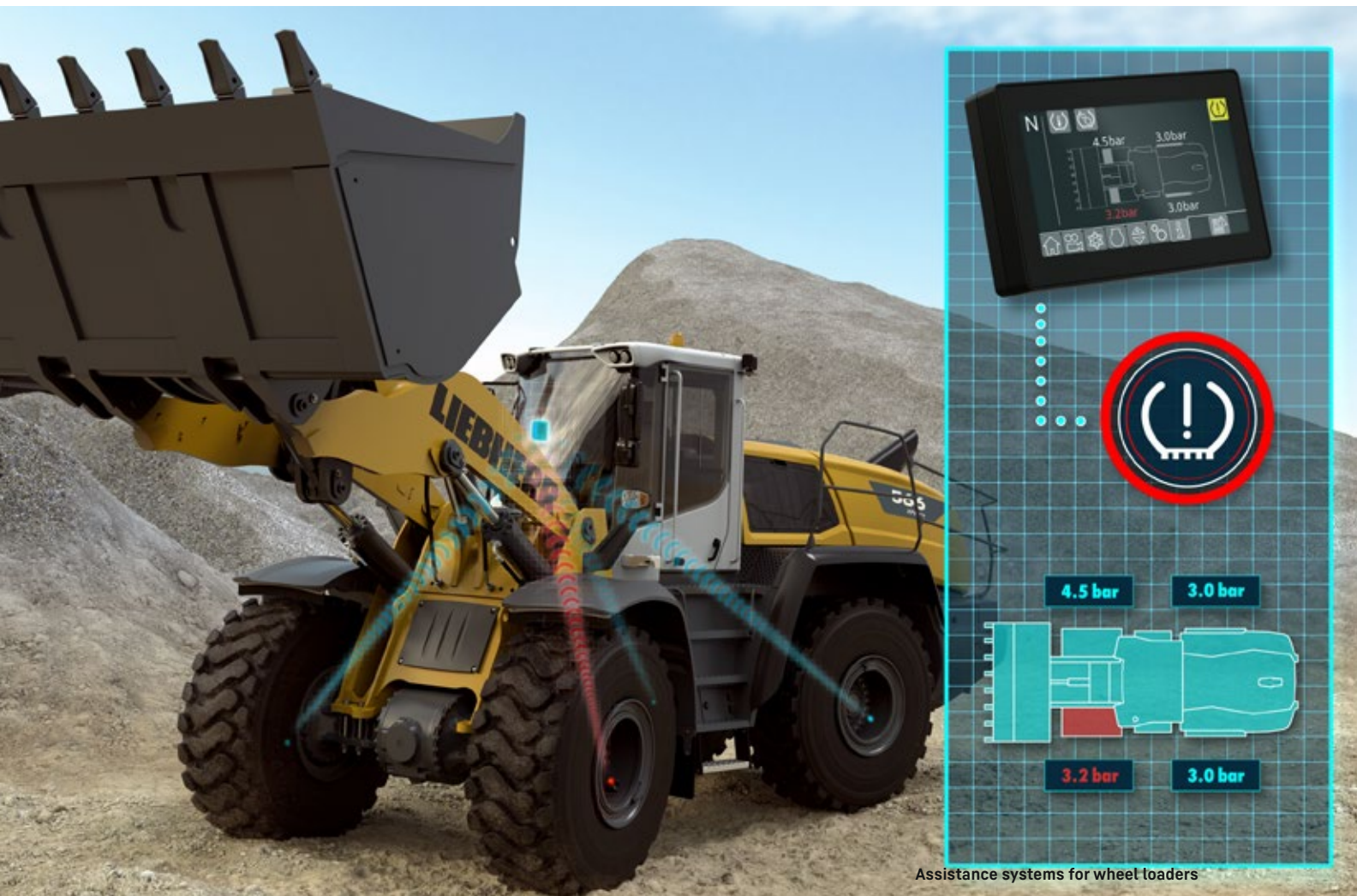


- The brightness of the LED headlights is automatically adjusted to the position of the lift arms, the working attachment and the articulation angle of the wheel loader
- Optimally adjusted illumination of the entire operating area
- Additional headlights on the front section
- Automatic dimming of the front working headlights
- Reduced glare, reflections and shadows for comfortable and less tiring work

Integral tyre pressure monitoring system

Perfect pressure – the sensor-based, integrated tyre pressure monitoring system provides an important overview of the current tyre pressure. As soon as the pressure changes, a warning appears on the display.

- Early detection of insufficient tyre pressure
- Sensors on the tyre valves transmit the tyre pressure values directly to the operator's display and to LiDAT
- Automatic warning on the display if the values deviate
- Optimum tyre pressure ensures good driving characteristics and stability
- Tyres are the most expensive wear part on the wheel loader – a difference of 15% from the optimum tyre pressure reduces the service life of the tyres by around 10%. (Source: MICHELIN, 2011)
- The tyre pressure monitoring system can reduce maintenance costs, providing remarkable return on investment
- Early detection of tyre damage by the system allows tyres to be repaired and minimises consequential costs



Joystick steering with or without a steering wheel

Sensitive guidance – joystick steering allows precise and productive work through intuitive and exact control. The 'joystick steering only' version provides a better view of the lift arms and the working attachment as well as more space in the operator's cab.

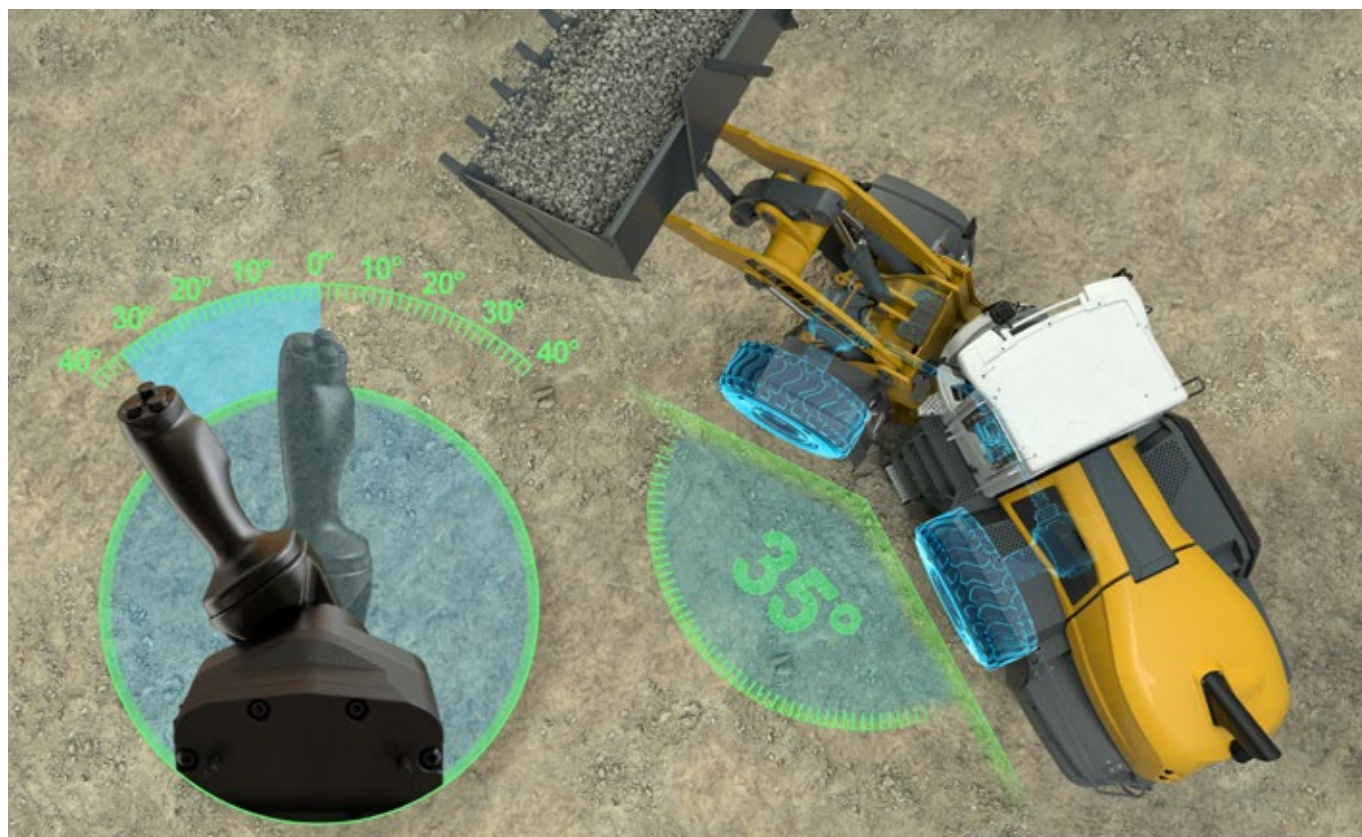
Joystick steering

- Innovative steering system with joystick integrated in the operator's seat
- Precise and sensitive control of driving functions
- The alignment of the joystick corresponds exactly to the articulation angle of the wheel loader
- Allows intuitive vehicle control and easy steering, even when reversing
- Accurate and safe operation at any speed and on any terrain
- Work cycles can be carried out more productively and without fatigue due to the minimal hand movements required

Joystick steering only*

- The operator's cab is also available as an optional "joystick steering only" version without a steering wheel and column
- Eliminates hand movements between steering wheel and machine controls
- Lack of steering column provides more space and better visibility of the attachment

*Road certification without a steering wheel is not possible in Central European countries



LIKUFIX

Everything at the touch of a button – the fully automatic Liebherr LIKUFIX quick coupling system allows equipment to be changed quickly and conveniently from the operator's cab. It is no longer necessary to get out of the cab.

- Combination of an automatic hydraulic coupling system and a hydraulic quick coupler system
- Safe and quick changing of mechanical and hydraulic attachments from the operator's cab
- Robust and durable construction
- Easy maintenance as all moving parts on the LIKUFIX coupling system are easily accessible



Automatic bucket functions

Automatically practical – the optional and individually available assistance systems allow faster work cycles for more effective and therefore more productive work.

- Bucket tilt assistant helps when dumping sticky materials such as damp soil or compost and allows a more even distribution of the load
- Visualisation of the attachment position shows the operator whether the bucket is lying flat on the ground, which helps inexperienced operators avoid the typical mistake of 'digging in'
- Stroke limit damping reduces the shock loads for the operator and protects the components of the wheel loader by moving the working attachment and the lift arms gently to the end position
- Programmable bucket return-to-dig function allows the bucket to automatically return easily and conveniently allowing faster work cycles
- Automatic bucket return-to-dig is also optionally-available via control lever button
- Programmable lifting and lowering automatically puts the lift arms and bucket into programmed digging, carry, or dump positions, thus enabling highly productive work cycles



Equipment

Basic wheel loader	L 514	L 518	L 526	L 538	L 546	L 550	L 556	L 566	L 576	L 580	L 586
Ride control	+	+	+	+	+	+	+	+	+	+	+
Fixed speed	-	-	+	+	+	+	+	+	+	+	+
Engine idle auto shutdown	+	+	+	+	+	+	+	+	+	+	+
Engine auto after-run	-	-	+	+	+	+	+	+	+	+	+
Liebherr weighing device with "Truck Payload Assist" (cannot be calibrated)	+	+	+	+	+	+	+	+	+	+	+

Safety	L 514	L 518	L 526	L 538	L 546	L 550	L 556	L 566	L 576	L 580	L 586
Rear personnel detection with automatic braking	+	+	+	+	+	+	+	+	+	+	+
Roof camera for front area monitoring (with Liebherr camera via Liebherr display)	-	-	+	+	+	+	+	+	+	+	+
Skyview 360°	-	-	+	+	+	+	+	+	+	+	+

Operator's cab	L 514	L 518	L 526	L 538	L 546	L 550	L 556	L 566	L 576	L 580	L 586
Adaptive working lighting	+	+	+	+	+	+	+	+	+	+	+
Operator's cab without steering wheel/ steering column (not available as street legal) - Joystick steering only	-	-	+	+	+	+	+	+	+	+	+
Integral tyre pressure monitoring system	-	-	+	+	+	+	+	+	+	+	+
Joystick steering	-	-	+	+	+	+	+	+	+	+	+
Liebherr key with remote control incl. Coming Home / Leaving Home function	-	-	-	-	-	+	+	+	+	+	+

Lift arms	L 526	L 538	L 546	L 550	L 556	L 566	L 576	L 580	L 586
Automatic bucket return programmable	●	●	●	●	●	●	●	●	●
Stroke limit damping	+	+	+	+	+	+	+	+	+
Automatic lift arm position and lowering programmable	●	●	●	●	●	●	●	●	●
LIKUFIX	+	+	+	+	+	+	+	+	-
Bucket tilt assistant	+	+	+	+	+	+	+	+	+
Bucket return with button	+	+	+	+	+	+	+	+	+
Automatic lowering with bucket return for bucket tipped outwards	●	●	●	●	●	●	●	●	●
Automatic lowering with bucket return for bucket tipped inwards	+	+	+	+	+	+	+	+	+
Visualisation of the equipment position	●	●	●	●	●	●	●	●	●

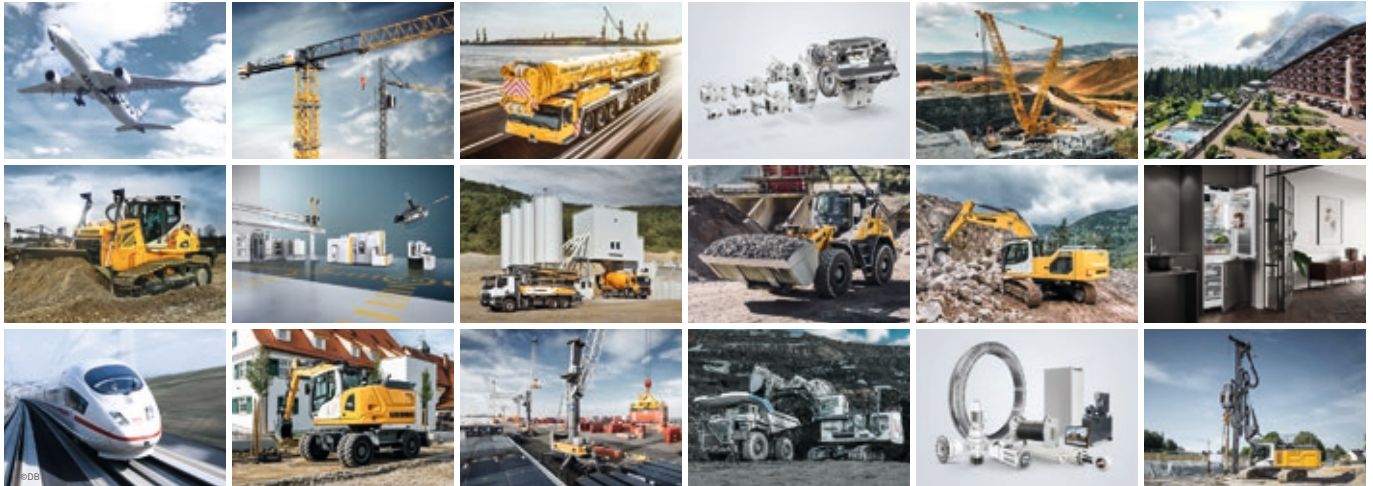
- = Standard
- ⊕ = Option
- = not available

Safe operation of the machine without accidents is the responsibility of the wheel loader operator and the site manager.

You can find further information here on "Assistance systems for wheel loaders":



The Liebherr Group



Global and independent: more than 70 years of success

Liebherr was founded in 1949 when, with the development of the world's first mobile tower crane, Hans Liebherr laid the foundations for a family business now employing nearly 50,000 people and comprising over 140 companies across every continent.

The parent company is Liebherr-International AG in Bulle, Switzerland, whose associates are exclusively members of the Liebherr family.

Leaders and pioneers

Liebherr is a pioneer and its forward-looking approach has seen it make important contributions to technology history over a wide variety of industries. Employees throughout the world continue to share the courage of the founder, sharing a passion to produce innovative products and a determination to provide world-leading equipment and machinery.

Diversified portfolio

The company is one of the world's biggest construction equipment manufacturers and provides high-quality, user-oriented products and services to sectors including: earthmoving, material handling, deep foundations, mining, mobile and crawler cranes, tower cranes, concrete production and distribution, maritime cranes, aerospace and transportation, gear technology and automation, refrigeration and freezing, components and hotels.

Customised care

Liebherr solutions are characterised by precision, implementation and longevity. The company is committed to technological excellence and to providing customers with solutions that match their needs exactly. That customer focus does not end with delivery of a product but continues through a comprehensive range of back-up and support services.

www.liebherr.com