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# Sharpens your view.

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LiXplore® – digital camera-  
monitor systems for your  
mobile working machine

**LIEBHERR**

Components  
Electronics



LiXplore®

# Clear view



Clear view – an ideal concept for operators of large and complex machines such as refuse collection vehicles, excavators or tractors. Nothing restricts the field of view more than the complex and small-scale design of the mobile machine.

Demanding environmental conditions such as changing light conditions, vibrations and temperature differences do the rest. Efficient work? Not a chance. But not only that. In the worst case, an insufficient view can cause serious damage to property and personal injury.

With digital camera monitor systems by Liebherr, you are on the safe side. They provide drivers with the best possible support in the challenge of recognising people and objects in the working environment safely and in good time.

The sharper the camera image, the easier and more pleasant the work for the driver. Whether used as a viewing solution for rear and side areas or as a 360° surround view system, our digital camera systems offer more work safety and comfort. For you, this means lower costs and more efficiency.

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Safe all round

# LiXplore® CMS



12" display and six digital smart cameras

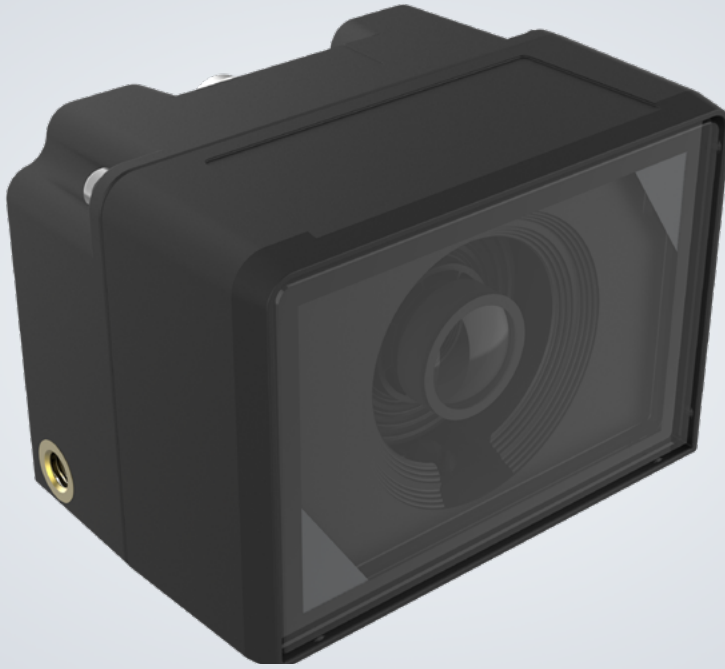
## The system

With its proven robust components, the digital camera-monitor system LiXplore® CMS provides high-resolution monitoring of work areas – thanks to daisy-chain with little cabling effort.

## The structure

- The system usually consists of:
- Up to six digital smart cameras
  - A display controller

# Digital Smart Camera MDC3



The MDC3 convinces with best-in-class image quality and delivers important details in every lighting situation:



HDR functionality ensures high-contrast images without over- or underexposure.



Fast readjustment of exposure ratios for a constant image at light-dark transitions.



1 millilux low-light sensitivity for ideal image quality even in the dark.



Lens correction function for a clear image without distortion.

[TO THE MDC3 WEBSITE](#) →

# Display Controller DC5

Even under highly demanding operating conditions, the DC5 with its high computing power ensures a permanently optimal display of the environment in the driver's cab.



1.280 x 800  
px  
resolution

700:1  
contrast

9" or 12"

Depending on your needs, we can also implement the system with a 9-inch display. We would be pleased to develop the right product for you based on your wishes – get in touch!

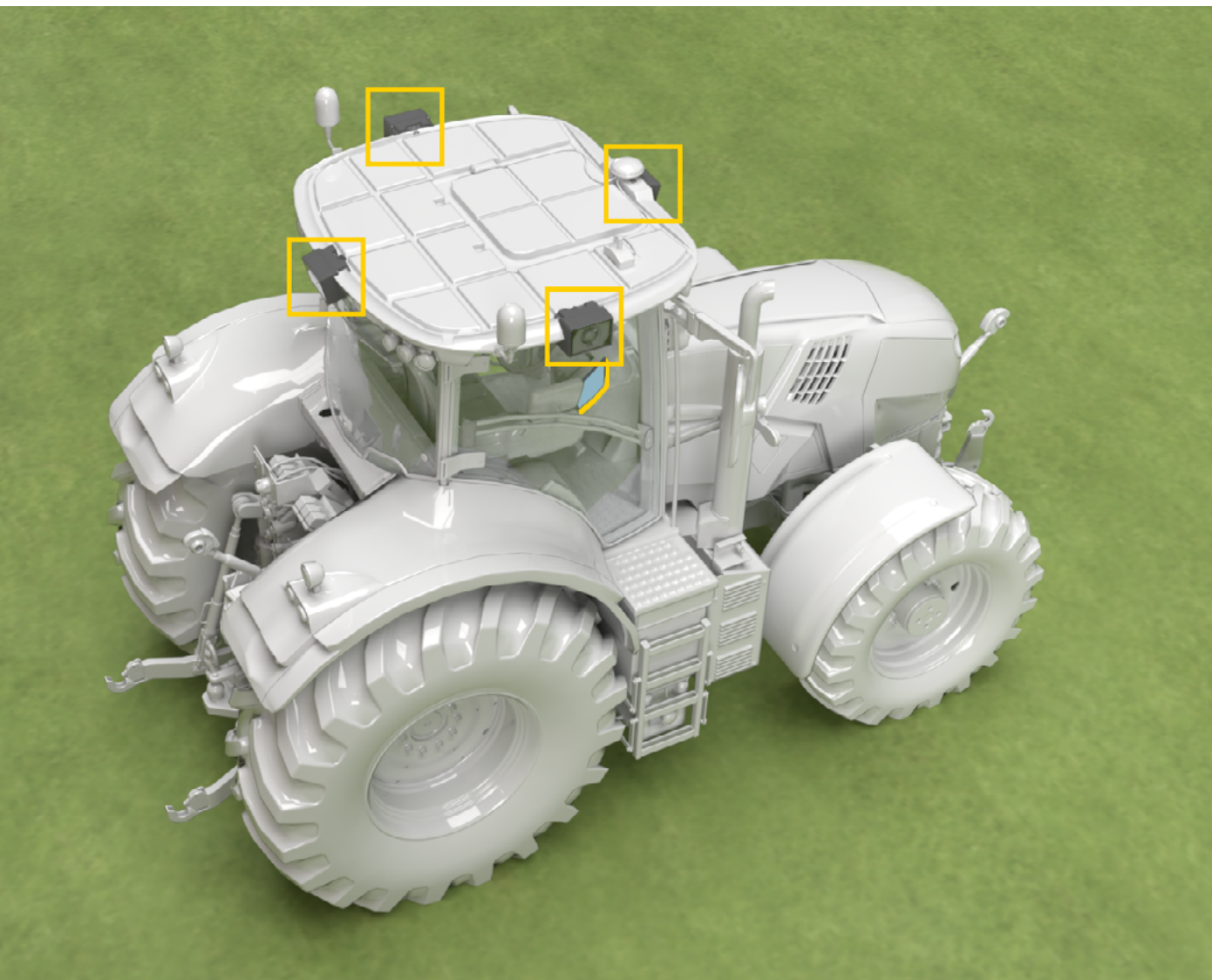
[TO THE CMS WEBSITE](#) →





360° at a glance

# LiXplore® Bird's Eye



Compared to a reversing camera, the 360° surround view offers more comfort, efficiency and safety.

## The system

LiXplore® Bird's Eye offers the driver a 360° surround view of this machine's working environment. The system combines four individual images from several high-resolution digital cameras.

## The advantages

- Optimal representation of the working environment in the cabin through seamless stitching
- Time saving through simple system calibration
- Cost saving through control unit (ECU) already integrated in the display

# The structure

**The LiXplore® Bird's Eye generally consists of:**

- Four digital smart cameras
- A display controller
- The Stitching software (algorithm)

## **Did you know?**

The system has already proven its robustness. The individual components are in daily use on construction sites all over the world and under the most demanding environmental conditions.

We will be pleased to check the feasibility on your machine.

**4**

cameras

**1**

display

**1**

system

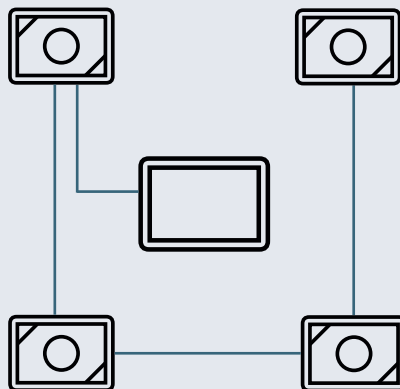


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# Simple system architecture

## No additional ECU required

The surround view system can be set up either in line or star topology. In both cases, no additional Electronic Control Unit (ECU) is required. The stitching algorithm runs directly on the display controller.



## LiXplore® Bird's Eye

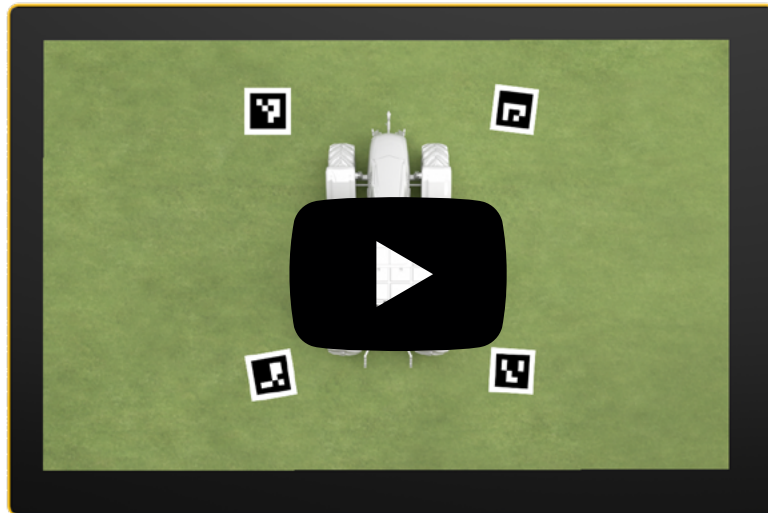
- Simple system design, economical cabling: four cameras, one display
- Easy auto-calibration without time-consuming measurement of the mats
- Digital smart cameras enable better image quality with more details and optional detail views



# Autocalibration in the blink of an eye

A one-time basic configuration is carried out for each machine type. You can then calibrate any machine of this type within a very short time:

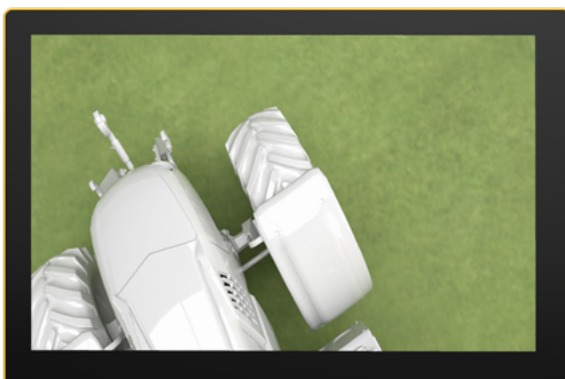
- Prerequisite for a successful calibration are four printed calibration mats in the overlap area.
- It is not necessary to measure the mats and camera positions; mats only need to be in the overlap area of the cameras.
- The bar chart on the display continuously shows the calibration progress.



## Detailed views

In addition to the 360° top view, various detailed views can also be predefined. Switching between the views is done intuitively via the touch display.

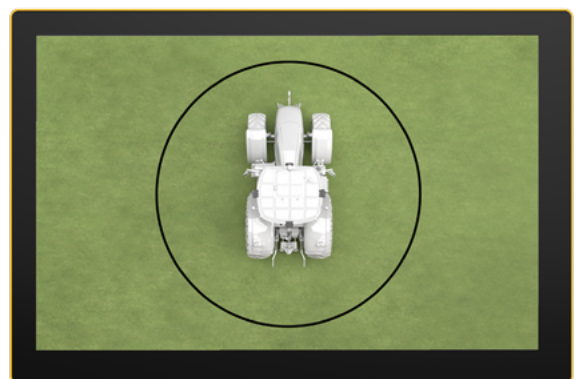
This allows the driver to quickly gain detailed insights into individual areas.



## Overlays

Customised overlays give the driver additional information:

- Illustration of a close-up range
- Illustration of the maximum possible working range
- Marking of a maximum swivel range



# All advantages at a glance



## Proven components

LiXplore® Bird's Eye relies on a high-performance imager with the digital MDC3. This enables the display of important details in the cabin – even in low light conditions.



## Time-saving auto-calibration

The easy calibration ensures that the system can be used quickly and easily.



## System architecture

LiXplore® Bird's Eye allows for a simple system architecture. Daisy chain connection of components reduces cabling requirements. In addition, the DC5 display controller eliminates the need for an additional computing unit (ECU).



## Robustness

All LiXplore® Bird's Eye components are designed for demanding applications. The cameras and displays prove their worth every day all over the world in industries such as construction, agriculture or mining.



## Stitching

Seamless stitching without duplicated or disappearing objects ensures optimal representation of the working environment in the cabin – for maximum focused work. The stitching algorithm is integrated in the DC5 display controller.

[TO THE LIXPLORE® WEBSITE](#) →

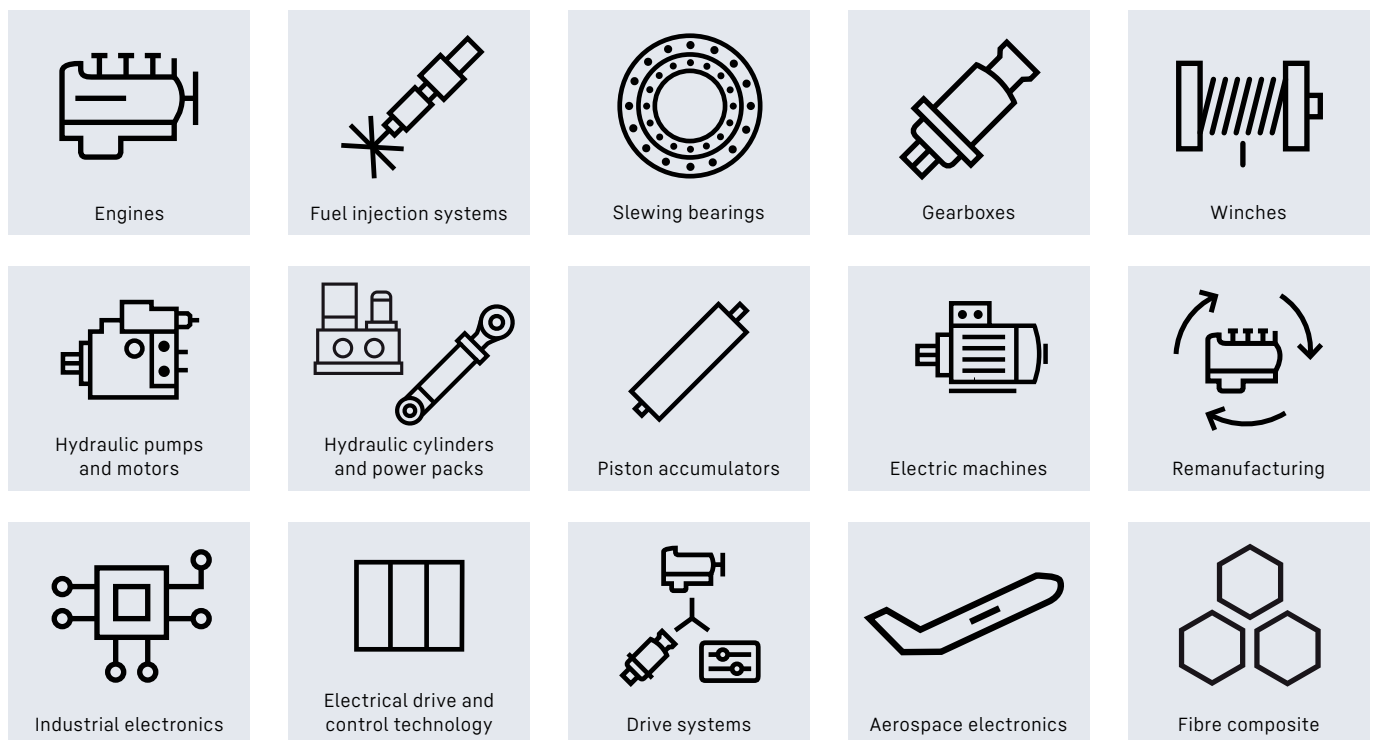
# Liebherr Components

From A to Z – the components division of the Liebherr Group offers a broad range of solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contact persons for all product lines are available to our customers at

Liebherr-Components AG and the regional sales and distribution branches.

Liebherr is your partner for joint success: from the product idea to development, manufacture and commissioning right through to customer service solutions like remanufacturing.

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# LIEBHERR

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