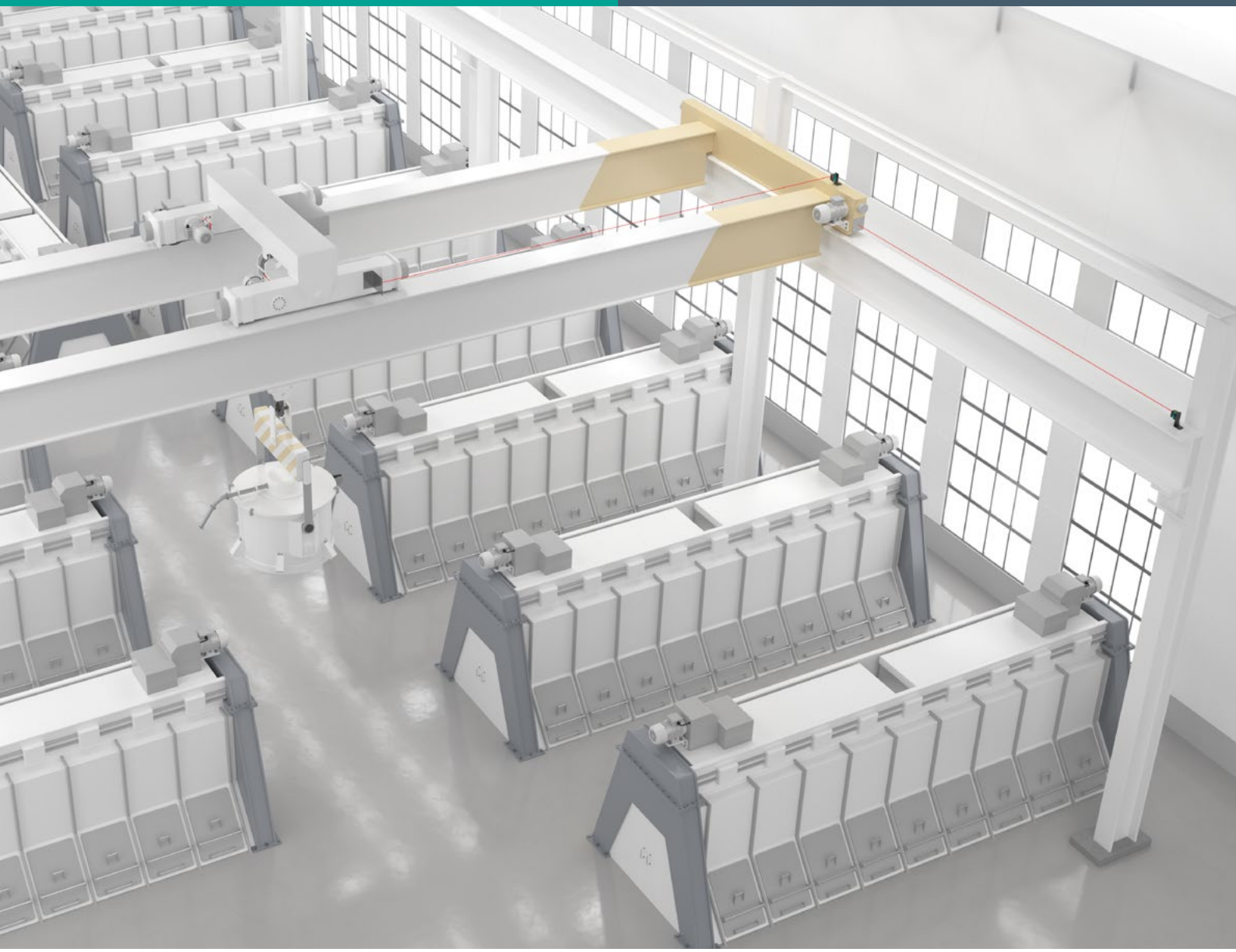
Distance Measurement for Precise Crane Positioning in Two Axes

R1000 Distance Sensor with PRT Enables Anti-Skewing and Ensures Material Flow

At a Glance

- Precise two-axis positioning of indoor cranes
- Dual distance measurement for active anti-skewing compensation
- High-precision measurement over long distances
- Reliable operation due to Pulse Ranging Technology
- Easy integration into existing crane systems

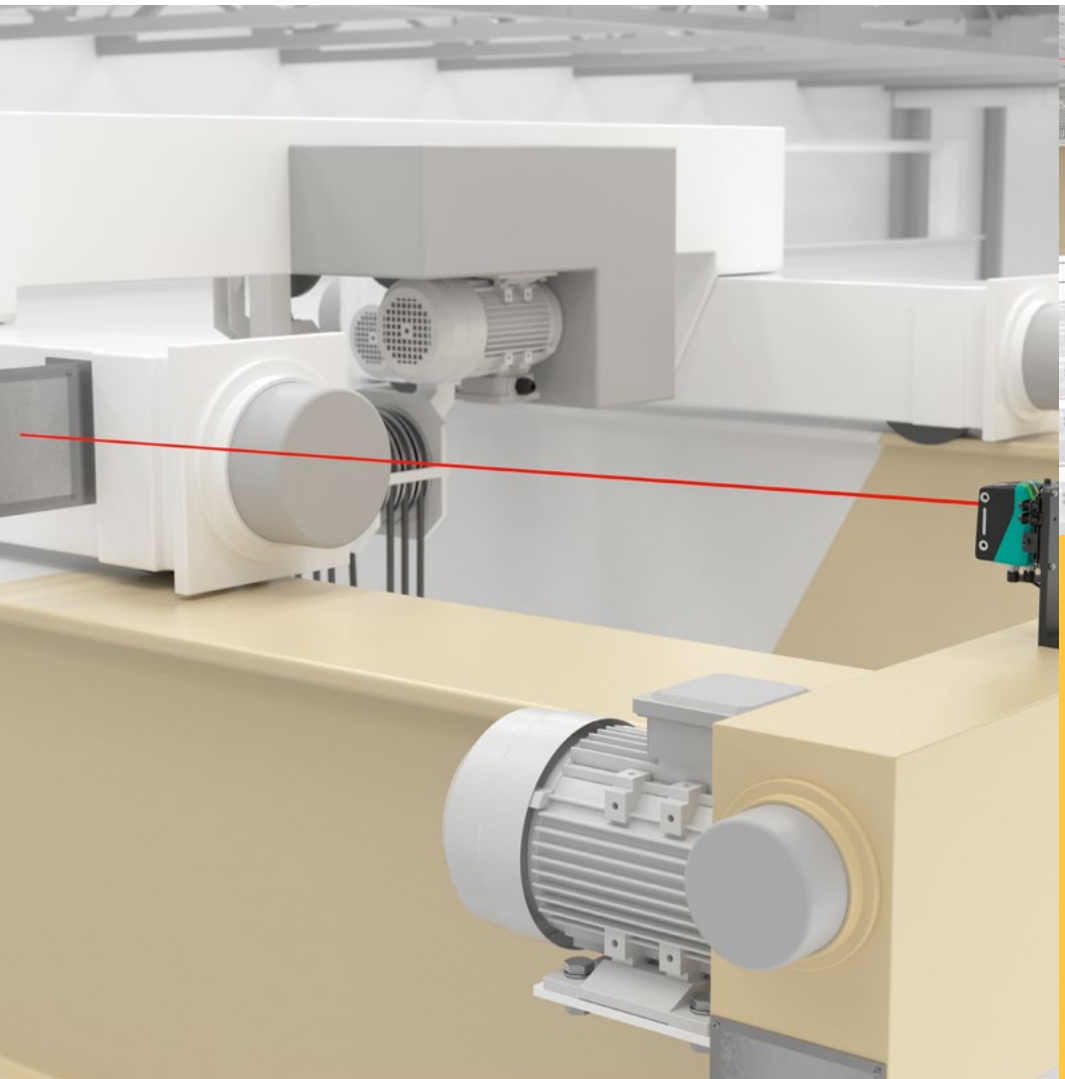


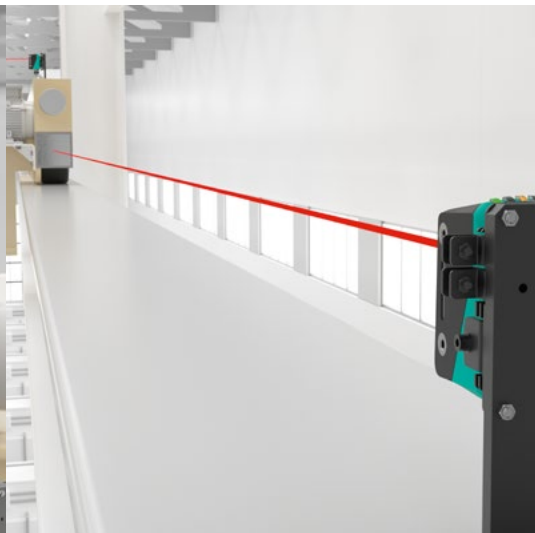
The Application

In production and storage facilities, overhead cranes are responsible for automated material transport. They move in two axes: The crane bridge moves in the x direction (travel path); the trolley moves in the y direction (trolley travel). To ensure exact positioning and to avoid mechanical overloading, precise two-sided distance measurement is essential.

The Goal

The aim is to reliably determine the position of the indoor crane in both axes. Dual distance measurement is required especially in the y direction to detect and actively compensate for skewing. The sensors used must offer high accuracy for long measuring distances and be insensitive to external influences.





The Solution

With Pulse Ranging Technology (PRT), the R1000 distance sensor from Pepperl+Fuchs offers a powerful solution for positioning indoor cranes with millimeter precision. Two sensors—one on each side—detect the position of the trolley to enable anti-skewing using direct compensation. PRT allows for reliable and trouble-free measurement even over distances of up to 300 meters, including in changing ambient light conditions and contamination. Due to its compact design, the sensor can be easily integrated into new or existing systems.

The Benefits

The sensor solution used enables high-precision positioning of the indoor crane along the x and y axes and increases operational safety due to redundant distance measurement for active anti-skewing compensation. The non-contact PRT delivers reliable measurement results regardless of dirt, ambient light, or reflective surfaces. Due to the large number of combinable mounting accessories, the sensor can be easily integrated into new or existing systems. This secures the material flow, reduces downtime, and minimizes maintenance.

Technical Features

- Pulse Ranging Technology (PRT) with <1 mm repeat accuracy
- Detection range of up to 300 m for x and y axis positioning
- IP67 housing for industrial ambient conditions
- Interference-free multiple operation without signal overlap
- Compatible with conventional crane control systems



For more information, visit: **pepperl-fuchs.com/px-r1000**