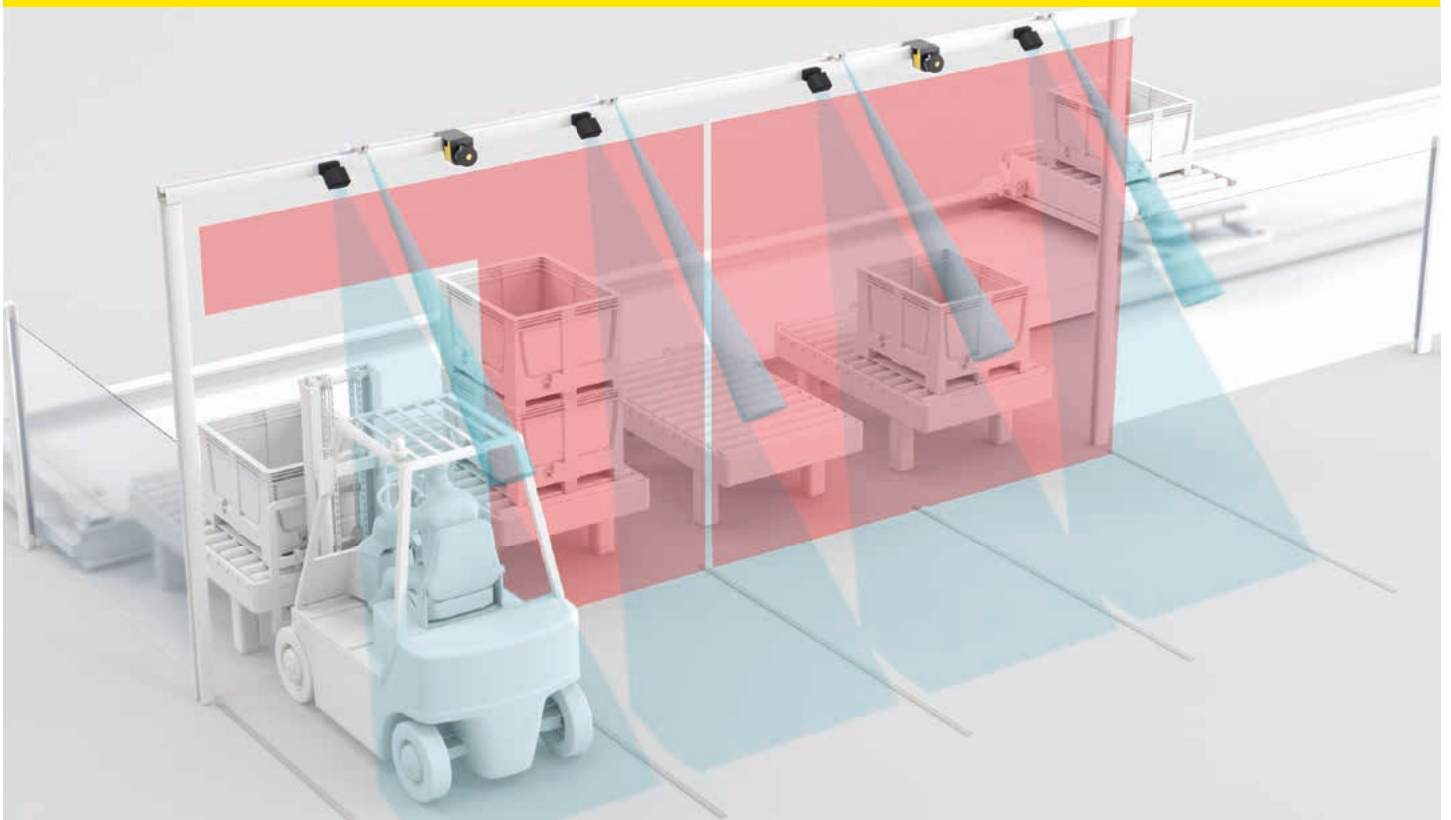


Safety Solutions

Multi-station access guarding in forklift logistics

Safety at Leuze



Simple. Safe. Productive.

From risk assessment to validation: our safety solutions provide complete solutions for your systems. The innovative safety concepts of our expert teams ensure efficient material flow, gapless safety and high availability of your system. Even in applications where classic concepts are pushed to their limits. Always with legal certainty, CE certification and compliance with standards.

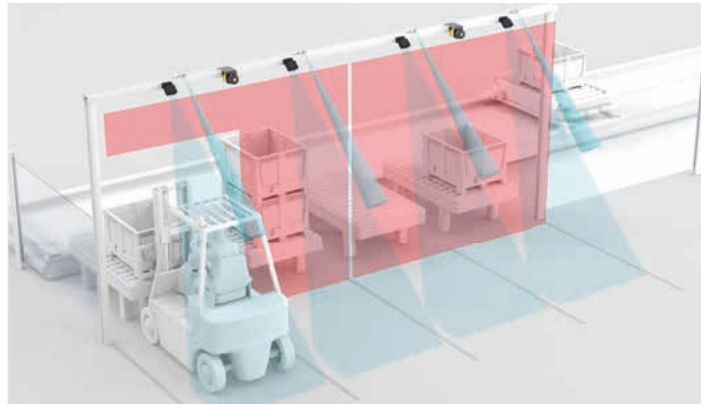
If industrial trucks - such as forklift trucks - are working at a transfer station to a hazardous area, reliable differentiation between forklifts and persons is necessary for access guarding. Common safety concepts are often limited in their possibilities and require considerable design and process interventions for safe operation. In practice, this can lead to compromises with

correspondingly high residual risks, which also require a high degree of personal responsibility and discipline from the instructed operating personnel. For example, safety gaps may occur next to the forklift truck during handover, the system may have to be operated at reduced speed when approached, or the system may even have to be stopped completely during handover.

Our safety solution for multi-station access guarding in forklift logistics is specially optimized for these applications. It ensures gapless safety and at the same time guarantees high capacity utilization of the system through optimized processes.

Multi-station access guarding in forklift logistics

Requirement: Several transfer stations are located on a cross conveyor where material is fed in and out by forklift trucks. The entire transfer area is to be safeguarded against access by persons. When a forklift approaches, the corresponding station is to be released for entry.



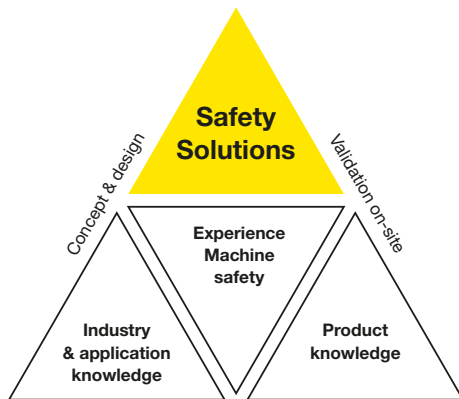
Solution: Safety laser scanners with vertically oriented protective fields safeguard the access. For each station, additional sensors monitor the movement of the forklift trucks and forward the information to the safety system. The system adjusts the protective field for entry of a forklift truck into the respective station. The entire process is monitored for safety.

Advantages for you

- Save time and money with our pre-developed and process-optimized safety solutions
- Continuous monitoring of the entire transfer area with reliable differentiation between forklift trucks and operators
- Scalable to the number of stations in your facility
- Safe separation of traffic area and transfer area allows further optimization of workflows
- High reliability and availability
- Optimum protection against manipulation

Working principle

The vertical protective field is installed in front of the hazardous area. Each station is additionally controlled by monitoring sensors. Only when a forklift approaches a station, the safety system releases a defined area in the protective field for precisely this station. All other stations remain safeguarded by the protective field. As soon as the forklift has left the transfer area, the protective field is reset to its original state. The forklift trucks can enter and exit without interruption and use all stations simultaneously and independently of each other.



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System components and safety parameters

Safety sensors: safety laser scanner RSL 400
Monitoring sensors: Ultrasonic and radar sensors
System control: Siemens SIMATIC S7
Leuze safety program
PL d in accordance with ISO 13849-1, SILCL 2 in accordance with IEC 62061
2-channel safety output

Your partner for professional safety solutions

For more than 35 years, we have been supporting safety-related applications in different industries by offering a broad range of products. Our certified safety experts have extensive experience in designing safety concepts and comprehensive knowledge of the latest norms and standards.

In the projects, we accompany you from the risk assessment up to the safety-related acceptance. Our teams make sure that our solution meets your requirements and ensure that your project runs smoothly.

Complete solutions – Tailored to your needs

Our solutions are based on qualified safety concepts which, if necessary, can also be extended or created new. Every solution is individually tailored to your system layout and includes

- All necessary hardware and software components
- Engineering services, such as PLC programming and configuration according to project requirements
- Comprehensive, CE-compliant documentation
- Start-up support
- Validation of the safety function



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