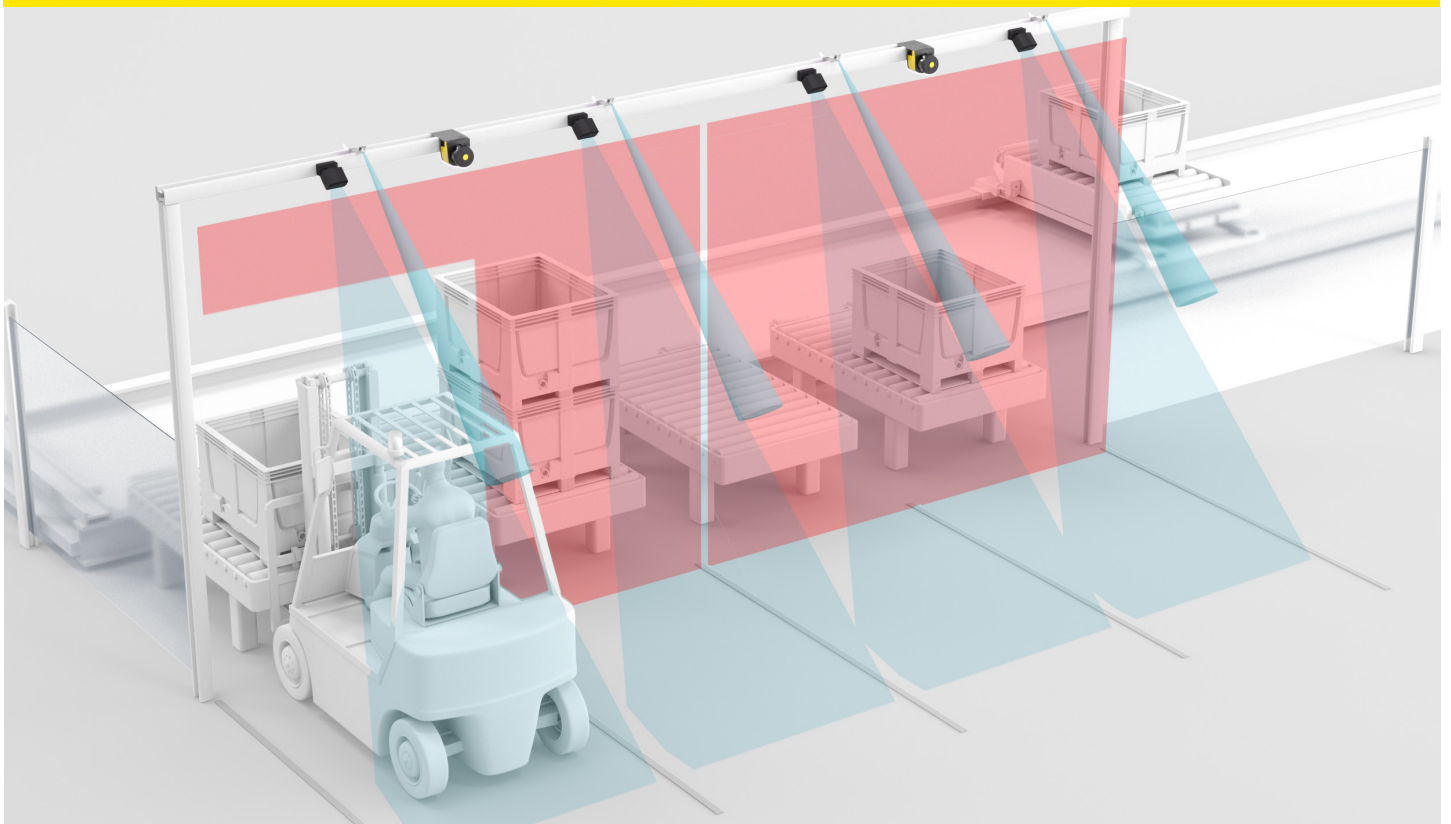


## Safety Solutions

### Multi-station access guarding in forklift logistics

#### Safety at Leuze



#### Efficient material flow and maximum safety

The increasing automation of machines and systems places growing demands on safety concepts. Classic concepts such as muting are often pushed to their limits here. Our innovative safety solutions guarantee gapless safety, efficient material flow and high availability of your system, even with automatic processes. They also make a significant contribution to optimizing the overall process.

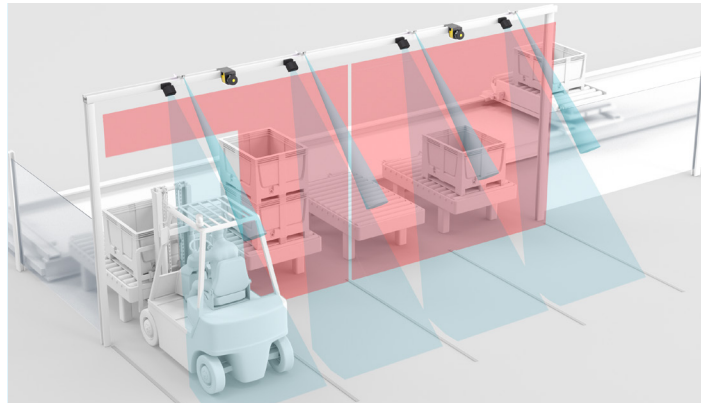
If industrial trucks - such as forklift trucks - are working at a transfer station to a hazardous area, reliable differentiation between forklifts and persons is necessary for access guarding. Common safety concepts are often limited in their possibilities and require consi-

derable 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 field 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.

### 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.

### Complete solutions – Tailored to your needs

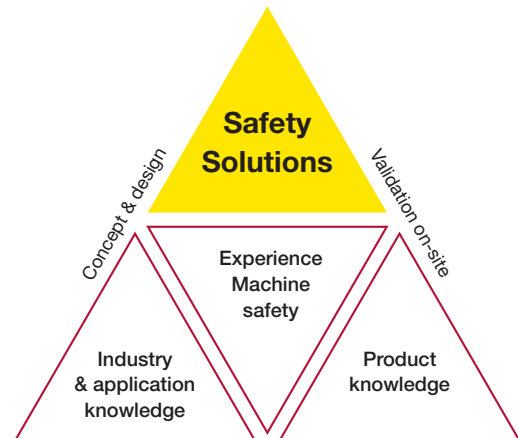
Our solutions are based on qualified safety concepts which, if necessary, can also be extended or created new. Every solution is individually tailored to your system layout and includes

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



### Your benefits

- 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



### System components and safety parameters

Safety sensors: Safety laser scanner RSL 400
Monitoring sensors: Ultrasonic and radar sensors
System control: Siemens S7
Leuze safety program
PL d in acc. with EN ISO 13849-1, SIL <sub>CL</sub> 2 in acc. with IEC 62061
2-channel safety output

### Your partner for professional safety solutions

For more than 30 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 gathering of the requirements up to the safety-related acceptance. Our teams make sure that our solution meets your requirements and ensure that your project runs smoothly.

### Leuze electronic GmbH + Co. KG

In der Braike 1, 73277 Owen · T +49 7021 573-0 · F +49 7021 573-199 · info@leuze.com · www.leuze.com  
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