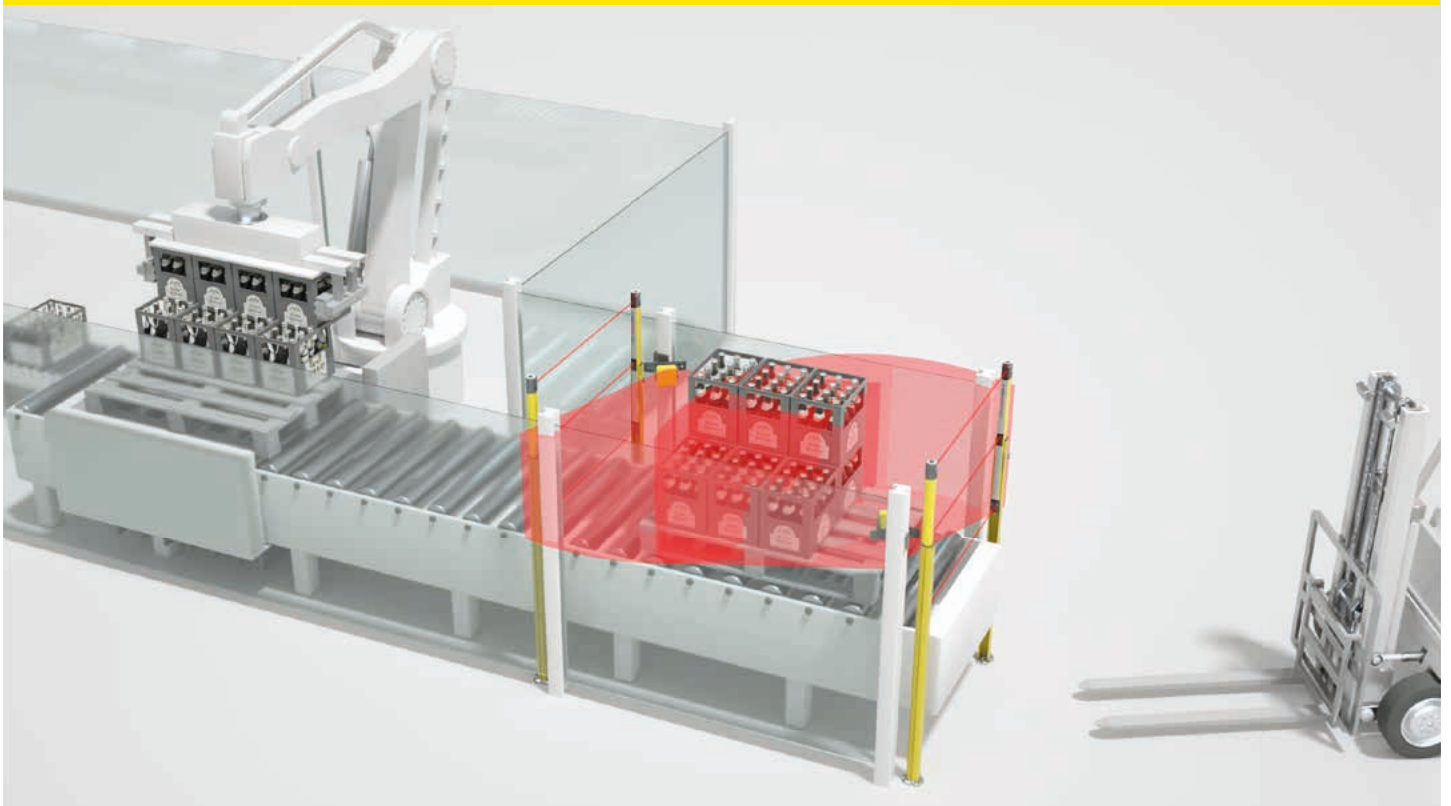


## Safety Solutions

### Access guarding at material transfer stations

#### Safety at Leuze



#### Efficient material flow and maximum safety

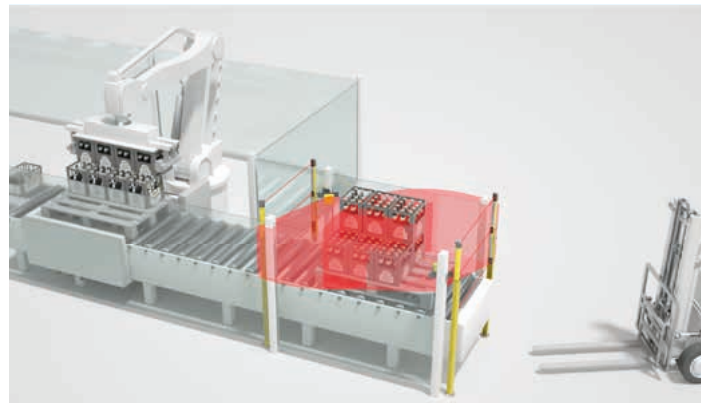
The increasing automation of machines and systems places growing demands on safety concepts. Classic concepts such as muting are often pushed to their limits here. Our innovative safety solutions guarantee gapless safety, efficient material flow and high availability of your system, even with automatic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

One challenge at material transfer stations is the reliable differentiation between people and material - regardless of the shape and size of the conveyed goods.

While consistent safety concepts can be found if the load is always the same, safety gaps can easily arise if the load changes or is incomplete. Often the safety concepts also require that the subsequent process must be stopped during the handover in order to guarantee the necessary protection of the operating personnel. This reduces the utilization and thus the efficiency of the system. With its superior safety concept, the Leuze Safety Solution for material transfer stations offers the right solution for any load and guarantees best utilization of the safeguarded cell.

## Access guarding at material transfer station

**Requirement:** The robot cell is fed automatically. The material is loaded onto the conveyor line, e.g. using a forklift truck, and then transported into the cell. Access to the cell must be safeguarded. To guarantee optimum capacity utilization of the robot cell, the safety concept must also allow uninterrupted operation of the cell during loading.



**Solution:** The loading area of the conveyor line is guarded at both the entry and exit side by multiple light beam safety devices. The area between the photoelectric sensors is monitored for the presence of persons by means of safety radar sensors.

### Working principle

After the safety sensor on the entry side has been interrupted and released again, the loading area is checked. Safety radar sensors monitor this area for presence of people. Only if no person has been detected in the loading area, the system releases the safety sensor on the exit side and the conveyed goods can be transported into the cell. The safety-related correct processing is monitored by the system. All necessary release signals for the implementation of automated loading processes are provided by the system as well.

### 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: PLC programming, configuration according to project requirements
- Start-up support
- Validation of the safety function
- Full documentation



## Your benefits

- Higher capacity utilization of the system through interruption-free operation of the robot cell, even during loading
- Infeed of transported goods of any shape or size thanks to an optimized safety concept
- Safe and reliable even under demanding conditions, e.g. with partly loaded or empty pallets
- Supports automatic starting of the conveyor line to improve efficiency and safety
- No operator action required
- No visual monitoring of the danger zone necessary
- The pre-developed safety solution is individually adapted to your application



### System components and safety parameters

Safety sensors: MLD 500 multiple light beam safety devices, LBK safety radar sensors with controller
System control: MSI 400 safety control
Leuze safety program
PL d in acc. with EN ISO 13849-1, SILCL 2 in acc. with IEC 62061
2-channel safety output, 2 signalling outputs

### 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. Benefit from our know-how: in projects, our expert teams accompany you from the gathering of the requirements up to the safety-related acceptance. They make sure that our solutions meet your requirements and ensure that projects run smoothly.