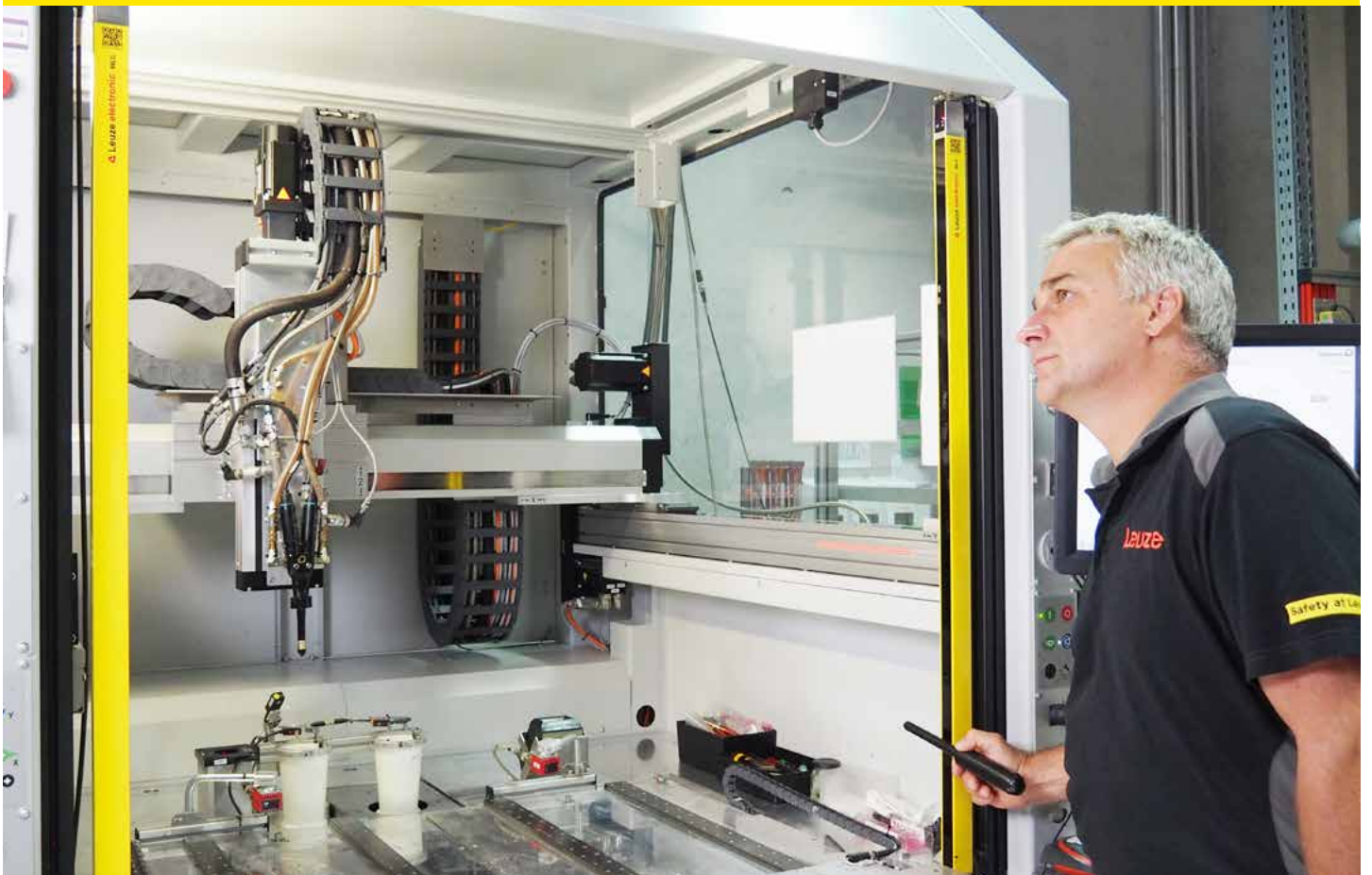


Machine Safety Services for manufacturers, integrators and operating companies

Safety at Leuze

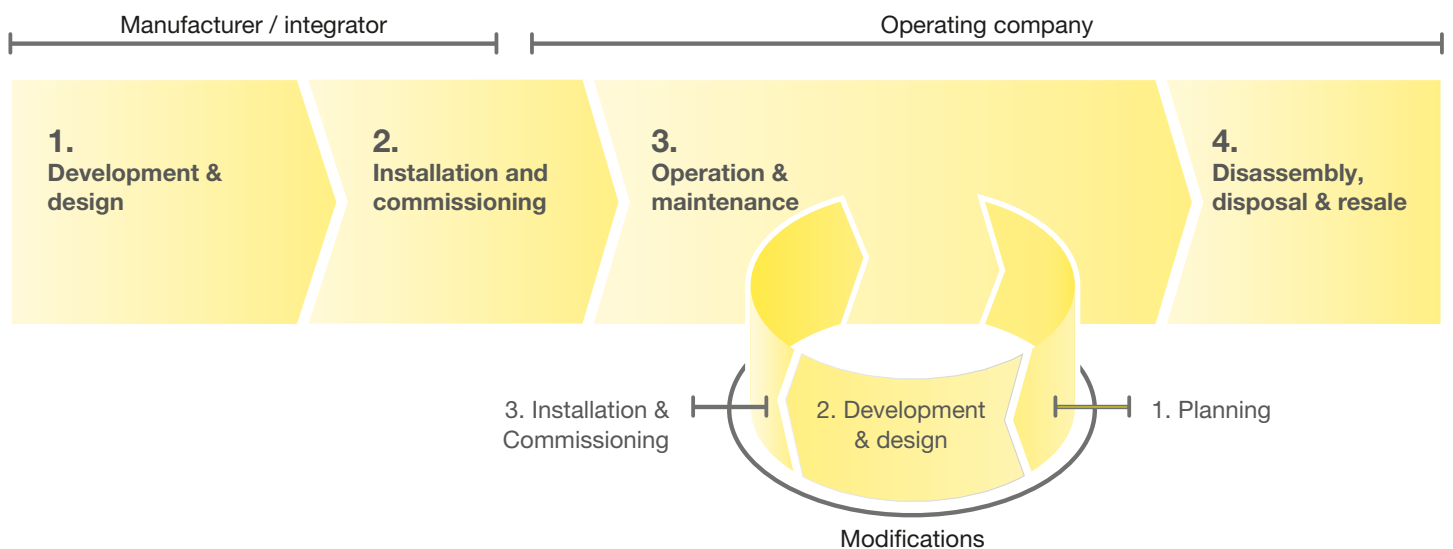


The right services for your processes

Sustainable machine safety begins with professional planning of the safety systems and spans the entire lifecycle of a machine.

Our teams of experienced and certified experts offer the appropriate support here.

Stages of a machine life cycle



Each phase of the machine life cycle places specific requirements on machine safety. Adherence to the respective, applicable laws and regulations is a management task that often goes beyond the capacities within a company both with respect to personnel as well as financially. This is because the set-up and the continuous updating of the necessary knowledge are complex and often not something that can simply be done on the side.

Our services offer you tailored support for the respective required measures – for manufacturers, integrators and operating companies.

Our safety services



Status check “Safety technology on machines” and risk assessment (for operating companies)

We analyze the safety-related condition of your machinery and check whether current requirements are satisfied in accordance with the state of the art as well as legally. In the event of deviations, we provide recommendations on corrections to comply with the requirements.



Status check “CE marking of machines”

We check the documentation for the EU declaration of conformity and the CE marking for completeness and give recommendations on how any deviations can be corrected.



Inspection of protective devices

Within the scope of the initial or regular inspection, we check the condition, mounting and correct function of the protective device as well as correct integration in the safe part of the machine control. We summarize the results of the tests in a detailed report.



Stopping time measurement

Through measurement, we determine the stopping time reliably. Using this information, the necessary safety distance between protective device and hazardous movements can be calculated and any wear, such as on motor brakes, can be detected in good time.



Risk assessment (for manufacturers and integrators)

Our experts support you in identifying the dangers, in assessing and evaluating the risks as well as in defining the risk-reducing measures.



Conformity assessment in accordance with the European Machinery Directive

The machinery directive defines the procedure for the design and construction of machines for satisfying the applicable safety and health protection requirements. We help you comply with and implement the legal requirements of the machinery directive.



Safety concept and safety design

During the development of the safety concept and the safety functions, we create practically oriented concept proposals for you and support you during their implementation.



Verification and validation

Both the hardware as well as the software must be checked to determine whether the requirements of the functional specification were met completely and correctly. We support you during the planning, development and execution of the function tests of all safety functions as well as with the creation of the required documentation.



Start-up support

Typical tasks during the commissioning of safety sensors are optimum alignment, configuration and parameterization. Our experienced service technicians support you as needed depending on the application and used sensors.

Safety at Leuze
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Services for manufacturers and integrators
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Services for operating companies
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Services for changes in operation
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Services in detail
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Safety Solutions
Page 22–23

Suitable products
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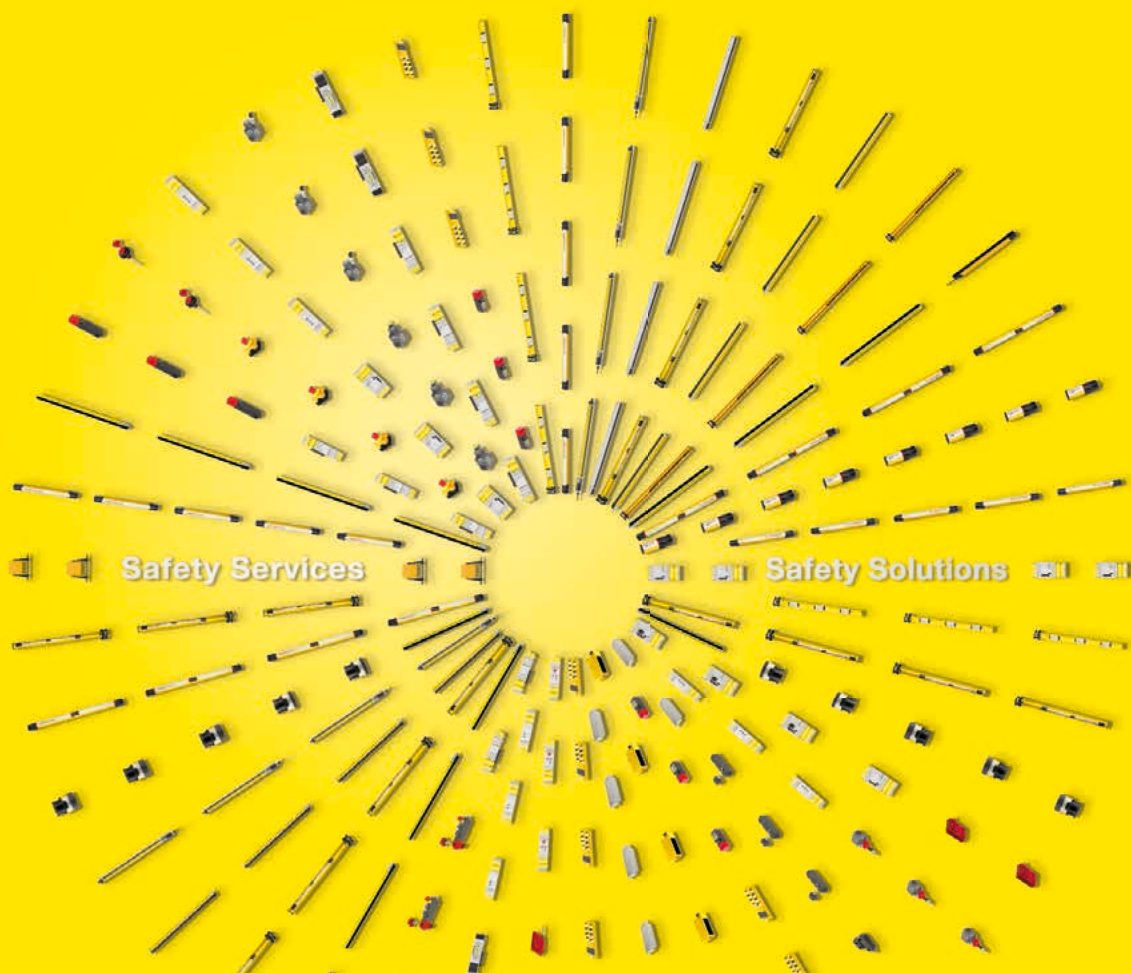
Company/locations
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Safety at Leuze

Safety Thought Further.
For all your safety applications worldwide.

Global industry is in a constant state of change. And with it, the complex requirements for safety concepts to protect people and systems. At the same time, the importance of smooth process is growing constantly as a result of automation and networking.

Our driving force is the desire to guarantee you gapless safety, efficient material flow and maximum availability at all times. This is why we have bundled our expertise in work and machine safety into one portfolio: Safety at Leuze.





Experts for your application

Effective solutions begin with a comprehensive understanding of the relevant requirements. Our specialized application know-how and many years of experience in our core industries mean that we can offer a unique insight into safety-related applications. Coupled with extensive knowledge of norms and standards, we provide you with targeted answers that are able to solve even complex challenges effectively and efficiently.



Everything from a single source

Individual requirements need flexible solutions. Our high-quality products and intelligent systems as well as competent technical advice and support form the basis of our safety portfolio. Benefit from our extensive range of products. The diversity of our portfolio means that we are able to provide you with all components, from sensor to control, from a single source – all with maximum user-friendliness and all optimally matched to each other.



Experienced safety specialists

Sustainable machine safety begins with professional planning of the safety systems. It spans the entire lifecycle of a machine. Let our experienced and certified safety experts support you with competent advice. Take advantage of over 30 years of experience in machine safety and the passionate commitment of the Sensor People.

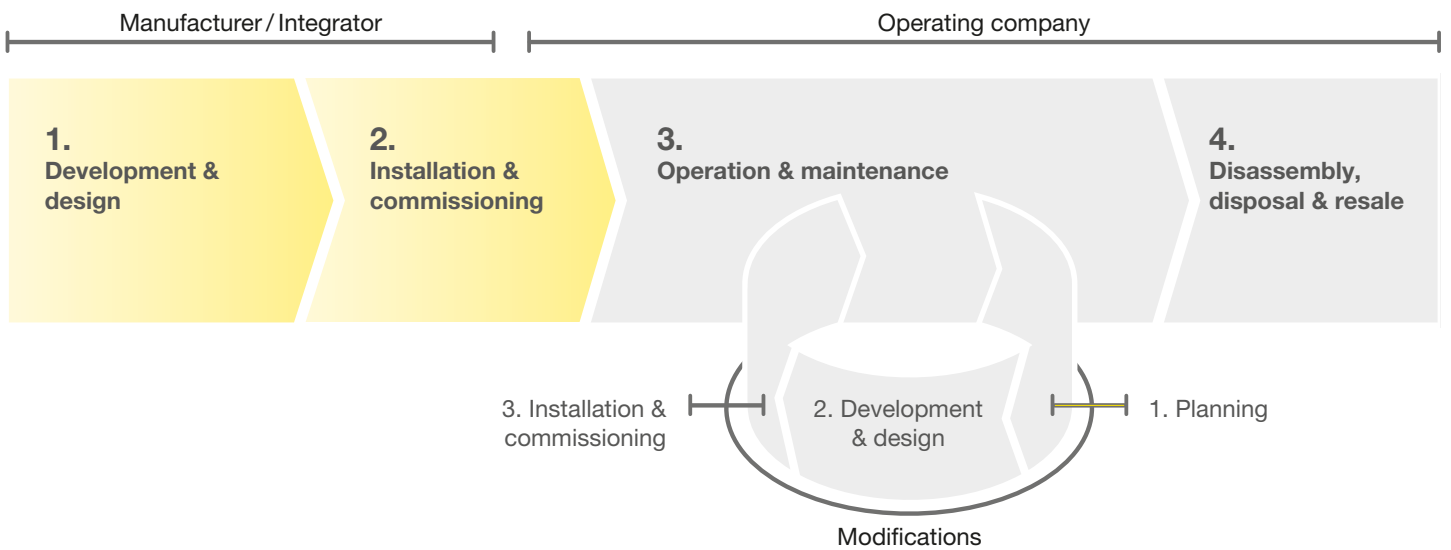


Innovative safety concepts

New challenges call for innovative approaches. We are constantly developing new products and system solutions in order to meet existing requirements even better and to meet new challenges effectively. Particularly in the area of optical sensors, new technological concepts mean that we are able to set milestones again and again. From the very first safety photoelectric sensor to concepts such as Smart Process Gating – we actively shape the advances made in industry.

Services for manufacturers and integrators

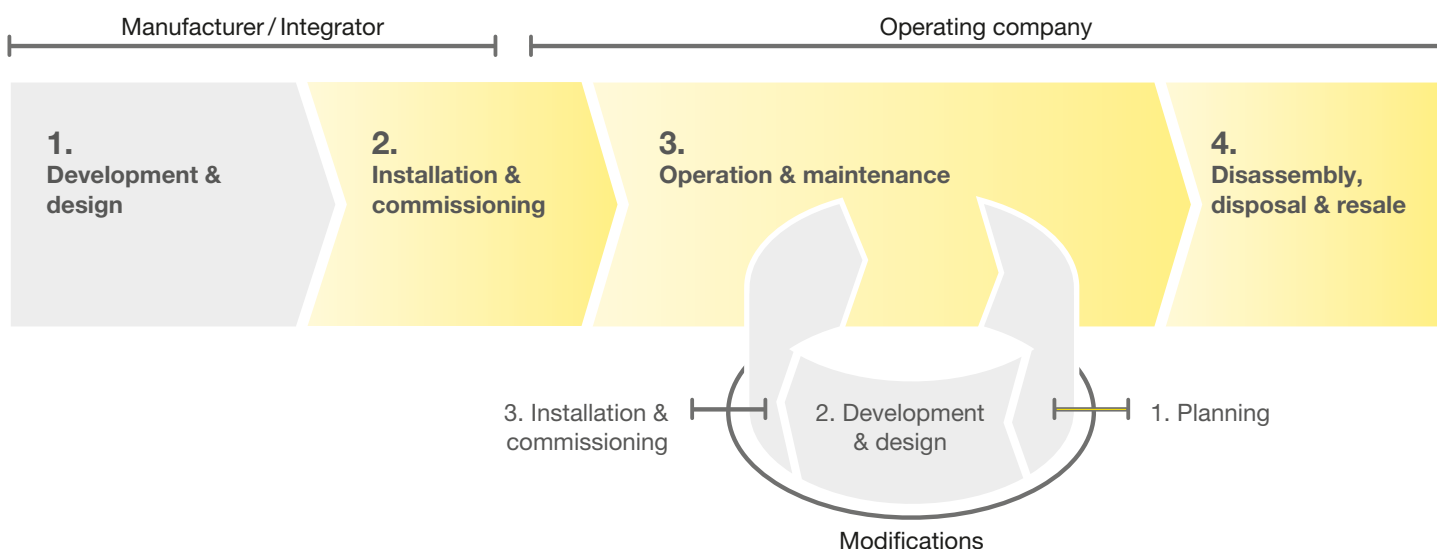
As a manufacturer or integrator, you are responsible for the safety of the machine according to the applicable laws, standards and regulations.



| |  Risk assessment |  Assessment of conformity and CE-marking |  Safety concept & design |  Verification and validation of safety functions |  Status-check "CE-marking" |  Commissioning support |  Inspection of protective devices |  Stopping time measurement |
|---------------------------------|---|---|---|---|---|--|--|---|
| 1. Development & design | ✓ | ✓ | ✓ | ✓ | | | | |
| 2. Installation & commissioning | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Services for operating companies

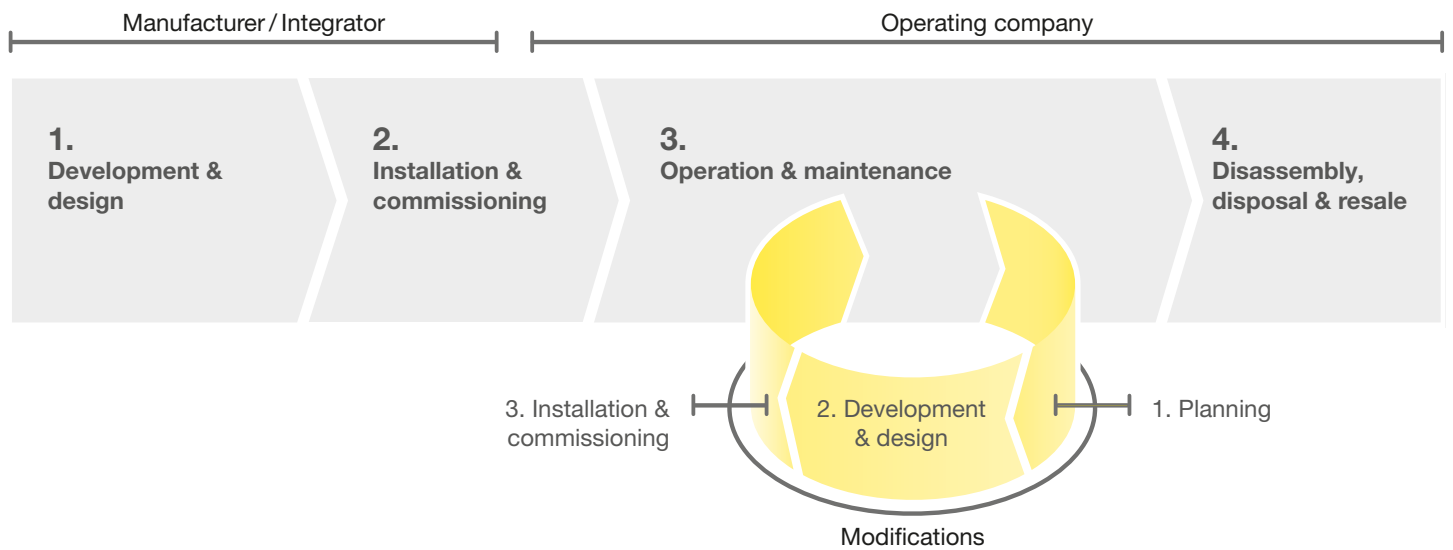
As an operating company, you are responsible for the safety of your machines. We provide you with support during the regular hazard assessment and test the functions of the protective devices.



| | Status-check "Machine safety" and Risk assessment | Status-check "CE marking" | Verification and validation of safety functions | Inspection of protective devices | Stopping time measurement |
|-----------------------------------|---|---------------------------|---|----------------------------------|---------------------------|
| 2. Installation & commissioning | ✓ | ✓ | ✓ | ✓ | ✓ |
| 3. Operation & maintenance | ✓ | ✓ | | ✓ | ✓ |
| 4. Disassembly, disposal & resale | ✓ | | | | |

Services for changes in operation (modifications)

During the modification of machines, a risk assessment must be performed to determine whether new hazards or increased risks arise.

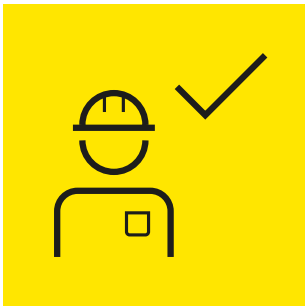


| | Risk assessment | Assessment of conformity and CE-marking | Status-check "CE marking" | Safety concept & design | Verification and validation of safety functions | Commissioning support | Inspection of protective devices | Stopping time measurement |
|---------------------------------|-----------------|---|---------------------------|-------------------------|---|-----------------------|----------------------------------|---------------------------|
| 1. Planning | ✓ | ✓ | | | | | | |
| 2. Development & design | ✓ | ✓ | ✓ | ✓ | | | | |
| 3. Installation & commissioning | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |



Status check “Safety technology on machines” and risk assessment (for operating companies)

As an operating company, you are responsible for the safety of your machines in accordance with legal requirements. Our experts analyze the safety-related condition of your machinery and check whether the current requirements are satisfied. In the event of deviations, we provide recommendations on what corrections can be performed so as to comply with legal requirements.



Advantages for you

- Hazards for employees as well as deviations from legal requirements are identified
- The results provide recommendations for corrective measures and facilitate a fast reaction in the event of acute hazards
- You receive an independent assessment by external experts
- Simple way to guarantee a safe work environment

Your requirement

- As an operating company, you are responsible for the safety of your machines. A “reliable” overview of the condition of the machinery is necessary to determine possible needs for action with respect to legal requirements and the safety of your machines.
- It must be checked whether the safety devices correspond to the current state of the art. Furthermore, modifications, extensions or wear can over time affect the condition of the machines and of the used protective devices.

Our solution

Our experts perform the professional identification, description and assessment of existing risks for mechanical hazards on your machines and systems

The current situation is recorded by means of an on-site inspection

We summarize the results and the description of the need for action in a detailed report

In the risk assessment, we additionally determine a risk indicator for each hazard. This allows risks to be compared, thereby making it easier to prioritize necessary corrective measures.

Areas of application

- Service for operating companies

Status check “CE marking of machines”

During the design and construction of machines, the specifications from the machinery directive must be adhered to and documented by the manufacturer. This is confirmed with the EU Declaration of Conformity and the CE marking. We check the documentation for completeness and give recommendations of how any deviations can be corrected.



Advantages for you

- Independent examination of the completeness and content of the documentation according to the requirements of the machinery directive
- Recommendations for correction in the event of possible deviations

Your requirement

As the manufacturer, you must

- create the documentation in accordance with the requirements of the machinery directive during the design and after the manufacture of machines
- pay attention to the completeness of the documentation and compliance with the relevant standards
- confirm the correct approach with the EU declaration of conformity and the CE marking

As the operating company

- the original operating instructions support you during the creation of the hazard assessment

Areas of application

- Service for manufacturers and integrators
- Service for operating companies
- Service for changes in operation (modifications)

Our solution

We check the compliance of the requirements from the machinery directive for

- the EU Declaration of Conformity/Declaration of Incorporation and the CE marking
- the original operating instructions and requirements for safety
- the design of the safe part of the control on the basis of the relevant EU standards
- the machine documentation

Creation of a detailed report on the status of the documentation

Inspection of protective devices

Within the scope of the initial or regular inspection, we check the condition, the mounting and the function of the protective devices as well as their integration in the safe part of the machine control. We summarize the results of the tests in a detailed report.



Your requirement

- Safety at work is the employer's responsibility. Through the regular inspection of the protective devices, adherence to safety and quality standards is ensured.
- As part of the preventive maintenance plan, inspections minimize undesired machine downtimes.
- In Germany, the Betriebssicherheitsverordnung (Ordinance on Industrial Safety and Health) requires that machines be tested prior to the initial commissioning and thereafter at regular intervals. A test is also necessary after longer downtimes and after changes to the machine.
- The testing and inspection of protective devices may only be performed by competent persons.

Areas of application

- Service for manufacturers and integrators
- Service for operating companies
- Service for changes in operation (modifications)

Advantages for you

- Minimization of accident risks and machine downtime
- Legal security for the operating company through verification of safety and quality standards
- Practically oriented solution proposals for the rapid rectification of safety deficiencies
- Independent, external assessment by a competent person in accordance with TRBS 1203
- Well-organized documentation with own test database based on more than 20 years of experience
- Inspection of protective devices from all manufacturers

Our solution

Inspection of electro-sensitive protective equipment (ESPE), safety switches and emergency stop equipment

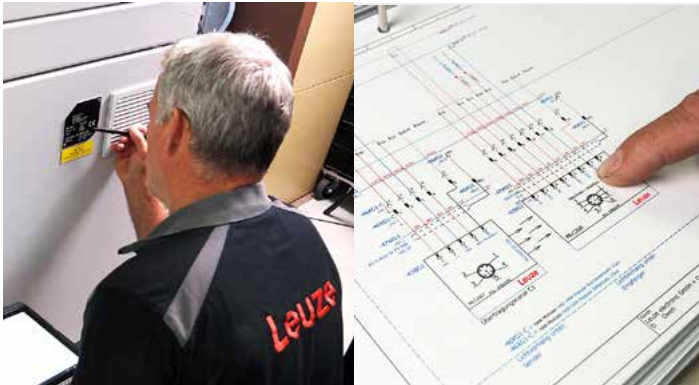
Checking of the condition, of the functional attachment and of the correct function of the protective device as well as of the safe integration in the machine control

Testing of the safety distance to the point of operation as stipulated by standards through measurement of the stopping time

Detailed test log, attachment of the inspection sticker

On-site at your location

Collect data – test integration



The inspection begins with the collection of data from the machine and protective devices. We then test the safety-related integration of the protective devices and their switching outputs.

This work is conducted during operation without affecting the productivity of the machine.

Evaluate mounting and safety distance



We check that the protective device is mounted correctly, and assess the safety distance:

- Can the protective device be circumvented, e.g. by reaching over, under or around or by stepping over?
- Is it possible to crawl under the protective device?
- Measurement of the stopping time for determining the safety distance (if necessary and possible, see next page).

Checking protective devices



In the next step, we test the function of the protective devices.

For optical safety devices, this includes e.g.:

- Testing of the detection capability and possible reflection bypass. Testing is performed with a test piece that is matched to the resolution of the device.
- Testing of special functions such as reduced resolution, cycle control, muting and blanking
- Testing operation of the start/restart interlock
- Visual inspection of the device state

Log test results – attach inspection sticker



We record all results in the inspection database and use this information to create a clearly organized test log. On completion of the inspection, we attach the inspection stickers to the machine, which also include the inspection number of the test log to simplify tracking.

Stopping time measurement

To calculate the required safety distance between protective device and dangerous movement, the stopping time of the machine must be known. With the stopping time measurement, we determine this value reliably and thereby facilitate the correct placement of the protective device. By measuring the stopping time within the scope of regular inspections, any wear, such as on motor brakes, can be detected in good time.



Advantages for you

- Stopping time measurements performed by experts provide a reliable basis for the calculation of the safety distance and the correct placement of the protective device
- Regular inspections enable early detection of wear, thereby ensuring permanent machine safety

Your requirement

- To calculate the safety distance, the stopping time of the machine is to be determined through measurements. The protective device can thereby be correctly placed: because only a sufficiently dimensioned safety distance between protective device and point of operation ensures that persons are not endangered.
- Wear, e.g., on motor brakes, can extend the stopping time of a machine so much that reliable protection of the operator is no longer ensured by the protective device. By measuring the stopping time, changes can be identified and necessary measures determined. The stopping time measurement is, thus, part of our regular safety inspections.

Our solution

Physical test of the stopping time for all installed protective devices with calibrated measurement devices

Assessment of the safety distance based on the measurement results and the requirements in accordance with ISO 13855

Comprehensible and well-documented test results, optionally with graphic analysis of the braking motion

Areas of application

- Service for manufacturers and integrators
- Service for operating companies
- Service for changes in operation (modifications)

On-site at your location

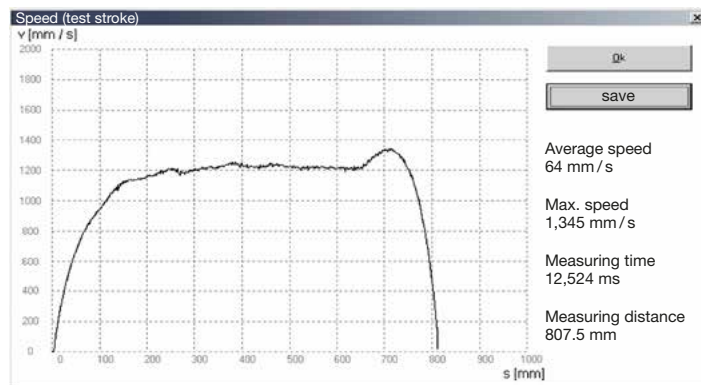
Determination of the stopping time with special measurement device



The stopping time is determined with a special measurement device. This measures the time from the interruption of a protective device until the dangerous movement comes to a standstill:

- An actuator (automatic hand) is mounted on the protective device – e.g., a safety light curtain – that triggers the protective device
- A rope length sensor detects the movement of the machine. This allows the time until the hazardous movement stops to be determined.
- The measurement is performed at the maximum speed of the movement if possible.

Evaluation of the results

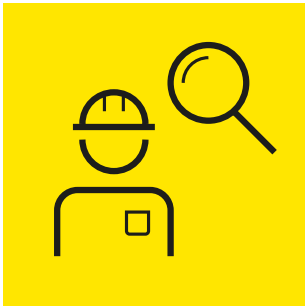


In accordance with the requirements of the standard ISO 13855, we conduct ten measurements in succession. The largest value from this series of measurements is then documented as the result for the stopping time and used in assessing the safety distance.

A graphical analysis of the braking movement is also available as an option if necessary.

Risk assessment

In accordance with applicable directives, the manufacturer of a machine is required to perform a risk assessment. This also applies for operating companies if a conversion or an extension to a machine results in a 'substantial modification'. Our experts support you in identifying the dangers, in assessing and evaluating the risks as well as in defining the risk-reducing measures.



Advantages for you

- Use our many years of experience in the creation of risk assessments
- Tailored solutions: from targeted support to complete execution
- Detailed description of the risk factors as well as determination of the risk values
- We use the Leuze risk assessment process HaRMONY (Hazard Rating for Machinery and prOcess iNdustrY): this provides you with especially precise risk values
- Assessment of hazards and risks by independent persons

Your requirement

- Part of the conformity assessment process for a machine is to create a risk assessment. Here, the legal requirements and the standards-related, machine-specific requirements are to be taken into account.
- In the event of a modification or extension to an existing machine, the risk assessment is to be adapted
- The assessment and evaluation of hazards and risks should be performed by an independent person

Our solution

Analysis of the existing risks

Assessment of the existing risks and calculation of the risk values using the Leuze risk assessment process HaRMONY (Hazard Rating for Machinery and prOcess iNdustrY)

Description of the risk-minimizing measures

Verification of the effectiveness through re-assessment of the risks after applying the risk-reducing measures

Areas of application

- Service for manufacturers and integrators
- Service for changes in operation (modifications)

Conformity assessment in accordance with the machinery directive

The European machinery directive defines the procedure for the design and construction of machines for satisfying the applicable safety and health protection requirements. This is a prerequisite for the EU Declaration of Conformity and the CE marking. We help you comply with and implement the legal requirements of the machinery directive.



Advantages for you

- Independent confirmation of compliance with the requirements of the machinery directive
- Recommendations for correction in the event of possible deviations

Your requirement

- If a machine is placed on the European market, a conformity assessment must first be performed. Here, machinery directive 2006/42/EC defines the procedure.
- The manufacturer confirms compliance with the specifications from the directive through the EU Declaration of Conformity and the CE marking

Our solution

Tailored support over the entire process and in complying with legal requirements

Examination of the project state thus far for content and completeness, e.g., with regard to risk assessment, design and documentation

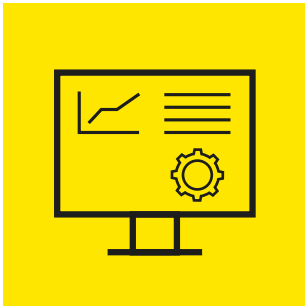
Suggestion for the content of the EU Declaration of Conformity

Areas of application

- Service for manufacturers and integrators
- Service for changes in operation (modifications)

Safety concept and design

The measures for risk reduction are defined within the scope of the risk assessment. The safety concept and the safety functions are developed on the basis of these measures. With our extensive industry knowledge and our many years of safety-related experience, we create practically oriented concept proposals for you and support you during their implementation.



Advantages for you

- Implementation of the control technology measures in safety functions in accordance with the requirements of the standards
- With our extensive industry knowledge and many years of safety-related experience, you create optimum safety concepts
- The safety concept is checked for completeness
- Review and verification of the safety concept by an independent, external auditor (four-eyes principle)

Your requirement

- Creation of a safety concept on the basis of the risk assessment
- The required safety functions are to be designed here so that an optimum balance between safety, ergonomics and cost effectiveness is achieved while taking into account the relevant standards and regulations
- Also important is the proper documentation of the safety functions. In the validation plan, the function and error tests must be defined that verify the effectiveness of the safety functions during commissioning.

Our solution

- | |
|--|
| Development of practically oriented concept suggestions |
| Selection of suitable components and creation of the connection plan |
| Programming of the safety-related part of the control |
| Clear and understandable documentation of the safety functions |
| Creation of the validation plan on the basis of the safety concept |

Areas of application

- Service for manufacturers and integrators
- Service for changes in operation (modifications)

Verification and validation of safety functions

To avoid errors during the implementation of safety functions, the correct and complete design of the safety functions is to be verified according to the specifications.

The performance of the safety function is then to be validated through function tests and error simulations. We support you during the planning and execution of the measures as well as with the creation of the required documentation.



Advantages for you

- Proper procedures ensured during the implementation of safety functions
- Efficient implementation of the necessary tasks through support and tips from experienced experts

Your requirement

- The error-free implementation of the safety functions on the basis of the safety concept is to be checked
- The performance of the safety functions is to be validated through function tests and error simulations

Our solution

Tailored support during the entire process

Examination of the current project state for content and completeness

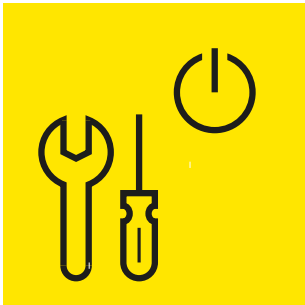
Planning and execution of individual process steps, e.g., definition of the function tests and creation of the corresponding documentation

Areas of application

- Service for manufacturers and integrators
- Service for operating companies
- Service for changes in operation (modifications)

Start-up support

Typical tasks during the commissioning of safety sensors are optimum alignment, configuration and parameterization. Our experienced service technicians support you as needed depending on the application and used sensors. Commissioning can thereby be performed quickly and reliably. We also help to minimize downtime in the event of a device exchange or when changing the device type.



Advantages for you

- Fast and safe commissioning by our service technicians
- Calculable costs
- Minimized downtime in the event of a device exchange

Your requirement

- Fast and safe commissioning
- Optimization of the performance of the devices in the application, e.g., through alignment on the basis of the procedure described in the operating instructions
- In the event of a device exchange:
 - the configuration is to be transferred to the new device
 - the downtime is to be minimized

Our solution

Optimum alignment of optical sensors

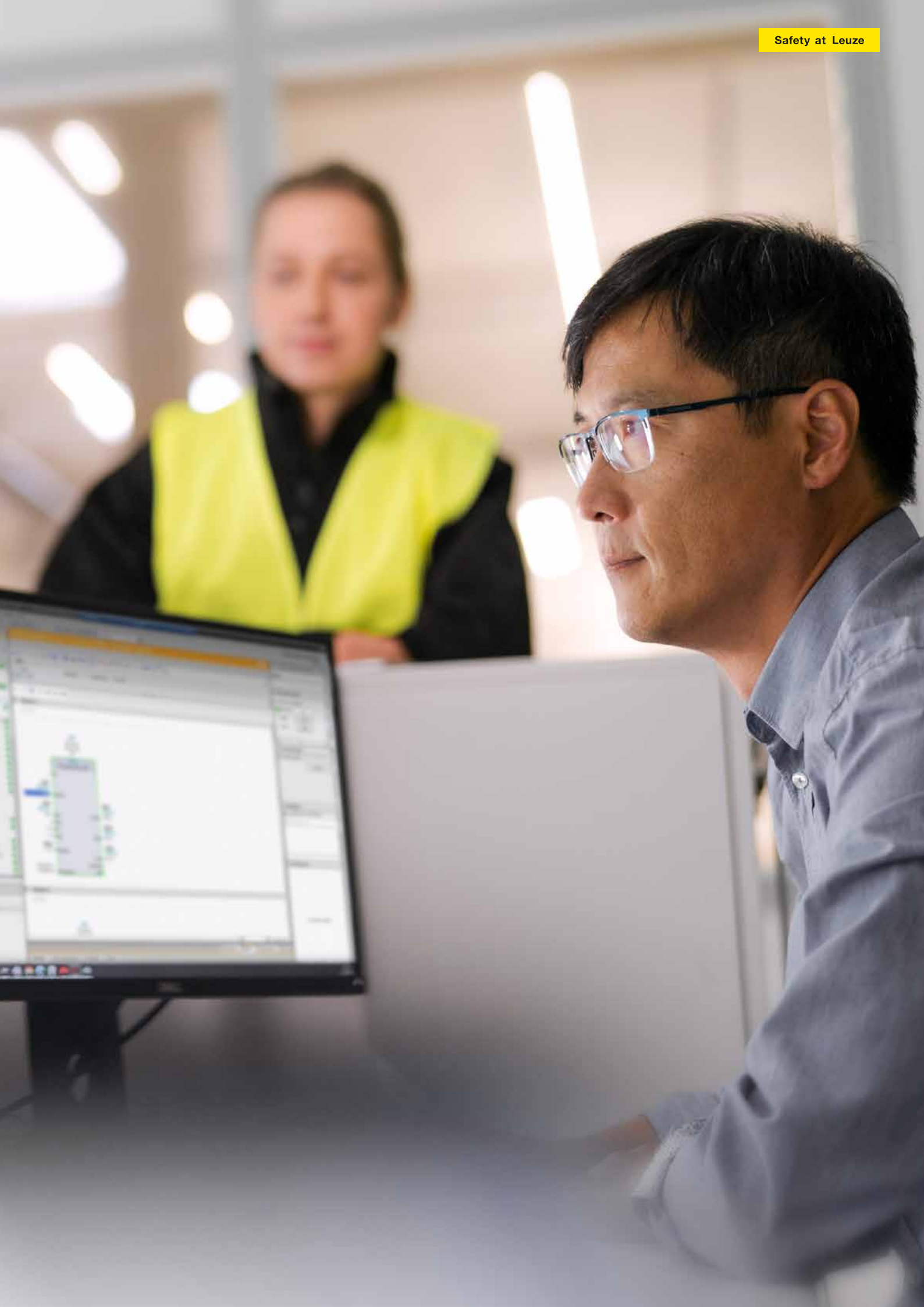
Support during the configuration and parameterization of our devices, e.g., during the selection of the operating mode and the parameterization of protective fields with safety laser scanners

Adaptation of the configuration when changing to a newer device generation

Help during troubleshooting

Areas of application

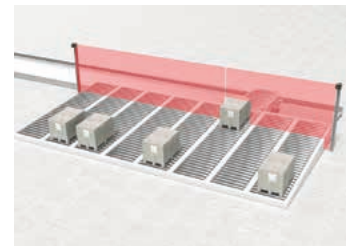
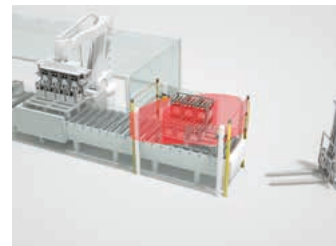
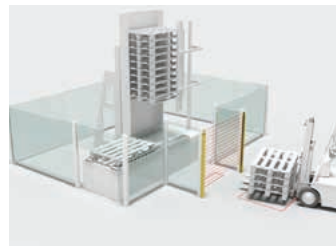
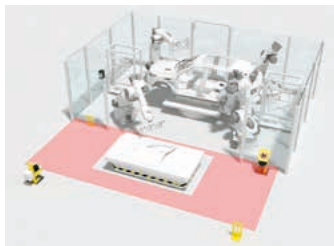
- Service for manufacturers and integrators
- Service for changes in operation (modifications)



Safety Solutions

Simple. Safe. Productive.

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



Advantages for you

- Save time and money with our pre-developed safety solutions
- All safety solutions comply with standards and have a CE marking. This gives you legal security.
- The intelligent and innovative safety concepts ensure smooth processes and seamless safety – even where classic concepts reach their limits
- Every safety solution is individually tailored to your system layout
- Our teams of certified safety experts are with you throughout the project



Simple. Safe. Productive.

Benefit from our experience

Innovative ideas are based on experience and know-how. For more than 30 years, we have been supporting safety-related applications in different industries with our broad range of products. Our safety experts have comprehensive knowledge of the latest norms and standards and extensive experience in designing safety concepts. This allows us to develop efficient safety solutions for use in automated environments.

- Global network of certified experts for the creation of safety concepts and the validation of the solutions on-site
- In-house Solutions Engineering Center
- Development and design according to the V-model in accordance with EN ISO 13849-1
- Extensive selection of in-house safety products

Complete solutions for your systems

Our solutions are based on qualified safety concepts which, if necessary, can also be extended or created new. We take care of all the necessary process steps, from standards research to start-up support. And in the project, each solution is individually adapted to your system layout.

Concept and design

The conceptualization and design of the safety solutions is carried out entirely by our Solutions Engineering Center.

This includes:

- Directives and standard research
- Creation of the safety concept and the system architecture
- Software development and validation
- Comprehensive documentation, including CE declaration of conformity and CE marking



Services – Individual for your project

Each safety solution is individually adapted to your system and is supported by us in the project until handover:

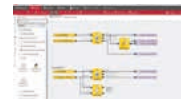
- Engineering services with parameterization according to project requirements
- Start-up support
- Validation of the safety function



Hardware and software components

Our safety solutions include all the necessary hardware and software components for integration into your system:

- Safety sensors
- Safety control
- Leuze safety program
- Compact switch cabinet, as required
- Wiring



The path to your solution

Gather requirements

- Examine layout and danger zones, clarify processes
- Check risk assessment, define protective goals
- Clarify timing

Safety inspection and acceptance

- Validating the safety function
- Initial inspection of the safety devices
- Create acceptance documentation

Select safety concept

- Evaluation of the requirements by our safety experts
- Selection of the appropriate safety concept and the required components

Installation and commissioning

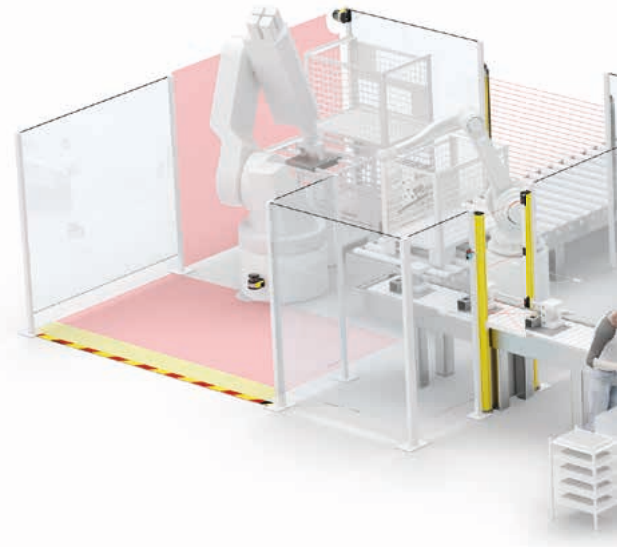
- Provision of the mounting and installation instructions
- Mounting and installation of the system components
- Support during commissioning and the integration in the control

Configuration & parameterization

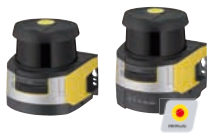
- Configure the safety system
- Program and parameterize according to the requirements
- Project-specific documentation

Safety from a single source

Individual requirements need flexible solutions. Our high-quality products and intelligent systems as well as competent technical advice and support form the basis of our safety portfolio. Benefit from our extensive range of products. The diversity of our portfolio means that we are able to provide you with all components, from sensor to control, from a single source – all with maximum user-friendliness and all optimally matched to each other.



Products



Safety laser scanners



Safety light curtains / with Smart Process Gating



Multiple light beam safety devices / with muting



Single light beam safety devices



Safety radar sensors



Safety switches and safety proximity sensors



Safe bar code positioning system



Safety locking devices



Safety relays and controls



Safety command devices

Solutions

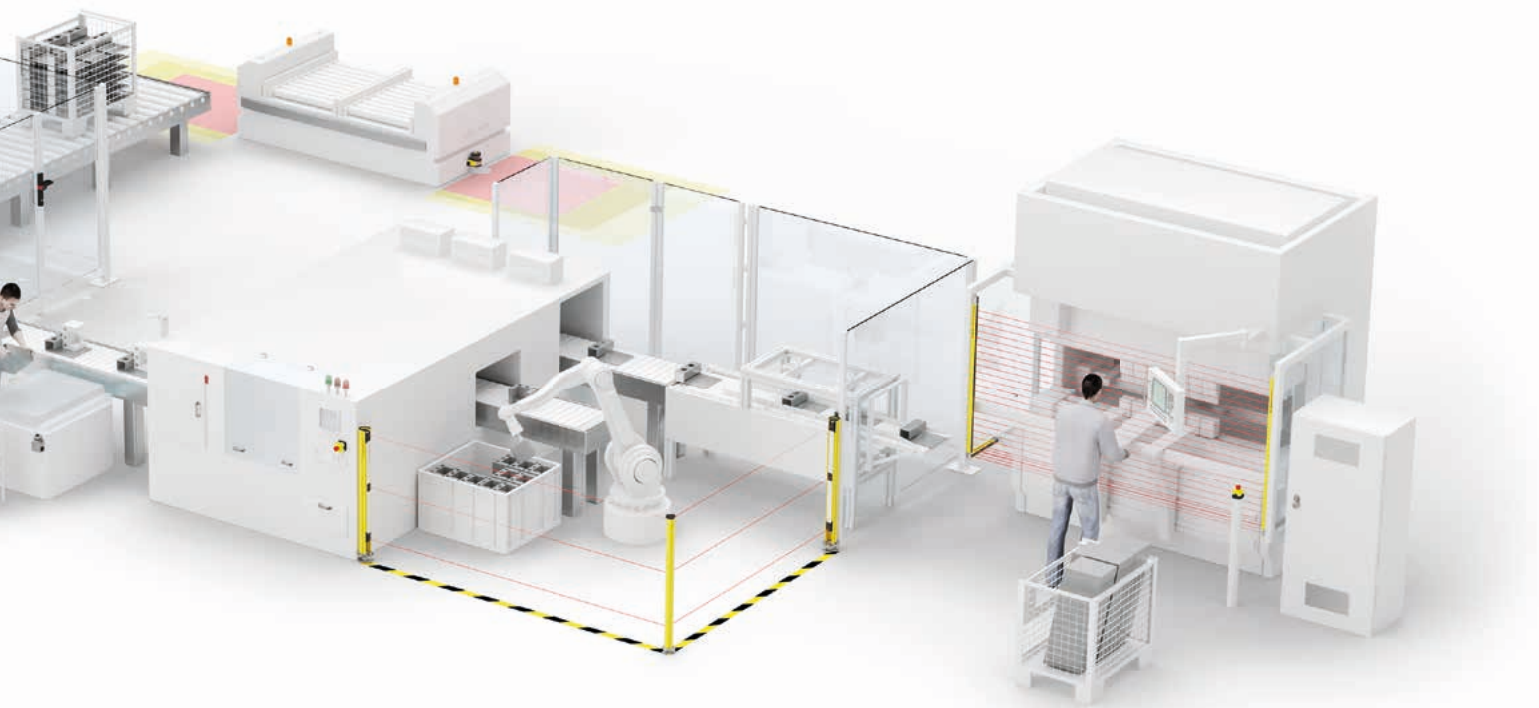


Safety solutions, e.g. for safeguarding transfer stations and access points to transport systems

Services



Safety services, e.g. inspections, risk analysis and validation



Accessories and suitable products



Connection boxes

For simple connection of muting sensors



Alignment aids

For simple alignment over large distances



Cables

To facilitate the integration of our sensors, we offer a large variety of connection and interconnection cables with M8, M12, and M23 connectors – straight or angled, and with or without LED.



Signaling devices

For visual and acoustic status visualization, pre-mounted or modular

Our company

Everything at a glance

In a constantly changing industrial world, we work together with our customers to find the best solution for their sensor applications: innovatively, precisely and efficiently.

Key figures

| | |
|---|--|
| Foundation | 1963 |
| Company structure | GmbH + Co. KG, wholly family-owned |
| Executive management | Xavier Hamers, Dr. Henning Grönzin, Helge Held |
| Headquarters | Owen, Germany |
| Subsidiaries | 21 |
| Production locations | 6 |
| Technological competence centers | 3 |
| Distributors | 40 |
| Employees | 1,600 |

Product range

- Switching sensors
- Measuring sensors
- Safety
- Identification
- Data transmission
- Network and connection technology
- Industrial image processing
- Accessories and supplementary products

Focus industries

- Intralogistics
- Packaging industry
- Machine tools
- Automotive industry
- Laboratory automation



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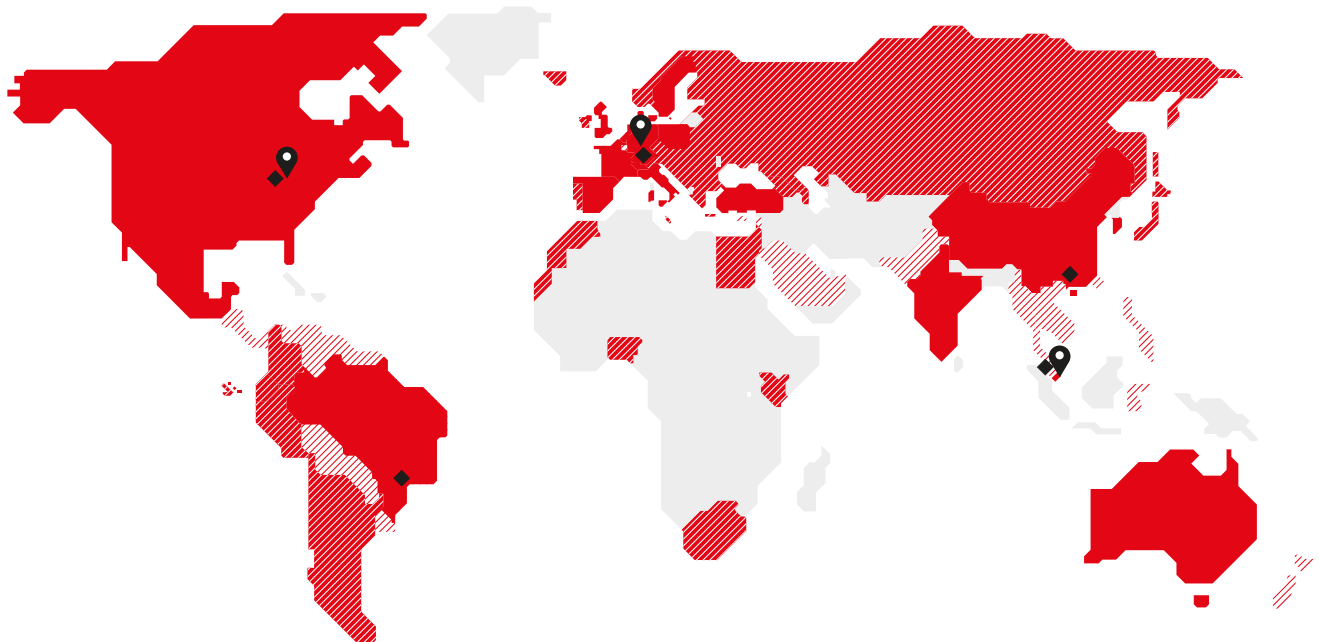




Our Locations

At work for you around the world

Your success is our motivation. We therefore place great value on always being personally, quickly, and easily accessible to you. We produce on four continents, allowing us to offer you reliable product availability.



- 📍 Technological competence centers
- ◆ Production locations
- Subsidiaries
- ▨ Distributor
- ▤ Distribution through neighboring country

Technological competence centers

Owen, Germany
Duluth / Georgia, USA
Singapore

Production locations

Owen, Germany
Unterstadion, Germany
Duluth / Georgia, USA
Shenzhen, China
São Paulo, Brazil
Malacca, Malaysia

Subsidiaries

Australia / New Zealand
Belgium
Brazil
China
Denmark / Sweden
Germany – headquarters
Germany – distribution company
France
Great Britain
Hong Kong
India
Italy
Mexico
Poland
Singapore
South Korea
Spain
Switzerland
The Netherlands
Turkey
USA / Canada

Our product range at a glance

Switching Sensors

- Optical Sensors
- Inductive switches
- Capacitive Sensors
- Ultrasonic Sensors
- Fiber Optic Sensors
- Fork Sensors
- Light Curtains
- Special Sensors

Measuring Sensors

- Distance Sensors
- Sensors for Positioning
- 3D Sensors
- Light Curtains
- Bar Code Positioning Systems
- Fork Sensors

Safety

- Safety Solutions
- Safety Laser Scanners
- Safety Light Curtains
- Single and Multiple Light Beam Safety Devices
- Safety Radar Systems
- Safe Locking Devices, Switches and Proximity Sensors
- Safety PLCs and Relays
- Machine Safety Services

Identification

- Bar Code Identification
- 2D-Code Identification
- RF Identification

Data Transmission

- Optical Data Transmission Systems

Network and Connection Technology

- Connection Technology
- Modular Connection Units

Industrial Image Processing

- Light Section Sensors
- Industrial IP Cameras
- Vision Sensors

Accessories and Supplementary Products

- Signaling Devices
- Mounting Systems
- Reflectors

Your contact with us

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