



WE CREATE SAFE PRODUCTIVITY

SAFETY SOLUTIONS FROM SICK:
EVERYTHING FROM A SINGLE SOURCE

Industrial Safety

SICK
Sensor Intelligence.



SICK
Sensor Intelligence.

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A SUSTAINABLE WORKING ENVIRONMENT IS SAFE AND PRODUCTIVE

The world of industry is undergoing rapid changes. As we move towards the Smart Factory, we find humans, machines and autonomous systems working ever closer together. Machine safety and protecting workers is essential for productive business operations. It is also necessary to consider all aspects when modernizing existing machines.

Machine safety and protecting people does not automatically equate to downtimes for your production. Quite the contrary. With the right expertise and suitable safety applications, a plant can be refurbished or modernized very quickly. SICK can support you in this with experienced experts and tailor-made safety solutions – worldwide.

Make sure your plant is also ready for the future: safe and productive.



Safety solutions from SICK – comprehensive and tailor-made

The SICK product portfolio includes a wide selection of hardware components, systems, and software as well as an accompanying full-service offering with consulting and engineering services. We also deliver tailored comprehensive solutions to meet your requirements – all from a single source.

Our certified safety experts will assist you with the implementation by providing a professional project management service that follows precisely defined processes – from planning to implementation and right through to acceptance of the machine. Both for modernizing existing equipment, or for safeguarding new equipment. SICK's engineering documentation, which comes with a VERIFIED SAFETY quality seal, makes the entire process transparent.

We create safe productivity.

ADDRESS THE ISSUE OF MACHINE SAFETY – IT'S WORTH IT

Are you planning to refurbish or modernize your machine or plant? Why not take advantage of the opportunities these changes in the life cycle of your machines bring. Not just to professionally safeguard your equipment and protect your employees. But also to position yourself as an attractive employer and reliable partner in your industry.

Improve your productivity and also your image with safe and efficient equipment and motivated employees. Our certified experts will advise you using a well-defined process, and have a big picture view and a solid grasp of safety related issues.

Machine life cycle - from manufacture to decommissioning

Manufacturer

SICK will advise you when you plan, construct and implement machines.

Planning
Design

Installation
Commissioning

Operating entity

SICK makes your machines and plants safer and more productive.



Placing on the
market
Transfer of risk

Safety assessment
and optimization

Operation

Safety made by SICK

Five steps to more safety and productivity with the SICK quality seal: VERIFIED SAFETY means functional safety with a verifiable quality.

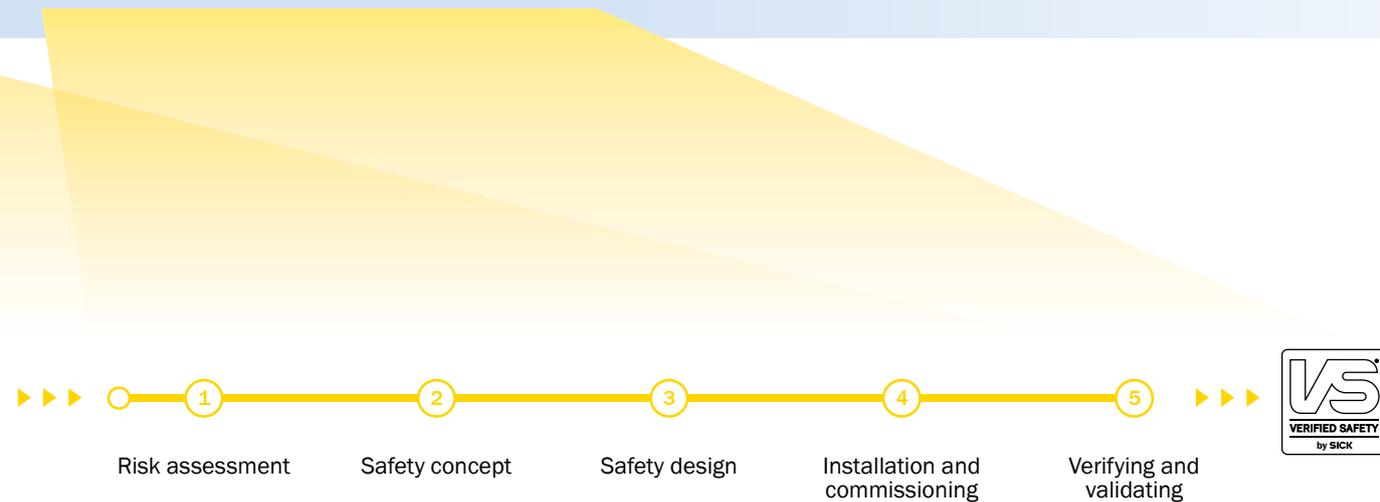
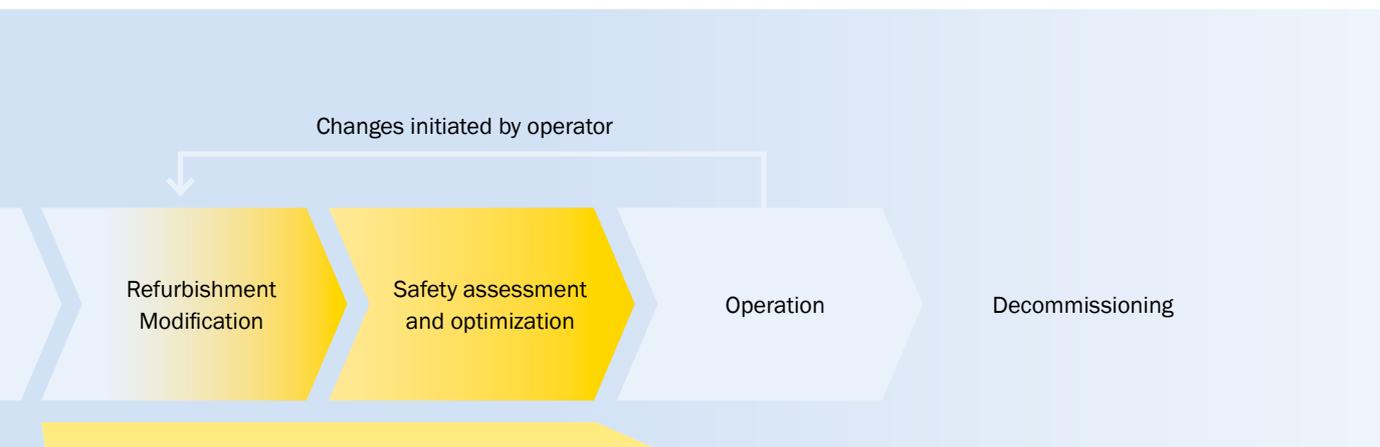




Why choose SICK?

SICK is an innovative market leader in the area of safety technology and offers everything from a single source:

- + *In-depth automation know-how*
- + *Intelligent, complete solutions for safeguarding machines and plants*
- + *Planning and implementation by certified SICK experts*
- + *Best-in-class products, systems, and services*
- + *Comprehensive safety expertise from PL a to PL e*
- + *Individualized advice and professional project management using well-defined processes*
- + *Global network of experts for support and one-on-one knowledge transfer*



THE PATH TO MORE SAFETY AND PRODUCTIVITY WITH SICK

When you choose a complete solution from SICK, the project process is precisely defined. First we clarify the objectives and scope of services. Then we support you step by step through the consulting and engineering phases. The VERIFIED SAFETY quality seal is your guarantee that all work results during the project have been verified and validated by our certified SICK employees.

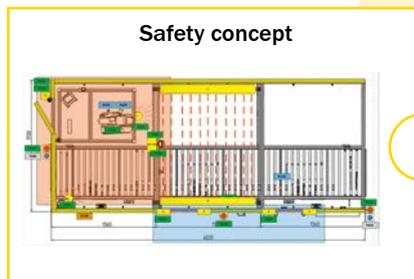
Clarifying the order details and creating a quote

- Agreeing on the scope of services for the technical solution: What tasks will SICK perform?
What tasks will the customer perform?
- Agreeing on a rough schedule
- Estimating the services budget
- Jointly defining the acceptance criteria

- Assessing the safety status of the machine
- Determining the machine limits
- Identifying hazards
- Estimating and assessing risks
- Proposing risk-minimization measures



- Specifying safety objectives and selecting risk-minimization measures for optimal safety and productivity
- Defining safety functions: tailored to the work processes and machine functionality
- Agreeing on the safety concept, resolving any outstanding questions
- Implementation approval



- Designing the safety-related parts of the control system (SRP/CS)
- Specifying the safety-related application software (SRASW) in detail
- Selecting standard and safety components and producing bills of materials
- Producing wiring diagrams for integrating the solution into existing systems
- Determining the performance level (PL)





Safety made by SICK

On completion you receive the consulting and engineering documentation with a VERIFIED SAFETY quality seal from SICK.

Verifying and validating



- Verify installation of the components
- I/O check/ function test
- Validate installed safety functions
- Perform inspection before initial operation
- Acceptance of the services provided

Installation and commissioning



- Install physical guards (e.g., fencing or covers)
- Install and configure safety-related components (sensors)
- Install safety-related application software
- Commissioning

ENSURING SAFETY PROJECTS SUCCEED WORLDWIDE

Whether it be local or international projects: SICK offers the right safety solutions regardless of where you are in the world. Our certified experts are fully acquainted with the local standards and guidelines. They all receive the same initial instruction, regularly attend further training, and are linked into a global network. You can therefore be assured that the safety standards are rigorously adhered to at every location, and also implemented consistently across our company.

It's safe to say we're near you too

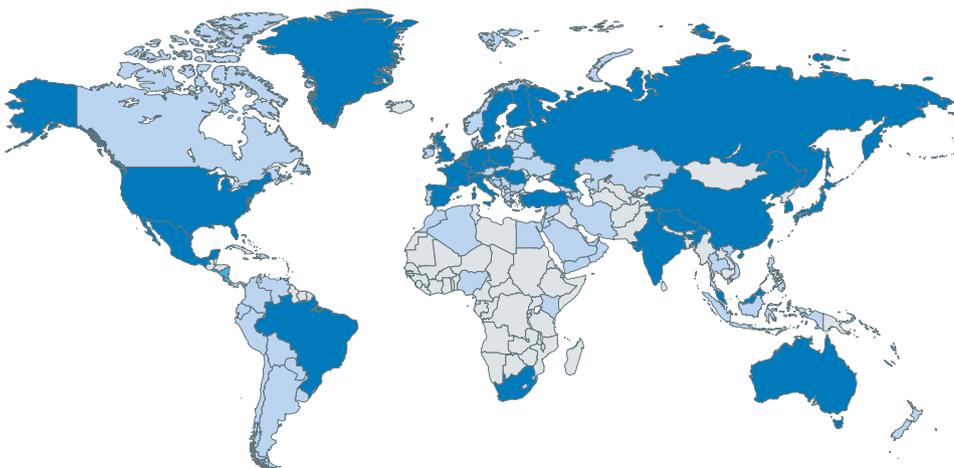
As the world's leading producer of sensors and sensor solutions for industrial applications, SICK is a globally active company with a very strong local presence. We currently have 150 experienced safety experts coordinating their activities within a network spanning 80 countries. They enjoy working on future-oriented projects for machine safety and occupational health and safety. Our regional competence centers in Europe, North America and Asia support the experts as they implement the projects on-site.

Further training with certification

SICK trains selected employees as safety experts in a certificate course on functional safety. Their knowledge is updated and re-certified in regular training sessions. This ensures that SICK safety experts in Asia have the same level of knowledge as their colleagues in North America. Wherever the experts are in the world, the SICK competency management team conveys the essential technical knowledge plus country-specific aspects.

International safety standards

Companies with manufacturing plants in different countries or areas of the globe can implement SICK's complete solutions across the board. A locally crafted custom solution can be adapted and rolled out globally, thereby enabling international safety standards to be uniformly and consistently implemented worldwide.



80 countries worldwide,
150 safety experts,
one solution – from SICK.

→ www.sick.com/worldwide

- SICK subsidiaries with safety experts
- SICK subsidiaries and sales offices

Think global, act local

Safety applications often have a local significance while also having a global context. The safety experts from SICK contribute not only their expertise, but also their detailed knowledge of local standards and guidelines as well as an international perspective.



Full power with safety – protecting a mobile heavy-load robot.

IN GOOD HANDS FROM START TO FINISH: SAFETY PROJECTS WITH SICK



As a certified application specialist, I have been implementing comprehensive safety projects for many years. Safety for humans and machines is always our primary focus, while never losing sight of our customer's productivity. We were able to master this challenge for Berry Plastics too. SICK put together a comprehensive solution for this nonwovens machinery manufacturer that made it possible to install and commission the application in the shortest possible time.

Dirk Heeren, Group Leader Consultant Application Specialists,
SICK Vertriebs-GmbH Germany



Since modernizing our company we are now 100% compliant with local safety regulations and federal laws. The safety rating of our company improved significantly and there have been no further incidents – thanks to SICK's expertise. Our equipment has since become a benchmark for the local industry and other Berry Plastics sites.



Jürgen Köpf, Engineering Manager, Berry Plastics, Brazil



Everything under control – the Berry Plastics manufacturing equipment with implemented protection concept.

SETTING A GOOD EXAMPLE: INTELLIGENT SAFETY SOLUTIONS FOR ALL INDUSTRIES

At SICK, our knowledge of processes and requirements is as extensive as our product range. This cross industry experience and a large number of implemented projects make SICK a partner you can depend upon.



Access protection for robot applications

→ www.sick.com/safe-robotics

- Free access of the worker to the cooperative working area
- Maximum productivity thanks to optimal work processes and minimal downtimes
- Future-proof solution with flexible expansion options
- Tailored safety solutions developed and tested by SICK experts
- Easy integration into your controller by means of supplied function block



Safeguarding of automated guided vehicles (AGV)

→ www.sick.com/mobile_automation

- Proven combination of reliable safety components for simple and easy integration into large and small AGVs
- Compact design thanks to small number of components
- Simple integration into all common fieldbuses
- Dynamic protective field switching for high speeds even going around curves
- Fewer downtimes thanks to automated restart



Safeguarding of stretch film wrappers

→ www.sick.com/safe_stretch_wrapping_solutions

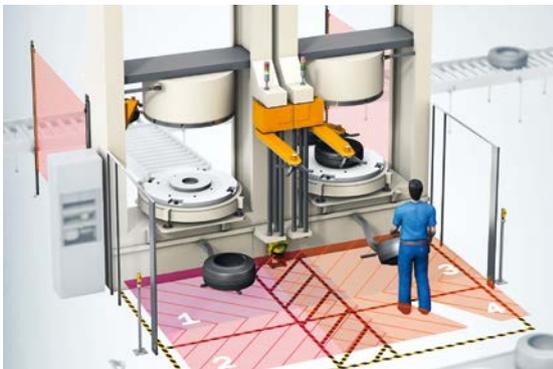
- Protection in the delivery and removal area of the conveyor or by means of safety light curtains and muting sensors – for reliable differentiation between people and materials
- Access protection on pallet doors
- Custom-made solution including hardware and engineering
- Meets the requirements of ANSI/PMMA B155.1, EN 415-6, EN 415-10, NR 12 and GB/T 18928



Safeguarding of packaging machines

→ www.sick.com/packaging

- Best possible productivity thanks to an intelligent safety system
- Safety through fulfillment of all legal requirements
- Solution featuring state-of-the-art technology without integration of own resources
- Can be used in existing and new equipment
- Cost-effective solution thanks to quick and routine implementation by SICK



Safeguarding of tire curing machines

→ www.sick.com/safe_tire_curing_solutions

- Loading area protected by a safety laser scanner with intelligent evaluation of protective fields
- Protection of rear area can be adapted flexibly
- Safety through fulfillment of requirements of EN 16474 and GB30474 for tire curing machines
- No interruptions to production thanks to sensors installed inside protective housings



Safeguarding of material transfer stations

→ www.sick.com/safe_portal_solutions

- Intelligent protective field evaluation
- Rugged and space-saving solution without muting sensors
- PL d (in accordance with EN ISO 13849)
- Logic integration even into third-party controllers, e.g. Siemens or Allen-Bradley

SERVICES AND KNOWLEDGE TRANSFER FOR A SAFE FUTURE

Machine downtimes cannot always be avoided, but they can often be reduced or prevented by forward planning. The product and system support team at SICK will advise you with product selection, commissioning, and troubleshooting to ensure your machines are ready for operation at all times. Operators who regularly inspect and optimize their equipment not only protect their staff, machines, and the environment, but also work more productively in the long term.



Product and system support

Our support staff provides quick and reliable assistance with:

Installation

- Correct set-up and mounting of the system as per manufacturer's requirements
- Preparation of electrical connections and wiring

Commissioning

- Alignment and adjustment of the protective devices
- Configuration of the application-specific parameters
- Final function check with documentation and handover to the employees

Repairs

- Identification of fault causes
- Repair quotes for faulty assemblies
- Repair or replacement of faulty components
- Verification of all safety-related characteristics
- Optional:
 - Detailed investigation of failure causes and advice on preventative measures
 - Software updates, modifications and conversions
 - Recovery of application-specific equipment parameters
 - Urgent repairs

Exchange units

- Advance delivery of exchange units
- Optional: Detailed investigation of failure causes and advice on preventative measures



Verification and optimization

Our experts ensure the safety of your machine:

Inspection

- Evaluation of the opto-electronic protective devices to ensure they have been installed correctly and according to the specification
- Inspection of whether the protective device is operating according to machine usage
- Production of an inspection report and issuance of a test seal

Stop time measurement

- Calculation and checking of the required minimum distance between the hazardous point and the technical protective device
- Generation of a report with measurement results for the machine documentation

Electrical equipment check

- Determination of correct functioning of the protective conductor system, contact resistances, and leakage currents
- Production of a test record, which also describes any defects
- Creation of a test report

Accident investigation

- Investigation of the circumstances of the accident or incident
- Identification of the cause of the accident or near-accident is identified
- Recommendation of measures to prevent further incidents or accidents

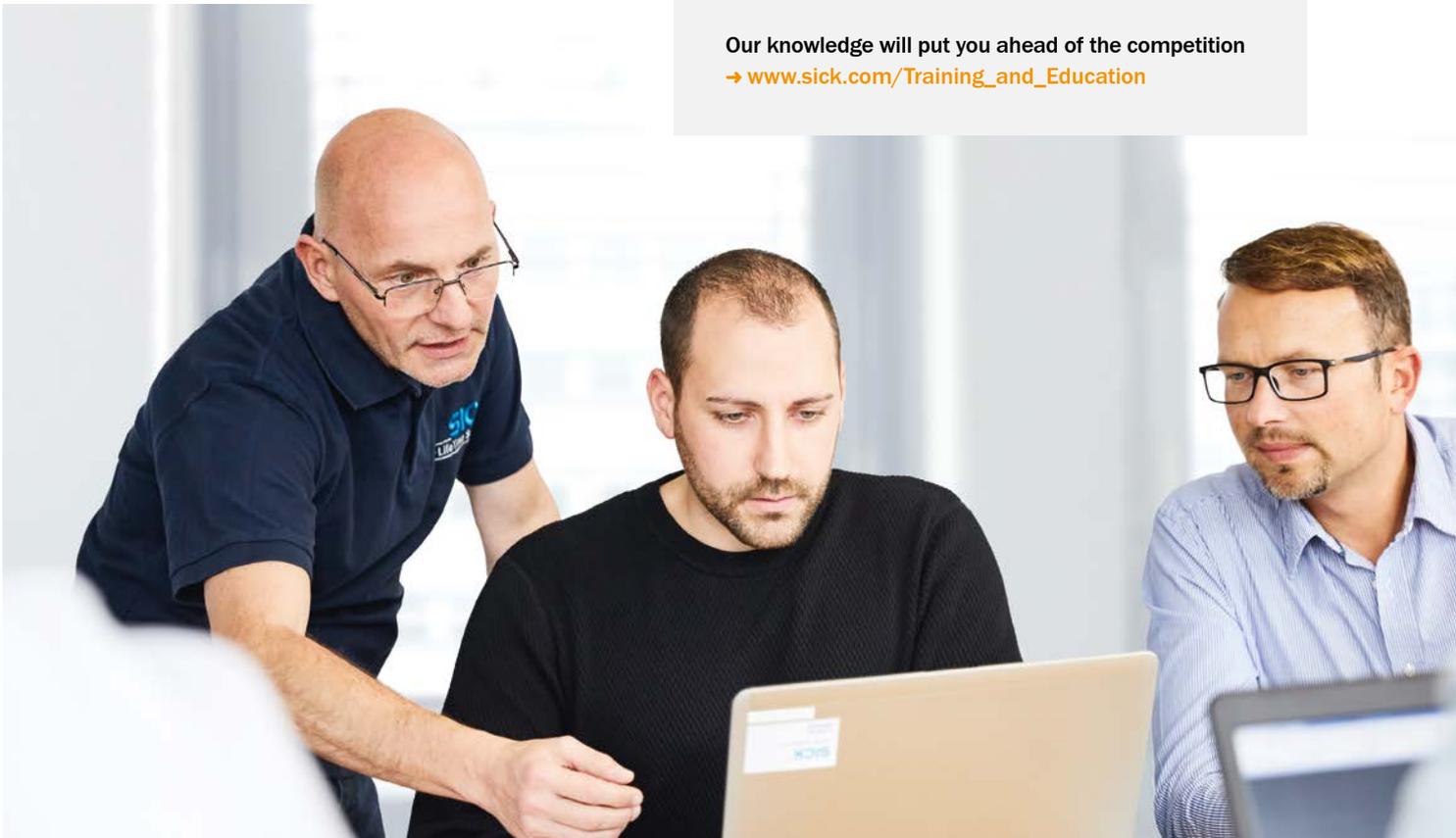


Training and education

Whether it be a competency seminar or product training – the 50 or so highly qualified trainers at SICK can draw on the knowledge they have gained through their daily deployments as service technicians, and therefore have an excellent understanding of your requirements throughout the entire life cycle of your machine. After every training session, participants are given the opportunity to deepen their newly-acquired knowledge through further webinars and workshops.

We make you an expert – here at SICK or at your company premises: SICK will support you with targeted measures to develop your in-house expertise.

Our knowledge will put you ahead of the competition
→ www.sick.com/Training_and_Education



- ⊕ All seminars and training sessions from SICK are highly practical: Learning by doing is our training philosophy.
- ⊕ Qualified trainers with lots of application know-how gained in the field: Our trainers are flexible, know the answers to your questions, and ensure your training is a success.
- ⊕ Whether it be about further developments in our products, or changes in standards and guidelines: SICK's seminar program is always up-to-date.

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,800 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com