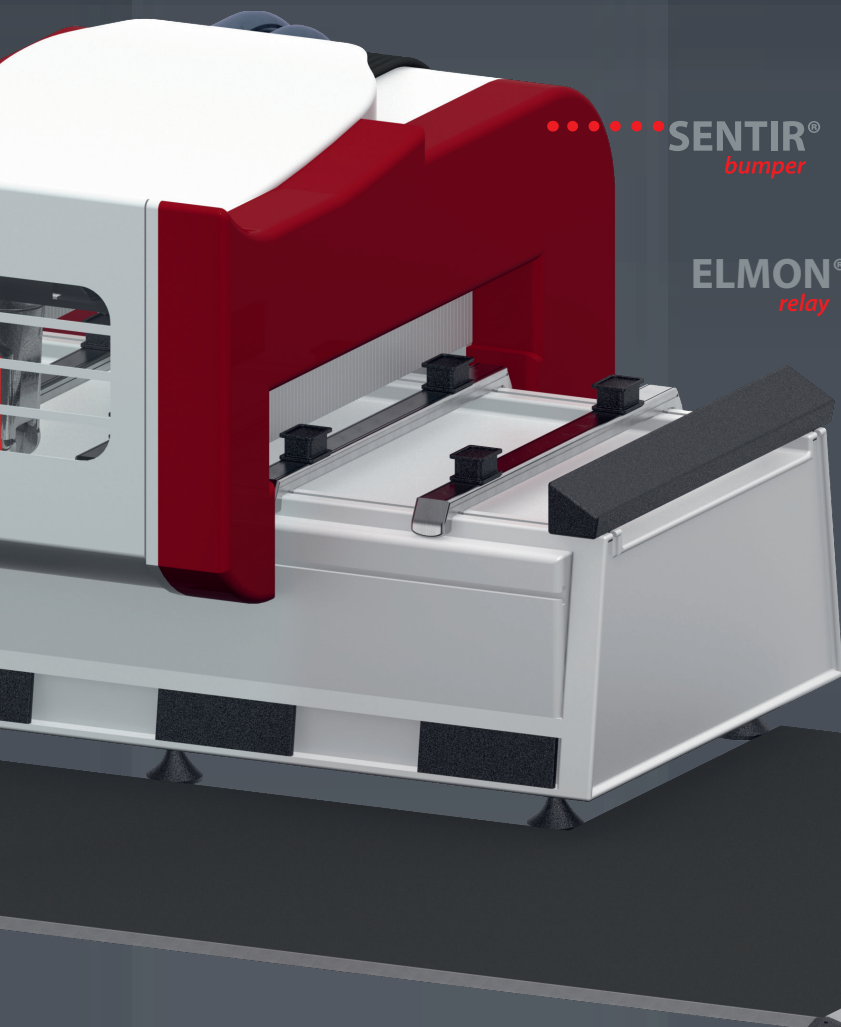


ASO Applications for Automated Machinery



The **SENTIR** safety contact bumpers provide excellent cushioning and overtravel. They protect the operator and offer safe interaction between man and machine due to low requirements.

SENTIR bumper are easily adaptable to meet the customer's requirements. Shape, geometry, color, material, resistance and other properties can all be adapted.

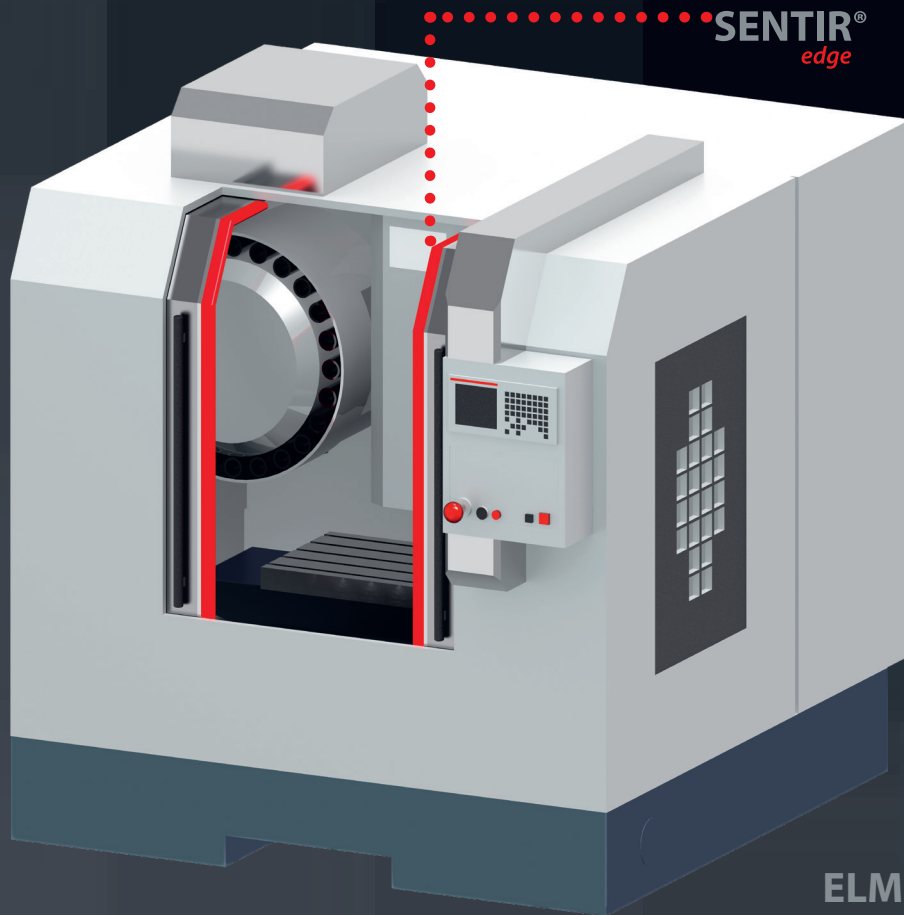


SENTIR bumper

- Robust design due to flexible and durable synthetic leather
- Large variety of standard bumpers
- Fast realization due to 100% inhouse production
- Individual mounting and connection possibilities
- Insensitive to vibrations
- Resistant to many chemicals and substances
- Minimal activation distances and high overtravel
- Well suited for application that involve dust and other particels since no optics involved



ASO Applications for Automated Processing Centers

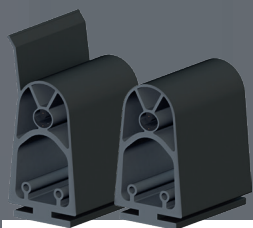


Safety contact edges are pressure-sensitive sensors that are used as protection against entrapment, for example - on automated gates, AGV's, machines and handling devices or movable stage elements.

SENTIR edge can be customized in a variety of ways, e.g. color, shape, purpose according to customer requirements.

New in our portfolio: translucent material for illuminated safety edges.

ELMON®
relay



SENTIR®
edge

Contact edges

SENTIR edge

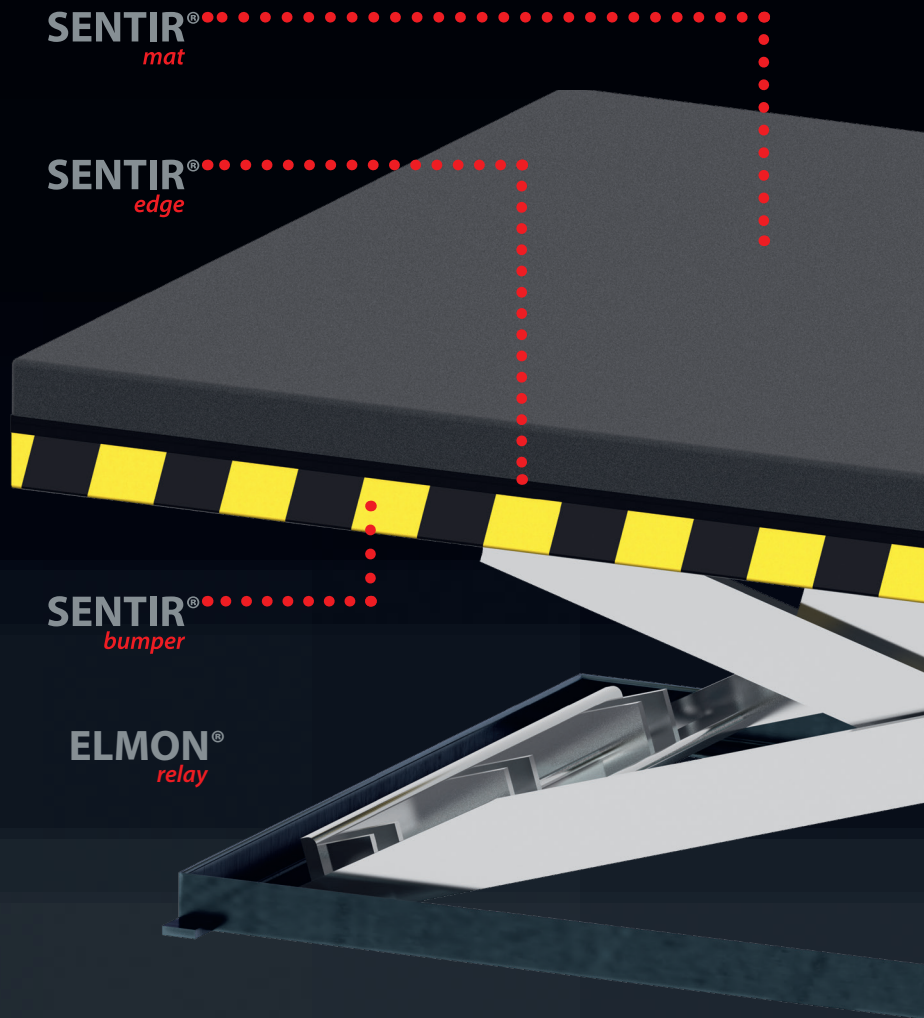
- Huge selection of standard products: 96 existing contact edges
- Patented double chamber system for high durability
- Accelerated response
- Rating up to IP 68
- Minimum wiring requirements
- Vibration-proof
- Individual production possible by in-house extrusion
- High flexibility due to our simple Plug'N'Sense system



ASO Solutions for Automated Lifts

Safety contact mats are surface sensors, which are used for the protection of areas in industrial applications and automated production processes. Stepping onto the mat causes an immediate „stop“ command to hazardous movements. Alternatively, depending on the setting of the control electronics, the presence of a person can also be evaluated as a safe state so that the system stopps when the operator is leaving the mat.

SENTIR *mat* contact mats are made waterproof in a polyurethane seal. A structured surface is also integrated. In the case of high mechanical requirements on the surface of the mats, covers are available in aluminum or stainless steel. Individual special shapes, several switching zones or variable coloring can be implemented in many ways.

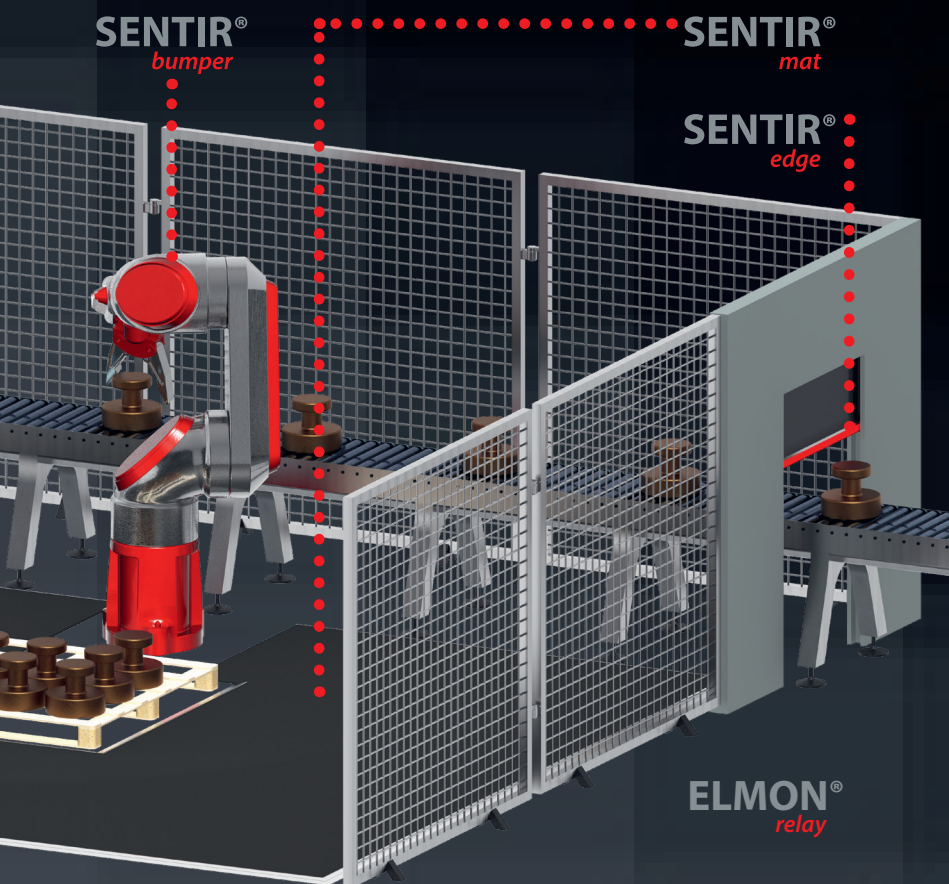


SENTIR *mat*

- Maintenance-free system, easy to clean of dust and dirt
- High moisture resistance (IP65)
- Withstands more than 6 million activations
- Standard dimensions as well as
- Individual shapes possible
- Resistant to a variety of chemicals, lubricants and coolants
- In several colors available



ASO Applications for Robotics



Safety relays are used for connecting **SENTIR** tactile safety sensors and the PLC. They ensure a continuous monitoring and evaluation of the safety sensor.

ELMON safety relays are available in different designs and with different functions. They can be used for mounting on DIN rails or as surface-mounted devices, with 1 or 2-channel design. They can also be adapted to customer-specific layouts or specific environmental conditions.

All **ELMON** safety relays are tested according to current national standards and guidelines. Continuous development and use of state-of-the-art technology ensure the devices are permanently improved.



ELMON relay

- Reliable link between the signal transmitter and the control unit
- Various housings and functions available
- Universal use due to various adjustment possibilities on the device and suitability for several voltages
- Specific adaptation possibilities
- Different safety categories available, up to Cat.3 / PL e

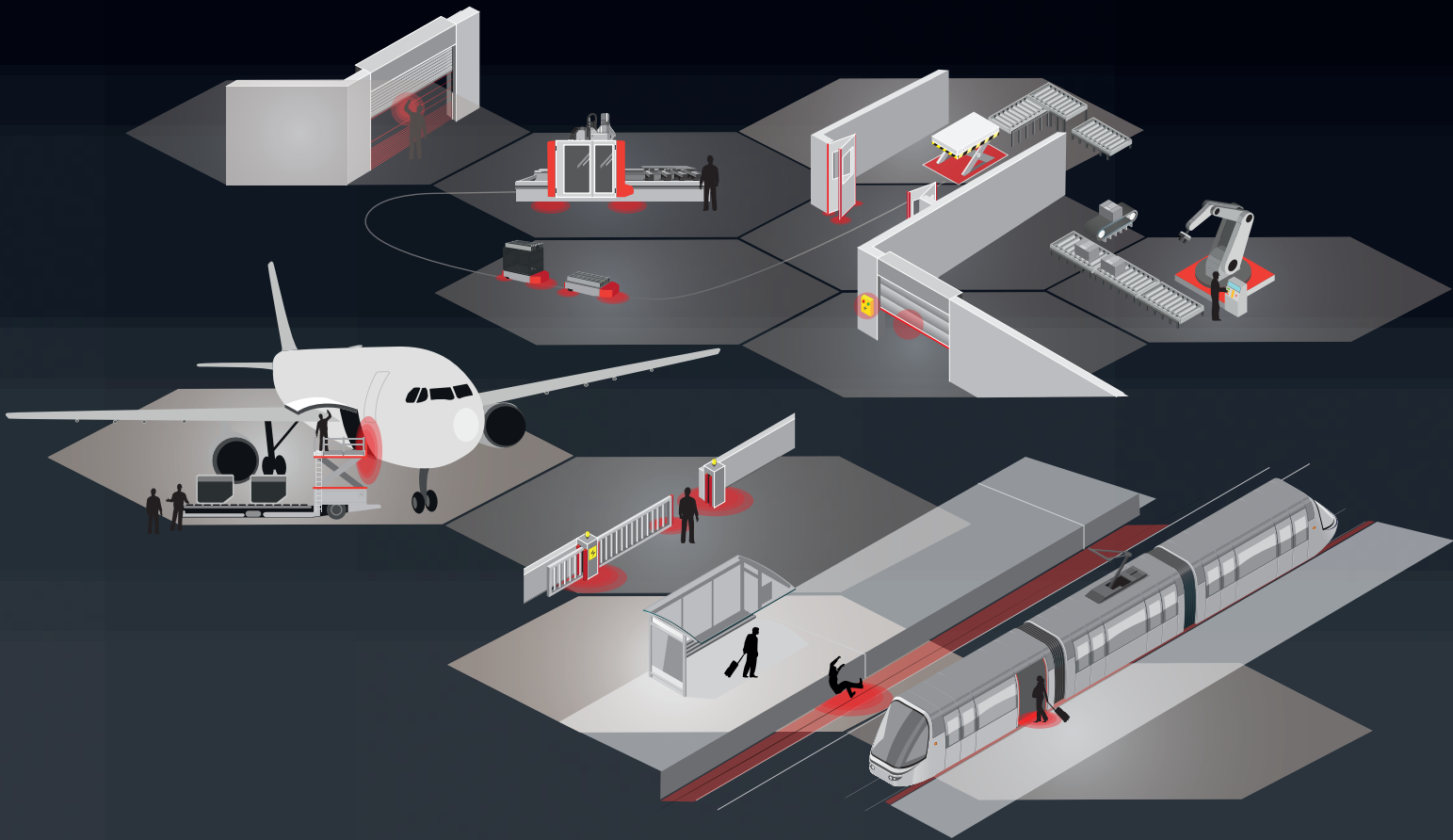


ASO Safety Solutions – At the Cutting Edge

ASO Safety Solutions has been established for almost 40 years and is today the world market leader for tactile sensor technology.

Regular exchanges and feedback from customers has enabled the company to align production and sales with real customer requirements. Investment in research and development has allowed ASO to meet growing requirements in industry and society. ASO Safety Solutions pride themselves on innovative thinking and dynamic development processes that make them an industry success.

ASO addresses the major challenges of globalisation by concentrating on core competences, by carefully adapting its operating structures and systematically expanding its international presence. Today, there are 200 employees worldwide, who manufacture safety contactors, controls and customer-specific sensor solutions. In addition to the company headquarters in Germany, the USA and China, sales offices all over Europe and a worldwide dealer network are responsible for worldwide sales.



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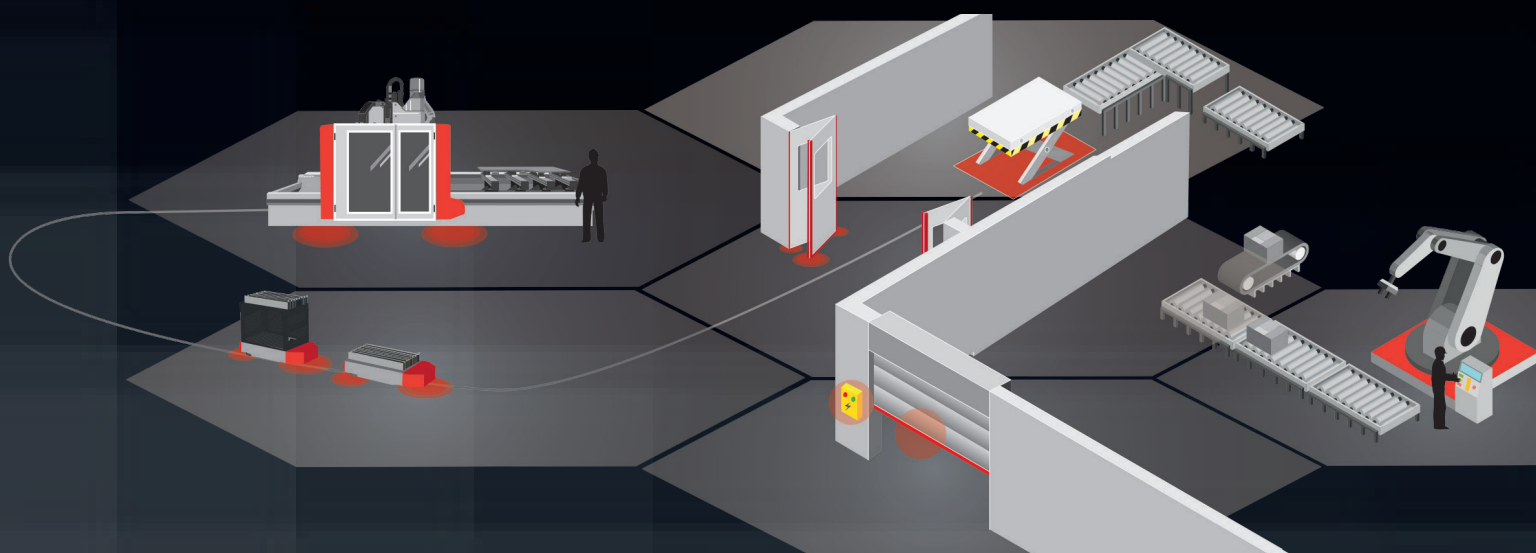
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Industrial Safety



Information for Manufacturers and
End-users of Automated Machines and
Production Equipment