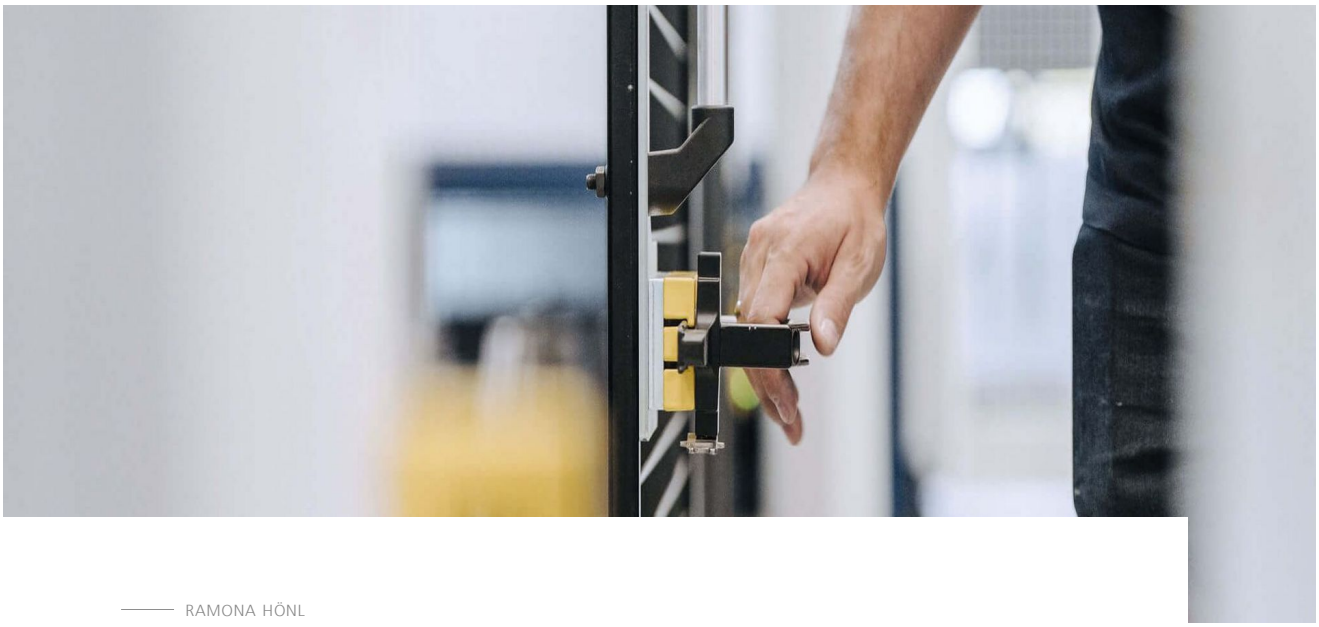


RAMONA HÖNL

Nine safety requirements your machine needs to meet

Efficient, reliable and safe: TRUMPF consistently considers everything down to the last detail when automating processes. With standard-compliant risk assessments, state-of-the-art sensors, and practical testing, TRUMPF ensures that automated processes are not only powerful but also safe. The result: customized solutions with sophisticated protection for everyone involved – from the initial concept to implementation at the customer's site.

A safe mindset starts in development

Safety is incorporated into every automation solution, starting in the concept phase. This approach is governed by the standard EN ISO 12100, which requires a comprehensive risk assessment across all lifecycle phases. TRUMPF relies on interdisciplinary teams responsible for identifying mechanical, electrical, thermal, and ergonomic risks – initially in theory and subsequently also on real prototypes. This creates an inherently safe environment that meets all legal requirements.

Technology provides targeted protection

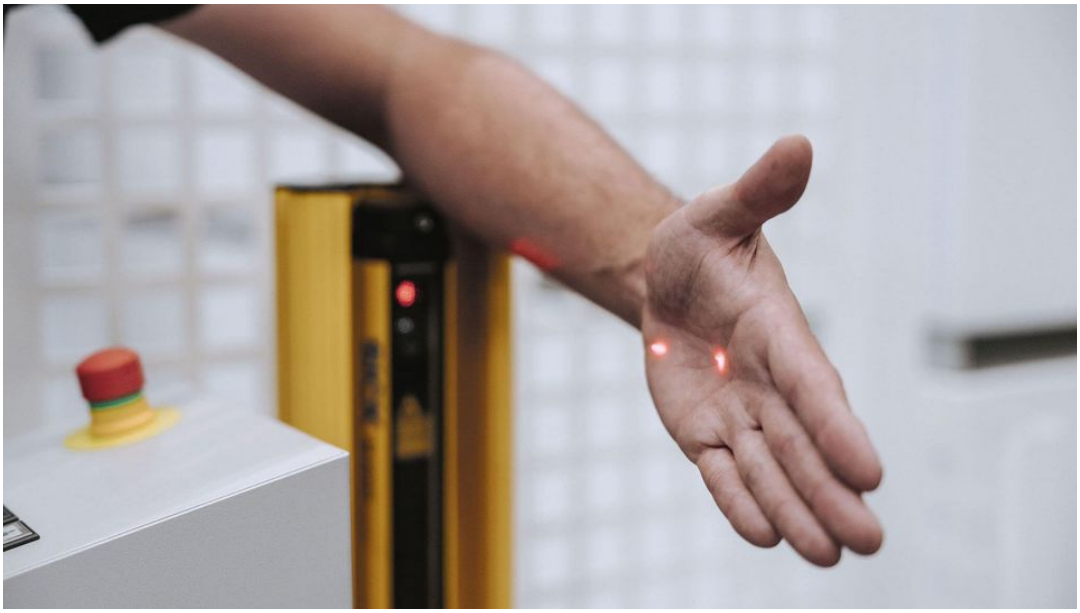
Whether safety light barriers at loading zones or laser scanners for monitoring areas – modern protective systems guarantee safety where it matters. Example: A laser scanner monitors the area in the vicinity of the finished parts stack for the SheetMaster with the parallel to production option (PTP loading and unloading). What sets this solution apart? While operators are already removing and inspecting parts, production on the basic machine continues without any interruption. The advantage: Protective mechanisms only intervene in emergencies – meaning the automated process remains efficient and safe.

Less noise, more protection

Sheet metal processing can sometimes get noisy – especially when large, fully automated machines are at work. With its automation solutions, TRUMPF therefore focuses on technologies that protect employees' hearing. For example, the SortMaster Station is equipped with a special sound-proof cabin. This reduces the noise created when the workpieces are separated from the scrap skeleton and thereby increases employees' ability to concentrate.

Tailored safety for every application

TRUMPF optimally adapts the safety concept of its automation solution to the machine environment at the user's premises. In this way, experts from TRUMPF increase efficiency with a targeted approach while ensuring a high level of safety – without any compromises in terms of productivity. Whether LiftMaster, SheetMaster or external robot connection – the risk-assessed safety solution creates reliable processes and provides the operating personnel with the level of safety required in their everyday work.



Modern protective systems ensure safety where it matters most. For example, an entire network of invisible safety light barriers ensures that TRUMPF machines only run when no one is in the safety areas.

Practical tests instead of theory

Experts test all safety-relevant functions of automated solutions under real world conditions at the TRUMPF testing ground. Noise measurements, long-term testing and site inspections with service teams ensure that concepts work in real applications and not just on paper.

Increased efficiency through separate zones

Modular safety concepts enable parallel work, allowing employees to enter specific areas while the machine continues processing parts in other areas. The clear separation of loading and unloading zones provides greater flexibility – without any compromises in terms of safety. This approach offers efficiency advantages, particularly for interlinked automated systems, as the system is productive around the clock.

Sophisticated software for safe operation

Many automation units are controlled directly on the machine panel – central, clear and without additional displays. All safety-relevant information and functions are compiled there, allowing the operator to maintain an overview at all times. For safety-critical actions, the system requires conscious acknowledgment in the start post – by pressing a button and activating the foot switch. At the same time, it automatically checks whether protective measures such as a closed fence have been implemented. In this way, TRUMPF reliably prevents unsafe conditions – and noticeably increases operator safety in everyday use.

Safety doesn't end upon delivery

TRUMPF supports its customers with commissioning their machines. Especially for automated processes, in which humans and machines work closely together, a comprehensive safety concept plays a crucial role. Only in this way can risks be reliably minimized and smooth operation ensured. As part of the safety-related acceptance process, trained TRUMPF service engineers check all relevant safety functions of the solution on site at the customer's premises, conduct training courses and instruct the operating personnel. This service is supplemented by training courses at the headquarters in Ditzingen, training videos on safety and detailed operator's manuals and service manuals – including all documented hazards.

Experience in the field flows back

TRUMPF not only develops for real world applications, but also with them: insights from customer projects and feedback from the service department flow directly into the further development of automation solutions. Especially when it comes to safety-relevant interfaces between machines and automations, users benefit from field-tested, continuously optimized concepts – for improved safety in real-world operation.



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SPOKESPERSON FOR MACHINE TOOLS