



# Technical services

## General machine risk analysis

### Based on Requirements from ISO 12100 & ISO 13849

Based on the international safety standard ISO 12100 (*General principles for design - Risk assessment and risk reduction*), **tec.nicum** Engineers carry out a comprehensive analysis of hazards relating to the machines, systems and production lines.

The machine safety risk analysis also checks for conformity with the applicable OSHA, ANSI and NFPA standards and regulations. In addition to assessing the physical hazards, **tec.nicum** Engineers evaluate the safety schematics for the safety function's Performance Level as defined by ISO 13849 (*Safety of machinery - Safety-related parts of control systems*). Optionally, the analysis may include Performance Level calculations using the internationally accepted SISTEMA program, creation of the safety function validation plans (per ISO 13849-2) and conducting the physical fault testing according to the validation plan.

### Report Details

The risk assessment is conducted using our inhouse developed software **blue.print** which enables standardized procedures and a standardized presentation of results on a global level, thus avoiding isolated solutions. At the same time, however **blue.print** can also be customized to individual user requirements.

A risk assessment can be offered as a machine hazard assessment and/or a task-based risk assessment.

	Hazard Assessment	Task-Based
Focus	Hazards and associated risks for an <b>overall machine</b>	Hazards and associated risks for each <b>task performed on a machine</b>
Main Objective	<ul style="list-style-type: none"><li>● Identify high risk machines</li><li>● Allows prioritizing of machines for remediations</li></ul>	<ul style="list-style-type: none"><li>● Allows a specific safety control recommendation for a specific hazard</li></ul>

### Report Deliverable

Data from our risk analysis software will be extracted and provided as a PDF document containing details of each machine evaluated. This report will provide all hazards identified, a risk estimation according to the hazard, corresponding pictures, and control measures where applicable.

For more information regarding the general machine risk analysis or our other Engineering Services, please contact: