

Integrated risk management for products and processes of Industry 4.0

With the increasing digitalization in the field of manufacturing and the new connectivity of products and machines it is no longer necessary to merely protect people from machines, but also machines from people, in order to avoid unauthorized influence (cyber attacks) from external sources.

This requires that manufacturers, integrators and operators of functionally-secure products redefine the diverse measures of IT security. This primarily concerns development, manufacturing and operating processes, including in the following areas:

- The Product Liability Act
- The Workplace Safety Ordinance
- The Medical Devices Directive

Currently-valid standards either consider aspects of information security or functional safety. A fully-integrated approach is not currently in place as either a standard or a directive. However, forward-looking Security4Safety strategies call for a combined approach to these two previously isolated fields.

Certification with a solid background

The practice-oriented linking of safety and security services enables us to offer you an integrated approach for your risk management. The Security4Safety service portfolio covers all key areas of application:

- Transport (automotive, rail, aviation, shipping)
- Supply and disposal (energy, water, food)
- Healthcare (pharmaceuticals, medical products)
- Safety/security-related components with interfaces to the internet (sensors, controls, actuators, office IT etc.)
- Private goods with interfaces to the internet (consumer goods, smart home applications etc.)

Audits on the basis of recognized standards and norms

Our Security4Safety risk analysis is based on existing hazard and risk assessment procedures such as:

- EN ISO 12100
- EN 62443-3-2
- VDI/VDE 2182

In the scope of an integrated, application and customer-oriented approach we have subsequently developed a systematically-structured procedure for documenting and assessing the asset value of all relevant processes, systems and components in a comprehensible manner. Both documentation and assessment are conducted using our specially developed S4S software tool, which is also available to you after commissioning a risk analysis.

Contents of a Security4Safety risk assessment

The S4S risk assessment can be conducted in two different modules. In the first module our experts conduct a status analysis with you, during the course of which the directives and standards to be applied for your purposes are defined, followed by a risk analysis pursuant to these standards, such as IEC 62443-3-2, IEC 61509 and others. The threat analysis may be conducted at the level of your components and products or at the level of your manufacturing processes. You receive the results in the form of a detailed technical report of this status analysis and can subsequently identify the safety and security gaps in your products or processes. On this basis you are able to identify and implement the measures suitable for eliminating the risks in your organisation. In a second module we offer you an S4S risk assessment for evaluating your implementation in products or processes. The result is a technical assessment of your S4S implementation.

During the evaluation process we provide you with a project manager, who acts as your central contact. The process begins with a workshop, followed by regular milestone meetings until project conclusion. Our software tool for S4S risk assessment documents the risk assessment carried out wholly and comprehensively. In conclusion, you receive all of the documentation generated.

Your path to Industry 4.0 readiness

We recommend initiating a Security4Safety risk assessment with your components of products before expanding this to cover your production processes. Once you have completed this with positive results certification according to IEC 62443 is available to you for your entire organisation. Together with certification to ISO 27001, this allows you to demonstrate the Industry 4.0 readiness of your organization. This level of maturity requires that you observe the state of the art in the field of safety and security and satisfy the necessary duty of care for the bringing into circulation of safety and security-related products.

TUV USA ACADEMY

We offer training for the Quality Management Professional including awareness classes, transition training and auditor training for quality management schemes. Please contact the Academy at www.tuv-nord.com/us/en/academy/

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The benefits for you

- Identification and elimination of digital weak points in the development, manufacturing and service process
- Securing the quality and safety/security of products
- Reducing the risk of recalls and damage to image as well as subsequent claims for compensation
- Increasing customer trust due to the qualified assessment of TUV USA and TÜV NORD CERT

TUV USA, part of TÜV NORD CERT, is an internationally-recognised and reliable partner for inspection and certification services. Our experts have extensive knowledge based on experience and are in general permanently employed. This guarantees independence and neutrality and also means that we can offer continuity in supporting our clients. The benefit to you is clear: our experts accompany and support the development of your company and provide you with objective feedback.



Further information can be found at www.tuv-usa.com and www.security4safety.com