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Requirements and Certification Process for Functional Safety and Security

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We have now more than 20 years of experience with functional safety requirements regarding electrical/electronic/programmable electronic systems. The system design, development, verification and validation life cycle phases are well defined. Many of these types of systems resp. devices are certified according to the functional safety standards. The 2nd edition of the relevant functional safety standards (e.g. IEC 61508 and IEC 61511) is published and the maintenance teams are working on the 3rd edition.

The presentation will shortly summarise these aspects in view of functional safety.

During the last years the Control and Safety Systems in Industrial Automation became more and more complex, use of communication networks became standard and data exchange with external systems is also more and more required. This development will also not stop, if we consider the IIoT, Industrial 4.0 or whatever we name this discussion.

The benefits are broad in view of operation, maintenance and quality.

This development also generates the question regarding security measures for Industrial Automation.

The presentation will give an overview regarding Security in Industrial Automation and Control Systems especially in view of functional safety products and application. Furthermore the following aspects will be considered:

- Overview of actual Security Standards
- Some Security attack principles
- Short introduction to identify security related threats
- Some details regarding IEC 62443 and ISA secure

Finally the assessment and certification process regarding safety & security will be shown including the information which is important for the user.