

PROCESS CONTROL TECHNOLOGY



INNOVATION

ENGINEERING

OPTIMIZATION

Functional Safety and IT-Security in Industrial Automation

Safety Management according to IEC 61511

We support you with managing and engineering of PCT safety measures including safety instrumented functions (SIF) for your production units – based on applicable standards and regulations e. g. IEC 61511, ISA 84, or VDI/VDE 2180. We cover the Safety Instrumented System (SIS) lifecycle or just parts of it – it is your choice.

Severity of Consequence	Very High S1	D	C	B	A
	High S2	F	D	C	B
	Moderate S3	F	F	E	D
	Low S4	F	F	F	E
		Implausible P4	Improbable P3	Rarely P2	Likely P1
		Probability of Occurrence			

- Engineering and design of SIS according to the applicable standards and regulations.
- SIL verification (quantitative verification that a SIF meets the required SIL level) with all required documentation.
- Detailed engineering of SIS with all required documentation, both hardware and software in safety PLC's.
- Defining communication interfaces with Basic Process Control System (BPCS) and other automation systems.
- Application programming of Safety PLCs for implementing SIFs.
- Developing testing procedures e.g. factory acceptance testing, site integration testing, proof tests.
- Consulting and support with design and implementation of a Safety Management System as required in IEC 61511.

Your gain

You receive safety technology in line with current applicable standards and regulations, with all required documentation and from one single source – covering all aspects from identification of SIFs to commissioning, fully integrated in your existing automation environment.

Our services include:

- Participating in Process Hazard Analysis (PHA) providing expertise in the identification of SIFs.
- Preparation of a safety plan as required by IEC 61511. The safety plan defines activities as well as responsibilities regarding functional safety in a project.
- Preparation of a Safety Requirement Specification (SRS) documents that details project and customer specific requirements and is a guide and checklist for the design of SIS.

We strive to find the optimal technical solution - keeping both technical and financial aspects in mind.

Our approach

Bayer Technology Services has a Safety Management System that governs all our activities in the safety lifecycle. It supports our engineers with detailed procedures and checklists.

We use industry standard software exSILentia™ from exida for quantitative SIL verification.

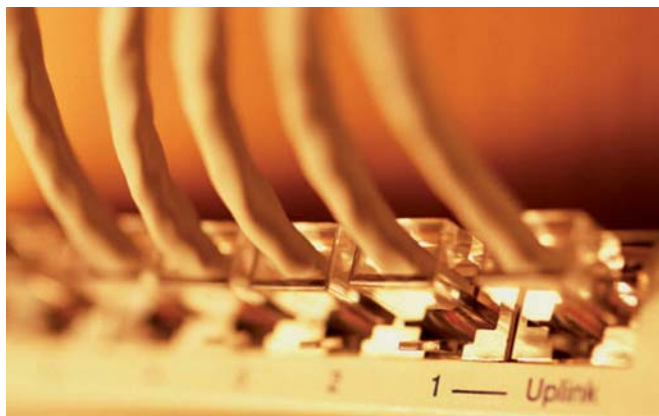


Bayer Technology Services
Powering Your Performance

Cyber Security – your Achilles' heel?

Modern communication and networking technologies are the backbone of automated processing facilities. But most automation systems have serious gaps related to cyber security. While cyber security is a very common subject in the office world, in industrial automation the awareness has been growing for a short time only.

Therefore there is an increasing need for competent and independent consulting services for IT-security in automation systems. These services can either be part of engineering projects for new automation systems but can also be offered as a service for existing systems.



The Basis – Security Policy

All activities related to cyber security are based on security policies. They are the basis for all countermeasures and cyber security solutions – in the office and also in the industrial environment. The special requirements of industrial automation however demand specific cyber security solutions – jointly developed with you and our experts in automation and cyber security technologies.

Suitable Cyber Security Solutions – Risk Management

Risk management can provide security at a reasonable price. Professional analysis of risks and vulnerabilities of your systems is the crucial first step for putting this fundamental requirement of cost-effective plant operation into action. The results are countermeasures and cyber security solutions suitable to your application.

We meet the challenge with our in-depth knowledge about the workflows in the process industry – in combination with expertise in process control and industrial networking technologies.

Living Cyber Security – Operating Concepts

Individually developed operating concepts are fundamental in order to preserve the achieved level of cyber security. These concepts cover important aspects of incident prevention and response – exactly defined for the considered systems.

Our long standing experience in engineering and operation of process facilities of any size is your guaranty for comprehensive and practice-orientated concepts.

References

- Many years of experience in automation projects around the world
- In depth knowledge of automation systems from various vendors