

Functional safety & cyber security life cycle management gap assessment



Good safety & security lifecycle management must embrace the way in which people, plant and systems all inter-relate and how this can be delivered via a compliant functional safety management (FSM) system

A growing number of organisations are becoming increasingly aware that functional safety and cyber security issues need to be managed in a systematic and sustainable way in order to ensure functional safety life cycle requirements are being met.

Such FSM systems will need to address corporate responsibility, development of a safe culture of work, implementation of a basis of safe operation and competency of staff at all levels. They should also include the overall management of requirements into the supply chain and the process for delivering continuous improvement.

The challenge for End Users and how they discharge their responsibilities to the supply chain, is how the overall safety & security life cycle management requirements can be brought together to increase confidence and provide assurance that the developed basis of safe operation is valid and appropriate.

Are there any management and technical gaps in your current safety & cyber security life cycle compliance approach?

A compliant FSM system will invariably have policies, procedures and document deliverables that encompass plant hazard and risk assessment, cyber security risk assessment, equipment design and integrity requirements and the approach to

effective operations, maintenance and modification. In addition, such management systems will also need to ensure that people are adequately competent and work within a positive culture that promotes functional safety systematic integrity behaviours.

Regardless of whether you are an End User or supply chain partner implementing any phase of the safety life cycle, it is important to understand and clearly define the responsibilities involved in delivering the safety life cycle phase requirements, i.e. inputs, specific lifecycle activities and outputs to the next lifecycle phase in sequence so as to achieve and maintain functional safety requirements.

This is particularly important for the implementation of a compliant FSM system within your organisation. Each activity, process and data output is specified during each life cycle activity of the overall safety & security life cycle, but without a compliant FSM system in place, errors, omissions and a lack of demonstrable systematic capability have the potential to generate miscommunication and an absence of critical information which can make safety & security life cycle compliance very difficult to achieve. The absence of information also raises questions about the accuracy of results and their relationship to each safety & security life cycle requirement and deliverable.

Failure to achieve and maintain functional safety management throughout the entire safety & security life cycle can have far reaching impacts on the fundamental requirements of the necessary risk reduction of protective layers such as the required architecture and cyber security of the desired Safety Instrumented System (SIS). Further negative consequences can also impact on project and/or operational schedule and costs.

Why is this important and relevant to your business and operational model?

The concept of a functional safety & security life cycle management system approach is derived from the combination of the international safety related standards IEC 61508, IEC 61511 and IEC 62443, which utilise a complimentary safety & security life cycle management approach as the core mechanism for systematic identification and delivery of protective system requirements.

The principles of these standards will be what your company is measured against, regardless of the content of your existing QMS / FSM systems. By using ABB in this key area, you can be confident that your claims to industry good practice compliance can be supported by all the necessary procedures and collateral so providing independent assurance of functional safety compliance to meet both internal and external stakeholder expectations.

How confident are you that your company FSM system is aligned in full with the good practice safety & security life cycle and are there any gaps in your compliance?

The dynamics of the End User and safety supply chain can often be difficult to manage. Global projects and supply chains present many challenges for solutions that can be sourced from many competing companies. Therefore the technical and competency activities involved in functional safety & cyber security management can be diverse and complex.

How can ABB help?

ABB's experts have the necessary expertise to investigate the impact of these international safety standards on your functional safety management systems and your relative roles, responsibilities and deliverables for your safety & security life cycle scope of supply, regardless of whether you are an End User or supply chain partner.

ABB has defined a method for making judgements where gaps in safety & security lifecycle compliance are significant. In some cases, our customers utilise ABB to regularly check that previously developed QMS / FSM systems continue to address industry good practice and the need for revision in an ever-changing regulatory landscape.

Our in-depth understanding of the principles involved, and experience with practical application, means that we are able to offer a Safety Life Cycle Management Systems Gap Assessment to determine what actions need to be taken to close any 'gaps' in order to ensure the operational risk is being managed effectively across the entire safety & security life cycle.

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