

# Functional safety lifecycle gap assessment

## Good safety 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 system (FSMS)

A growing number of organisations are becoming increasingly aware that functional safety issues need to be managed in a systematic way in order to ensure safety lifecycle requirements are being met.

The focus for delivery of a compliant functional safety management system (FSMS) will be via the end user company's internal safety management systems. Such 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.

The challenge for end users and how they discharge their responsibilities to the supply chain, is how overall lifecycle 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 lifecycle compliance approach?**

A compliant FSMS will invariably have policies, procedures and document deliverables that encompass plant hazard and 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 lifecycle, it is important to understand and clearly define the responsibilities involved in delivering the safety lifecycle 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 FSMS within your organisation. Each activity, process and data output is specified during each lifecycle activity of the overall safety lifecycle, but without a compliant FSMS 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 lifecycle compliance very difficult to achieve. The absence of information also raises questions about the accuracy of results and their relationship to each safety lifecycle requirement and deliverable.

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

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

The concept of a functional safety lifecycle management system approach is derived from the international safety related standards IEC 61508 and IEC 61511, which utilise the safety lifecycle 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 / FSMS. 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 both internal and external stakeholders, including supply chain partners.

### **How confident are you that your company FSMS is aligned in full with the good practice safety lifecycle and are there any gaps in your compliance?**

The dynamics of the end user and safety supply chain can offer 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 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 lifecycle 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 lifecycle compliance are significant. In some cases, our customers utilise ABB to regularly check that previously developed FSMS continues 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 Lifecycle 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 lifecycle.

### **Assured and certified products, services, delivery and execution.**

For further information please contact:

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