

Projects design, engineering and service of Safety Instrumented Systems

ABB's capability for safety project execution and service centres

With increasing acceptance and implementation of 'smart' safety automation technologies, the process industries are adopting this new technology capability as part of the design, engineering and operations and maintenance specifications of both new and existing Safety Instrumented Systems (SIS); that are required to meet compliance with industry good practice standards such as IEC 61508 & IEC 61511. This new capability is manifested in terms of functionality (and the trend for asset integration with process control /information systems) and reliability, but also needs to be practical and cost effective in terms of the actual design, engineering execution and subsequent operations and maintenance of the SIS solution.

In order to meet their functional safety management requirements from the supply chain, end users now demand closer integration of their safety and control systems, with safety functions at varying process states, and flexibility, scalability, and reusability of their safety components.

Increased safety assurance and TÜV accredited certification

End users are therefore seeking 'best in class' safety project execution and operations & maintenance services for their SIS requirements. End users seek supply chain partners who have a demonstrable functional safety lifecycle management model identified for dealing with the requirements of IEC 61508 Parts 2 & 3 and IEC 61511 Part 1; as part of establishing compliant design, engineering, operations and maintenance against industry good practice expectations.

ABB's view on this requirement is one of market differentiation for 'best in class' engineering execution and service for SIS. To achieve this, ABB's safety execution/service centres (SEC's) have adopted a functional safety management system that is not only aligned to the safety standards, but also has independent third party accreditation from TÜV. The use of a structured and systematic lifecycle management model allows for safety related engineering and service activities to be planned, executed using re-usable solutions, techniques and measures, corrective & preventative maintenance with in-depth verification and validation activities built into the processes required.

ABB is #1 in the provision of in-country certified FSMS

The ABB SEC's provide customers with in-country dedicated competent functional safety resources for safety instrumented system (SIS) project execution, design, engineering, modification and maintenance, as well as access to local resident safety standards experts and technology experts. In total, globally, ABB has more than 700 TÜV FSEng & CFSE certified and ABB technology certified safety engineers.

ABB currently has more safety centres with their own individual TÜV accredited certification for their in-country Functional Safety Management System (FSMS) delivery, implementation, operations and maintenance than any other supplier in the industry. These TÜV organisations are leading world specialists in the assessment and certification of organizations and products to safety standards in addition to individual competency certification schemes. ABB adopts this third party accredited certification model to ensure:

- Integrity
- Objectivity, competence, impartiality
- Reduction in both business and technical risk
- Transparency and consistency
- Demonstrable in-country competence which is local and robust
- Mutual international recognition of certificates
- Annual surveillance
- Due diligence
- Regulatory/licensing body recognition

ABB's proven methodology for delivering safety systems meets international standards and good practices, and ensures consistent, flawless execution of these projects all over the world.



Benefits of our global functional safety management approach

ABB has a leading reputation for having a strong local business presence in its many locations throughout the World. This is based on the continuing trend that our customers require local competent resources to deliver their safety related projects drawing on the assurance provided by the in-country TÜV-certified SEC as opposed to a centralized competent pool of resources and procedures that may not provide sufficient depth and relevance to their particular client requirements. In doing so, ABB's local certified Safety Execution Centres ensure that:

- Conformity to the local relevant legislation and standards can be specifically addressed in the Functional Safety management System (FSMS) as opposed to the difficulties of trying to adopt one company centralized FSMS i.e. for robust functional safety management systems, one size does not fit all
- Local cultural, regulatory and 'good practice' aspects can be addressed in the FSMS and can easily accommodate its many revisions over time
- Different FSMS status, progress, activities and lifecycle phases can be addressed
- Less audit and evaluation effort required by the end user based on the local FSMS characteristics
- A strong core presence of in-country resident competent FS resources is retained so that the customer does not need to worry about competency being readily available and demonstrable
- Clients have a higher degree of confidence and increased functional safety assurance in the local certification processes in contrast to one overriding global certificate
- There is no dilution of the focus and commitment to functional safety both globally and locally
- In-country management have commitment and a strong focus to FS certification and competency supported by global senior management strategic direction and global game plan.

How can ABB help?

ABB is committed to providing our customers with the resources, technology and tools they need to help them operate their plants more safely, as well as protect their employees, the environment and the surrounding community. The need for local reliable engineering resources and quality safety automation solutions has exponentially grown over the past few years; the depth and scope of our regulatory, technical and project execution knowledge provides our customers with the trusted expertise they need to successfully protect the integrity of their process, plant and people.