

Truth #9

Given a choice, the implementation and installation of your SIS should not be entrusted to strangers.

Choosing an SIS implementer can be as important as choosing the product itself. No matter how well the system is designed or manufactured, failures are likely to occur if the implementation team is not following proper procedures, is not experienced, or lacks adequate technical qualification for the tasks they must perform.

Industry Standards and Best Practices call for competence, specifically IEC 61508 / IEC 61511 / ANSI 84.01 and other international and national safety standards, as well as national regulatory agencies, require that all personnel involved in any stage of the SIS safety life cycle have proven and documented competency for the tasks they are assigned. IEC 61511-1 the process industry's Functional Safety standard for Safety Instrumented Systems for on Paragraph 5.2.2.2 indicates that persons, departments or organizations involved in safety lifecycle activities shall be competent to carry out the activities for which they are accountable.

Some of the areas of competence are:

- Functional Safety
- Process Control and Process Automation
- Instrumentation and Control Principles
- Application Programming
- Technical domain knowledge on the SIS platform
- Understanding the operation principles of the SIS platform
- Understanding the operation restriction and maintenance procedures on the SIS platform

Additionally there should be a number of implementation practices and proven procedures to ensure the quality of the implementation, those procedures or accepted best practices should be documented and ideally be part of the ISO certification and in general of the quality assurance procedures of the implementer.

Sounds trivial and that's why it's very easy to overlook until we run into trouble, the potential implications range from unexpected shutdowns, unreliable operation of the SIS, nuisance alarms and the inability to perform the task for which it was designed among others. According to studies almost half of all systematic and human failures are caused by incorrectly specified requirements because the requirements are not fully appreciated or the realisation of those requirements is not fully understood.

Selecting a reliable SIS platform to meet the requirements of the application is a very important aspect of the Safety Lifecycle, however making sure the implementation team is competent to perform their mission, the experience and track record of the implementation team not only on similar applications but also on the SIS platform selected and in Functional Safety should be an important criteria in defining the implementation team.

An example of track record is the number of system installations including installation in similar applications such as BMS, SIS, HIPS or F&G. Look for a significant number of successful installations and for low number of failures on demand over the lifecycle of those installations.