FUNCTIONAL SAFETY IN INDUSTRIAL AUTOMATION

BASED ON IEC 61508 AND IEC 61511 STANDARDS

The demanded safety of plants in the process industry (chemical plants, refineries, etc.) is increasingly being realised by complex safety instrumented systems (SIS). Requirements for these electrical, electronic and programmable electronic safety-related systems (E/E/PES) are defined in the international standard IEC 61508. Requirements regarding the implementation of these safety instrumented systems in the process industry by system designers, integrators and users are defined in the IEC 61511 (derived from the IEC 61508).

OUR SERVICES INCLUDE

- Participating in Process Hazard Analysis (PHA) providing expertise in the identification of SIFs (SIF - Safety Instrument Function)
- Preparation of a safety plan as required by IEC 61511
- Preparation of a Safety Requirement Specification (SRS) documents that details project and customer specific requirements and is a guide checklist for the design of SIS
- Engineering and design of SIS according to the applicable standards and regulations (EN/IEC, ATEX, EMC,...)
- Safety Integrity Level (SIL) verifications (quantitative verifications 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
- Defining communication interfaces between Basic Process Control System (BPCS) and other automation systems
- Applications programming of Safety PLC for implementing SIFs
- Manufacturing of electrical cabinets and complete electrical and instrumentation on-site installation
- Developing testing procedures e.g. Factory Acceptance Test (FAT), Site Integration Test (SIT), Site Acceptance Test (SAT), proof tests, maintenance procedures. Execution of all required tests.
- Supervision and evaluating of existing SIS (e.g. ESD system, Safety PLC, BMS, BPS) and SIL classification based on IEC 61508 and IEC 61511 standards
- Maintenance activities in order to keep technology in a required safe condition as defined in the maintenance procedures

OUR TUV FUNCTIONAL SAFETY ENGINEERS USE INDUSTRY STANDARD SOFTWARE exSILentia™ FROM exida FOR QUANTITATIVE SIL VERIFICATION.

KEY CUSTOMER BENEFITS

- Maximised transparency of your safety instrumented systems
- Reduced risk and improved regulatory compliance
- Improved availability and reliability

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