HTS SAFETY Solutions

Safety Solutions

Functional Safety Life Cycle

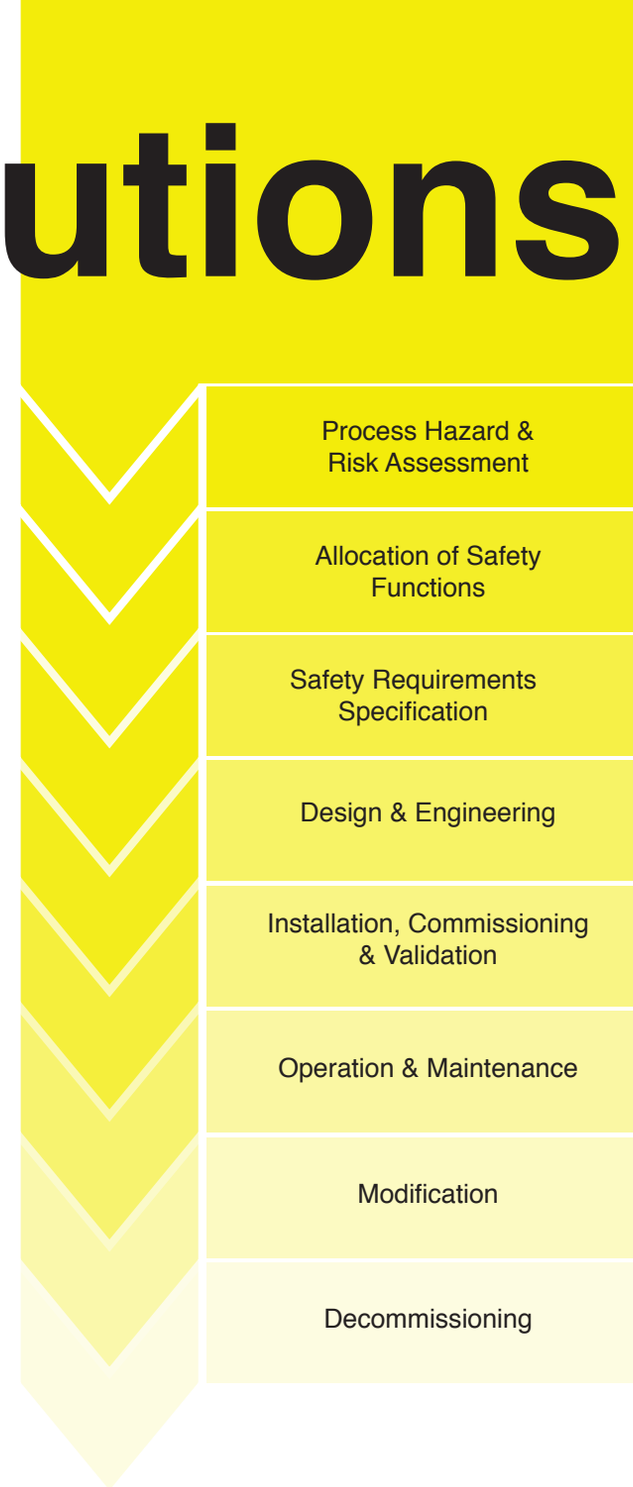
Functional Safety Life Cycle management is the key objective to achieving compliance within the frame work of BS EN 61511. Managing Functional Safety in accordance with the BS EN 61508 / 61511 group of standards will show that:

- The Company has a clear safety policy
- Appropriate techniques and measures are in place
- A Clear organisation structure is in place
- Non-conformance is identified
- Systems and processes are auditable
- Safety planning is in place

Implementing the Functional Safety Lifecycle ensures that the requirements for functional safety are met and that any new or modified safety systems are designed, installed and commissioned correctly. HTS Safety Solutions follows the life cycle approach and fully supports the methods employed for the various phases we work in.

HTS Safety Solutions provide expert engineering services against BS EN 61511 for both new and legacy systems within the process and storage industries. Our Engineers have a broad range of experience and are externally certified to ensure the systems and consultancy services provided are in total compliance with the standard.

Our Engineers can work as part of an integrated team through our Functional Safety Consultancy services or provide complete Safety Instrumented Systems. With our skills and expertise in delivering systems from a single stand alone safety loop to multiple Integrated Control Safety Systems (ICSS) controlled via a safety PLC, HTS Safety Solutions can tailor an appropriate package.



Safety Instrumented Systems

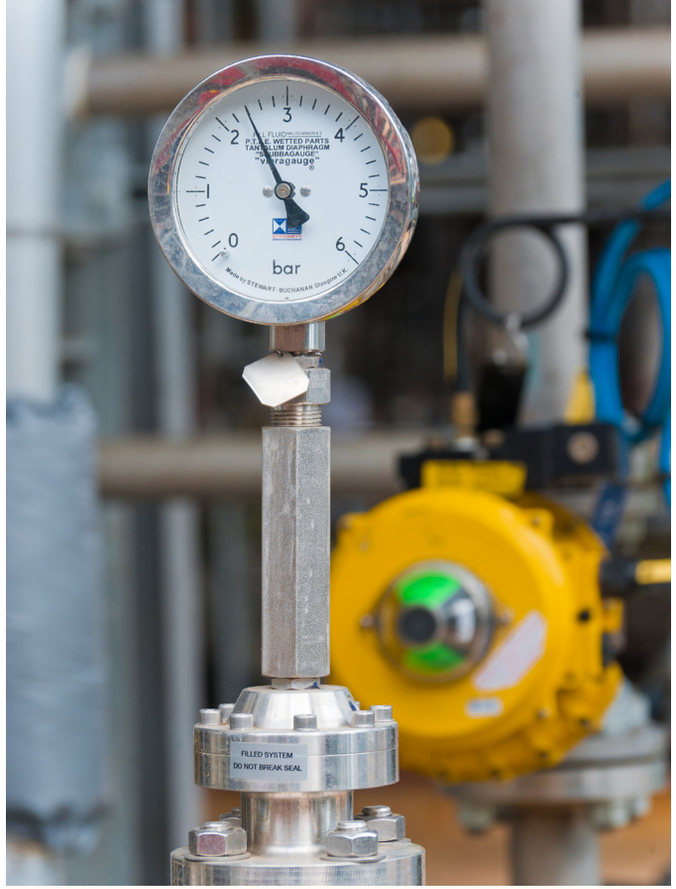
Our core skills in HTS Safety Solutions lie within the realisation and operational phases one through to seven of the life cycle for both hardware and application software. Additionally we are able to support or deliver the Functional Safety Assessments (FSA) one, two and three.

Safety Instrumented System Engineering

- **Functional Safety Management Plan to IEC 61511**
- **SIL Determination activities:**
  - HAZop
  - EMMUA 191 Alarm Prioritisation Reviews
  - LOPA
  - Safety Requirement Specification SRS

- **Complete Turnkey packages:**
  - Specification & Design
  - Supply & Manufacture
  - Application Software Development
  - Factory Acceptance Testing (FAT)

- **IEC 61511 Compliance Documentation**
  - Reliability Calculations
  - Safety Manual
  - Software Safety Requirement Specifications
  - Functional Safety Report
  - Factory Acceptance Testing (FAT)
  - Period Proof Testing



Safety Software Engineering

Application software up to SIL 3 using Fixed Program Languages (FPL) and Limited Variable Languages (LVL) against the requirements of BS EN 61511 clause 12.

- Software Functional Safety Lifecycle management
- Testing & Verification Procedures
- Software development methology

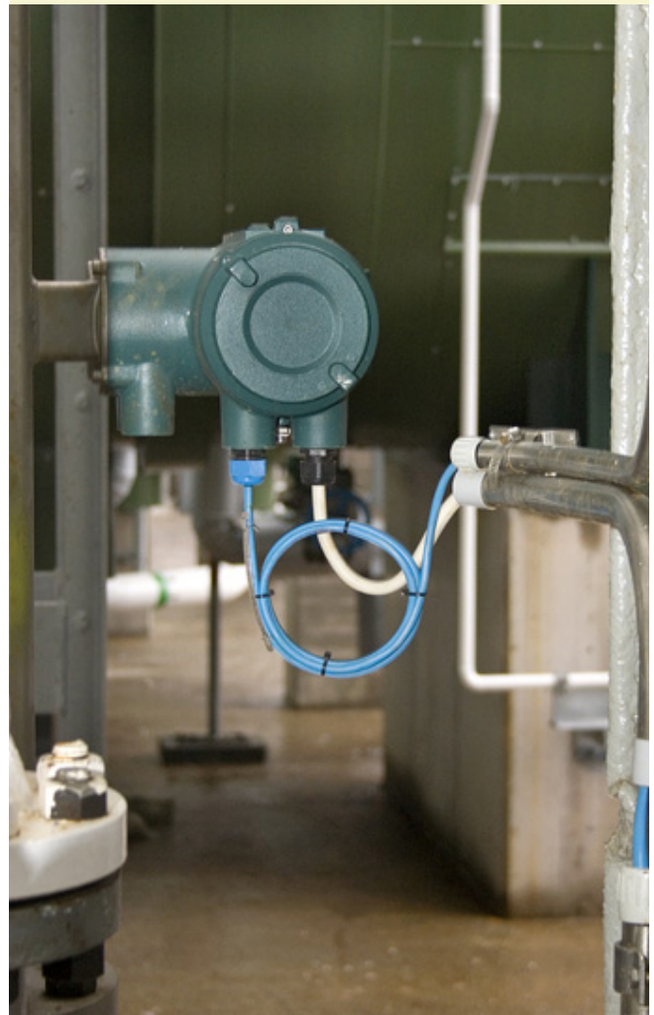
Operation & Maintenance Phase

- On-going procedures for testing and inspection of Safety Systems
- Periodic Proof testing
- Implementation and Management of Safety Related
- Continual Support and advice for legacy systems

Lifecycle Management

HTS Safety Solutions have gained considerable experience by providing consultancy service's to develop the overall Functional Safety Life-cycle systems as required by BS EN 61508 and provide life-cycle management activities to bring together the various aspects of a project being provided from different organisations within a project environment.

The HTS implementation strategy delivers and manages the key stages of the safety system up to the operation and including the operational and maintenance phase.



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