

# ABB SafetyInsight

## Managing safety systems for reliable operations

### ABB Safety Life Cycle Management

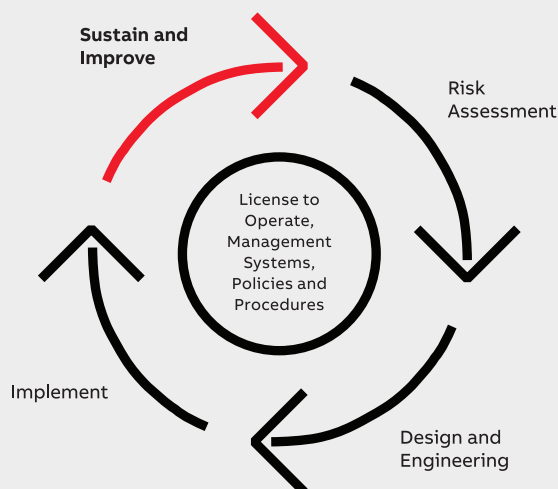


ABB SafetyInsight™ helps you better manage your safety systems throughout the life of your facilities. It utilizes early life cycle information to deliver applications that help increase productivity and reduce maintenance costs while also providing health status and decision support to ensure safety systems remain effective.

01 ABB SafetyInsight is part of the Sustain and Improve stage of the safety life cycle.

### Overview

Safety Instrumented Systems (SIS) are found in almost all oil, gas and chemical facilities to protect against hazards to personnel, the environment and equipment.

Before a plant can secure a license to operate, it must demonstrate compliance to SIS best practices, generally considered as following IEC 61511. This standard requires the risk of hazardous events to be reduced to tolerable levels, and any required SIS to be designed, operated and maintained to ensure the necessary level of risk reduction is continuously achieved.

ABB Safety Life Cycle Management helps you meet IEC 61511 compliance with a comprehensive set of integrated applications that cover the four key stages of the safety life cycle: Risk Assessment, Design and Engineering, Implement, and Sustain and Improve.

SafetyInsight is a suite of Operation and Maintenance (O&M) applications that enables you to sustain safe and reliable operations with knowledge of the health of the instruments and equipment associated with each Safety Instrumented Function (SIF). The applications gather contextualized information to identify safety improvements and demonstrate compliance with the associated O&M clauses of IEC 61511.

### Benefits

- Minimizes lost production time by enabling faster startup following an unplanned shutdown
- Automatically generates reports following a shutdown to eliminate additional lost productivity and the need to create reports manually
- Reduces planned maintenance efforts through the ability to reschedule proof tests using the documented evidence within the reports
- Reduces Turn-Around (TAR) duration by using actual performance data to remove TAR activities
- Helps ensure risks are properly managed when safety systems need to be taken out of service
- Saves significant time and effort by automatically capturing actual SIF performance data for comparing against SIF design assumptions, as required by IEC 61511 (Ed 2.0)
- Provides a streamlined approach to meet the requirement for development of credible, traceable, documented and justified failure rate data that is based on field feedback
- Helps you better manage your safety risk by ensuring safety functions maintain effectiveness throughout the life of your facility
- Reduces implementation costs by leveraging digitalized design information captured in the earlier life cycle phases for streamlined delivery of the O&M modules

## Features

SafetyInsight forms part of an integrated set of applications covering all safety life cycle phases.

### Demand reporting

- Automatically tracks, records and reports events when a shutdown occurs
  - Compares logged events to expected shutdown behaviors and verifies that valves and other equipment went into the safe position
  - Provides the initial cause of the shutdown, as well as all other associated causes and effects
- Automatically generates reports to help validate design assumptions and identify opportunities to reduce demands on safety systems

### Bypass management

- Provides current and historical lists of bypassed (inhibited/blocked) equipment, including suppressed alarms
- Offers views to enhance the override risk assessment prior to and during equipment being taken out of service

### Instrument reliability

- Captures actual instrumentation and equipment reliability data, with the ability to manually add proof tests and other demands not captured within operating and maintenance systems
- Interface with Computerized Maintenance Management Systems (CMMS) automatically incorporates maintenance activities recorded within systems such as SAP

## Related ABB Safety Life Cycle Management modules

### Risk Assessment

- Hazard Identification (available in 2017)
  - Hazard Identification (Hazard Study 2) and HAZOP (Hazard Study 3)
- Safety Integrity Level (SIL) Determination
  - Calibrated Risk Graph, Layer of Protection Analysis (LOPA) or Fault Tree Analysis (FTA)

### Design

- SIF Designer
  - Graphical interface facilitates the design of Safety Instrumented Systems to IEC 61511 and IEC 61508 specifications using a comprehensive set of instrument reliability data
  - Multiple testing options help meet the required risk reduction/probability of failure on demand (PFDavg), allowing you to select the optimum SIF design and testing regime, minimizing the maintenance burden and the impact on operations

## Why choose ABB

- We provide applications and services that support a full safety life cycle approach, with a focus on operation and maintenance activities that reduce costs
- We have more than 20 global, TÜV-certified safety execution centers – more than any other company in the industry
- We capture information in earlier life cycle stages to streamline delivery of O&M applications

## Services and support

ABB SafetyInsight offers services throughout the safety life cycle:

- Process and functional safety benchmarks, assessments and audits
- Hazard Identification and Risk Assessment, including SIL Determination
- Safety requirement specification development, SIS-detailed design and delivery
- Functional safety and alarm design and engineering
- Process and functional safety policies and management systems
- Incident and demand investigation, near miss and learning opportunities
- Impact review following comparison of actual operating experience against initial design assumptions
- Wide range of end-user focused training courses that cover awareness level to in-depth technical training

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