Common Challenges in Industrial Process Plants

- **Conventional SIS**
  - Difficult to interpret, configure and operate SIS solutions.
  - Requires specialised skill from extensive training and experience.

- **Sustainable SIS**
  - Better visualisation of process behaviour during plant start-up or process upsets.
  - Intuitive user interface of safety application.

**Safety Integrity Reports**

- **Management of Change**
  - Changes are sometimes manually documented.
  - Difficult to trace and compile modifications chronologically.

- **Automation and Real-time Documentation**
  - Raw data is automatically converted into comprehensible formats.
  - Automated and real-time documentation of the plant's safety status.

**System Complexities**

- **Human-Computer Interface**
  - Less intuitive user interface

- **Data Tracking**
  - Lack of integrated and synchronised database management

**Conventional SIS vs Sustainable SIS**

- **Benefits of Sustainable SIS**
  - Better visualisation of process behaviour during plant start-up or process upsets.
  - Intuitive user interface of safety application.

**Key Success Factors for Sustainable SIS**

- **Safety design (SIF, SIL, SRS)**
  - Expected performance

- **Safety indicators**
  - Measured performance

- **Gap analysis**
  - Refinement of safety design

- **Performance validation**
  - Continuous enhancement of safety performance

**Sustainable Safety Instrumented Systems**

- Empowering key decision-makers with opportunities to re-take ownership and actively manage their operational safety performance

- **Benefits**
  - Better visualisation of process behaviour during plant start-up or process upsets.
  - Intuitive user interface of safety application.

**Synchronised Safety Database**

- Provides proper historical and real-time documentation on the plant safety status.

- **Automation and Real-time Documentation**
  - Raw data is automatically converted into comprehensible formats.
  - Automated and real-time documentation of the plant's safety status.

- **Holistic Management**
  - Functional safety, process safety and security

- **Safety Design**
  - (SIF, SIL, SRS)

- **Expected Performance**

- **Safety Indicators**
  - Measured performance

- **Gap Analysis**
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- **Performance Validation**
  - Continuous enhancement of safety performance

- **Using Sustainable SIS**

**Management of Change**

- Automated and real-time documentation of the plant's safety status.

**Capital and Operational Expenditures**

- **CAPEX**
  - Reduction through embedded FSM structure and automated management of change.

- **OPEX**
  - Reduction through optimal safety/cost performance based on actual plant performance and ease of maintenance.

- **Holistic Management**
  - Functional safety, process safety and security

**Empowering key decision-makers**

- With opportunities to re-take ownership and actively manage their operational safety performance