



HARNESS THE POWER  
OF KNOWLEDGE

## Safety Instrumented Systems - SIS/SIL

TRAIN



## Introduction

Safety Instrumented Systems (SIS) are critical components of process safety management, providing independent protection layers to prevent or mitigate hazardous events in industrial processes

SIS are designed to achieve a specified Safety Integrity Level (SIL), a measure of their reliability in performing their safety function

This comprehensive 5-day training program, delivered by Global Business Minds, will provide participants with a thorough understanding of SIS principles, design methodologies, implementation strategies, and maintenance practices

## Day 1: Fundamentals of Safety Instrumented Systems

- Introduction to SIS and their role in process safety
- Understanding SIL and its application in SIS design
- SIS lifecycle management from concept to decommissioning
- Regulatory requirements and standards for SIS

## Day 2: SIS Design and Engineering

- Hazard identification and risk assessment for SIS implementation
- Functional safety analysis and safety integrity level determination
- SIS design principles and architectures
- Selection and specification of SIS components

## Day 3: SIS Implementation and Validation

- SIS hardware and software integration
- SIS installation, commissioning, and testing
- SIS configuration and change management
- SIS validation and certification

## Day 4: SIS Maintenance and Management

- SIS maintenance strategies and preventive maintenance programs
- Fault detection, diagnostics, and repair of SIS components
- SIS performance monitoring and trend analysis
- SIS documentation and recordkeeping

## Day 5: SIS Case Studies and Advanced Topics

- Real-world examples of SIS implementation and application
- Advanced SIS design techniques and technologies
- SIS integration with process control systems
- Future trends in SIS design and implementation

## Target Audience

This training program is designed for engineers, technicians, and professionals involved in the design, implementation, maintenance, or management of Safety Instrumented Systems in various industries, including:

- Process industries (oil and gas, petrochemical, chemical, etc )
- Power generation
- Pulp and paper
- Pharmaceutical
- Water and wastewater treatment

## Learning Outcomes

Upon completion of this training program, participants will be able to:

- Understand the principles and applications of Safety Instrumented Systems (SIS)

- Apply SIL concepts in SIS design and implementation
- Develop effective SIS maintenance strategies
- Manage the SIS lifecycle from concept to decommissioning
- Comply with regulatory requirements and standards for SIS