



# Safety Assurance for Process Industry

Enabling safety through testing, inspection, and certification

## INDUSTRIAL SAFETY

A failure of one part at an oil refinery or chemical plant can have serious implications for the workers and environment. Our portfolio of services provides the most effective measures to keep your process plants safe.

## FUNCTIONAL SAFETY

- Functional Safety Management (IEC 61508, IEC 61511)
- Functional Safety Assessment
- Safety Instrumented System (SIS)
- Safety Integrity Level (SIL)
- Safety Lifecycle Management
- Personnel Qualification

## EXPLOSION PROTECTION

- ATEX (Directive 2014/34/EU) and IECEx Equipment Certification
- IECEx Service Facility Certification
- IECEx Personnel Competence Certification (CoPC)
- Quality Assurance for Production Process (QS Audit for QAN and QAR)
- ATEX 137 (Directive 1999/92/EC) Assessment for explosion safety
- Review / update of the Explosion Protection Document
- Review / update of the Hazardous Areas Classification according to IEC/EN 60079-10
- Review / update of the Design Electrical Installations for Hazardous Areas according to IEC/EN 60079-14
- Ex-equipment Installations Inspection and Audit Inspections according to IEC/EN 60079-17

## SAFETY CASE

Safety Case Regime is the core feature of the WSH (MHI) Regulations in Singapore. It allows flexibility for MHIs to tailor their risk mitigating measures, enabling MHIs to address their risk in a more holistic manner:

- Safety Case Planning, Coordination, and Preparation
- Technical support in QRA, MAPP, PHA, HAZOP, LOPA, SHMS, ERP, and ALARP
- Safety Case Endorsement
- Safety Case Auditing and Assessment

## INDUSTRIAL CYBERSECURITY

- Assessment for Industrial Control System (ICS)
- IEC 62443

## YOUR BENEFITS AT A GLANCE

- Tap on the knowledge of our experts to strengthen the safety of your system and facility.
- Ensure product safety and compliance with occupational health and safety requirements worldwide.
- Significantly reduce approval time and cost by using harmonized standards and common test protocols.

## WHY TÜV RHEINLAND

TÜV Rheinland is a global leader in independent inspection services. TÜV Rheinland inspects technical equipment, products and services, oversees projects and helps to shape processes and information security for companies.

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