



**INDUSTRIES
& ENVIRONMENT**

**SAFER
GREENER
SMARTER**

Functional Safety Solutions

**SAFEGUARD YOUR OPERATIONS,
ASSETS & PEOPLE**

**In today's industrial environment,
process and machinery must
operate safely to protect workers
and minimise costly downtime.**

We deliver comprehensive functional safety solutions that help operators comply with global standards, reduce risk, and ensure safe, reliable process plant and equipment performance – reducing reputational risk and improving the bottom line.

WHAT IS FUNCTIONAL SAFETY?

Functional safety ensures the integrity of the systems that allow process plants and machinery to operate safely and respond correctly to abnormal situations, hazards, and faults. This prevents injury, damage to plant, environmental harm, and reputational risk.

It is a critical legal and technical requirement embedded in standards:

- Process plant safety: IEC 61508 / IEC 61511
- Machinery safety: AS/NZS 4024, Machinery Directive 2006/42/EC, ISO 13849, IEC 62061, ISO 12100

We support compliance across the entire machinery lifecycle – from design and build to operation and retrofit.

WHY FUNCTIONAL SAFETY MATTERS

Failure to meet functional safety standards exposes your business to risk of injury to personnel, regulatory fines, costly downtime, and damage to reputation.

We help you manage these risks by integrating safety across the entire lifecycle of your process plants and machinery. Our experts support you with:

- Safe design and engineering
- Verification and validation of safety systems
- Comprehensive risk assessments
- Retrofit planning and management
- Compliance certification

With our expert support, you can operate with confidence, knowing your systems are safe, reliable, and compliant.

COMPLIANCE MADE SIMPLE

Achieving and maintaining functional safety is complex. We combine deep expertise with practical experience to guide you through these challenges, helping your process plants and machinery meet the highest safety standards with minimal disruption.

SGS

TRAINING AND PERSONAL CERTIFICATION

SGS's safety engineers are typically certified to:

- TUV Function Safety Certified Engineer (Process)
- TUV Function Safety Certified Engineer (Machinery)

We have a depth of certified engineers that allows independent peer review and validation of the project teams work by independent departments within SGS.

We periodically facilitate external training for our clients on process and machinery safety to achieve TUV certification for the engineers attending, contact us to receive details of our upcoming courses.

CYBER SECURITY AND SAFETY ANALYTICS

Our in-house OT cyber security team works in conjunction with the functional safety team to address cyber-related aspects of functional safety, as required by current standards.

CERTIFICATION SERVICES

We deliver independent functional safety and cyber security certification to international ISO standards. Our experts combine deep process and machinery safety knowledge with engineering expertise to deliver efficient, reliable assessments that ensure compliance and build confidence in your systems.

OUR SERVICES

We provide tailored functional safety support for process plant operators, machine builders, and manufacturing plants, including:

- Hazard & risk identification and assessment
- Assessment of existing safety controls & residual risk
- Safety requirements specification
- Safety system concept selection & detailed design
- Construction & coding
- Independent design verification & implementation validation
- Support for modifications, retrofits, and hazard assessments
- Safety training aligned with key standards
- Conformity assessments & certification

Contact us

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Case studies: Our expertise in action

CASE STUDY 1: RNZAF FUELS PRECINCT

As Main Automation Contractor for the greenfield Fuels Precinct at Ohakea RNZAF airbase, we delivered a complete control system solution including:

- SCADA and HMI design
- Hardware specification and testing
- Rockwell PlantPAx SIS and PCS
- Virtualised servers and secure remote access
- OT cyber security integration

CASE STUDY 2: PAN PAC PROJECT PHOENIX

Following Cyclone Gabrielle, we helped Pan Pac fast-track the rebuild of critical systems, compressing years of upgrades into months, supporting their return to production. Our scope included:

- 35,000+ hours of work
- 30 new MCCs and compliant safety systems
- Automation of pulp presses and conveyors
- Full lifecycle support - HazID to validation

WHY CHOOSE SGS?

We're your trusted partner with deep functional safety expertise. We offer:

- Independent certification from a globally recognised body
- Practical, end-to-end support from concept to commissioning
- Global reach and local understanding of regulations
- Proven results across diverse industries and safety systems

Choose us to reduce risk, ensure compliance, and operate with confidence.