

COMPEL ROBOT SAFETY

Advanced Machine, Robotics & Functional Safety Consulting

Protecting People. Protecting Production. Protecting Investment.

Compel Robot Safety provides specialized consulting services for industrial robotics, machine safety, functional safety, and electrical control system compliance throughout North America.

With decades of experience supporting automotive manufacturers, robotics integrators, automated warehouses, and advanced manufacturing facilities, we help organizations reduce risk, achieve compliance, improve system reliability, and accelerate project deployment.

Our expertise bridges the gap between engineering, operations, maintenance, and safety by delivering practical solutions that support both worker protection and production objectives.

SPECIALIZED INDUSTRIES SERVED

Automotive Manufacturing

Body shops, powertrain manufacturing, assembly operations, welding cells, robotic material handling systems, automated inspection systems, and conveyor networks.

Robotics Integrators

Support throughout design, build, FAT, SAT, commissioning, and final customer acceptance.

Warehouse & Distribution Automation

Automated storage and retrieval systems (ASRS), robotic picking systems, AMRs, AGVs, palletizing systems, conveyor systems, and logistics automation.

Advanced Manufacturing

Packaging, food processing, consumer products, pharmaceutical manufacturing, chemical processing, and custom automated equipment.

CORE SERVICES

Robot Safety Assessments & Compliance

Industrial robots create unique hazards that require specialized expertise. Compel Robot Safety assists clients in identifying hazards and developing effective risk reduction strategies while maintaining operational efficiency.

Services include:

- Robot cell risk assessments
- Robotic system safety audits
- Collaborative robot (cobot) assessments
- Robot integration reviews
- Safeguarding strategy development
- Safety validation and verification
- End-of-arm tooling evaluations
- Multi-robot system reviews
- Automated material handling safety reviews

Applicable Standards:

- ANSI/RIA R15.06
- ISO 10218
- CSA Z434
- ISO 12100
- ISO 13849
- IEC 62061

Functional Safety Engineering

We provide independent evaluation of safety-related control systems to verify compliance and reliability.

Services include:

- Functional safety reviews
- Safety PLC assessments
- Safety architecture analysis
- Performance Level (PL) determination
- Safety Integrity Level (SIL) analysis
- Diagnostic coverage evaluations
- Safety function verification
- Safety validation testing
- Functional safety documentation review

Our approach helps clients avoid costly redesigns, project delays, and compliance issues before equipment reaches production.

Machine Risk Assessments

A properly executed risk assessment is the foundation of every successful safety program.

Services include:

- New equipment assessments
- Existing machine assessments
- Production line assessments
- Facility-wide machine safety evaluations
- Hazard identification workshops
- Risk ranking and prioritization
- Safeguarding recommendations
- Risk reduction implementation planning

Deliverables include detailed reports, hazard registers, risk rankings, and practical engineering recommendations

Electrical Safety & Controls Review

Many machine safety failures originate within the electrical control system. We help clients verify that electrical designs meet both operational and safety requirements.

Services include:

- Electrical schematic reviews
- Safety circuit analysis
- Emergency stop verification
- Safety relay assessments
- Safety PLC reviews
- Control panel audits
- Fault analysis
- Lockout/Tagout evaluations
- Energy isolation reviews

PROJECT SUPPORT SERVICES

Design Review Support

Reduce costly rework by incorporating safety requirements early in the design process.

Support includes:

- Concept reviews
- Design reviews
- Safety requirement development
- Functional specifications
- Safety architecture recommendations
- Compliance planning

Our involvement early in the project lifecycle significantly reduces commissioning issues and retrofit costs.

Factory Acceptance Test (FAT) Support

Before equipment ships, we help verify that safety systems perform as intended.

Services include:

- Safety function verification
- FAT witnessing
- Compliance review
- Deficiency identification
- Corrective action recommendations

Site Acceptance Test (SAT) Support

We support final commissioning activities and help ensure safe startup.

Services include:

- Safety validation
- Safeguarding verification
- Commissioning support
- Startup assistance
- Final compliance reviews

ONTARIO PSHSR SUPPORT

Compel Robot Safety provides specialized support for Ontario facilities requiring compliance with the Industrial Establishments Regulation and Pre-Start Health and Safety Review requirements. We currently do not provide the final letter stamped by a professional engineer, but provide all documentation required for the Engineer.

Services include:

- Machinery evaluations
- Compliance reviews
- Documentation preparation
- Risk assessment support
- Corrective action planning
- Project coordination

SAFETY PROGRAM DEVELOPMENT

Organizations seeking a long-term machine safety strategy can benefit from customized program development.

Services include:

- Corporate machine safety standards
- Machine safety governance programs
- Safety specification templates
- Design standards
- Procurement requirements
- Contractor safety requirements
- Global safety harmonization initiatives

TRAINING SERVICES

Customized training programs available for:

- Engineers
- Controls engineers
- Maintenance personnel
- Supervisors
- Project managers
- Safety professionals
- Operations leadership

Topics include:

- Machine Safety Fundamentals
- Robot Safety
- Functional Safety
- Risk Assessment Methodology
- ISO 13849
- RIA R15.06
- Lockout/Tagout
- Safeguarding Technologies

WHY COMPEL ROBOT SAFETY?

Compel Robot Safety combines real-world engineering experience with extensive expertise in industrial safety standards and automation systems.

Key Advantages:

- ✓ Over 500 machine and robotic risk assessments completed
- ✓ More than 30 years of industrial controls and automation experience
- ✓ Extensive automotive manufacturing expertise
- ✓ Robotics standards committee participation
- ✓ Functional safety and controls specialization
- ✓ Practical solutions focused on production realities
- ✓ Independent, objective assessments
- ✓ North American regulatory and standards expertise

Whether supporting a new robotic installation, validating an automated warehouse system, performing machine safety audits, or assisting with corporate safety initiatives, Compel Robot Safety delivers practical engineering solutions that protect workers while supporting operational excellence.

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Advanced Machine Safety • Robotics Safety • Functional Safety • Electrical Safety • Compliance Consulting

"Making Automation Safer Without Slowing Production."