



Providing Board to Board safety to meet the challenges of intelligent systems

Increased use of software for automation, high levels of systems integration and new requirements for connectivity, all present a significant challenge to safety and certification of smarter, more intelligent systems. These challenges are seen in applications ranging from safety certification of Unmanned Air Systems to the introduction of advanced driver-assistance (ADAS) to meet the standards of ISO 26262 in the automotive sector.

Businesses in all industries find themselves needing to:

- Ensure compliance with societal requirements: legal, regulations and standards
- Take account of rapid changes in technology

- Reduce time to market
- Improve efficiency, where safety is a major cost driver

Intelligent Systems / Altran works with its clients to achieve:

- Safe introduction of new systems, products or technology
- Improvement in the safety performance of their organisation, e.g. through standards compliance & product assurance
- Reduction in the cost & time of safety achievement (while maintaining safety)

We offer

▶ "Board to Board" safety

Intelligent Systems / Altran has been providing safety services for intelligent systems for over 20 years, and has a Global Safety Practice operating in 7 regulated industries, supported by a world-wide safety-related systems build & assurance capability.

Our packaged offers address a wide range of organisational and system levels needs, from company **board** of Directors to printed circuit **board** level.

Enterprise safety governance & consulting: Providing customers at board level including senior directors with strategic and management advice on many aspects of safety management and engineering.

Safety Partnering: Forming part of the client's bid team, taking responsibility for managing the safety activities of the project, and its suppliers, including all aspects of safety and its integration.

End-to-End Safety Engineering: A full end-to-end safety lifecycle expertise from initial safety concept through to safety case development and certification.

RAM: Reliability, Availability and Maintainability analyses in support of system design and system safety assessment activities.

eSafetyCase: Our electronic Safety Case provides a novel and efficient approach for capturing and presenting large amounts of data and safety arguments.

aSSureD – Safety-related System Build & Assurance: developing and assuring safety critical systems up to SIL 4, with experience from large-scale distributed control centre systems to small-scale embedded systems.

Independent Safety Assessment (ISA): Providing independent opinions on safety work as required by a regulator or for delivery risk reduction. This offer includes our branded **activeISA™** approach.

Notified Body Conformity Assessment: as a European Notified Body (NoBo) we provide conformity assessment against the European Railway System Directive for Interoperability 2001/16/EC for all principal signalling systems for clients supplying globally.

Training: we offer more than twenty safety training courses for engineers and managers covering the safety lifecycle and industry-specific issues in rail, aerospace, defence, automotive and air traffic management.

You benefit from

Intelligent Systems / Altran provides clients with a trusted safety delivery partner, with a proven ability to deal with and de-risk the most difficult safety challenges – in terms of severity of issues, complexity or novelty. Clients benefit from:

1. Expertise and consultancy covering the entire range of safety disciplines and with a wide experience of the application of national and international standards and best practices across many regulated industries.
2. Board-to-board competences from company board-level governance to detailed safety analysis of circuit boards.
3. A demonstrable ability to act as a strategic partner on large, complex programmes.
4. Our own advanced methods and tools for use in addressing client requirements and provide a competitive edge.
5. A proven track record in building and assuring safety-related systems, underpinning our consultancy expertise.

Success Stories

▶ Safety Partner for Thales Watchkeeper Unmanned Air Vehicle

| Objective:

Thales selected *Intelligent Systems / Altran* as safety partner for its Watchkeeper Unmanned Air Vehicle (UAV). We delivered the safety integration for the entire vehicle, covering all airborne & ground-based embedded systems, including safety management of the entire vehicle supply chain. The main deliverable was an electronic safety case to support release into service, which was developed using the eSafetyCase technology.

| Results:

Intelligent Systems / Altran enabled Watchkeeper to successfully complete its first unmanned flight in UK airspace.

▶ Automotive Safety Management

| Objective:

Intelligent Systems / Altran was engaged by an automotive OEM wanting to meet the requirements of ISO 26262 to address safety in a systematic way. We reviewed existing products and processes and developed a new approach, including clearer safety processes, a tighter integration of safety with project plans, and common safety reporting. The new approach was deployed through coaching and developing revised safety deliverables.

| Results:

The OEM now addresses safety in a consistent manner, meeting the requirements of ISO 26262.

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