ENHANCE SAFETY, ENGAGE THE EXPERTS

Manage your way to functional safety with ISO 26262
ISO 26262 - FUNCTIONAL SAFETY FOR ROAD VEHICLES

Applying the ISO 26262 standard to products and processes within your organization will help produce safer vehicles for our roads. Related services will help you adopt the standard and communicate trust and confidence to your stakeholders.

In the past functional safety within the automotive industry has been managed with a generic standard (IEC 61508 – Functional Safety of electrical/electronic/programmable electronic safety-related systems). With the publication of the industry specific standard ISO 26262, the specific needs of the automotive industry in the area in Electrical and/or Electronic (E/E) systems functional safety are addressed directly.

What are the main benefits?

When implementing this standard you will contribute to the production of road vehicles which enjoy a high level of safety designed and built into their components right from the start and not as add-on features. Compliance with this standard will provide assurance to the market and to consumers that they are purchasing a safer product. Compliance with this standard will provide assurance to the market and to consumers that they are purchasing a safer product. Compliance with this standard will provide assurance to the market and to consumers that they are purchasing a safer product.

It satisfies the general regulatory principle that “vehicle safety shall be designed in line with current state of science and technology”.

The framework provided by ISO 26262 deals with the functional safety of:

- products by requiring a safety case and a number of confirmation measures to be applied during the product lifecycle, and
- processes since it requires specific lifecycle processes to be implemented within a safety management system driven by a risk-based approach.

Addressing functional safety both from a product and process system perspective, the standard:

- a) defines an automotive safety lifecycle (management, development, production, operation, service, decommissioning) and supports tailoring of the necessary activities during these lifecycle phases;
- b) defines a risk-based approach for determining safety integrity levels specific for the automotive industry (ASIL – Automotive Safety Integrity Level);
- c) specifies requirements for validation and confirmation measures in order to achieve an acceptable level of safety;
- d) specifies applicable requirements for avoiding unreasonable residual risk for each ASIL;
- e) specifies requirements for the relation with suppliers.

What is the standard?

ISO 26262 is a multipart standard defining requirements and providing guidelines for achieving functional safety in E/E systems installed in road vehicles.

From a regulatory point of view the standard ISO 26262 is currently considered a best practice framework for achieving functional safety in road vehicles.
How do I get started?
The automotive industry has debated functional safety for years. It took six years to finally reach an international consensus on the structure and content of the standard. With the realization of ISO 26262, you may be concerned with the implications on current or future projects or with how to effectively implement it.

Complying with this standard will require a significant investment in training, primarily to build specific skills and competencies for your functional safety engineers involved in automotive projects. Those responsible for establishing and implementing processes aimed at achieving compliance to the standard and safety in road vehicles must assess their current practices. They should work to identify gaps and initiate process improvement programs especially in the area of risk management. Ensuring that all new developments and any maintenance of existing systems comply with the standard’s requirements may demand some degree of re-engineering of the safety aspects.

You should establish mechanisms or measures to assess your compliance level. Such confirmation measures aimed at assuring product safety require specific audit/assessment skills and various degrees of independence between the assessor and the project staff involved in the development. If this is a competence you do not currently have internally, an external independent assessor could be useful. In addition, having an independent, external assessor may provide an additional point of view and thus added value.

How can DNV GL - Business Assurance help?
DNV GL - Business Assurance offers a range of services to help companies working to adopt the ISO 26262 standard on their road toward safer vehicles.

Training (basic and advanced)
Our training offer includes short introductory courses or executive overviews aimed at providing basic knowledge on the purpose, application, structure and content of the standard.

The advanced course addresses each individual part of the standard. The advanced training will enhance the skills of safety engineers in the various disciplines (system, hardware, software) with respect to the concepts of risk analysis and risk mitigation.

The training also targets various levels, e.g. supervised practitioners, practitioners and experts.

We also provide training that targets the process management competence within the areas of establishing, planning and monitoring product, hardware or software lifecycle processes. In addition we help improve specific competences within the area of safety assurance for the execution of effective confirmation measures on products and processes.

Personnel certification
Individuals that attend to our courses will increase their functional safety skills and knowledge and making them more valuable to their employers. We also make it possible for them to demonstrate their competency through our quality certification programs and get a Certificate of Competence (with exam) or Certificate of Training (without exam) complying ISO 26262-2 5.4.3.1.

Readiness assessment
If you are wondering to what degree your organization is compliant with the standard, a readiness assessment will provide you an accurate measure. This gap analysis ends in a report that identifies the weaknesses or gaps that need to be filled by your organization if you wish to comply with ISO 26262. Our approach here is to focus on alignment with best practices more than a regular conformity certification approach, giving you a clearer picture of how to reach full compliance.

Scored assessment (rating protocol)
The scored assessment focuses on processes rather than products. Process capability/maturity schemes are already well established within the industry, e.g.
CMMI and Automotive SPICE. The scored assessment will allow you to evaluate your organization’s level of maturity/capability of your processes in order to initiate process improvements following the capability/maturity scale while maintaining alignment with the ISO 26262 requirements.

**Confirmation measure (verification)**
The ISO 26262 standard requires that you have in place confirmation measures that are all aimed at ensuring that the required safety integrity level is achieved in the E/E component or product.

Confirmation measures include:
1. confirmation reviews that intend to check the compliance of selected work products to the corresponding requirements of ISO 26262.
2. functional safety audits that evaluate the implementation of the processes required for the functional safety activities.
3. functional safety assessments that evaluate the functional safety achieved by the item in question. Based upon the safety integrity level required for a specific item, the confirmation measures will be performed with various degrees of independence of the reviewer/auditor/assessor from the project involved in the development activities.

DNV GL - Business Assurance can provide personnel for each of these tasks, every assessor having the maximum level of independence and highest level of expertise.

**Why partner with DNV GL - Business Assurance?**
DNV GL is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. With origins stretching back to 1864 and operations in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.

As one of the world’s leading certification bodies, we help businesses assure the performance of their organizations, products, people, facilities and supply chains through certification, verification, assessment and training services. Partnering with our customers, we build sustainable business performance and create stakeholder trust across all types of industries.

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