



SOFTWARE INTENSIVE SYSTEMS

Private Functional Safety Consulting Workshops

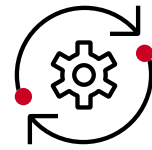
Pair your engineering team's design expertise with implementation strategies that can advance safety

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Standards provide methodologies on how to reduce risk using various industry-accepted assurance frameworks. Through interactive engagement, UL Solutions Software Intensive Systems (SIS) offers private consulting workshops that challenge practicing engineers to start gaining traction on safety activities early on in product development.



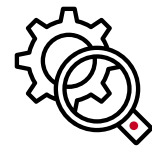
Safety of the Intended Functionality (SOTIF)

This interactive three-day workshop highlights how to architect systems and implement safety concepts from the ISO 21448 (SOTIF) standard. Discussions include hazard identification, scenario development, SOTIF verification and validation strategies, and the SOTIF release process.



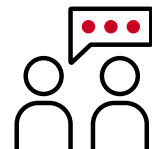
Gap analysis

For up to three days, our consultants will examine your organization's current safety processes and work product evidence, identify lapses and recommend areas for improvement.



Hazard Analysis and Risk Assessment (HARA)

This two-day workshop will explain how to leverage key elements of an item definition and perform an ISO 26262 HARA, which enables determination of worst-case hazardous situations, corresponding automotive safety integrity level (ASIL) ratings and relevant safety goals.



Safety requirements development

For two days, UL Solutions safety experts will advise, coach and work with you to jointly develop safety requirements at the vehicle, system, hardware and software levels consistent with ISO 26262 requirements in Parts 3, 4, 5 and 6, while also following guidelines from Part 8, Clause 6.

Qualitative safety analysis

The objective of this two-day ISO 26262 workshop is to help our customers make substantial progress on their safety failure modes and effects analyses (FMEAs) based on their system, hardware or software designs. These include, but are not limited to, system and hardware qualitative FMEA and fault tree analysis (FTA), software mitigation checklists, software FMEA and dependent failure analysis (DFA).

Quantitative safety analysis

The goal of this three-day event is to kick-start the required quantitative safety analysis, which can be leveraged to calculate hardware metrics. Our experts will explore the process of using failure modes, effects and diagnostics analysis (FMEDA) or quantitative FTA methods based on the customer's hardware design documentation, such as schematics and bills of material (BOMs). This workshop can be performed both at the board level (ISO 26262 – Part 5) or extended to the chip level (ISO 26262 – Part 11).

Safety manual and SEooC framework

Over two days, UL Solutions will provide applicable templates and outline a step-by-step framework to support the safety element out of context (SEooC) requirements, assumptions of use (AoU) and safety manual content development according to ISO 26262, Parts 10 and 11.

Semiconductor design

This two-day workshop, led by UL Solutions semiconductor safety experts, focuses on ISO 26262, Part 11 for semiconductors, guidance on design and verification of analog, digital and mixed-signal safety critical semiconductor devices. SEooC is spotlighted in addition to architectural design guidelines, quantitative analysis, and tools for verification.

Software tool qualification

During this two-day workshop, our experts can actively collaborate with your engineering or software tools groups to evaluate safety-critical software tools for Tool Confidence Levels (TCLs) and, where applicable, help assemble software tool qualification arguments for TCL2 and TCL3 based on ISO 26262, Part 8, Clause 11.





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