



SOFTWARE INTENSIVE SYSTEMS

Autonomy safety and functional safety services for the automotive industry

UL Solutions brings together widely trusted names in automotive safety to offer comprehensive services for OEMs and their tier suppliers.

Within UL Solutions, we provide a broad portfolio of offerings to many industries. This includes certification, testing, inspection, assessment, verification and consulting services. In order to protect and prevent any conflict of interest, perception of conflict of interest and protection of both our brand and our customers' brands, UL Solutions has processes in place to identify and manage any potential conflicts of interest and maintain the impartiality of our conformity assessment services.

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Autonomy safety and functional safety standards and best practices

Autonomous technology spans across software, electrical and traditional mechanical systems. Automotive OEMs and suppliers must consider a host of standards and industry best practices to address autonomy safety and functional safety, including:

- **UL 4600, the Standard for Evaluation of Autonomous Products** – This Standard addresses safety principles and processes for evaluating fully autonomous products requiring no human driver supervision. Its approach enables design process flexibility to facilitate the rapid development of the technology.
- **ISO 26262, Road Vehicles – Functional Safety** – This automotive standard emphasizes functional safety management in the event of a system failure due to malfunctions or bugs in safety-related electrical or electronic (E/E) systems, and is a crucial factor in driving automation safety.
- **ISO 21448:2022, Road Vehicles – Safety of the Intended Functionality (SOTIF)** – This standard addresses unintended behavior of systems in the absence of ISO 26262 faults; it applies to advanced driver assistance and emergency intervention systems.



Why choose UL Solutions?

When integrating powerful technology that makes critical decisions relying on software and systems, safety has paramount importance. Innovators must stay aware of and compliant with rapidly evolving industry safety standards to successfully manage complexity and build widespread confidence in autonomous technologies.

UL Solutions Software Intensive Systems (SIS) offers a wide range of assessment, training and consulting services to help original equipment manufacturers (OEMs) and their tier suppliers understand requirements for autonomy safety and functional safety. We support you by helping you understand

the requirements for the required safety systems and processes. We assess safety systems and processes to support our customers in the automotive industry.

Advancements in autonomous vehicle technologies hold the potential to revolutionize mobility for commuters, commercial fleets and shared mobility providers while dramatically reducing the number of fatalities caused by roadway crashes. Although the potential benefits of autonomous vehicles are significant, the complexities of full driving automation, combined with the large field of competitors using widely different algorithms, introduces considerable safety challenges.

Combining the well-known and trusted automotive expertise of:

- kVA by UL Solutions
- Method Park by UL Solutions
- Kugler Maag Cie by UL Solutions

UL Solutions SIS offers best-in-class training and consulting services, in addition to comprehensive assessment services.

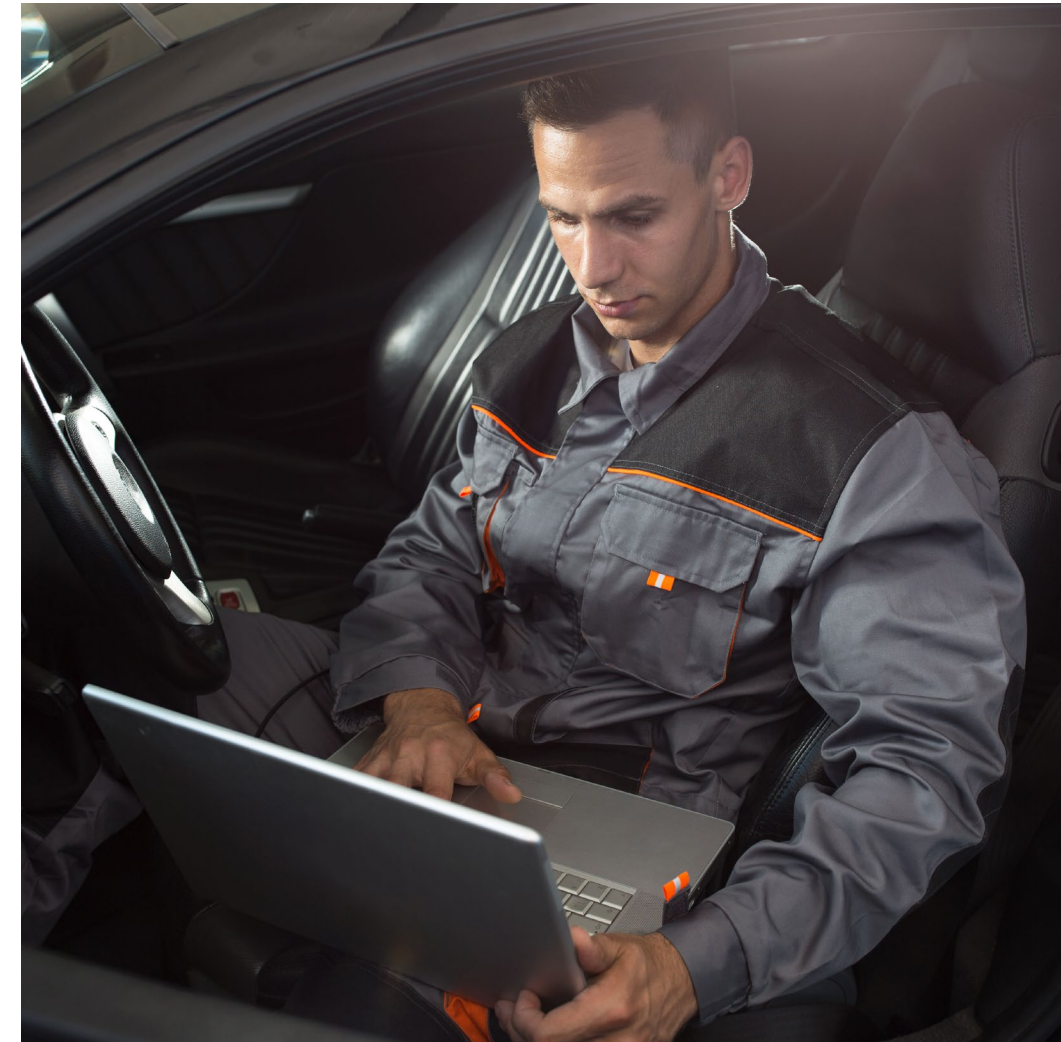
Assessment

As technology rapidly evolves, we adapt our services to meet automotive OEMs and suppliers' changing needs worldwide. In addition to our traditional training and certification programs for UL Standards, such as UL 4600, we also offer assessments and audits for ISO 26262 and ISO 21448:2022, among others. With autonomy safety and functional safety assessments and audits, we can help you confirm your products' safety and market acceptance throughout the product development life cycle.

Autonomy safety and functional safety assessments from unbiased experts

Autonomy safety and functional safety standards generally require an independent assessment. Whether on-site or remote, our experts can work with your teams to evaluate artifacts, conduct interviews, examine source codes and look closely at safety processes. As your assessor, we provide you unbiased guidance throughout the entire safety life cycle to help you position your company for a successful assessment for you to offer a safer product.

Our global team of assessors can locally service your assessment and audit needs. As a well-recognized certification body from both a technology and training perspective, we can equip your team with competence in harmonized assessment processes and design traceability.



Comprehensive training and professional development resources for OEMs and suppliers

Automotive OEMs and suppliers rely on our experts at Kugler Maag Cie by UL Solutions, kVA by UL Solutions and Method Park by UL Solutions for world-class training events and personnel certification services focused on autonomy safety and functional safety.

Our programs feature instruction from a worldwide group of diverse, experienced automotive safety experts and are optimized for OEMs, product designers, systems engineers, hardware and software developers and suppliers. Our offerings include both asynchronous on-demand virtual courses as well as instructor-led trainings.

Through our training and education programs, we can help you:

- Gain insights into the interpretation and application of relevant safety standards and best practices, such as UL 4600, ISO 26262 and ISO 21448:2022
- Explore implementing these standards into your development programs
- Develop safety cases in support of autonomous vehicle technologies
- Evaluate end-to-end verification and validation of autonomous vehicles
- Understand operational design domains (ODD)

To learn more about UL Solutions autonomy safety and functional safety assessment services, visit [UL.com/SIS](https://www.ul.com/SIS).



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