

Reduce risk, protect consumers with functional safety solutions



The growing complexity of products in the digital age demands a new approach to safety. Products ranging from toys to autonomous vehicles, mobile phones and appliances include software, microcontrollers and smart power sources, all of which must work in harmony to function properly. In some cases, product failure may pose a risk to human health and life. Functional safety offers a comprehensive approach focused on reducing the risks of simple and complex systems so that products function safely in the event of an electrical or electronic malfunction.

Results of functional safety assessment may require adjustments to product design or components in order to reduce risk. UL provides testing and certification and helps companies navigate the complex technical and regulatory challenges of today's functional safety landscape, build a culture of functional safety in their own organizations and achieve global market acceptance. With functional safety assessment, companies can confidently deliver their products to market, understanding that they operate safely under expected and unexpected conditions.

Why choose UL?

A trusted name in safety, UL drives global research and standards to continually advance and meet ever-evolving product safety, performance and interoperability needs. UL's global network of technical experts and state-of-the-art facilities, along with our longstanding relationships with regulatory authorities, partner laboratories and industry technical leaders, puts functional safety resources at manufacturers' fingertips, regardless of geographic location or product type. Manufacturers trust in UL's engineers and experts for their functional safety needs for the following reasons:

- Knowledge you can trust — UL, a pioneer in functional safety, assessed thousands of different types of products. We help you evaluate test results and consider approaches for improved functional safety.
- Speed and efficiency — Our advanced testing facilities worldwide help streamline logistics and accelerate the testing process for greater efficiency and speed to market.
- Global Market Access — UL advances the development of functional safety standards. We partner with organizations such as the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) to help develop new standards. Our experts are well-versed on the network of global standards and can help you navigate the complex regulatory landscape.



Did you know?

For qualifying companies, the UL Functional Safety Marks can be added in the process of attaining a traditional safety certification from UL. The UL Functional Safety Mark can be combined with the traditional UL safety Mark on qualifying products, and it is available for compliance to U.S., Canada and European requirements.

For manufacturers of electronic systems components, the UL Functional Safety Recognized Component Mark provides final product manufacturers with assurance that a component has met rigorous functional safety standards.

Functional Safety Certification

UL Functional Safety Certification Program delivers knowledge and skills in functional safety in the automotive, semiconductor, autonomous vehicles, machinery, industrial automation, cybersecurity and consumer electronics sectors. UL conducts testing and evaluations to many standards including:

Automotive	Battery storage and energy storage systems	Oil and gas, machinery and industrial automation	UL functional safety and autonomy safety
ISO26262:2018 - Road vehicles - Functional safety	UL 1973 , the Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications	IEC 61508 - Functional safety of electrical/ electronic/ programmable electronic safety-related systems	UL 991 , the Standard for Tests for Safety-Related Controls Employing Solid-State Devices
ISO 21448 - Road vehicles - Safety of the intended functionality (SOTIF)	UL 9540 , the Standard for Energy Storage Systems and Equipment	IEC 61511 - Functional safety - Safety instrumented systems for the process industry sector	UL 1998 , the Standard for Software in Programmable Components
ISO 21434 - Road vehicles - Cybersecurity engineering	UL 2271 , the Standard for Batteries for Use In Light Electric Vehicle (LEV) Applications	IEC 62061 - Safety of machinery - Functional safety of safety-related control systems	UL 4600 , the Standard for the Evaluation of Autonomous Products
ISO 15504 - Information Technology - Process Assessment (ASPICE)	UL 2580 , the Standard for Batteries for Use In Electric Vehicles	ISO 13849 - Safety of machinery - Safety-related parts of control systems	IEC/UL 60730 - Standard for Automatic Electrical Controls for Household and Similar Use Annex H
	UL 2849 , the Standard for Electrical Systems for eBikes	ISO 25119 - Tractors and machinery for agriculture and forestry - Safety-related parts of control systems	UL 3100 , the Standard for Automated Mobile Platforms (AMPs)



UL HELPS COMPANIES

NAVIGATE



the complex technical and regulatory challenges

of today's
functional safety



landscape.

Automotive	Battery storage and energy storage systems	Oil and gas, machinery and industrial automation	UL functional safety and autonomy safety
	UL 2272, the Standard for Electrical Systems for Personal E-Mobility Device	ISO 19014 - Earth-moving machinery - Functional safety	UL 3300, the Outline of Investigation for Service, Communication, Information, Education and Entertainment Robots
	UL 1741, the Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources		UL 2900, the Standard for Software Cybersecurity for Network-Connectable Products
			UL 5500, the Standard for Safety for Remote Software Updates

In addition to assessment, UL also offers training and advisory services to establish a culture of functional safety within your organization. Let us help you mitigate risk and enhance trust in your brand with our functional safety solutions.

Get started today and learn more by visiting [our website](#).



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