



# Comprehensive compliance solutions for robotics equipment

## For safer and faster market access

Increasingly, robots are everywhere. The technology has matured and expanded beyond industrial environments, and can now be found everywhere from the operating room to the home, performing tasks ranging from the mundane to the extremely sensitive.

Because many robots, collaborative robots (cobots) and automated mobile platforms (AMPs) work in close proximity to people, certification and compliance with safety-hazard standards are a necessity. UL is a trusted partner for robot manufacturers, helping to ensure that the robots, cobots and AMPs they sell are safer and more reliable.

### Testing the limits

UL certification services help ensure quality and a competitive advantage in robotics components and systems, including:

- 6-axis articulated robots
- Palletizers
- Delta / PKR robots
- Linear robots
- Collaborative robots (cobots)
- Personal care robots
- Automated guided vehicles (AGVs)
- Automated mobile platforms (AMPs)
- Storage and retrieval systems
- Controllers
- Grippers / end effectors
- Pendants, including wireless types
- Axis limiting and control devices
- Welding equipment

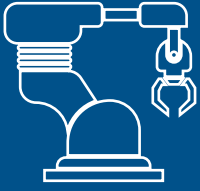
### UL robotics industry services

#### Certification, evaluation and inspection

In areas as diverse as product safety, interoperability, performance, energy efficiency, functional safety and medical applications, UL helps customers meet regulatory requirements, that include:

- ANSI / UL 1740, the Standard for Robots and Robotic Equipment
- ANSI / RIA R15.06, the Standard for Industrial Robots and Robot Systems – Safety requirements
- CAN / CSA Z434, standard for Industrial Robots and Robot Systems
- NFPA 79, Electrical Standard for Industrial Machinery
- ISO 10218, Robots and robotic devices – Safety requirements for industrial robots
- ISO 13482, Robots and robotic devices – Safety requirements for personal care robots
- UL 3100, the Outline of Investigation for Automated Mobile Platforms (AMPs)
- ANSI / ISO 12100, Risk Assessment Facilitation
- EN 61508, Functional Safety
- ISO 13849, Functional Safety
- IEC 62061, Functional Safety
- HazLoc / Intrinsically Safe / ATEX
- Machinery Directive (2006/42/EC)
- EMC Directive (2004/108/EC)





UL has market-leading experience in product testing and certification, with a complete portfolio of services that begins at the earliest phase of product design.



UL Field Evaluations bridge the gap between uncertified equipment and a code-compliant installation acceptable to the Authority Having Jurisdiction. We find solutions that allow businesses to safely operate their newly installed equipment and assist jurisdictions enforcing their adopted regulations.

UL's Field Evaluation staff is able to meet tight schedules and offer the assurance of getting the job done right, as well as at a competitive cost. We have access to the world's most extensive database of product standards and certified components, and we deliver this right to your door.

## Benefits of partnering with UL

Our customer-centred services for robotics offer a unique range of qualities and benefits that add value to your product, your brand and your company, including:

### Your greater credibility

The UL Mark is a well-recognized global symbol of safety, and boosts trust and confidence in your product. Our 30 years of experience in robotics certification and our participation in the Robotics Industries Association (RIA) – specifically RIA R15.06 – gives us a unique understanding of what is required, as does our longstanding relationship with Authorities Having Jurisdiction (AHJs).

### Your unique solution

The UL robotics equipment service spectrum ranges across advisory services and testing to inspection and certification. Our expert engineers use their deep technical expertise to quickly but methodically measure your project demands and specifications. We are then able to tailor-make a service solution that fits. And if your needs change, we swiftly and flexibly adapt, rethink, and retool a new solution.

### Your experienced consultant

For over 120 years, expert UL engineers and labs have delivered valuable insight into the current landscape and future course of technology, regulations and markets trends. Even if you don't specifically request assistance with design-flaw

mitigation, follow-up service, risk management or usability, our engineers have a breadth of ancillary knowledge that they place at your disposal, as part of our quality management system perspective.

### Your consistent partner

By working with the same engineer throughout the entire certification processes, you benefit from added technical service consistency, and the peace of mind that comes from knowing that your products, tests and objectives are in the hands of an expert who knows you well.

### Your single resource

Consolidating all your product testing and certification needs with a single global organization creates significant efficiencies, and a greater return on your compliance investment. UL can provide you with global coverage for anything from EMC or fire and shock testing to performance verification.

### Your bottom-line advantage

We want to expand your market presence while lowering your costs in time and money. So we offer pre-certification testing, as well as bundled certifications that use harmonized requirements and gaps in the applicable international standards, to your advantage.

For more information, visit [UL.com/Robotics](https://www.ul.com/Robotics) or to contact us, at [UL.com/Contact-Robotics](https://www.ul.com/Contact-Robotics)



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