



Autonomous Mobile Robots (AMR) Safety Features

AMRs are a key automation component in large-scale manufacturing facilities and warehouses and operate in a shared environment with humans. The robots must maintain safe operations to reduce liability and risk-related issues. Does your AMR have the right safety features? Let our Flex engineers design and engineer your next generation of AMRs with safety in mind.

Key safety factors for your AMR:

Functional Safety

- Conduct a Hazard and Risk Analysis (HARA) to identify potential hazardous situations and to categorize them according to severity, probability, and controllability
- Perform a Failure Modes and Effects Analysis (FMEA) to review the components and assemblies to identify possible failures and their cause and effect
- Carry out a Diagnostic Analysis to verify the potential risks are reduced to an acceptable level
- Verify and validate the software to ensure proper operation
- Follow established international functional safety standards

Electrical Safety

- Design the AMR to be electronically safe for nearby workers and reduce any related risks
- Ensure the AMR meets all regulatory and engineering requirements for the intended environment
- Obtain safety certification from nationally recognized organizations for the proposed markets

Autonomous Mobile Robots (AMR)

The engineering, manufacturing, and supply chain expertise and capabilities you need for your AMR project.



Robotics Engineering

- Extensive engineering experience in electrical, mechanical, and embedded software design to support safety features
- A strong product development process backed by validation testing
- Knowledge in global robotics safety regulations and requirements

Manufacturing

- Provide a quality review of all the components to ensure safety standards are maintained
- Rigorous internal and external testing of components during and upon completion of the manufacturing process
- Regional manufacturing locations that are close to the customer for reduced logistics costs



Supply Chain

- Experienced supply chain management for robotics components that meet safety requirements
- Access to a global supply chain and regional preferred suppliers lists to help manage costs

For more information, visit flex.com/connect

Flex (Reg. No. 199002645H) is the manufacturing partner of choice that helps a diverse customer base design and build products that improve the world. Through the collective strength of a global workforce across 30 countries and responsible, sustainable operations, Flex delivers technology innovation, supply chain, and manufacturing solutions to various industries and end markets.

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