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The Next Step in Robotic Industrial Inspection

Summary

ANYbotics, a pioneering Swiss robotics company, announces a new generation of its autonomous legged robot. Named ANYmal C, this robot is optimized for industrial inspection tasks where it can provide high availability, safety, and reliability for automated routine inspections with a wide range of sensors. ANYmal C will be presented for the first time at the World Robot Conference in Beijing on August 20th, 2019.

YOUTUBE VIDEO: https://youtu.be/_ffqWvdZyvk



Industrial Inspection with Mobile Robots

Autonomous mobile robots will revolutionize industrial inspection. Executing pre-defined missions, autonomous systems can safely and reliably navigate through industrial plants and carry sensors to collect and interpret equipment and environment data.

To navigate the complex infrastructure of industrial plants, ANYbotics introduces their next-generation autonomous legged robot ANYmal C. Built around the superior mobility of four legs, ANYmal C can move through industrial environments including steps and stairs without the need for any adaptations to a facility. Carrying a variety of sensors such as visual and thermal cameras, LIDAR, microphones, and gas detection sensors, ANYmal perceives and interprets a

broad range of physical properties. The system evaluates instruments, checks for the status of objects, detects hotspots, and senses gases – even in situations that are threatening to human inspectors.

ANYmal C – The Next Step

The ANYbotics team has been building legged robots for more than ten years and developed the new generation ANYmal C from the feet up based on industry requirements. At the core, powerful torque-controllable actuators have been designed to carry the robot over steep stairs and to reliably take the strain of over a million cycles. LIDAR and depth cameras provide a 360-degree high precision view of the robot's environment. Teleoperation is simplified by integrated wide-angle cameras and an industrial-grade remote control. Intel i7 Hexa-core processors deliver the computation power for advanced locomotion control, real-time mapping, autonomous navigation, and for sophisticated on-board custom applications. These features are enclosed in a user-friendly, ruggedized, and fully water- and dustproof IP67 design. ANYmal C carries up to 10 kg in payload, and after two hours of operations on a single battery charge, the robot autonomously connects to a docking station for recharging.

Awaited by the Industry

The energy, oil & gas, processing, and many other industries have been eagerly awaiting mobile robotic solutions to improve safety and efficiency in their operations. Due to their high complexity, industrial plants are difficult to operate without failures, and due to high downtime costs, plant operators are very keen to avoid interruptions. To prevent equipment from failing, plants need to be monitored and inspected regularly, and manual data collection by human inspectors is a tedious and error-prone task in a potentially dangerous environment. Even if parts of the equipment are sensorized, defects such as leakages, rust, hotspots, or missing equipment are challenging to detect. For this reason, autonomous mobile robots will fundamentally change the inspection strategy of operators and allow for optimized plant architectures in the future.

The Way Forward

ANYmal C is a pioneering system ready to be tested on industrial sites. To explore the potential of autonomous robotic inspection, ANYbotics provides test installations and pilot projects worldwide to prepare for completely unsupervised installations in the future. ANYmal C is available for sale to development customers, engineering partners, and universities including a complete software and simulation environment. First ANYmal C robots will be ready for shipment before the end of the year. For order inquiries, reach out to ANYbotics at www.anybotics.com.

Contact

Dr. Péter Fankhauser, info@anybotics.com

Photos

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