

Autonomous Asset Inspection



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Use Case Overview:

Regular inspection of industrial sites and assets is crucial for maintaining reliable operations. Continuous monitoring enables predictive and condition-based maintenance, preventing costly downtime and ensuring constant operation in complex or remote sites. Autonomous Mobile Robots (AMRs) offer an efficient and cost-effective approach for continuous asset inspection. Equipped with cameras, specialized sensors, and powerful AI systems, they can carry out complex inspection and regular monitoring tasks for high-value assets in harsh or dangerous environments or locations susceptible to human contamination.

Challenges:

The challenges in asset inspection include the need for regular and comprehensive monitoring, especially in harsh or dangerous environments. Human inspections may not be efficient or safe in certain locations, leading to potential risks. Additionally, identifying defects and anomalies in different lighting conditions can be challenging.

Solution:

Our solution at Gestalt Robotics focuses on developing a customized mobile robot system using our hardware-agnostic software platform. Whether the operation requires a legged or wheeled robot, integrated lighting, or semantic mapping, we tailor the solution to meet our customer's specific needs. The key components of our offering include:

1-Visual Inspection and Reasoning:

AI-based inspection allows reliable detection of defects and anomalies, irrespective of lighting conditions. This includes identifying missing parts, new objects, reading gauges, or level indicators, and risk identification.

1-Performant Cloud or Edge Computing:

Outsourcing computation-heavy tasks to the factory edge or the cloud via 4G and 5G networks provides unlimited access to compute power. This allows the interaction of multiple robots and fleet tasks.

3-Autonomous Mapping and Navigation:

Our semantic mapping technology enables mobile robots to perceive and map their surroundings. This constant updating of their environment understanding allows optimal route planning, obstacle avoidance, and navigation through difficult terrain.

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Your Benefits

Reduce Asset Downtime through 24/7 Monitoring:

Continuous monitoring by AMRs reduces asset downtime by providing real-time insights.

Improve Operation & Safety:

AMRs enhance overall operation efficiency and safety, especially in hazardous or challenging environments.

Reliability & Scalability:

The solution offers reliability and scalability, adapting to various applications and environments.

Autonomous:

The autonomous nature of our solution ensures efficient and independent operation, contributing to improved asset management.



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Contact us

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