

WaterRobot® AI Agent



An AI-driven system that delivers safe and efficient operation of unmanned water plants, ensuring autonomous, reliable, and high-performance operation



Waterobot® AI Agent leverages advanced AI to deliver autonomous plant operations, predictive maintenance, and proactive environmental monitoring. Through its unattended operating model, it secures safe, stable, efficient, and economical performance for water plants.

Application Scenarios

- 1 Autonomous Process Operation**
Leveraging process forecasting and decision-making models, the system predicts, evaluates, and autonomously adjusts operational conditions. It optimizes energy and chemical consumption, extends the lifespan of critical equipment, and enhances overall operational efficiency.
- 2 Equipment predictive maintenance**
Through analyzing the thermal imaging distribution and acoustic characteristics of equipment, it enables full life-cycle health management, reduces unplanned downtime, and ensures stable and reliable equipment operation.
- 3 Environmental anomaly perception and monitoring**
Real-time multimodal perception and monitoring is used to detect risks such as water leakage, open flames, and personnel violations, ensuring the safety of water treatment plants.

Service Model & Application Cases

One 4S operations service center, managing multiple water treatment plants and streamlining personnel allocation.

Powered by Waterobot® AI Agent, dispersed water plants are integrated into a unified remote-control cluster. Only a small team is required at the operations center to manage multiple plants. Daily operations are fully handled by AI, with staff responding to AI-assigned work orders for exceptions and emergencies.

Application Case: 5 water plants in Wuxi, Jiangsu, are now supported by just one 4S operations service center.

90% reduction in labor requirement	50% decrease in equipment failure rate	30% reduction in electricity consumption	15% reduction in chemical consumption	35% reduction in overall operation cost
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Workshop-Level AI Inspection Solution — Say goodbye to manual inspections and reactive handling, and step into a new era of AI-powered monitoring and proactive alerts.



Product Overview

Water Radish® S provides a workshop-level AI inspection solution, integrating edge computing power and multimodal perception capabilities into a fully integrated hardware–software–sensor system. Focusing on scenarios such as equipment predictive maintenance, environmental anomaly detection, and personnel violation monitoring, it enables a closed-loop AI inspection workflow of perception, analysis, and alerting entirely on local standalone deployment. It delivers a low-barrier, highly flexible, and lightweight AI operations service for plant and facility managers.

Application Scenarios

24/7 patrol and monitoring	Equipment fault prediction	Overheating risk prevention	Multidimensional integrated analysis and judgment	Sub-second Anomaly Alerts
				
AI vision detects water leakage, smoke, fire, and unsafe operations	AI acoustic recognition identifies abnormal equipment sounds for predictive maintenance	AI infrared models provide real-time alerts for overheating and fire risks	Multimodal fusion of vibration, temperature, humidity, and gas data enables comprehensive joint analysis and early warning integrated anomaly judgment and early warning	Full-domain monitoring with instant work-order dispatch upon data anomalies

Core Features

- Plug-and-Play** Compact design and easy deployment, fully operational within one week.
- Open Compatibility** Equipped with standardized APIs, utilizing token-based authentication and SSL encryption.
- Mobile-Enabled Operations** Supports seamless synchronization across iOS and Android apps, displaying key O&M data in real time.
- Standalone Operation** Operates completely independently of on-site network infrastructure.

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