AGV AND AMR MANAGEMENT

AGV and AMR Fleet Management in Automated Warehouse Environments

Unified fleet visibility and proximity management in automated warehouse and manufacturing facilities

Logidot

Track. Analyse. Optimise.



Photo: Freek Wolsink / Pexels

THE CHALLENGE

Automated facilities running AGVs, AMRs, or collaborative robots rarely have a single view of what is happening on the floor. Each robot management system reports on its own fleet. In facilities with multiple robot types or vendors, that means multiple dashboards, none of which shows how the fleets interact with each other or with human workers operating in the same space. Spatial bottlenecks form where robot paths converge, but they show up in task management logs as throughput delays, not as location data that names the zone. At the human-robot interface, proximity risk grows with every additional automated unit on the floor, and the robot's own navigation system was not designed to flag it.

SOLUTION

Vehicle Tags on AGVs and AMRs feed real time position data into the platform independently of each robot's own management system. This creates a unified Digital Twin of every moving asset on the floor, human and automated, giving operations managers a single view across all robot types and vendors without replacing any existing system. Spaghetti Maps and Zone Analytics translate accumulated path data into a visual record of where routes converge and where specific zones are consistently creating slowdowns. Route Mapping compares planned paths against actual paths, surfacing deviations that accumulate invisibly in task management logs. Collision Detection monitors proximity between any two tagged assets and triggers alerts before contact occurs, covering both robot-to-robot and robot-to-person events. Maintenance alerts fire based on actual operating hours per unit, replacing fixed-interval scheduling with data that reflects real fleet usage.

RELEVANT FEATURES



Digital Twin



Spaghetti Maps



Route Mapping



Collision Detection



Live Performance Monitoring



Maintenance

OUTCOMES

- Unified floor visibility across all robot types and management systems, replacing fragmented per-vendor dashboards with a single operational view
- Spatial bottlenecks identified from actual path data before they reduce throughput, without waiting for task management alerts to surface the problem
- Proximity events between robots and personnel detected and flagged before contact occurs, operating independently of each robot's own navigation system
- Planned and actual robot paths compared continuously, surfacing route deviations that accumulate undetected in per-system task management logs
- Maintenance scheduling driven by actual operating hours per robot, reducing unplanned downtime across the full automated fleet

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