



R&E

ROBOTICS & END OF LINE

IAV INTELLIGENT AUTONOMOUS VEHICLE



Stainless steel washdown model shown, configurations vary

The Quest Intelligent Autonomous Vehicle (IAV) provides a smart, flexible solution to move product through your facility. With no need for any magnetic tape or other physical guides, and safe to work alongside other workers, the IAV paired with our Boxed Bot Robotic Palletizer and an Orion Stretch Wrapper provide a cost-effective solution. While most other AGV or AMR solutions have a standard off the shelf vehicle, Quest will work with you to ensure that the IAV can handle the conditions within your facility.

ENHANCED SAFETY:

Facility traffic flows are very complex. With smarter algorithms the Quest IAV becomes artificially intelligent. The first priority in Quest IAV applications is safety. Our industry leading safety sensors have multiple safety fields to ensure that the vehicle slows down, stops or speeds up with respect to the distance of a person or object. The main ones are stop and slow down. With the slow down field the IAV reduces speed. In the stop field the IAV immediately stops.

FEATURES AND BENEFITS:

- Autonomously guided to keep floor clear of wires and tape
- Dynamic driving with tight turning, parallel, perpendicular, crabwalk and zero turn movements
- Vehicle programmed with predetermined paths to avoid obstacles
- Command center software maintains real-time record of all IAVs in fleet via WiFi or radio communication
- Standard lithium battery
- Vehicle custom designed to application specifications

OPTIONAL FEATURES:

- Stainless / Washdown version
- Capability to handle up to 17% grades
- Battery hot swap or in route opportunity charging

SYSTEM COMPONENTS:



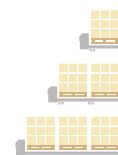
COMMAND CENTER

Full HMI with intelligent mapping, wireless communications, diagnostics and SMS interfacing



CHARGING STATION

Battery charges while enroute in just a few minutes



VEHICLE

Custom configuration in 1, 2, or 3 pallet positions with finishes available for washdown, or standard environments

COMPARE & CONTRAST AUTOMATED MATERIAL FLOW SOLUTIONS

CRITERIA	AGV	AMR	IAV
Pre-determined path	Yes	No	Yes
Larger Payloads	Yes	No	Yes
Ability to continue command execution with obstacle in path	No	Yes	Yes
Ability to navigate without investment in physical guidance?	No	Yes	Yes

The Quest IAV is in a class of its own

THE AGV VS AMR DEBATE IS FAMILIAR TO MOST CONSIDERING AUTOMATING MATERIAL FLOW IN THEIR FACILITY.

An **AGV**, Automated Guided Vehicle, in recent years has been considered to carry larger more substantial loads along a predetermined path. This path has been defined in some physical way through magnetic tape, rails, laser reflectors or other physical indicator translating to a cost associated with preparing the facility with the predetermined paths. If the AGV encounters an obstacle to the path, it will stop until the obstacle clears.

An **AMR**, Autonomous Mobile Robot, on the other hand, is fed the command and the locations needed. The robot then determines the best path to execute the command. As a collaborative robot, it will navigate around obstacles and change paths if needed to continue its command execution. Unlike AGVs, the AMR is typically smaller and designed for smaller loads making it more nimble as it navigates the facility.

The **QUEST IAV**, Intelligent Autonomous Vehicle, unites the strengths of both the AGV and AMR. Unlike any other solution available, the Quest IAV is designed for large payloads AND follows pre-determined paths to execute commands while maneuvering around obstacles if required. The IAV saves time and money, because it eliminates physical guides and installation of the tape, rails, reflectors, etc. It improves efficiency, because it can move entire pallets in one trip.



Some applications require access to pallets in a rack. For those load requirements Quest also offers a forklift option for higher reach needs.