

MAKING THE CASE FOR
CLOUD ROBOTICS



**Universal Logistics targets travel
efficiencies with Cloud robotics**



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Moving materials is essential to order fulfillment and supply chain processes, but it's not what generates revenue, at least not directly. Materials transport is a subtask of getting goods to a customer on time. When human operators need to manually transport materials long distances in a facility, it consumes labor time that could be spent on higher-value activities like order picking, kitting, and other processes essential to meeting delivery timelines and keeping customers happy.

Universal Logistics, a full-service provider of customized transportation and logistics solutions, knows what it takes to keep customers like automotive and aerospace original equipment manufacturers (OEMs) productive. Universal is adept at delivering parts and materials to OEMs accurately on a just-in-time (JIT) basis, often in specialized racks that facilitate convenient access to the correct components at production work cells.

Universal has deployed a Cloud robotics solution at multiple locations to make its materials handling more efficient, taking special aim at tasks that previously involved long haul travel, either by associates on foot or by drivers in vehicles, as Lee Weisenberger, managing director of IT at Universal Logistics, explains: "In our use of the robotics platform, we concentrated on workflows that had long travel times, as we know that is where our biggest potential efficiency gains exist—in automating the movement of materials from Point A to Point B."

The Universal Logistics sites where the Cloud robotics solution is being used include a facility that supports cockpit assembly for a leading aerospace company near Portland. Universal also has deployed the mobile robots at its 1-million-square-foot logistics facility in Smyrna, Tenn., which serves a nearby automotive assembly plant.

At the sites supporting the aerospace operations, mobile robots are used to transport parts kits to a staging area, replacing manual pushing of a cart by a warehouse associate. Using simple bar code scans to trigger actions in the Cloud robotics software, the robots know when a rack of parts needs to be moved to the staging area, and exactly where to leave it. At the staging area, a warehouse associate places the kit onto a fixed conveyor that moves it to the aerospace company's assembly operation. The robots also move empty part racks back to the kitting operation in the warehouse.

Via this barcode triggered robotics workflow, Universal has eliminated the repeated pushing of carts by associates. Similarly, at the Smyrna logistics center servicing the automotive plant, the mobile robots are used to transport parts needed on a JIT basis. These “hot-part” deliveries were previously made by an operator moving the goods on a tugger vehicle.

The hot part movements are needed frequently—three or four transports per hour—so automating it with the Fetch robots frees up labor for other tasks in the facility. “Previously, we had a person whose job for the majority of the day was riding back and forth on a tugger, driving it from one end of the building to another with a box or two,” says Weisenberger. “Now that long haul travel is automated.”

The mobile robots are also being used at the Smyrna facility to help with the put away from materials received in mixed pallets. The site doesn’t store mixed materials, so these shipments are decanted, organized by stock keeping unit, and transported to the correct storage location by mobile robots.

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Universal is also in the process of testing how the Cloud robotics solution can be used to automate the transport of used packing materials such as cardboard collected in bins. Rather than have a person on a vehicle transport these bins once they’re full, Universal is planning to use mobile robots to transport the full bins to a collection location and return empty bins to the correct locations.

In all these workflows, the value of the mobile robots typically stems from automating time-consuming materials transport tasks so that human workers can concentrate on higher-value tasks like kitting,

explains Weisenberger.

“If you need some parts or materials repeatedly moved from Point A to Point B, and it involves a relatively long travel distance, there is no benefit to having an operator do that task,” he says. “You’re tying up a person’s time, and maybe also a vehicle asset. In our view, it makes sense to have a robot do that work and redeploy our human resources on more value-added tasks.”

