

**marc**<sup>®</sup>

Mobile Autonomous Robotic Cart

HOW MARC<sup>®</sup> SPEEDS UP QUALITY  
SAMPLING TO KEEP MANUFACTURING  
EQUIPMENT RUNNING

# MACHINE UTILIZATION TIME IS MONEY

Often, manufacturing equipment is a costly capital investment that must operate around the clock to earn its return. In fact, machine utilization is so important that, for companies like this manufacturer of custom bags, it's a constantly measured and monitored key performance indicator. Companies like this one do all they can to keep those expensive machines up and running.

For some tasks, there's no avoiding the expense of idle equipment. Setup and line changeovers, for example, require machines to be shut down so tooling and materials can be replaced between product runs.

At the same time, quality assurance is extremely important to ensure that every product is validated for size and quality, since items that fall outside specifications won't be accepted by the customer ... and the time and materials used to manufacture unacceptable products adds up to waste.

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## CHALLENGE: EFFICIENTLY PULLING AND TESTING QUALITY SAMPLES

In order to quickly transport product samples that have to be pulled from the line at a rate of one per 5,000 items produced, manufacturers often hire a dedicated sample runner. That's right: companies end up payrolling an individual person to walk samples to Quality Control (QC) and back to prevent the machine operator from pausing production to do it themselves.

Even for those companies that don't hire a dedicated runner to move product samples, every step between the production line and QC is non-value-added. It's wasted motion. And the Quality Assurance department may be quite a distance from the line, so the time and expense adds up fast.

Manufacturers need a simple solution that can easily move samples to and from QC as quickly and efficiently as possible without the labor expense of a sample runner or the waste of the trained machine operator's valuable time.

## **SOLUTION:** MARC® AUTONOMOUS MOBILE ROBOT (AMR) MOVES SAMPLES AND KEEPS PRODUCTION LINES MOVING

MūL's Mobile Autonomous Robotic Carts (MARC®) make it simple to move samples quickly from production line to QC without pulling a worker off a value-add job or dedicating an entire position to the sample runner role.

Quickly and easily, a machine operator or line worker can pull a sample product and place it on MARC and press a button on the EZ-Go Navigation interface. MARC can then autonomously carry the sample to QC for quality inspection. After the item is approved and logged as passing inspection, the quality lab employee can place it back on MARC and simply press another button, and MARC will carry the item back to the station on the production line with the appropriate approval paperwork.

Unlike expensive and over-designed autonomous mobile robots (AMRs) that rely on Wi-Fi, complex mapping systems, and software integrations to work in production environments, MARC uses high-resolution cameras, lidar and proximity sensors to build its own independent map — so it can navigate constantly changing facility landscapes without Wi-Fi. No more concern over “dead zones” in large manufacturing facilities or behind the scenes map updating by the IT department.

MARC is so simple to program that users have it up and running in less than 10 minutes of receiving it, with no special operator training or IT support needed. And with a maximum payload of up to 250 pounds (110kg) during autonomous movement, it can easily move items that would require special equipment for human workers.

With MARC, transporting samples from production to QC and back is fast and efficient, which means less machine downtime, lower labor costs, and improved margins.

MARC® from MūL Technologies goes right to work helping you trim wasted time and motion associated with non-value-add work in manufacturing environments. Contact the MūL Technologies team today to learn more about this cost-effective, simple way to introduce autonomous mobile robots to your facility. You can also see pricing and order directly online at the MūL Online Store at [shop.multechnologies.com](http://shop.multechnologies.com).

## RESULTS: MARC® REDUCES WASTED TIME

MARC® offered a return on the initial \$14,995 investment in around 9 months at this facility according to measurable time saved. This is a direct, quantifiable savings based on the actual time no longer wasted on non-value-add work of moving quality samples to the inspection area. These are also highly trained associates, earning higher than average salaries.

In addition, there are additive savings based on the elimination of down time for the expensive high-speed equipment. While this is not included in the customers ROI calculations, the operations team made a point that the benefits of the machine utilization remaining at 100% are clearly there.

Extrapolated over a year, the time and money saved by using MARC® provides the company with recurring annual savings of \$19,319.30 just on the direct labor. Add in the financial benefits of increased machine utilization and you approach \$30,000.00 in savings – year after year.

MARC® from MÜL Technologies helped substantially reduce non-value-add activities, which increased productivity, profitability, and ROI. Isn't it time to put MARC® work for you? Reach out to the MÜL Technologies team to discuss your needs.

Hours per month saved	22.32
Hourly rate + overhead	\$72.13
Cost of MARC	\$14,995.00
ROI (in months)	9.31
Annual savings:	\$19,319.30

## REACH OUT

### CONTACT:

[contact@multechnologies.com](mailto:contact@multechnologies.com)

### CALL:

262.242.8830

### WEBSITE:

[multechnologies.com](http://multechnologies.com)



10202 North Enterprise Drive, Mequon WI 53092