

CNC Monitoring Software Improves Machine Performance and Utilization

RCO Engineering using a monitoring system to monitor setups, idle time, programming and quality checks, reducing CNC machine downtime.

RCO Engineering (RCO; Roseville, Michigan) has a strict business standard that it lives up to every day: accountability to the customer. The company achieves this with its talented workforce and advanced technology.

With over 430,000 square feet of manufacturing space and roughly 600 employees, RCO offers mold and tool building, CNC machining, injection molding, foam molding, precision metal stamping, robotic welding, painting and complex assembly. Since 1973, the company has focused on the aerospace and automotive markets, including the design and manufacture of seats for a major aircraft company. RCO also assembles thousands of different parts made from numerous materials to produce high-quality final products. This portfolio and level of quality demand investment in the latest Industry 4.0 techniques and technologies.

Figuring Out Machine Performance and Utilization

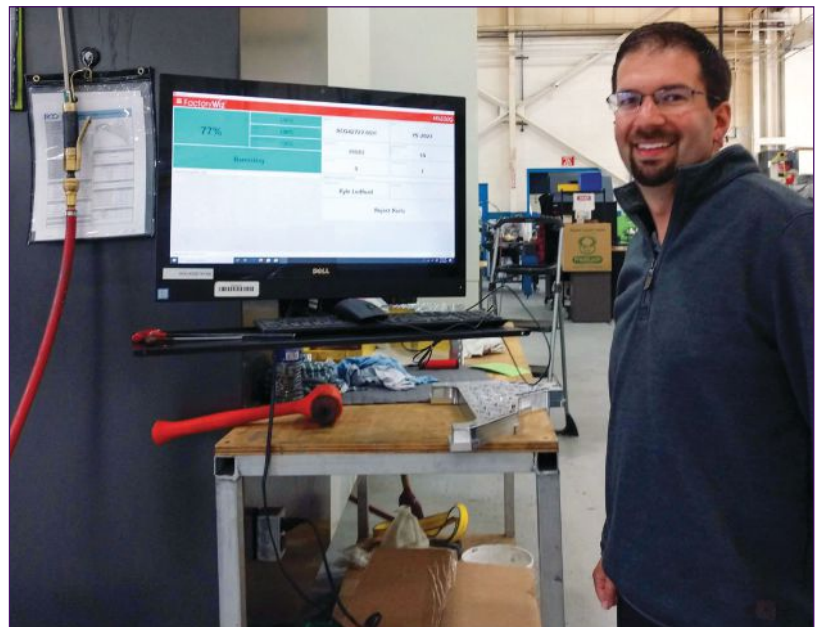
As it was, RCO had a list of “unknowns” in their CNC department that needed answers, which required the management team to look at the CNC machine like an actual “employee.” In other words, a machine needs an hourly wage assigned to it, so a shop can determine when a machine was making money and when it was costing money.

The team could also not account for large blocks of idle machine time. “We were noticing, on average, 1,200-1,400 hours a month of downtime,” Justin Castillo, RCO’s engineering manager, says. Armed with this information, the management team set out to discover why this was happening, but quickly realized the current system that covered 25 CNC machines did not have the appropriate tracking capabilities: machine performance and utilization.

These two factors are vital to achieving a shop’s overall productivity and profitability, or Overall Equipment Efficiency (OEE), but other factors are also involved. For example, the success of a machining operation has a lot to do with human behavior, especially the level at which machine operators are performing their duties to keep machines running and jobs on schedule.

Enter a solution: TST Tooling Software Technology LLC (TST), one of RCO’s long-time solutions providers which recently became a reseller of FactoryWiz monitoring software by Refresh Your Memory Inc., an innovative solution provider of CNC communications and machine monitoring systems.

The monitoring software is configured through an easy-to-use web interface that displays live and historical production data on large screen dashboards, standard PCs, tablets and



Tablets or a PC allow for quick and easy data entry by an operator or at-a-glance status while walking the shop floor.

Images courtesy of TST Tooling Software Technology, LLC.

smartphones. This software is **not** a cloud-based system. It resides onsite, where the shop has complete control of its data. This was an essential aspect for the management team at RCO.

RCO installed FactoryWiz in two separate departments: production component CNC machining and tooling CNC machining. The management team made it as simple as possible for the workers running the machines by installing tablets and touchscreen computers on the shopfloor and gave each operator a login tied to the time-keeping system.

Management noticed the effects almost immediately, as only one month after implementation, the company was already making critical gains in machine time hours and it answered the question about a machine's idle time. For example, with FactoryWiz, the RCO team was able to better understand the reasons machines were idle or down, as well as make more real time adjustments to better utilize their equipment.

The RCO team was also using the software to send reports directly to supervisors, who quickly worked to reduce the shop's idle machine time by setting up custom Idle Retroactive and Idle Forward reports, which have functions that record machine downtime. The idle retroactive function captures the machine idle time between the machine stop and the next machine start. The software also captures what is happening while a machine is idle without requiring an operator to be at the machine at the exact moment it stops.

For example, if an employee is busy at another machine when a machine stops, he or she can go back when ready and enter the appropriate idle reason for that time. This feature helps to paint a more accurate picture for the shop



Decisions to add more staffing or machining resources become easier based on accuracy of data collected through daily tasks.

as opposed to a shop that is unable to enter idle reasons retroactively because employees cannot be at a monitor exactly when a machine stops.

"It was an easy solution to the human impact on machine downtime. The software fills in the gaps and provides real-time, accurate feedback on machine downtime and quality, which streamlines quoting and one- and two-off parts," Castillo says.

FactoryWiz's short learning curve and TST Tooling Software's support team were essential to RCO's successful implementation across its 40 CNCs. "FactoryWiz was the most appropriate solution for us because we didn't need so much customization and reporting upfront. We simply plug it into a machine, the operator types in his job number and we can then monitor setups, idle time, programming and quality checks," Castillo says.

Since installing FactoryWiz over two years ago, RCO has reduced machine idle time from 1,200-1,400 hours a month to approximately 400 hours a month. This improvement has motivated operators to start a friendly competition to see who can beat the latest record, and the numbers just keep improving. [MMT](#)

TST TOOLING SOFTWARE TECHNOLOGY, LLC

PROBLEM: Increased idle CNC machine time and inefficient capabilities to track machine performance and utilization.

SOLUTION: Invested in FactoryWiz Monitoring software to monitor the physical processes of a wide range of CNC machines and applications to help make informed business decisions based on facts and numbers.

RESULTS: Reduced machine idle time from 1,200-1,400 hours a month to 400 hours a month.

FOR MORE INFORMATION

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