Increase Capacity with Automated Night Shifts

ZAGO Manufacturing faced an increase in customer demand for high-tech sealing fasteners and switch seals. With limited workers available in the New Jersey area, ZAGO's management looked for a cost-effective and robust automated solution. A Universal Robots UR10e cobot arm equipped with Robotiq software proved to be the perfect fit for their needs. Since ZAGO manufactures precision parts for the aerospace industry, they appreciate how Robotiq's Force Copilot ensures that the UR10e places each part precisely into the chuck.

For any entrepreneur, having more and more clients knocking at your door when you can't take more orders is a nice problem to have. But it is still a problem for which a solution needs to be found. A year ago, ZAGO Manufacturing vice president Jackie Luciano faced a huge bottleneck when no more qualified machinists were available near Newark, New-Jersey. "We still needed to add a lot more production out of each day", she recalls.

Design

A few weeks later, Luciano met Suzanne Tracey and all the team at The Knotts Company at a local industrial fair. Tracey presented Universal Robots, world leader in collaborative robots (cobots) technology. "I immediately saw a great fit for Zago, so I invited Suzanne to our factory". Suzanne Tracey came by, took a tour of the factory and saw an immense potential in ZAGO: "We focused on applications that were automatable and that resulted in a lot of downtime. One
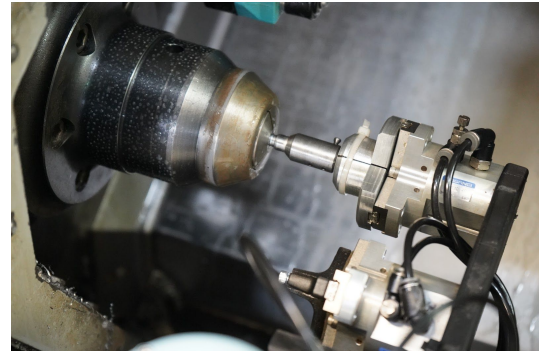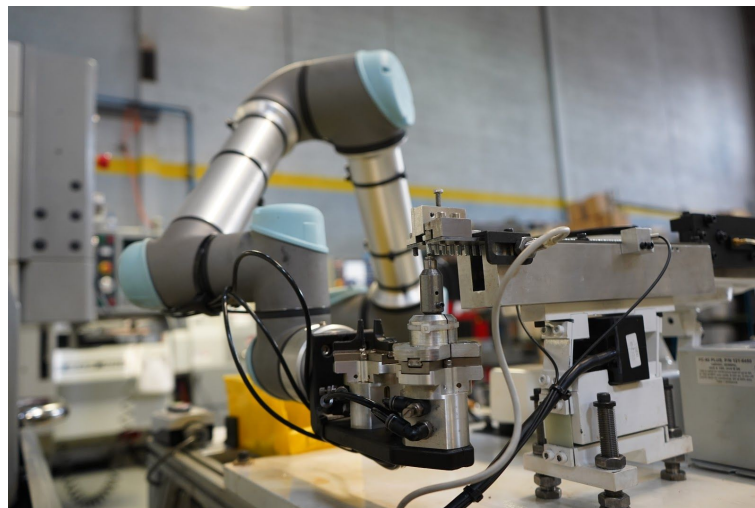
START PRODUCTION FASTER

crucial CNC machining operation in which screws were being processed met those two main criteria, so it was perfect for a first project."

Integrate

Once the robot was brought in, the tooling and communication with the CNC machine were performed by Jim Quinn from Allendale Machinery: "We tied the robot to the Haas machine and made sure that the two were in-sync in regards to door opening and chuck closing. We optimized the timing and sequencing of the whole application."

The result was an 100% automated screwdriving application in which a bowl feeder feeds screws to the Universal Robot UR10e. The robot sends a signal to the machine for it to open the door. The machined screw is then picked up, and the next screw is inserted with high precision. "We use Robotiq's Force Copilot to ensure that the part is inserted into the chuck at the exact point", Jackie Luciano explains. "Our customers are mainly in the aerospace industry and their standards are very high for every single unit we manufacture for them."

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Operate

Once the robot cell was in production, the goal was to make it completely reliable so that the unattended night-shift Jackie Luciano wished to have for a while could finally take place. "At first they were fearful that this would be really complicated", Suzanne Tracey explains. "But with Robotiq's Insights monitoring software, either Luciano's staff or the integrators at Allendale Machinery could access the robot remotely to make changes to the program on the fly."

With Allendale's office more than an hour away from ZAGO's, Jim Quinn saved half-a-day of work and driving for each minor tweak he did to his project. Insights also provides a full report of the robot's productivity and sends alerts every time something unusual happens. "It's been very useful to know how productive the robot is and how we can improve this application and set ourselves for the next one", says Jackie Luciano.

In the near future, ZAGO plans on having more robots operating similar CNC machine tending operations, so that all available employees can learn how to program them and improve their in-house robotics expertise.

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About Robotiq

Robotiq's mission is to free human hands from repetitive tasks. Our tools and know-how simplify collaborative robot applications, so factories can start production faster. Robotiq works with a global network of connected robot experts supporting their local manufacturers.

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