

AUTOMATION ADVANCES MINTING IN THE SILVER STATE

ABOUT SMI. Founded in 1979, SMI is a full-service minting facility that defined global standards and is a leader in the industry. SMI is a primary supplier of silver and gold products to several of the largest sovereign mints around the world. SMI combines art, technology, science, skilled workmanship, and experience to produce large volumes of high-quality bullion, blanks, coins, bars, medallions, and unique commemorative pieces. Their flagship operation in Henderson, Nevada, employs over 200 people and includes their assay and quality assurance labs, machine and tool shop, and manufacturing line. The manufacturing line includes melting, annealing, blanking, casting, coining, extrusion, melting, packaging surface finishing, and weighing.

THE CHALLENGE. In the minting industry, the weighing process of silver blanks requires precision and accuracy. The slightest air movement, including the breath of an operator, can produce an inaccurate weight. SMI was experiencing a high level of product rejections that slowed production. SMI engaged with Manufacture Nevada, part of the MEP National Network™, to determine if this process could be automated, reducing human and environmental error.

MEP CENTER'S ROLE. Manufacture Nevada located a local firm to design, build, and support a custom robotic work cell. The improved work cell utilizes a collaborative robot to perform the lifting, placing, and stacking functions. A precision scale weighs the silver blanks and automatically records the weight underneath a plexiglass cover to reduce environmental disruptions. A data acquisition and management system collect information, enabling analysis and reporting. The process is controlled by the operator through a Windows interface.

As a result, employees at SMI advanced from performing manual labor to utilizing a state-of-the-art automated work cell. Their operators learned new Microsoft user interface skills, providing upskilling opportunities. The system payback was easily justified and proved to be a worthwhile investment. SMI repurposed two operators per shift, resulting in employee upskilling opportunities and additionally, in a challenging labor market, this work cell has helped SMI attract new talent to perform more purposeful work and learn new skills not offered elsewhere. The automation advancements also helped to improve the culture within SMI's workforce.

"Since being introduced to the team at Manufacture Nevada, SMI has been provided with unlimited local resources and critical contacts within our community to be successful and expand our operations. This includes technical resources, hiring and staffing resources, employee training events, and continual follow up to ensure SMI's success. Thank you! The team at Manufacture Nevada worked hard to find us a local Integrator, which had been a challenge for SMI for many years. This partnership has opened opportunities for SMI to expand their robotics investments well beyond this work cell and built our confidence in the local support system. SMI expects to invest over \$500k per year in automation moving forward."

-Jason Trubey, EVP Operations, COO

RESULTS



\$150,000 in cost savings annually



90% reduction in quality inspection failures



50% increase in throughput



Automation advancements also helped to improve the culture



Attracting new talent to perform more purposeful work

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