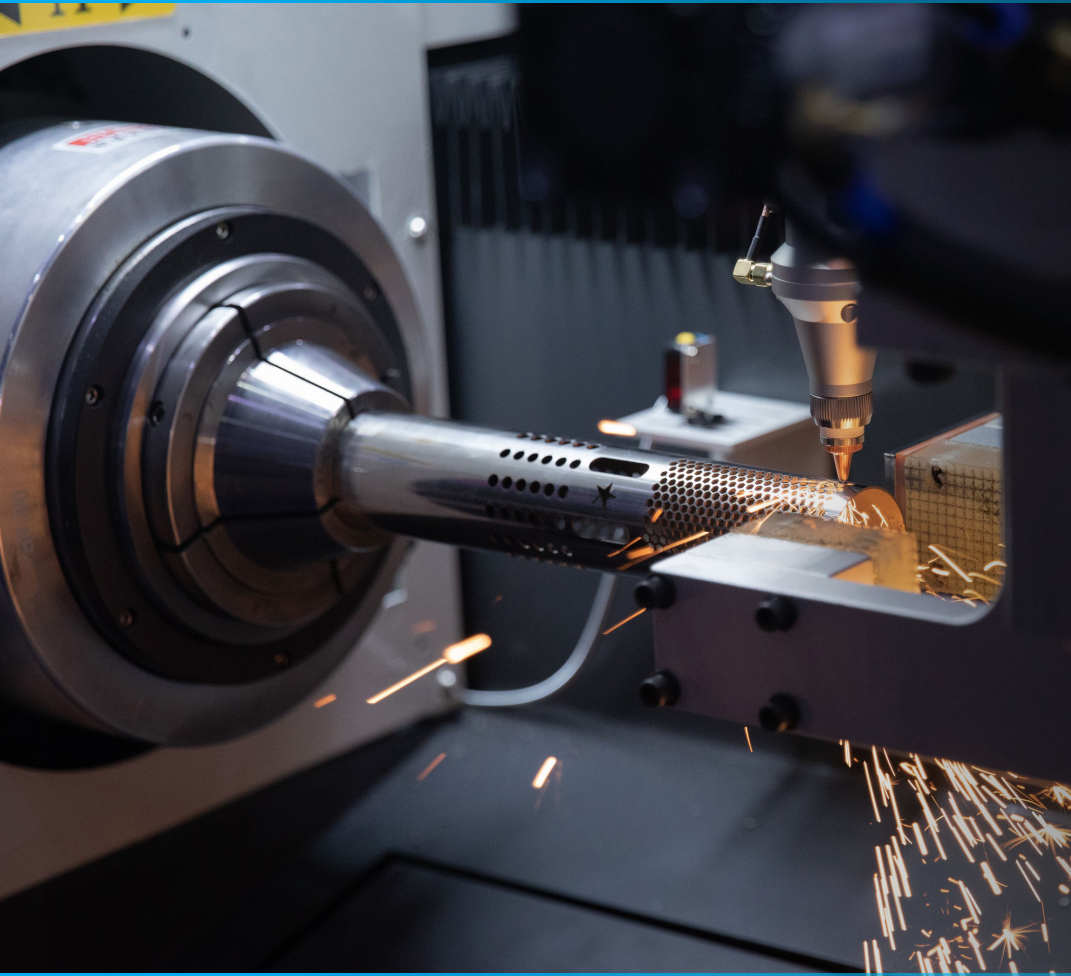


CASE STUDY



Laser-etched QR
codes linked to
manuals and videos



Access
troubleshooting
and maintenance
instantly



Downtime and
onboarding time
significantly reduced

Reducing Machine Downtime with QR Codes at Milwaukee Tool



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Even as a 100+ year old company, Milwaukee Tool, based in Brookfield, Wisc., is committed to continually finding innovative ways to increase productivity and safety. So, when faced with the challenge of reducing machine downtime and accelerating employee learning at the prototyping lab within its Rapid Innovation Center (RIC), Milwaukee Tool devised a simple yet bold solution: QR codes.

With support from Tooling U-SME's Talent & Workforce Services team, RIC rolled out this just-in-time training solution that puts critical knowledge directly in the hands of operators right at the machine.

"For anything that's on the end of a power tool, we're doing the prototyping in-house at our corporate headquarters," said Daniel Sellhausen, manager, prototyping lab, Milwaukee Tool. "We are streamlining our prototyping process to be able to provide engineers with new-to-the-world products with same day results."



CHALLENGE: Scattered Resources and Downtime

The challenge was that machine information was scattered across multiple platforms, making it difficult and time-consuming for operators to troubleshoot problems or complete tasks efficiently.

Further complicating matters, machines were often left idle for extended periods due to shifting project priorities. When those machines were brought back online—sometimes after months of inactivity—needing unique set ups and programming, operators faced delays due to lost knowledge, outdated documentation, and dependency on colleagues who might not be available across shifts.

"We needed to understand how we could bridge that gap and make that transition a lot more efficient," said Sellhausen. "How do we increase our uptime and our efficiencies?"



SOLUTION:

QR Codes Bring Learning to the Work Area

The new training system posts QR codes directly on CNC machines. To ensure the QR code doesn't fade or get distorted, it is laser-etched on anodized steel.

Scanning a code gives operators instant access to:

- Machine overviews
- Micro-videos demonstrating key tasks
- Job aids and checklists
- Troubleshooting guides and alarm code directories
- Maintenance procedures and manuals

This just-in-time model ensures operators get the exact information they need right when they need it, without leaving the work area.

To encourage buy in, Milwaukee Tool solicited feedback from operators and machinists, asking what they would like to see. This input proved invaluable.

“What we're able to do is as simple as it sounds,” said Sellhausen. “Putting a QR code on our prototyping equipment provides all the information needed for that piece of equipment whether preventative maintenance plans, troubleshooting or machine manuals.”



Key Benefits of Just-In-Time Training at the Work Area

This approach to learning has proven to be more than just a convenience—it's a strategic advantage. Some of the key benefits Milwaukee Tool realized through this initiative include:

- **Instant Access to Training and Support Materials**
Scan to access video tutorials, machine startup instructions, and maintenance checklists, eliminating the need to search for manuals or wait for trainers.
- **Reducing Downtime with Immediate Training and Support**
Minimize downtime by resolving issues faster with on-demand resources.
- **Customizable & Up-to-Date Content**
Tailored training materials for each machine, ensuring relevance and current information.
- **Enhancing Safety**
Direct links to safety checklists and protocols, helping reduce workplace accidents.
- **Data-Driven Insight**
Track QR code scans to assess training usage and focus on areas needing improvement.

- **Empowering a Knowledgeable Workforce**
Enable technicians to learn at their own pace, boosting confidence and skills.
- **Cost-Effective Training**
Reduce training costs and eliminate the need for printed materials or ongoing training facilitators.





PILOT RESULTS: Less Downtime, Faster Onboarding

Following the pilot, Milwaukee Tool saw measurable results. Operators used the QR codes to access information faster, reducing downtime and improving confidence on the floor. The program also helped create a culture of “self-help,” where employees felt empowered to solve problems on their own.

The tool proved especially valuable for onboarding. Instead of overwhelming new hires with information upfront, the QR code system allowed them to learn in small, practical increments—right at the point of need.

“Delivering consistent, on-demand access to knowledge is key,” said John Hindman, director of Talent and Workforces Services at Tooling U-SME. “It ensures employees can perform effectively and adapt to changes, all while staying engaged in their development.”

Sellhausen emphasized that companies must not only train workers upfront but also give them tools to continue learning as work evolves. This means making high-quality, accessible training materials available on the floor and designing them for real-world application.



Smarter Training at the Machine

Milwaukee Tool's QR code training program shows how technology can make learning more accessible, relevant, and effective. By putting knowledge at the machine, they've empowered operators to learn in real-time, solve problems faster, and feel more confident in their work.

With guidance from Tooling U-SME, they've created a scalable solution that not only reduces downtime but also strengthens the workforce. It's a clear example of how thoughtful, just-in-time training can drive performance where it matters most—on the shop floor.





Custom Training Solutions with Tooling U-SME's Talent & Workforce Services

For companies looking to enhance their training programs, Tooling U-SME's Talent & Workforce Services team offers customized training programs through various modalities, such as QR codes. These programs can include machine-specific instructions and enforce company-wide initiatives

such as EHS, QMS, Asset Reliability, Root Cause Analysis Troubleshooting and Decision-Marking. Tooling U-SME ensures the training aligns with company goals, and technical needs, providing a holistic solution that keeps your workforce ahead of the curve.



To find out how Tooling U-SME can help your company create a world-class training program, call 866.706.8665 or email info@toolingu.com



train.toolingu.com/consulting