

# MoldMaking

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## TECHNOLOGY

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# Leadtime Leader Q&A: Embedded Quality Control



Precise Tooling Solutions shares current capabilities and a glimpse of the changes occurring inside their manufacturing operations when it comes to inspection and measurement.

**How extensively do you use inspection and measurement technology in your shop, and where or how do you use it most?**

**Don Dumoulin, President/Owner:** As an ISO 9000 shop, we have embedded inspection and measurement into virtually all of our operating processes. We do this to ensure that

only quality products are manufactured and shipped to our customers. We tailored our technology and offerings to customer needs.

We have an on-site quality lab. This fully contained, environmentally-controlled facility is used by Precise craftsmen to verify and document every tool, CNC project and

ergonomic unit we manufacture. Every quality inspection form/report for each project is immediately available in both electronic and hardcopy formats. We maintain detailed inspection procedures, and archive a full complement of project photographs, CAD design files and spec sheets.

Two of our business units use traditional CMM equipment. Our Mold Productivity & Repair unit uses CMM when reverse engineering molds, before and after engineering changes and when tuning foreign-built molds. Our Plate Machining unit uses CMM equipment for spot checks during a project and as part of the final inspection before projects ship to customers. The accuracy and repeatability of our CMM equipment are ensured with frequent recalibration and staying current with the manufacturer's software releases.



Image courtesy of FARO Technologies.

Precise Tooling Solutions uses a FaroArm with surface plates to inspect parts.



3D measurement arm technology allows mold builders to quickly collect precise 3D measurements for verification of quality during inspections, tool certifications, CAD comparison, dimensional analysis, reverse engineering and more.

We also use a FaroArm with surface plates to inspect parts, which minimizes cost for our customers and ensures that their parts are checked according to their requirements. The versatility of the FaroArm is key. We can pull it from its stand and then inspect on the machine.

**Have you invested in any new equipment recently? If yes, let us know about it.**

**Dumoulin:** Our investment in five-axis machining centers jump-started our use of in-process measuring. For example, we now use the probing capability on our five-axis Roeders machine to measure and adjust during the rough cut and finish cut phases. Programming these inspections upfront allows us to complete projects more quickly (and at a lower cost) while still meeting our customer's tight tolerance expectations.

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We also installed VISI software in late October. VISI is acknowledged as one of the world's leading

CAD/CAM software solutions for the mold and die industries. VISI is highly complementary to the 'in process' measurement capabilities of our five-axis machines, as it offers a unique combination of applications, fully integrated wireframe, surface and

solid modeling, comprehensive five-axis machining strategies with dedicated high-speed routines.

**How do you see inspection and measurement technology evolving in the moldmaking industry over the next three to five years?**

**Dumoulin:** We believe inspection and measurement technology will continue to improve as the moldmaking industry evolves. An example we'd cite is an increased use of the 3D visioning systems.

Precise Tooling Solutions is recognized for expertise in building, enhancing and repairing lighting/thermoset molds. Our customer's increased utilization of LED lighting means we're dealing with smaller mold cavities and complex geometries. It will need 3D visioning systems and advanced metrology approaches to ensure accuracy and repeatable operation. [MMT](#)

**EDITOR'S NOTES**

For more information on how to enter our Leadtime Leader Awards program, or if you have a question for any of the Leadtime Leaders, please e-mail Christina Fuges at [cfuges@gardnerweb.com](mailto:cfuges@gardnerweb.com), or visit [moldmakingtechnology.com/hashtag/leadtimeleader](http://moldmakingtechnology.com/hashtag/leadtimeleader)

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