



“Gleason offers complete solution packages for small- and medium-sized gear production.”

Gleason will be at Booth 529 at the Motion + Power Technology Expo in Detroit. In particular, Gleason will be focusing on Smart Loop Gear Manufacturing at the show. What is Smart Loop Gear Manufacturing and why is it important to the industry?

It's a fully integrated, closed-loop process where design, manufacturing, and inspection data flow seamlessly between systems. By leveraging digital twins, adaptive process control, and real-time inspection feedback, Smart Loop provides indications for suitable tools to be employed, minimizes deviations, accelerates setup, and improves gear quality consistency — critical for efficiency in high-precision industries like automotive or aerospace but trending in other industries as well.

How has Gleason improved upon a seamless transition from gear design to manufacturing?

With KISSsoft and GEMS, Gleason employs unified software platforms that are not just excellent design tools, but also suggest and validate manufacturing process and employed tools, and directly link generated gear design models with machining programs. Automated parameter transfer eliminates redundant data entry, while simulation tools validate feasibility before production, reducing trial cuts and ramp-up time.

What solutions has Gleason introduced to help with small- and medium-sized gear production?

Gleason offers complete solution packages for small- and medium-sized gear production, including design software, manufacturing equipment, quick-change tooling systems, modular automation packages, and metrology systems with integrated gear noise analysis. The latest machines for small gear production are the 100PSiC power skiving machine with integrated radial chamfering, presented at EMO in Hanover, Germany, and the 100C bevel gear cutting machine, which will be presented at MPT in Detroit.



The 100C bevel gear cutting machine, which will be presented at the Motion+Power Technology Expo in Detroit. (Courtesy: Gleason)

For gear inspection, what are the advantages of using the 300GMSP nano Gear Metrology System?

The 300GMS nano offers sub-micron measurement accuracy with advanced tactile and non-contact scanning. Ideal for EV, aerospace gears, and many other high-precision applications, 300GMS nano ensures compliance with tight tolerances on micro-geometry, noise-critical features, and surface finishes, enabling closed-loop corrections in high-precision workflows. The Gleason 300GMSP nano for production environments saves time for part transport and standing in line in front of the inspection room. The P version offers all inspection and analysis capabilities of the 300GMS nano. In addition, its integrated compensation systems make it resistant to typical production floor thermal and vibratory dynamics as well as contamination.

Gleason plans to demonstrate the QFS Quick-Flex System. What is it and why do you think visitors to your booth will be impressed?

One of the workholding highlights at the show, QFS is a highly modular, rapid-change workholding solution for cylindrical workpieces enabling toolless clamping swaps in minutes. High repeatability and versatility across part sizes make it attractive for manufacturers seeking faster changeovers, reduced setup labor, and minimal downtime.

A machine is often only as good as its tools. What kinds of tools will Gleason be promoting at the show?

Gleason will showcase precision gear cutting and hard finishing tools for cylindrical and bevel gears: hobs and form milling cutters, shaper cutters, power skiving tools from high-speed steel and carbide, grinding wheels and worms, and dressing tools in various executions, optimized for wear resistance, surface finish quality, and extended life cycles, with latest coating options.

For bevel gear manufacturing, the new Coniflex® Pro Manufacturing System provides advanced design features in a closed loop environment with up to 40 percent less surface stress, up to 30 percent less root bending, and excellent NVH results with significant lower transmission errors than forged differential bevel gears. On the new 100C Bevel Gear Cutting Machine, Gleason will be featuring latest Pentac® Cutter Heads with Carbide Stick Blades in real cutting action.

How is Gleason optimizing the design of plastic gears, and how will this be demonstrated during the show?

With KISSsoft Gear Design Software Release 2025, plastic gear profiles can be tailored to account for key aspects like material properties, strength and wear, analyzing contact, reducing vibration, and evaluating the influence of manufacturing on gear geometry. Live demonstrations at MPT will highlight how process-adapted designs yield quieter, longer-lasting plastic gears. 