

SCALABLE PRECISION THRUSTS AEROSPACE FORWARD

Advance with Progressive Metrology
from OGP

Surging demand and spiraling competition are intensifying your pressure to rev up production timelines and tamp down costs—no small task when operating with a shrinking labor pool and narrowing tolerance margins. In this high-stake balancing act, one thing remains critical: rapid, repeatable precision at the micron level. It’s what equips you to thrive in an environment in which deadlines are unyielding, compliance is mandatory, and labor is short. Discover what may be stalling your ambitions and how to make significant headway.

WHAT’S FOILING YOUR PERFORMANCE TARGETS?

In aerospace, precision isn’t optional; it’s foundational. Rapid, repeatable, and highly accurate measurement is the catalyst that empowers you to meet rigorous quality standards, accelerate production timelines and get the most from a lean workforce. When every part must pass scrutiny and every delay ripples across programs, advanced metrology becomes more than a quality checkpoint; it’s a change agent. It gives you the speed to scale, the confidence to innovate, and the consistency to deliver flight-ready performance at volume.

Yet, many aerospace OEMs and suppliers are still relying on underpowered metrology systems—tools that are too slow, inconsistent, and limited to support the pace and precision of today’s manufacturing demands.

Here’s how inadequate metrology may be causing turbulence in your operations.



Meager Tools Cause Quality Issues with New Materials

According to a [2024 Accenture report](#), 83% of commercial aerospace executives expressed quality concerns over materials and parts. Emerging materials such as lightweight composites and high-strength alloys may not behave in the same way during manufacturing processes. As such, they require new measurement approaches that rudimentary metrology systems often lack. This can lead to false positives, undetected defects and inconsistent inspections, costing you expensive reworks and worrisome safety risks.

OEMs managing outsourced components also benefit from high-quality metrology tools. By verifying the consistent quality of third-party components, OEMs ensure that even complex, multi-part assemblies meet exacting aerospace standards before they reach the production line. In a widely publicized case, the bolts on an aircraft door were incorrectly installed by a subcontractor and spontaneously disassembled mid-flight. Rigorous incoming inspection will catch defective components like these before they reach production. This not only supports the aerospace industry’s demand for zero-error production, it also enables OEMs to assess vendor quality with confidence.

Lack of Flexibility and Scalability Clips Your Wings

Large fuselage sections, complex turbine blades, lightweight composites—aerospace manufacturing encompasses an exceptionally broad range of parts. Unfortunately, the same cannot be said of inadequate metrology systems. Rigid systems can only measure specific parts or run specific programs. You’ll find that they are poorly adapted for new materials, different geometries and fluctuations in production quantities. That can add unexpected steps and costs to your time-sensitive processes. And, without the ability to adapt quickly to new suppliers or material variations, you risk delays, rework, and misalignment with program timelines.

Steep Learning Curves Worsen Labor Challenges

If you’re feeling the hardship of attracting and retaining skilled labor, you’re not alone. [Deloitte’s 2025 Aerospace and Defense Industry Outlook](#) states that labor challenges continue to persist with turnover rates soaring to 13% in 2023, and a quarter of the workforce approaching retirement age. Stripped-down metrology systems only compound labor problems. Their siloed processes and confusing interfaces make training dramatically slower and prone to errors. Don’t be surprised if these basic systems drain your limited resources and increase your dependency on a small number of specialized employees.

Basic Systems Consume Time Before Work Even Starts

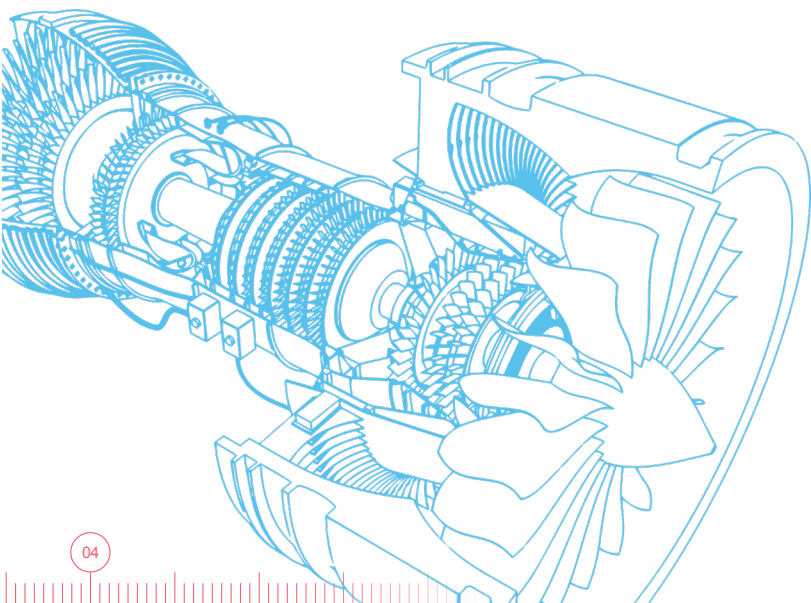
With new competitors aggressively vying for market share, aerospace winners are determined in great part by speed-to-market. Add to that the years of [backlogged orders Boeing and Airbus](#) have accumulated and the pressure to ramp up is escalating. No time for limited metrology systems. Their manual processes will have your schedules taking a nosedive. That’s because they require manual part alignment and setup, complex calibration steps and human interpretation of results.

IN THIS MISSION- CRITICAL INDUSTRY, EACH MICRON MATTERS

Inspect Components with Certainty

There's a good reason OGP metrology is the gold standard in extreme accuracy and consistency.

- Superior telecentric optics, high-resolution digital cameras and advanced illumination enable ultra-sharp edge detection and micron-level dimensional accuracy—crucial for tight tolerance parts
- No critical detail goes overlooked thanks to OGP's multisensor functionality; it captures a full dimensional and geometric characterization of your components, ensuring more stringent quality control
- Robust construction minimizes mechanical drift and maximizes the stability and repeatability of your measurements every time



Adapt Quickly, Scale Seamlessly

With OGP metrology solutions, you're ready for whatever comes next.

- Our multisensor systems make it easy to adjust when introducing new designs, adopting new manufacturing methods, or scaling up production
- Seamless integration with Industry 4.0 technologies, including AI and advanced robotics keeps you agile and future-ready
- Continue to embrace innovation, knowing your metrology system can easily adapt to varying geometries, materials and overall complexity

"There were many different features on the cases to be measured and these were taking two hours in some instances on our CMM.

Using the Smartscope® Flash™, we can measure each side in just six minutes, without any detriment to accuracy."

Harjit Bhurjee | Nasmyth Arden aerospace manufacturers

Simplify Training and Execution

Count on OGP systems to reduce complexity from the shop floor to the factory floor. Every facet and function has been designed for faster training, easier operation, and greater independence from specialized operators.

- Offline programming flattens learning curves and boosts workers' confidence by allowing operators to build, test, and refine measurement routines in a simulation-based environment
- Walk-up measurements empower operators at every skill level; they can launch pre-programmed routines and utilize our apply-to-similar auto generation for consistent results
- OGP's all-in-one system alleviates the need for separate operators running different processes, which in turn frees each technician to oversee more work

Throttle Up Throughput

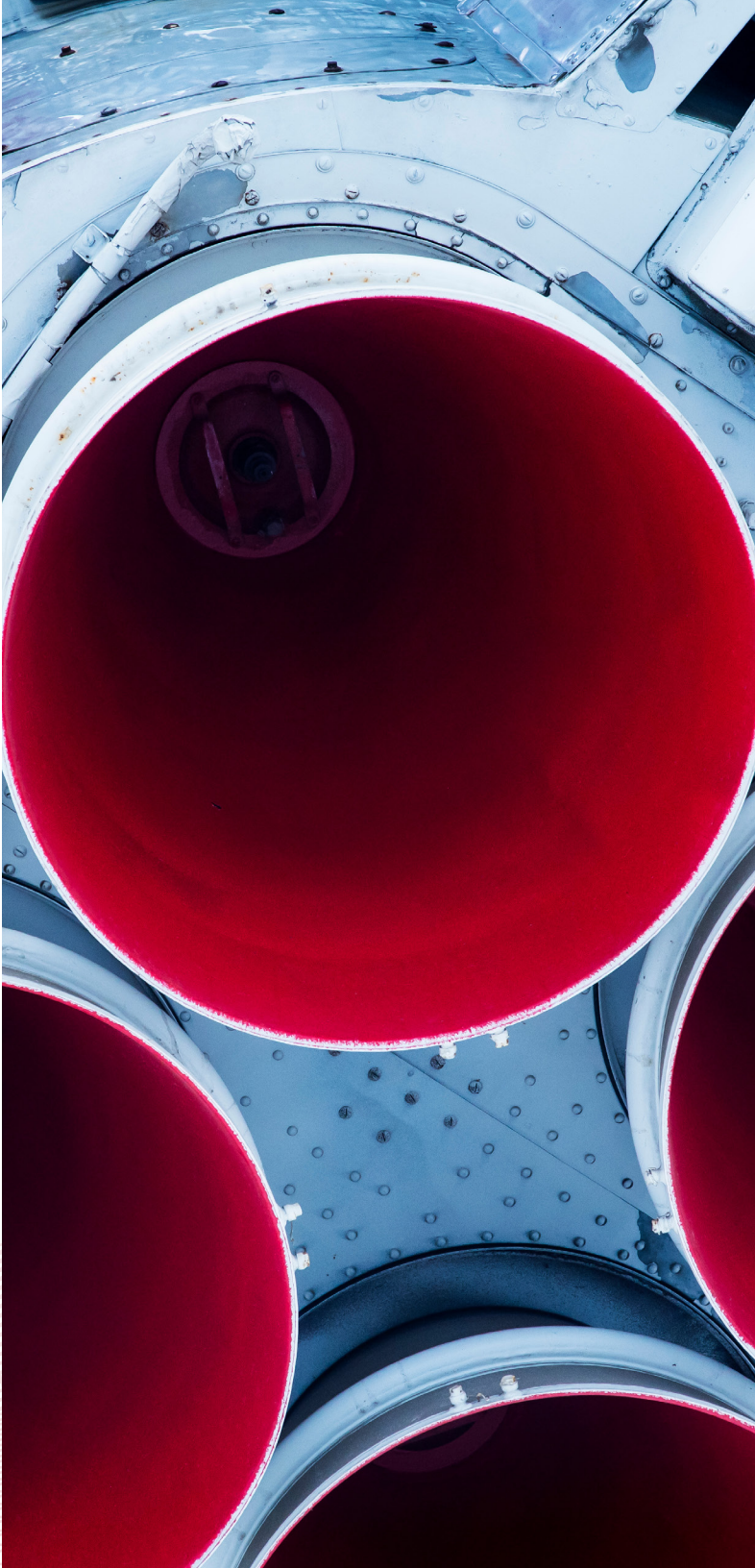
OGP metrology systems are engineered for the utmost in efficiency, maximizing data throughput.

- VIRTUAL ZOOM instantaneously changes magnification without the need to move parts, accelerating setup and runtimes
- Our larger field of view allows for more features to be measured simultaneously—a significant time-saver in high-mix, high-volume production environments
- Parallel processing quickly identifies and corrects errors via visual feedback and validation
- Light intensity automatically adjusts with magnification changes, picking up the pace of processes

“The original target was to expect a return on investment within three years, but this was easily achieved within two, which was impressive.

In addition, inspection cycle times have been reduced, and the data is used to further improve our manufacturing processes.”

Manufacturing Team Leader John Shell | Meggitt Aircraft Braking Systems



RAPID PRECISION YOU CAN TRUST, START TO FINISH

When measurement challenges threaten to slow you down, OGP metrology has the versatility, precision and speed to propel you forward. From initial prototypes to final inspections, our integrated hardware and software are built from the ground up to ensure you can meet the moment with velocity and veracity.

Improve Prototyping

Satisfy aggressive timelines with fast measurements

Confidently ensure functionality and design intent

Quickly compare and adjust iterations

Reduce costs on space, calibration, and maintenance

Handle more types of use cases with a single metrology system

Optimize First-Article Inspections

Identify the slightest deviations

Prevent expensive production errors and safety hazards

Avoid being the bottleneck in production

Accelerate training without compromising quality

Seamlessly handle different parts from different industries

Strengthen Production Inspections

Meet rigorous standards without compromising quotas

Simplify and automate complex routines

Course-correct defects before they impact production

Broaden inspections to a wider range of components

Minimize training time and maximize consistency

Fortify Final Inspections

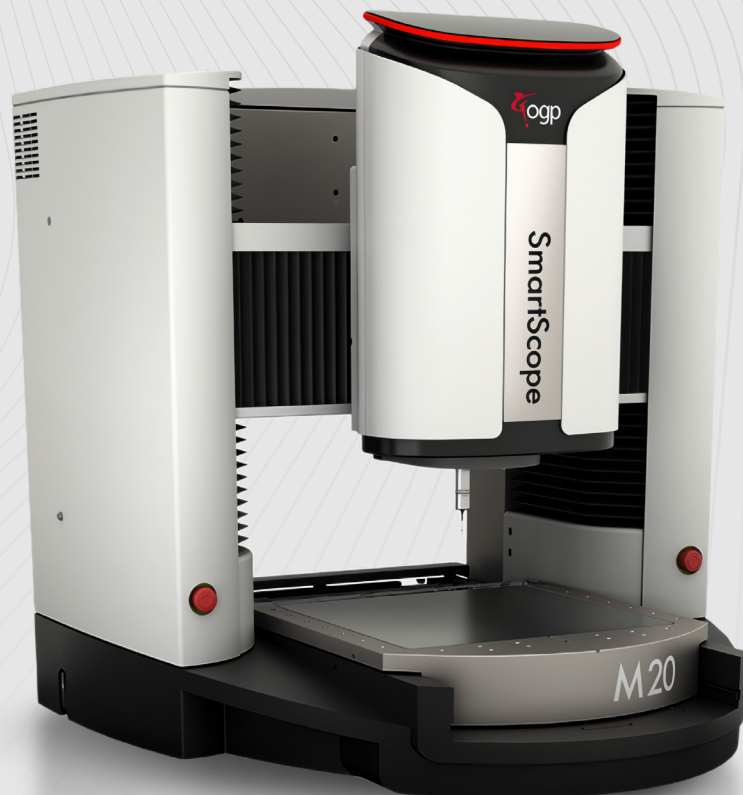
Achieve identical, robust results regardless of the inspector

Quickly identify trends and deviations from specs

Empower inspectors to do the work of many

Reduce cycle times and the risk of human error

Deliver a flawless finished product



MEASURE FAST, MANUFACTURE FASTER

When you partner with a metrology leader with more than 75 years of experience, you harness the speed and precision to thrive in this fiercely competitive industry.

Leverage our deep expertise with our next evolution metrology: SmartScope® M-Series multisensor systems, powered by ZONE3® metrology software offers unquestionable accuracy and unmatched efficiency and versatility.

585-544-0400

(8:00 a.m. — 5:00 p.m. EST)

480-295-3150

(11:00 a.m. — 8:00 p.m. EST)



**Let's discuss how you can achieve your targeted metrics with our solutions.
Call us during business hours, and one of our experts will gladly answer your questions.**

Contact Us >

OGP (Optical Gaging Products) is a division of Quality Vision International Inc (QVI®), a world leading manufacturer of precision multisensor metrology systems for industrial Quality Control. Our metrology systems focus on measurement technologies that help manufacturers monitor dimensional compliance to design specifications. First introduced in 1992, the famous OGP SmartScope® product family has become one of the world's most popular and versatile dimensional measurement systems. SmartScope systems are designed and produced at QVI corporate headquarters in Rochester, NY, USA.



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