



***No Need to Compromise
Quality with Hexagon
Metrology's On-Demand
Workforce***

by Belinda Jones

The business of manufacturing is a colossal world of outsourcing: from product design to parts to services. This practice makes it possible to leverage expertise when you need it. In a field such as metrology where the difficulty of finding and training qualified staff remains an industry-wide issue, outsourcing is a growing nationwide trend.

No one disputes the fact that maintaining product quality is mission critical. But not every company is taking the same road to get there. Large and small manufacturers are hiring service providers for precision measurement, inspection work, and process verification. Hexagon Metrology Services, as the largest OEM provider of specialized "on-demand" metrology services in the industry, delivers nationwide reach and specialized application expertise while providing the personalized service of a local inspection house.

Why Outsource?

The evolutionary shift in how quality control gets performed is due to the flexibility needed by manufacturers to survive in today's competitive marketplace. And the reasons to outsource are as diverse as the companies that do so.

Tap into Blue Chip Metrology Expertise

First, the bustling metrology business is pouring out new precision devices and product-specific functionality into the marketplace. Decades of software development has resulted in sophisticated inspection software like PC-DMIS that supports both CAD applications and true cross platform hardware integration. From lasers to white light sensing technologies, the growing number of metrology solutions can intimidate even an expert in the field.

For quality control managers, the technology challenge is twofold. The pressure is on to ensure their departments are using the best technology tool for the job at hand. Then, you must factor in the need to constantly train staff in the latest advances for one or several metrology devices. This effort becomes increasingly difficult for departments with a small staff where all hands are needed to keep operations running smoothly.



In tough economic times, companies are also struggling to build optimization into their businesses in a fiscally responsible way. Outsourcing can be a vital tool in this endeavor. Tier one manufacturers are outsourcing large segments or their entire quality control function to keep costs and timelines under control. Often in larger corporations, quality control departments have separate budgets from the rest of the operation, which accommodates the process of outsourcing. Using outside expertise and equipment, they can sustain quality and find bottom line savings by reducing the number of employees and the associated training and benefits involved.

Supply and Demand

In the age of working smarter not harder, there is a supply-and-demand approach to quality control. SMBs (small and medium-sized businesses) often lack the knowledge and qualified manpower, and tap into the on-demand metrology workforce when projects demand the know-how. With a deluge of precision devices supporting various levels of accuracy, the measurement expert can better ascertain what type of equipment and software is needed to get the job completed, and get the job done faster than a novice-in-training.

John Wright, President of ADC Engineering (Gardena, CA) keeps his engineering staff focused on designing and building very large tools, such as assembly tools for wings and repair tools for helicopters. When it comes to inspection, Wright has found the best of both worlds...outsourcing the project to those with expertise in both the tool building business and laser tracker measurement. "Once the tooling is built, there is a lot of measurements that must be taken for these applications. Because this task is a small percentage of our production process, it is not cost-effective to hire a full-time employee for this task. Instead, I hire an expert from Hexagon Metrology Services to perform the inspection function."

Street-wise manufacturing enterprises view outsourcing as a good way to augment their staffing when production ebbs and flows, or when they need help to complete a project with critical timelines. Other managers want to test drive more sophisticated equipment with higher accuracies and utilize skilled metrologists with product-specific expertise in 3D measurement technologies such as laser trackers or articulating arms. Alternatively, there is the QC manager who simply wants to perform due diligence on their internal quality control processes, and seeks non-partisan numbers from an outside expert who is impartial to the results of the project.

Coast Aerospace (Huntington Beach, CA) is a big proponent of using outside services for metrology work. The tooling company specializes in ground support equipment and major assemblies.

For in-house quality control, they employ three skilled laser tracker operators. "The reason why I outsource is because it doubles my output," says Louis Ponce, President of Coast Aerospace. "I need to keep my staff busy in the plant without disruptions, so we utilize outside metrology capacity for field operations at our customer sites, or in-house when it is needed.

Hexagon Metrology Services: Your On-Demand Metrology Workforce

Outsourcing [to Hexagon Metrology Services] provides a huge value to shop like ours.”

Meyco Machine & Tool (Fountain Valley, CA) has benefited in two ways from hiring temporary specialists. Manny Gomez, Meyco President, explains, “Our company was contracted to build four large assembly tools for the wings of an airplane. We required large volume measurement capability that could only be done with a laser tracker. We hired the experts at Hexagon Metrology to perform the task, and since then we have used them for additional inspection work. This experience enabled us to test drive the technology...to see how a laser tracker worked for our applications.”

Outsourced Mentoring

Another aspect of using outside expertise is “outsourced mentoring”. As an aging workforce of metrology specialists are steadily retiring, forward thinking companies are taking steps to curb the problem. Manufacturers with metrologists-in-training programs still have dimensional control work that must get done. Department heads have turned to mentoring to develop their own experts by working closely with OEMs specialists after the conventional training period is over. Often this one-on-one teamwork between expert and novice results in very successful product implementations, where novices learn to use instrumentation properly, compare data acquisition results with an expert, and experience how processes are improved to produce parts faster and better.

Choosing The Right Outsourcing Partner

Choosing the right outsourcing partner can depend on a variety of factors: budget, timelines, logistics, availability, scope of project, required accuracies, metrology equipment, product-specific expertise, application knowledge and much more. The hired expert or experts must hit the ground running.

Direct Drive Systems (Cerritos, CA) produces high-speed, high-power permanent magnet motors and generators. Henry Towers, Senior Quality Engineer, has unique needs for inspection, which he placed in the hands of Hexagon Metrology Services. “Our rotors are highly magnetic, so we can’t use a standard CMM for inspection. Instead, we hire laser tracker experts. In three to four hours, they gather the required coordinate data, perform post processing and typically deliver the data the next day. From there, we generate our own surfaces and map any deviations from the cylindricity of the rotors, and check for other possible variations. It is simply more convenient and cost-effective to outsource the work.”

Hexagon Metrology Services, a True Partner

As the largest original equipment manufacturer (OEM) in the metrology industry, Hexagon Metrology is uniquely positioned to be on the forefront of applied metrology solutions. In our position as the source for research, development, and production of metrology equipment solutions, we nurture in-house experts who work closely with R & D and applications teams to develop, test, and use the very latest generation of measurement/inspection software and hardware. Our factory-trained professionals are deployed across the country onto the customer’s shop floor for short-term and long-term projects.



Hexagon Metrology Services, our dedicated organization for outsourcing projects, gives organizations an edge in executing large complex projects, or projects with applications requiring a high level of multi-tiered expertise. Our factory-trained experts launch and integrate new technologies into a wide scope of manufacturing environments and software platforms, and work closely with our clients to develop automation and verification processes around their products. We also maintain a comprehensive, calibrated hardware inventory for a variety of end-uses.

A Real Plan B

With access to alternative staffing solutions, the small or large manufacturing company can re-imagine how metrology factors into their operations today and further on down the road. The on-demand metrology workforce from Hexagon Metrology Services is delivering work-ready experts, not a bad Plan B when faced with unforeseen workflow or measurement challenges.

Hexagon Metrology is world's largest company in the dimensional metrology segment for industrial purposes, and offers products in all major product categories and subcategories in the market, measuring things as small as medical screws and watch parts to as large as an assembled aircraft.

Hexagon Metrology is the corporate umbrella under which we develop, manufacture, and sell products under the brands Brown & Sharpe®, DEA, Leitz™, Leica Geosystems, ROMER®, Sheffield, PC-DMIS® and more. Our installed base encompasses millions of tools and machines, and tens of thousands of seats of software.

Hexagon Metrology's worldwide customer base ranges from the largest manufacturers such as aircraft, automotive, heavy equipment and defense OEMs, plus all sub-tiers of these industries, down to job shops. Hexagon Metrology serves over 125 distinct industries with our products and services.

Finally, Hexagon Metrology is the largest metrology services provider in North America. Beyond the obvious definition of service and support of the installed base, Hexagon Metrology expands the definition to include any opportunity to deploy human capital to make a customer operation more effective and productive. These offerings include specialized training, system integration, custom programming, contract inspection, temporary to full-time staffing contracts, reverse engineering—nearly anything where Hexagon Metrology's specialized expertise meets market need.

Hexagon Metrology, Inc.
250 Circuit Drive
North Kingstown, RI 02852 USA
Phone: 800-274-9433
Fax: 401-886-2727
E-mail: info@HexagonMetrology.us
<http://www.HexagonMetrology.us>

