FACTORS TO CONSIDER WHEN PURCHASING A METROLOGY SOLUTION

Choose the best measurement solution for your operation.

While dimensional measuring systems are crucial in any manufacturing operation,

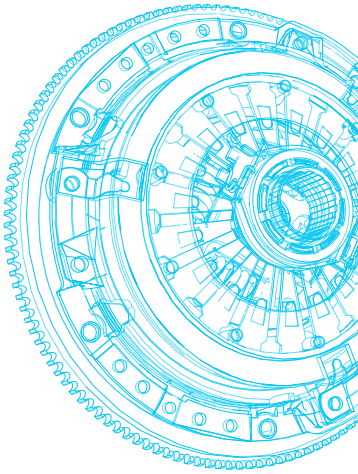
SELECTING THE RIGHT SOLUTION IN TODAY'S TECH-SATURATED WORLD CAN BE A TIME-CONSUMING AND RESOURCE-INTENSIVE TASK.

Before choosing your next measurement solution,
consider all the factors that will affect your choice — and impact your work — including:

1. **PART SIZE AND SHAPE**
2. **FEATURE TYPES, SIZES AND TOLERANCES**
3. **PRODUCTION VOLUME AND MIX**
4. **ENVIRONMENT AND EASE OF USE**
5. **SENSOR TYPE**
6. **BUDGET**

1

PART SIZE AND SHAPE



Your first consideration should be the range of parts you will need to measure.

To select a system with suitable measuring range and capacity, consider your:

- **Part sizes**
- **Part shape**
- **Part weights**
- **Part mix**
- **Lot sizes**
- **Load / unload methods**

Smaller two-dimensional parts require a less sophisticated system than larger, heavier three-dimensional parts with more complex geometry.

Consider any additional accessories or specialized equipment you may need for measuring internal geometry.

LEARN MORE →

FEATURE TYPES, SIZES, AND TOLERANCES

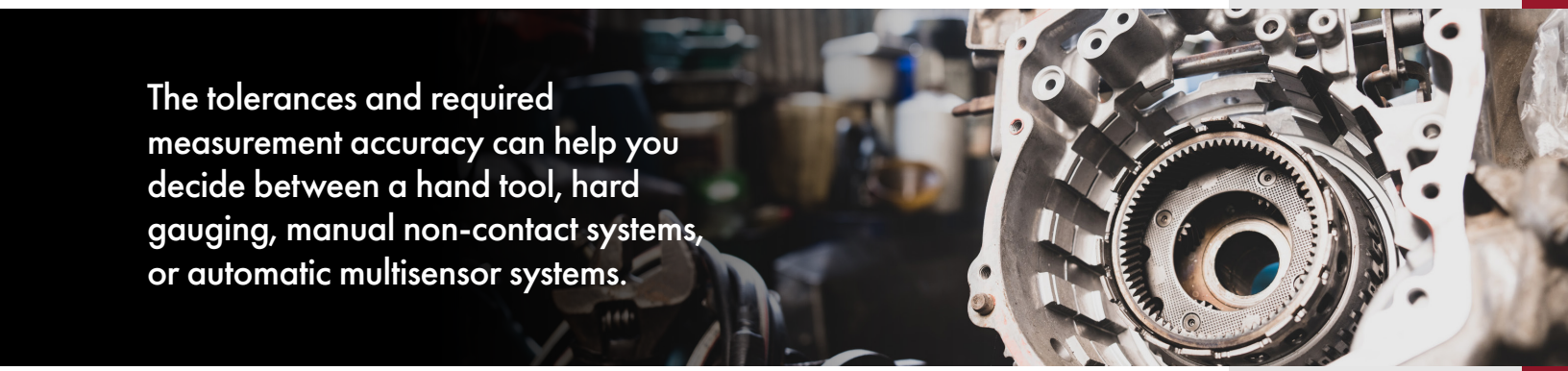
2

Understanding your part sizes and tolerance requirements is vital to selecting the right system and sensors.

While it is important to not over specify accuracy, as the “tightest” tolerance on a small part may only need to be measured occasionally,

> **a device’s overall accuracy should be**
> **5–10x**
> **better than the tolerance held.**

More vital than overall accuracy, however, is sensor resolution. Each sensor’s precision should match the requirements of the feature it measures.



The tolerances and required measurement accuracy can help you decide between a hand tool, hard gauging, manual non-contact systems, or automatic multisensor systems.

3

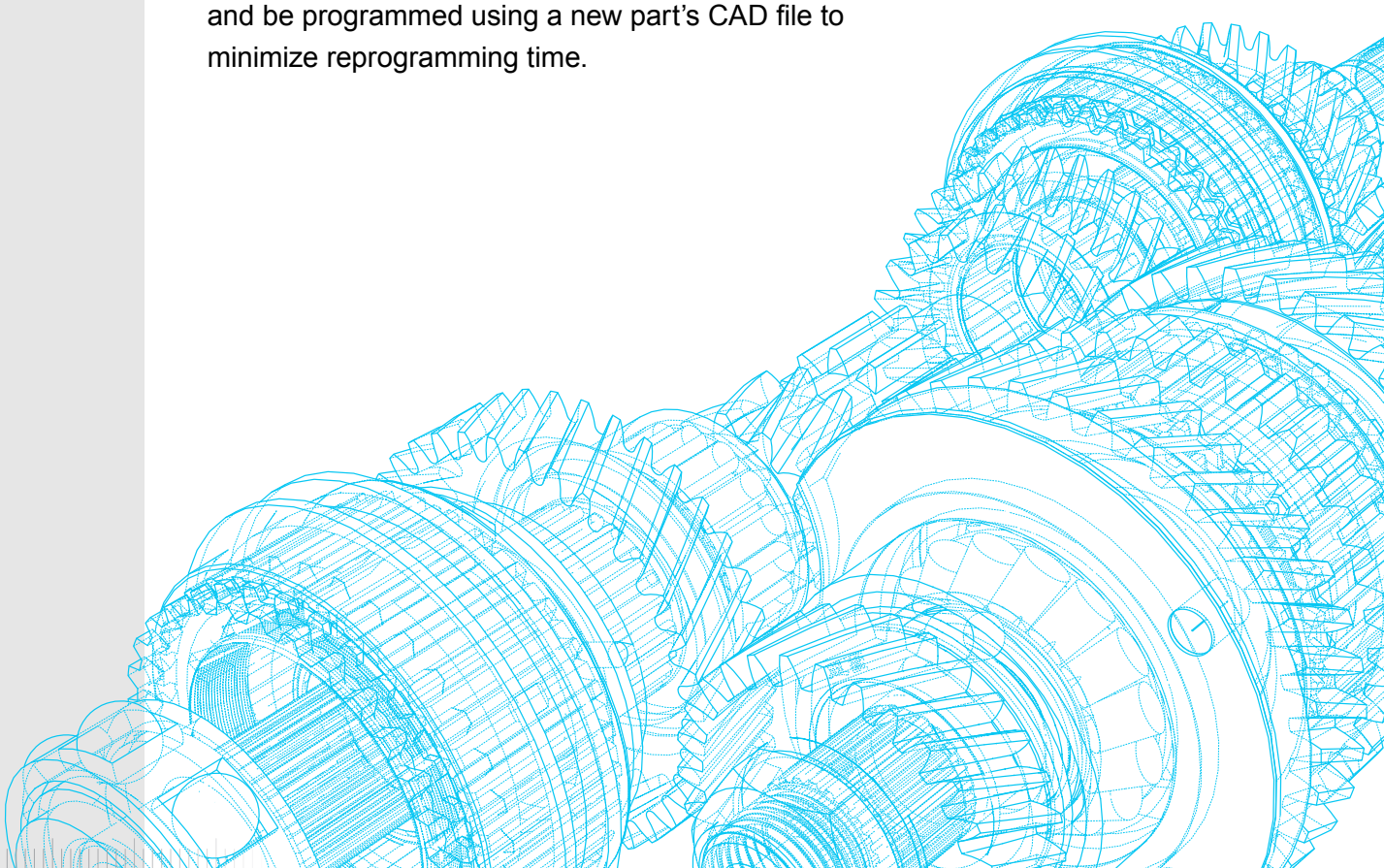
PRODUCTION VOLUME AND MIX

For low-volume, low-mix operations with parts with less complex features, a semi-automatic system may meet your requirements.

However, if your operation handles high-volume or high-mix production, or detailed parts with fine features, you may need more automation or load capacity to keep up with your measuring volume.

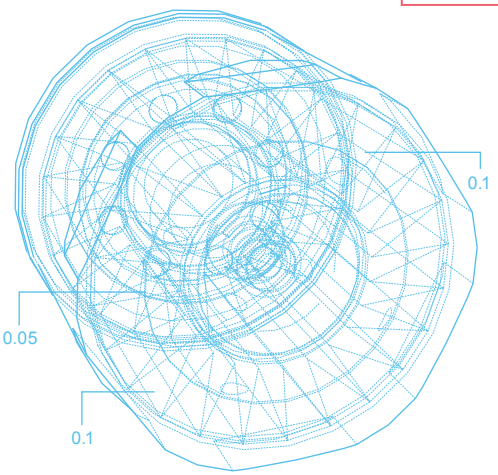
Consider your current part mix and volume in addition to anticipated future applications as your operation grows.

Special situations, call for more versatile solutions. Select a solution that can accommodate different parts and tooling and be programmed using a new part's CAD file to minimize reprogramming time.



ENVIRONMENT AND EASE OF USE

4



Different systems are designed for different environments.

For example, some do not excel under shop floor conditions with vibration and excess ambient lighting, while others are built for harsher environments without diminished performance.

Consider ease of use in the context of your environment as well. Some high-performance measuring systems require considerable experience and skill to program. Still, if offered with easy-to-program metrology software, these systems can be set up with simplified operator interfaces, so consider the abilities of those using the system routinely.

Characteristics that ensure reliable performance:

- **Large bearings**
- **Rugged support structures**
- **Robust drive components**

SENSOR TYPE

5

Select your sensors based on the characteristics and nature of the features you're measuring.

Some measurements can be made entirely with optics, while others require laser or tactile sensors to reach difficult-to-image areas. Some applications require many sensors and types to read all the required dimensions.

The essential characteristic to look for in a measuring system is support for a range of sensors to characterize your parts fully.

Experienced applications engineers can help you select the right sensors for your specific application.

BUDGET

6

Of course, purchasing a dimensional measuring system is a significant investment, both initially and in maintenance and operating costs.

As you research solutions, consider the time and cost-savings of elevated accuracy, as it reduces re-production for parts that are out-of-spec.

Your local Authorized OGP® Representatives are experienced metrology experts that can help determine your application needs and recommend a cost-effective solution.

Seeking local support also ensures that your system will be implemented quickly, and that onsite program setup and operator training is available.

FIND YOUR LOCAL REP →

Getting Started with Your
New Metrology System:

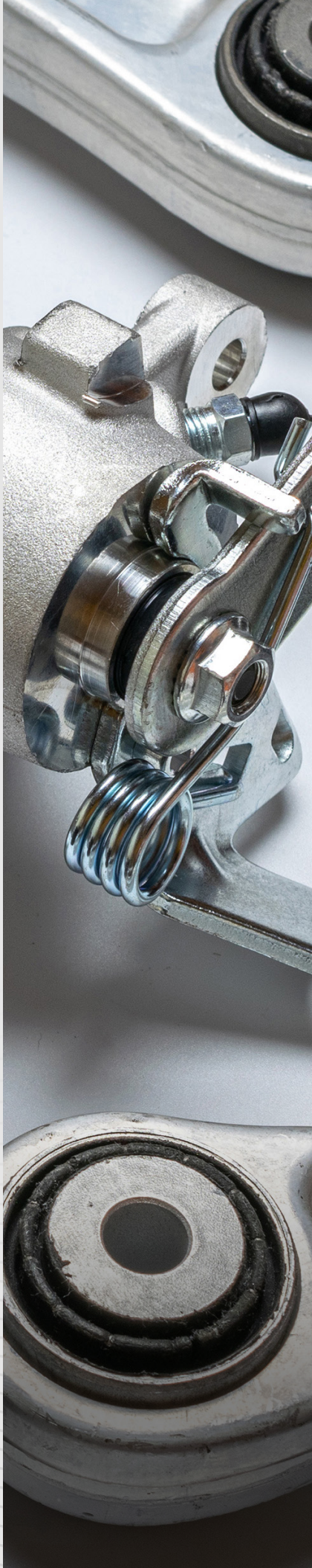
THE IMPORTANCE OF ACCURACY AND CALIBRATION

Introducing a new measurement system into your workflow is exciting, but to maintain accuracy from the start, your system will need to be calibrated.

Environmental, temperature and mechanical variation in the axis motors can cause systems in service to lose accuracy, and new systems must be calibrated properly in their new environment. To adjust for these factors, specialists can perform a calibration to confirm that a system is operating within its specifications or bring it back into specification.

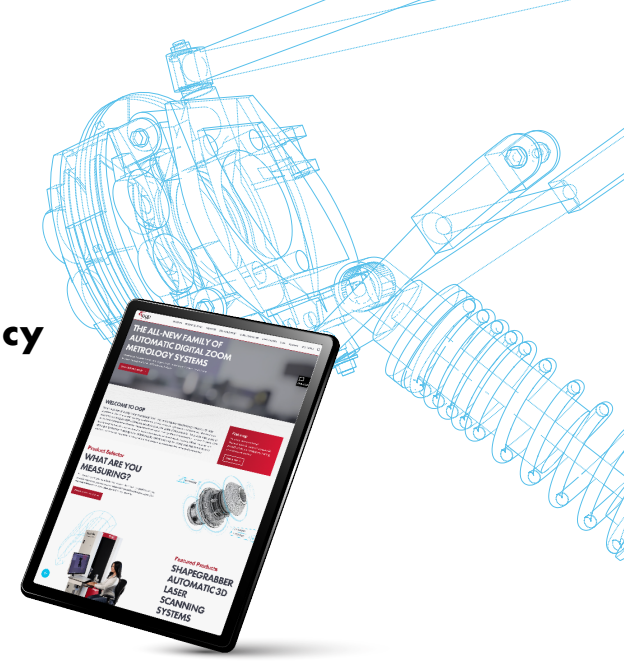
OGP suggests you calibrate your systems once a year, or when circumstances call for it, including:

- When your system is first installed
- When it has been moved or reconfigured
- When periodic maintenance has been performed on the optics or motion systems
- When measurement software has been installed or updated



For more information on accuracy specifications and calibration services, read our Ready to Measure technical report.

DOWNLOAD THE WHITE PAPER →



EXPERIENCE MATTERS

OGP Services provides technical support, field service, calibration, and upgrades for measuring systems manufactured by OGP. The OGP Services team's goal is to keep your systems operating in peak condition. These skilled technicians are located throughout the United States and are compliant with ISO/IEC 17025 requirements for field service and calibration.

CLICK HERE FOR MORE INFORMATION →

OGP — The Right Choice for Dimensional Measuring Systems

Optical Gaging Products (OGP) is a division of Quality Vision International, Inc. (QVI®), a world-leading manufacturer of precision multisensor metrology systems for industrial quality control. With over 75 years of technical innovation in metrology, OGP is a trusted supplier and support hub for non-contact and multisensor dimensional measuring systems.

ogp Confidence. When Results Matter™

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