

3D Scanning

3D Scanning provides useful solutions to many challenges in manufacturing - including digital metrology of complex components, creating 3D models of legacy parts, or reverse engineering of components that are lacking documentation. Solutions range from small handheld scanners to larger scanners mounted on robots or gantries for scanning larger structures. Solutions are also selected based on parameters like accuracy and resolution, surface finish and light sources, and the type of measurement being conducted.

Why 3D Scanning?

- Reverse engineering
- Design custom fixturing
- Digitize legacy parts
- High accuracy metrology

How is it accomplished?

- Structured white light scan
- Acquire color information
- Convert scans to CAD
- Tolerant of high reflectance

Application Principles

- Metrology & inspection
- Scalable solution
- Identify surface flaws
- Portability to shop floor



Shop Floor Impacts

- Repeatable measurements
- Improve accuracy
- Increase adaptability
- Increase productivity



Thanks to **Creaform** and **Murray Manufacturing** for their support in highlighting their 3d Scanning solution.



Additional Suppliers for 3D Scanning



FARO Technologies is a provider of 3D modeling, measurement, and metrology solutions. They offer both [handheld scanners](#) for portability and ease and portable [robot-mounted scanners](#) for larger formats and higher precision applications. Their systems enable manufacturers to quickly identify quality issues, correct for workpiece misalignment, and speed up design processes.

Artec 3D offers both [handheld scanners](#) for quick scans and ultra-high-precision [desktop scanners](#) ideal for quality measurements. Additional software tools include the capability to scan to CAD software, enabling rapid turnaround of 3D prints of scanned parts.



Shining 3D provides [3D metrology solutions](#). Based on several core technologies like 3D machine vision, laser scanning, high-precision blue light scanners, and robotic 3D inspection systems. Their solutions are well suited for industrial applications in aerospace, automotive, transportation, industrial manufacturing, and others.