FARO®

REVERSE-ENGINEERING & INSPECTION

FARO ScanArm Reduces Data Collection by 80% for 3D Engineering Solutions

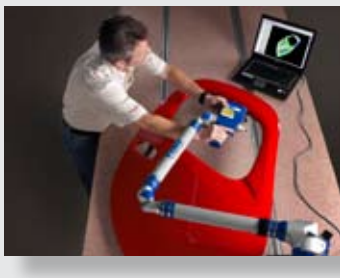
PROBLEM:

A new project for 3D Engineering has gained them plenty of stares. 3D Engineering Solutions is an advanced engineering service provider based in Cincinnati, Ohio. Though they have over 100 years of collective experience in aerospace manufacturing and quality assurance, they've recently expanded into the automotive market with their latest project. They are working with Akron based Myers Motors to discover how best to mass-produce a three-wheel NmG (No more Gas) personal electric vehicle.

3D needed a portable, laser-based solution to capture data from the NmG vehicle for modeling and reverse engineering. The older technologies of hand gauges, calipers and fixed CMMs simply could not perform at a satisfactory speed.

SOLUTION:

3D Engineering did an exhaustive search for available laser technology and found that FARO was the best in class for their needs. FARO provides an easy-to-use platform for capturing data fast and accurately. 3D now utilizes the integrated FaroArm and Laser ScanArm to inspect, measure and provide engineering services to its customers.



3D uses this hi-speed portable laser system to collect information dramatically faster than traditional methods allowed. They were the only area technology company able to provide Myers Motors with such a cost-effective solution.

The ScanArm collects up to 19,200 points per second and puts that data into PolyWorks point cloud software. The data is then used to make three-dimensional models and reverse engineer parts into CAD. The goal was to then use the collected data to figure out how to design the parts in order to mass produce them more economically for Myers and its NmG.

ROI:

Time is money and with the FARO ScanArm, 3D can reduce the time it takes to analyze the tooling and production for a part. What used to take weeks can now be accomplished in a matter of hours. They were able to develop computer models for all 42 parts in the NmG vehicle in only three days. This would have taken 3D months to do prior to acquiring the ScanArm solution.

"The amount of data that is collected in a matter of hours with minimal setup time is comparable to that which would take days or even weeks by previous conventional inspection equipment methods," says James T. Irwin, president of 3D Engineering Solutions.

3D gains new customers every day after demonstrating their capabilities with the FARO ScanArm. "Our ability to dramatically reduce data collection and analysis time is an advantage that even small job-shop manufacturers can afford," says Irwin. "We are saving customers thousands of dollars per year by using FARO's technology."

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