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ShapeGrabber's 3D scanning technologies ahead of its time



July 2014 - Pierre Aubrey, President, ShapeGrabber (a QVI company) tells how 3D scanning is shaping up to be an important measurement tool for quality control.

Q1. What are the major trends in the 3D scanning market?

PA: One major trend is the wider adoption of 3D scanning technology for inspection and quality control as opposed to the usual markets of reverse engineering and modelling. The traditional scanner from a few years ago was difficult to use. It was designed by an engineer to do an engineer's job. [These days, 3D scanners are not only used by engineering but more and more by manufacturing and QC for routine inspection tasks on a day-to-day basis.](#)

There's greater awareness, and as products become more sophisticated, manufacturers are constantly looking at better ways to measure them. Hence a lot of the demand comes from the users themselves and along with this pent-up demand, [we are seeing a gradual reduction in the price of scanners.](#)

Q2. How is ShapeGrabber leveraging these trends?

PA: 3D scanning as a measurement tool for QC is not new for us. In fact, ShapeGrabber has been working on this next "big" application for over 20 years!

A lot of what's happening in the market [is well aligned with our product characteristics of automation for speed and ease of use.](#) In the last 5 years, we're seeing a lot more acceptance. People are realising that our scanners can be used for QC and industrial measurement.

Q3. What do users look for when performing inspection and QC?

PA: The key drivers in this market are *speed and ease of use* and that's where ShapeGrabber is strong. Take an example, makers of products with complex shapes designed for functional, ergonomic, and aesthetic reasons want the same level of quality. They are finding it difficult to measure complex shapes such as injection molded plastics and precision castings accurately and faster at the same time.

Users have found that our automated 3D laser scanners, which collect multiple data points simultaneously, are much faster than devices which collect a single point at a time. ShapeGrabber collects over 30,000 points per second, measuring millions of data points in much less time than traditional methods that collect a few hundred or a thousand points. [This is in 3 orders of magnitude more data.](#)

Q4. Who are your major customers?

PA: The top 3 main industries are [automotive, medical and aerospace](#). Some of our customers are Toyota, Johnson & Johnson, HP and Toshiba. Medical is certainly growing. Five years ago, it would not be in the top 3. Today, medical manufacturers are facing challenges to produce at lower costs while keeping the same quality. Automated 3D scanning is allowing them to do that.

The market for 3D scanners is growing at 15% per annum on average and ShapeGrabber is optimistic about penetrating the measurement market further.

Q5. What differentiates ShapeGrabber?

PA: The whole point about automated 3D scanning technology is costs reduction - we are helping our customers to do things much faster and speed is money. If people have a perception of what these devices cost from a few years ago, they really have to go back to look at the pricing today. [Prices are significantly less by probably 30%](#) which is a huge benefit to customers.

[More importantly, ShapeGrabber brings a whole new way to measure for QC](#). Imagine trying to measure a very complicated shape, you can touch and probe it in a few locations, but you may have some difficulty to relate that to something. What ShapeGrabber's devices do is to scan the whole part and align it to the 3D CAD model. From there, subtle defects between the part and the model can be identified on the spot. That's speed and ease-of-use for you.

Our [Ai310 scanner system](#) fills a sweet spot. About half of the products manufactured in the world will [fit into the scan envelope of the Ai310](#) where we can scan for defects easily at reasonable costs within the accuracy requirements needed.

Q6: What can customers expect from ShapeGrabber going forward?

PA: As a wholly-owned subsidiary of QVI, the world's largest vision metrology company, ShapeGrabber will be able to gain access to new markets and customers for its 3D scanners.

In the long-run, customers can expect more innovative 3D scanning products at attractive prices as QVI strives to add more products to its already wide portfolio of dimensional inspection systems for manufacturing quality control.

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