ON CLOSER INSPECTION


Dr. Jan Antonis, BEng, Phd.

ISMR SAYS:

"The inspection process for sheet metal parts must be quick, easy and flexible"

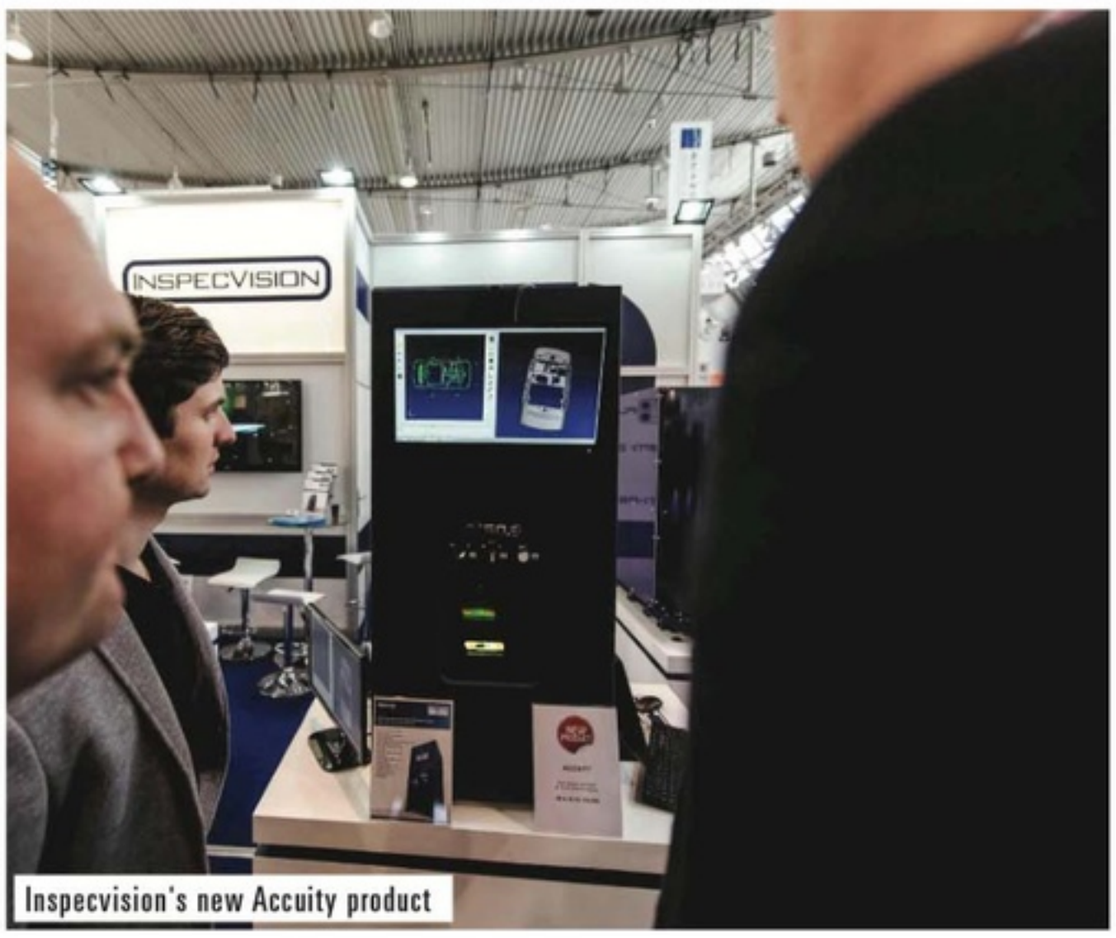
ISMR catches up with Dr Jan Antonis, Managing Director, InspecVision.

InspecVision Ltd. was established in March 2003 to develop a range of precision inspection machines for industrial applications. Sales of its Planar inspection system, for quality control and reverse engineering applications, started in mid-2005.

The founder of the company, Dr. Jan Antonis, carried out advanced research in computer vision systems at Queens University Belfast in Northern Ireland. *ISMR* spoke to him about the company's latest new sheet metal inspection developments.

ISMR: Please outline any recent successes or achievements?

JA: Mitsubishi Corporation have taken on our Planar and Opti-Scan product lines in the USA. InspecVision was well known in the USA for its customer-driven innovation. We are extremely excited to start working with them.



Inspecvision's new Accuity product

> The system has a single point repeatability of under 200 nanometers or 0.2 microns - that is shorter than the visible wavelength of light and approaching the limits of what can be done with optical equipment

TRUMPF also recently purchased one of our inspection machines. Each of the laser cutting machines that TRUMPF produces must undergo a huge battery of tests. One of the final tests is to cut a reference plate and verify its size. This is now done on a custom-built Planar system. Its requirements were extremely demanding. The system has a single point repeatability of under 200 nanometers or 0.2 microns – that is shorter than the visible wavelength of light and approaching the limits of what can be done with optical equipment. I get a great deal of personal satisfaction from the knowledge that our machines are now used to verify the parts and the production equipment that creates those parts.

Despite being a metrology company, InspecVision was started by sheet metal manufacturers and I believe that our experience and in-depth knowledge of sheet metal production were key factors in both of these successes.

ISMR: What are your views on the current business climate for sheet metal professionals?

JA: We serve a wide range of customers in a global market. Innovation is fast-paced and not restricted to one market or geographical region. Standing still is not an option. I would say that there are shared traits in our customer base. Due to the nature of our equipment, our customers tend to be very forward-looking and, as a consequence, successful.

We see the key to growth in the current market as small- to medium-sized companies who are willing to introduce innovative products or processes which support larger manufacturers and OEM activities.

> Speed, ease of use and set-up plus reliability are critical.

ISMR: Which issues are of prime importance for your customers and how are you addressing these issues for them?

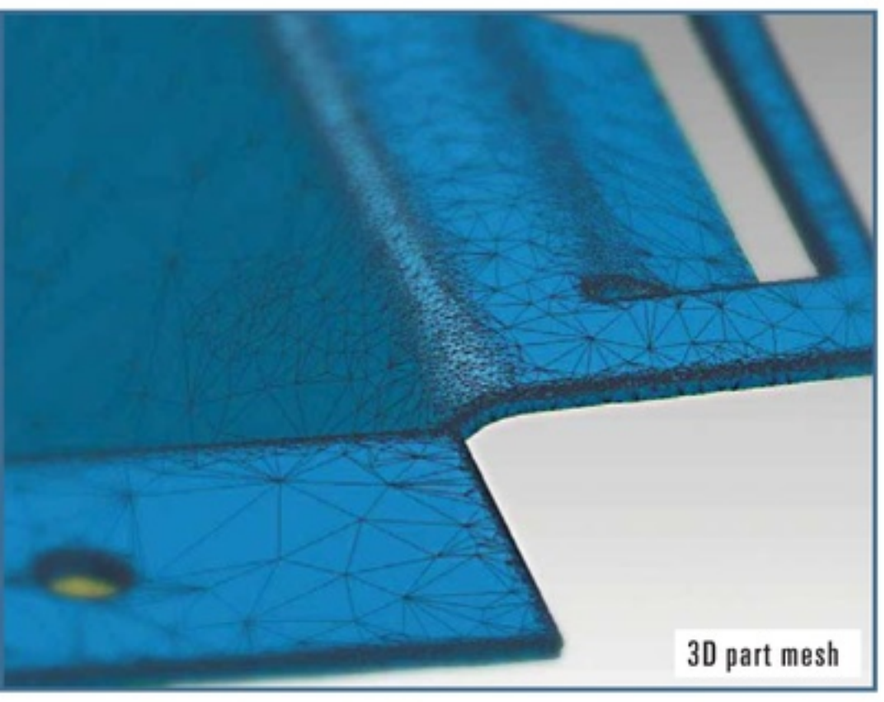
JA: With respect to quality control, I would say that speed, ease of use and set-up plus reliability are critical. Automation in sheet-

metal production has driven down the cost per part so it's not commercially viable to spend hundreds of euros to pay a high-end operator to inspect a sheet metal part on a CMM. The inspection process must be quick, easy and flexible.

Our automation for set-up and inspection was already extremely good, so we have just started adding augmented reality to our machines to make them even easier to use. The system can now project green onto the good parts and red onto the bad ones, or even the 3D deviations back onto the part.

ISMR: What is your strategic and technical focus/vision over the next few years?

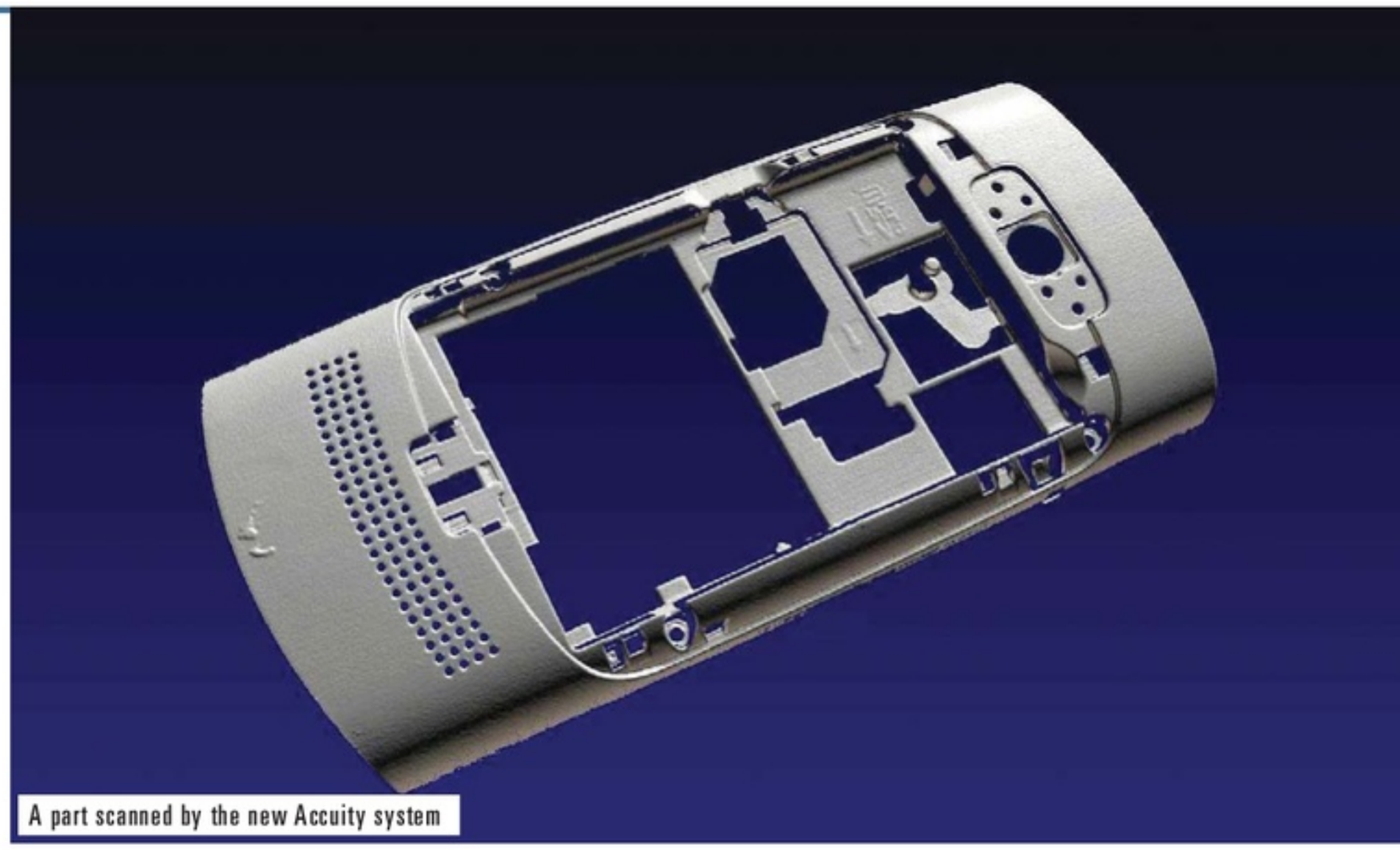
JA: Of course, improving the 3D scanning of bent sheet metal parts is always important but even the demands of "flat" part inspection have evolved. Purely 2D sheet metal production is becoming less and less common. Punched parts often include some kind of insert or form etc. Running a full 3D scan on a primarily 2D part is just not efficient.



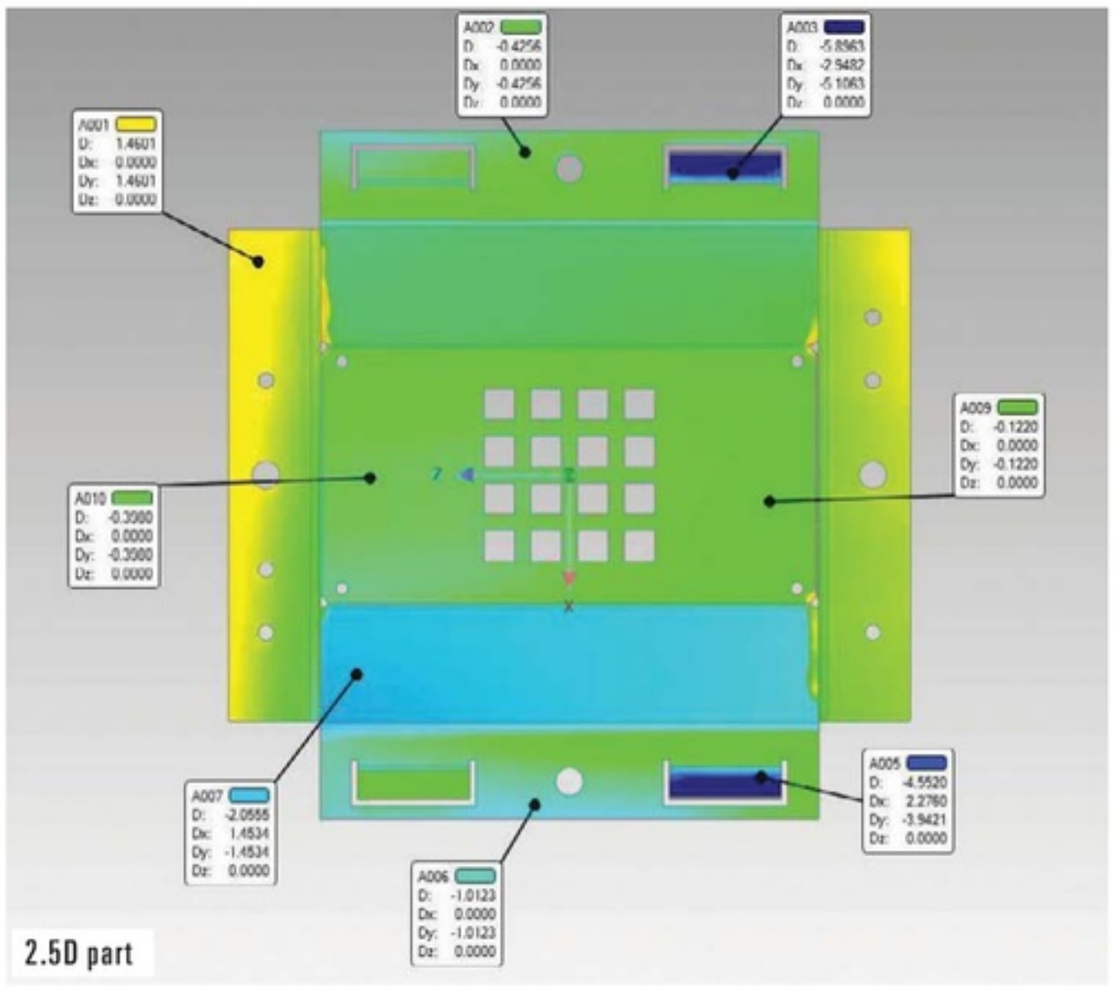
3D part mesh

ISMR: Which trends do you see developing in sheet metal bending markets?

JA: The demand for an automated 2.5D inspection system which can check both the 2D shape of the part with some simple height measurements to check the presence of inserts, pins or forms is growing. Luckily a new breed of very high-resolution, high-speed cameras is becoming available which can fully address both these requirements.



A part scanned by the new Accuity system



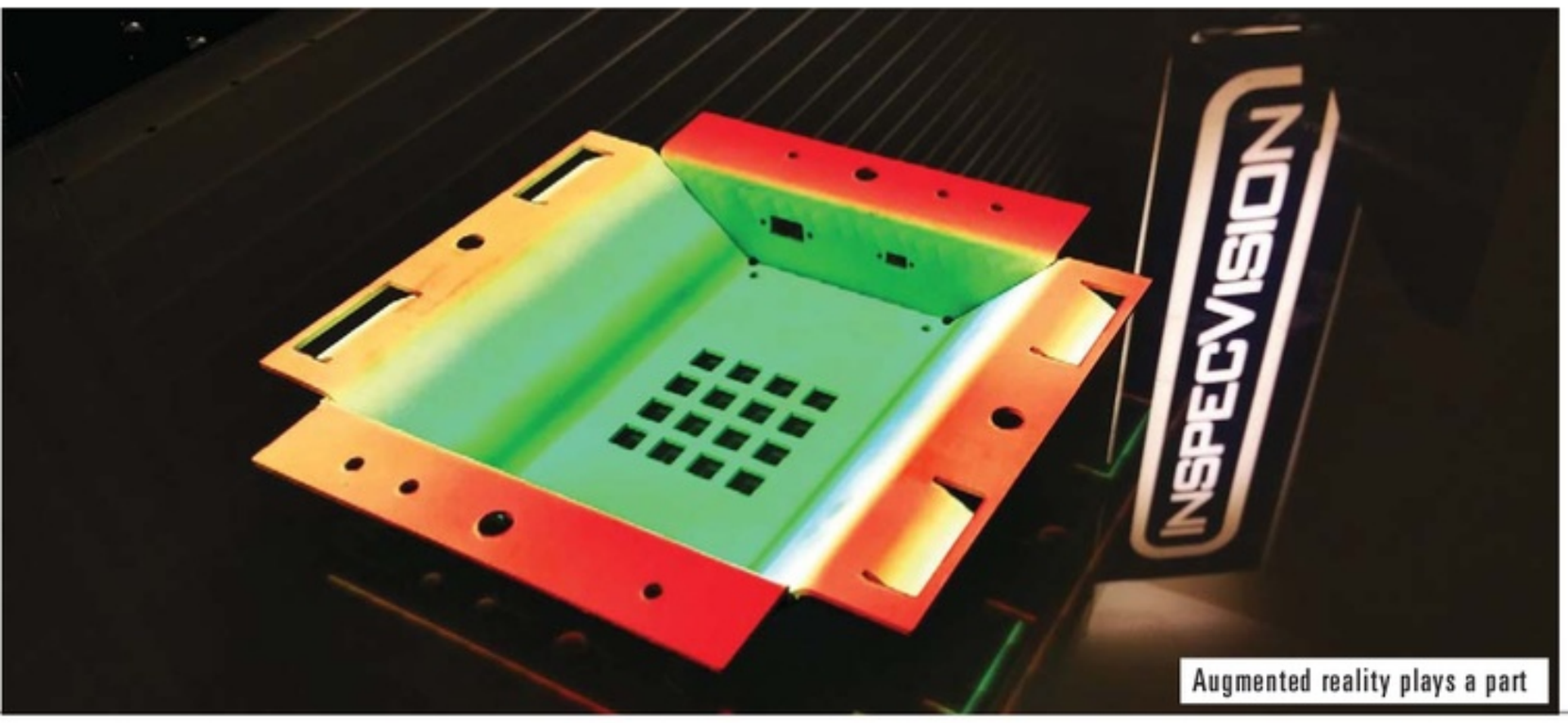
2.5D part

ISMR: What was the focus of your booth presence at the Blechexpo exhibition? Did you launch any new products at Blechexpo this year?

JA: We launched the Accuity at Blechexpo in Stuttgart this year. For small, high-accuracy 2D and partially 3D parts, such as stamped sheet metal parts, or even small cast or machined parts, many customers are still using profile projectors. Profile projectors allow you to inspect a 2D or partially 3D part by using its 2D silhouette. So, essentially, you are doing a 2D inspection of a 2D/3D part, but to a very high accuracy.

The Accuity can do all of this in an automated high-speed fashion but with the added benefit of scanning the upper surface of the part in 3D to acquire height and profile measurements. It can also import the shape, dimensions and tolerances of a part automatically from its CAD file. This reduces the total set-up, measuring and inspection time to less than four seconds.

ISMR: Thank you for your time.



Augmented reality plays a part

CONTACT

For further details, see
www.inspecvision.com