



3D Internal Part Inspection Services through Industrial CT Scan Equipment

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine



Jesse Garant
President

CEOCFO: Mr. Garant, what is JG&A Metrology Center?

Mr. Garant: JG&A Metrology Center is a privately owned lab focused on providing 3D internal part inspection services using Industrial CT Scan Equipment. We do not sell machines. Because we are not affiliated with any equipment manufacturer or company, we are able to guarantee that our results are of the highest quality levels and always remain unbiased.

Tomography is an x-ray technology. A CT scan is the process of taking hundreds or thousands of 2D digital x-ray images and converting them into a 3D model. This process allows us to look internally inside the part in 3D without destructive testing.

CEOCFO: Is 3D commonly being done today? Is it still a bit advanced? What is the state of the industry?

Mr. Garant: We are fairly advanced for the industry right now and still an emerging technology. Basic inspection in 3D started in the 1960's using 3 axis machines called coordinate measuring machines or CMM. Although still used today, this technology is touch probe technology and only able to measure areas that the probe touches. In the late 1990's 3D laser scanning and white light scanning started to surface in industry. This technology is still used in industry today, especially for high speed inspection. The downfall is that it is only for external inspection. Industrial CT scanning is a spin-off of CAT scan technology used in the medical industry for internal inspection of humans. Since tomography equipment has been available, industry has attempted to use it for internal inspection of parts. As the medical technology equipment lacked x-ray power and resolution industry wasn't able to obtain useable results. Beginning in the late 1990's Industrial CT scanning systems started to be developed specifically for industrial part inspection and have only started to emerge into the spotlight in the last couple of years. The reason for this change is because CT starting to become a useful tool for inspection, even though machines are several hundred thousand to several million in price. This is because industry is starting to find the right applications where this technology beneficial and cost effective. The machine costs are not really changing a lot, but the technology coming out of them is much more advanced than ever before. This is because there are a number of converging fronts in technology that allow; faster scan times, higher scan resolution, improved reconstruction software, and new ways of transporting large files to the end user.

CEOCFO: Why is 3D better than 2D? What are some of the more common areas and maybe something a little bit more unusual?

Mr. Garant: 3D can see much more detail. Where a standard 2 dimensional view will only allow you to see within that one view, 3D allows you to start seeing objects behind one another or areas that are difficult to see in the 2D realm. Where you may have to reposition a part several times to get the right 2D shot or times where you are not able to see your internal problem at all, seeing the component in 3D will usually show you what you are looking for. Some of the downfalls of the technology are that we are not as inexpensive as the 2D. Where taking a 2D x-ray is going to be fairly inexpensive, CT is much more costly because the equipment and knowledge to run it is so much more. It is also not technology for production for most applications. There are some full production CT systems, but you are going to be spending several millions of dollars to set up a very specific production inspection process only good for one type of part. This is where JG&A Metrology Center fits into the cycle as we inspect parts for preproduction, failure investigation, quarantined lot inspection, and high value production part inspection. To achieve the high level of inspection needed for industry we use and customize a number of CT systems at our lab to ensure the results we are providing to our customers is of the highest levels.

CEOCFO: Do the bulk of your potential customers know JG&A?

Mr. Garant: I would say that the bulk of our potential customers before we educate them on the technology are mostly oblivious to all of the benefits CT has to offer. We do have customers that have heard and used some type of CT system in the past. However these customers are usually fortune 500 companies or corporations that operate globally. Most of our customers have started with one project and over several years started to adopt the technology as part of their inspection process. After several years in business as the largest CT inspection company in North America we are still educating the market because what we are doing isn't a mainstream method of inspection. We are really trying to educate people along the way as well, not just sell them a single sale. We are really trying to have lifelong clients as opposed to very short term clients.

CEOCFO: Is there a typical aha moment when people get it and understand the value?

Mr. Garant: It depends on the person that we are dealing with. Some customers will have that magical "aha" from the start and will want to change their entire company, top to bottom with our process. However with most of our clients, it takes years to educate customers within their company and grow the awareness of our Industrial CT Scanning services. While we have some of our newer clients on the phone and we are reviewing the results with them, we typically try to continually educate them on our technology so they can adopt it further.

CEOCFO: Where does the state of the economy fit it or does it? Do you find that in your particular area that is very relevant or not as important as maybe in other places?

Mr. Garant: When R&D budgets are reduced, we do see a reduction in business from our clients. However with the whole shift going global and trying to make a superior product above your competition, clients are looking to overlook some of the costs that are attributed to our technology. That is because our technology adds much more value. By being able to show and explain the value in our service to our customers we are able to minimize downfalls in the economy.

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CEOCFO: How do you reach out to prospective clients? How do you pick and choose who you should be approaching?

Mr. Garant: There are many different markets that we work with right now. One of the key things that we are trying to work on right now is face to face marketing. We do this through tradeshow or customer meetings all over North America. Online marketing is very important for us as well. We really focus a lot on portraying the right message across online. We do this not only for professionalism, but to educate and nurture clients through our sales process.

CEOCFO: How do you physically get what you are looking at? How do the machines get to where they need to be or does everything come in to you? What is the process?

Mr. Garant: For us, the process begins by contacting our sales staff and performing a feasibility study on their actual project. For new clients we do an introductory web conference to further educate them on our technology and service. From there, we wait until customers ship parts to our facility. We log the parts for quality control and also for data entry. After that process we begin with scanning analysis of the results. We will typically set up a web conference to review the results with the client and demonstrate how to use the supplied viewing software. The entire process is actually very complex and sometimes very difficult to implement. This is because customers have to adopt the technology and be able to interpret the results to get what they need.

CEOCFO: What surprised you as the business has grown and developed or is developing?

Mr. Garant: I think one of my biggest surprises in business was that companies are not jumping on the bandwagon as fast as I thought in trying to seek out new technologies. I don't see many major companies looking outside the box to see how they can better their process on a regular basis. We do have some which is a great win, especially when they really want to adopt the new technology. By being in manufacturing myself for years in the past, I thought more companies would try to seek out newer technologies that would improve their products. Right now I am just not seeing that fast of an adoption.

CEOCFO: Are you funded for the steps that you would like to take next, as you continue to reach out? Are you in a position to do all of the outreach you would like?

Mr. Garant: We are privately funded corporation. I really try to set up my future plans for marketing in relation to anticipated market growth several years in advance. I am actually planning three years out right now. The company's financials for current cash flow for every month or for the year are based upon projected growth percentages with a safety

factor to ride out slow times in the year. Yearly budgets ensure we do not have any short falls in cash and we achieve the goals for the company for both marketing and new equipment.

CEOCFO: *Does being in Canada help, hurt or is that not meaningful for business?*

Mr. Garant: It is a difficult factor for my business, especially when working with US clients. Many clients are unfamiliar with sending parts from the US to Canada for business. However with NAFTA (North American Free Trade Agreement) shipping parts to Canada is fairly easy. Since we have been in business for several years and 80% of our customers are US based we are able to provide a comfort factor for most of our customers. We also had to open up a US office as well, primarily for sales and marketing, to ease that transition for US clients. This is because US clients are looking for a US location, just to make the initial connection. After you make the connection, since we are operating in both countries, it is not really that big a deal for clients after that.

CEOCFO: *What is next? What should we expect a year or two down the road?*

Mr. Garant: There are some things that I cannot really share right now. However, we are looking to expand the company, of course. We are not looking to remain stagnant as we feel that there are many more markets to capture and companies to educate. We are looking to explore additional avenues for marketing and looking to have proper infrastructure in place to meet my anticipated goals for growth. We are really trying to maintain our annual growth percentages for about the next five to eight years. By doing that, it is a great deal of forethought and planning.

CEOCFO: *Why pay attention to JG&A Metrology Center today?*

Mr. Garant: I would say that clients should really look at us closely for handling their inspection needs because we are a global resource when it comes to providing inspection services with CT scan equipment. Our staff is extremely educated and can function with global companies due to a wide diversity in individual backgrounds. Our centralized North American lab is extremely diverse with the number of CT systems we operate which allow us to handle almost every type of part in industry. This all creates an environment where we focus on industry problems on a daily basis and set high levels of quality requirements. We have the proper infrastructure in place to handle very large projects or a continuous upswing in business that clients require. We have only been in business for six years, but at this stage I cannot see any other company that has the capabilities to match and exceed what we bring to the table on a daily basis.

BIO: Jesse Garant is a mechanical engineer with 18 years of management and practical manufacturing experience. In 2009 he founded JG&A Metrology Center and currently serves as president. The company is the only lab in North America solely focused on providing 3D internal part inspection services using Industrial Computed Tomography Equipment.



JESSE GARANT
& ASSOCIATES
METROLOGY CENTER

JG&A Metrology Center

628 Monmouth Rd Unit #G7
Windsor, ON N8Y 3L1, Canada
519-962-5300
www.JGarantmc.com