GarnerOsborne© boosts its Inspection by Investing in Three Leading Equipment Suppliers

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Steve Honeybun,
CEM Operations Director, Garner Osborne.

BACKGROUND

Garner Osborne is a leading specialist in printed circuit board (PCB) design, manufacture, and assembly. The company's 30 year reputation has been built on the high quality and reliable manufacturing and assembly of PCBs. Starting as a prototype bare PCB manufacturer, the company moved into assembly 15 years ago and is now considered a leader in the field.

In their state-of-the-art factory in Berkshire, UK, Garner Osborne use the most advanced technology, operated by extremely skilled personnel to make first-class and fully tested products for over 350 active customers in a variety of market sectors including Medical, Aerospace, Instrumentation and Surveillance.

Garner Osborne combines bare board manufacture and PCB assembly under the same roof to ensure consistency and quality. These superior qualities are underpinned by the company's extensive list of international standards, including ISO13485, AS9100, IPC 600/610, UL approval and ISO 9001.

EQUIPMENT INVESTMENT

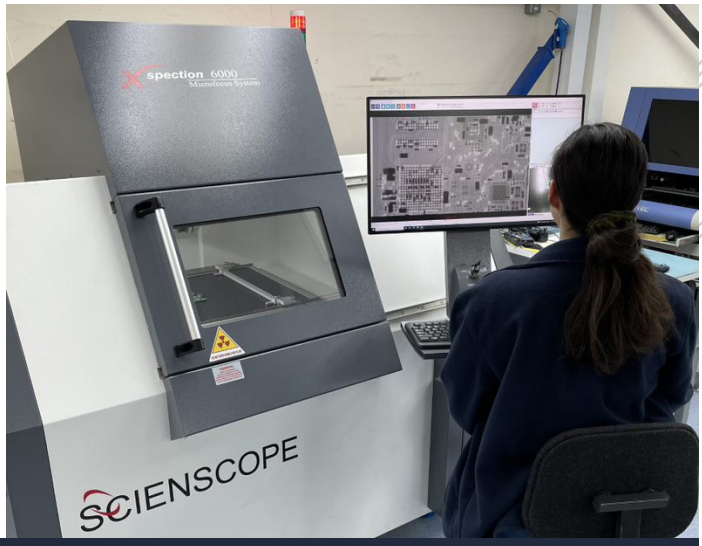
At Garner Osborne every stage of the manufacturing process from front-end engineering to final delivery is measured for quality and efficiency to manufacture and assemble the perfect PCB.

High-quality, precisely engineered PCBs are critical to a product's success and performance. Garner Osborne's ongoing investment in cutting-edge technology is a key component of its success.

"Products are becoming more technically challenging to manufacture and components are becoming more complex and smaller. Continual investment is essential to ensure we stay up to date with the latest manufacturing techniques, which in turn gives our customer base the most reliable products at the right quality level," said Steve Honeybun, CEM Operations Director, Garner Osborne.

Following careful analysis and a thorough understanding of Garner Osborne's requirements, Altus suggested a range of equipment to help the company advance their inspection capabilities.

Steve said: *"Altus were very accommodating from the outset. I discussed our needs on specific processes and they provided the solutions. Each piece of equipment purchased was evaluated first hand at their state of the art facility. Given this and their product knowledge and pricing, it was a straight forward decision to enter into a partnership with them."*



ENHANCEMENT THROUGH X-RAY INSPECTION

Always striving to offer their customers the very best production capabilities on the market Garner Osborne invested in equipment to enhance their offering even further and add quantifiable analysis to their X-ray process.

With Altus' understanding of the industry and solution offerings from the world's leading capital equipment manufacturers, they were able to advise Garner Osborne on the most suitable options to fully support their decision-making process of the new equipment investment. Scienscope X-Spection 6000 was suggested as the ideal system to work within Garner Osborne's highly advanced production capabilities.

Encompassing advanced software tools required for a wide variety of applications, X-Spection 6000 impressive features including 350 degree rotation, autoreporting and fault analysis have benefitted the company since installation.

"The added features have improved our throughput and given us a higher level of confidence, that our bottom terminated components are correctly placed and meet the IPC quality requirements," said Steve.

"More and more assemblies have bottom terminated components that are also on both sides of the PCB, thus making x-ray inspection almost impossible. The 350 degree rotation feature allows us to see components more clearly. Additionally, customers are becoming increasingly demanding in the build quality information that they want supplied with their finished product. The fault analysis and auto reporting produced from the X-Spection 6000 system, gives them all the information they need in a suitable and easy to understand format."

INCREASING QUALITY WITH SPI

The Investment did not stop at X-ray inspection. Garner Osborne also boosted its SMT inspection capabilities with Koh Young 3D Solder Paste Inspection.

Approximately 70-80% of defects in the SMT process are caused during the solder printing. These defects can cause serious problems in the downstream stages if not corrected. Optimising the printing process is invaluable for achieving maximum yields and eliminating root cause of defects.

Koh Young's highly reliable SPI can prevent defects from the process utilising 3D measurement values.

Steve said: *"Having the correct amount of paste for each component is of paramount importance to the final quality of a product. Our engineering team has always paid a great deal of care and attention to this area at the review stage. The Koh Young system has given us the ability to confirm that the decisions made regarding stencil thickness and aperture reductions have historically been mostly correct. However, since the machine was installed we have identified a couple of occasions where our stencil thickness for a particular package has been incorrect. We have since made the relevant changes, which have continued to increase our quality to an even higher level.*

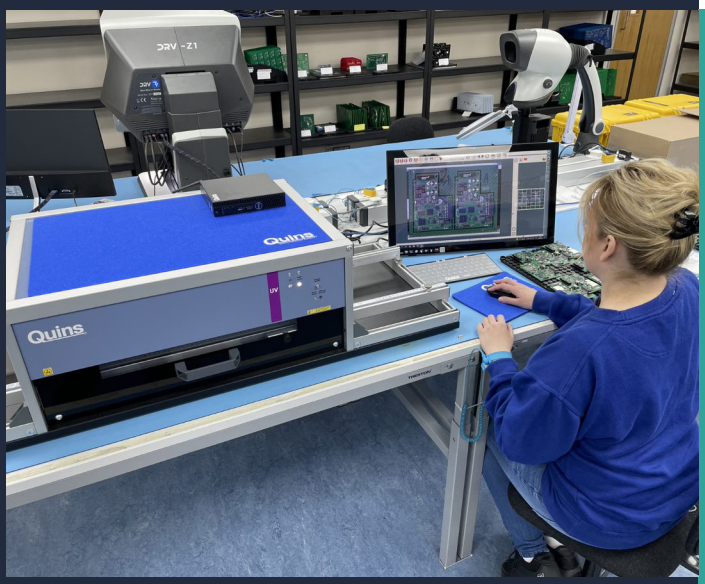
"The equipment supplied by Altus has allowed us to continually improve and analyse quality data more easily."

VISUAL INSPECTION

Improving the inspection capabilities even further, Garner Osborne added a third leading equipment supplier to its recent investment line-up with the installation of Quins visual inspection equipment.

Through the installation of the Quins product, the quality of the finished product will be ensured thanks to its impressive inspection abilities which reliably inspects, captures and records high quality images of every PCB being produced for traceability purposes.

"The Quins system is a high end comparator that enables us to see anomalies in a fast and efficient way," said Steve. *"We have AOI machines for larger batches, but we wanted a quick visual inspection solution for our lower quantities and prototype builds. The Quins machine has given us this capability with the ability of fast programming, clear and concise visuals and great throughput."*



THE FUTURE

As technology evolves and electronics become more complex and challenging to produce, the electronics industry must seek innovations to accommodate advancement.

Companies need to ensure production equipment is flexible, capable, and efficient. By implementing advanced systems and working with a knowledgeable and experienced team like Altus the right investment will be made, as Garner Osborne discovered.

"It is important to continually invest in new equipment, otherwise we will be standing still or going backwards given the advances in technology. We will be looking to add a new SMT placement line in the next 12 months, as we try to support our ever growing order book."

"We are delighted with the level of service and support given to us so far by Altus. This makes it difficult for us to look elsewhere on any future requirements," concluded Steve.