



# Enhancing Inspection Capabilities with 3D AOI solutions



## BACKGROUND

Sellelectronics is a contract electronics manufacturer specialising in managing quick turn-around prototype assembly and low volume/high mix production demands. The company develops strategies to support external and in-house test requirements for high level reliability and performance of PCBAs and sub systems.

Recognised for their innovative, high-quality PCB assembly, Sellelectronics offers a range of services from small cable forms, to complex multi-level surface mount circuit board assembly. As a customer-driven company, Sellelectronics develops superior products based on individual requirements to ensure that all production is delivered on time and to the superior quality level.

Sellelectronics works closely with its customers, from the initial design concept through to full product realisation to ensure every aspect of the process is exact. Understanding and listening to their clients has created a flexible electronic manufacturing service.

## INVESTMENT

Sellelectronics continually invest in leading-edge technology and experienced and qualified engineers to provide assembly excellence. To ensure the company has the most innovative equipment installed at its Cornwall site, it approached Altus Group for support.

Jason O'Connell, Sellelectronics Technical Director, said: *"As the business grows, the company makes many investments in the latest equipment to improve processes and ensure we are capable of providing the most intricate PCB assembly service with the best possible accuracy."*

*"Sellelectronics contacted Altus for advice on what equipment would enable precise inspection with the best performance to price ratio to increase quality further and improve production times."*

To enhance its inspection capabilities, Sellelectronics invested in the Zenith Alpha HS+ from Koh Young. As a true 3D AOI solution, it is powered by artificial intelligence and machine learning, combining the best optomechanics and vision technologies to deliver outstanding performance without sacrificing accuracy.

*"To take our testing capabilities to the next level, we acquired a Koh Young Zenith Alpha HS+. Instead of cameras, this state-of-the-art, one of a kind AOI machine uses light metrology to take incredibly precise, 100% 3D measurements of a PCB, up to 25mm in height,"* said Graham Tonkin, Sellelectronics Director of Sales and Marketing.

Suitable for demanding production lines, Zenith Alpha HS+ greatly improves process yields by removing the need for manual inspection. In addition, the technology incorporates AI to deliver the accuracy required for ultra-fine pitch and solder joint interreflection challenges to enhance production.

Koh Young Zenith Alpha HS+ features KSMART a measurement-based process analysis solution that allows manufacturers to implement Industry 4.0 with reliable full 3D measurement data.

KSMART collects data from across the production line for defect detection, real-time optimisation, enhanced decisions and traceability to improve metrics, increase quality and lower costs by eliminating variance, false call and escapes.



## THE FUTURE

Joe Booth, Altus Group CEO said: *“Sellelectronics has been a joy to work with and I can see why they have been so successful in their growth over the years. They focus on making the best investments and spending their money wisely to add value to their customers. They achieve this whilst building strong relationships with their partners.”*

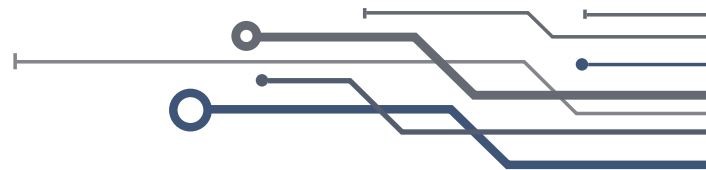
*“We are delighted to implement another Alpha HS+ system into the field and establish another new Koh Young user as the momentum of the new these innovative platforms keeps building. This equipment addition is just one of the investments that Sellelectronics has made as they continue to deliver top quality electronics manufacturing. I am looking forward to getting stuck into the next project with their team.”*

## RESULTS

*“Due to the precise and quantifiable measurement of the Koh Young platform, and by exploiting KSMART statistical process capability, our engineering process improvement and quality teams can aggregate real time production information. This not only removes the chances of an escape, but also assists in studying our production processes in detail to improve our yields and drive our quality standards ever higher.”*

*“With the ability to inspect the boards to IPC-610 Class 2 and 3 standards, this will allow us to meet the demands of clients in the medical and aerospace industry,”* said Jason

*“The impressive quality control system enables us to use data from tests to optimise and enhance our production environment,”* concluded Graham.



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