

Interview with Oshri Cohen

By Oshri Cohen, CEO, Cybord



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The core of Cybord's innovation lies in their cloud-based platform, which leverages the power of visual analysis techniques to thoroughly inspect the top and bottom sides of all components. This software solution has garnered significant attention, particularly from regulated industries such as automotive, aerospace, and medical systems, where quality control and traceability are of utmost importance.

How does Cybord utilize artificial intelligence (AI) and big data to eliminate electronic component failures? How does it differ from other inventory management methods currently existing within the electronic supply chain?

Our platform is a software-only solution that doesn't require any additional capital investments or modifications to production line layouts to deliver quality assurance. Relying on AI and big data analytics, our solution looks at both the top and bottom of components and analyzes visual data and production metadata from the production line to ensure authenticity, quality, reliability and visual traceability of all electronic components.

To begin, the Cybord AI platform is installed onto a dedicated server within the factory, which collects all images from existing surface-mount technology machines (SMT) and automated optical inspection (AOI) machines. This development differentiates us from others. Our platform seamlessly connects to component assembly machines, allowing for near real-time inspection of 100% of components a fraction of a second before the assembly process onto the boards is complete. By examining all components within the assembly process, Cybord's solution empowers customers to identify and eliminate faulty components, which in turn reduces costs by minimizing the scrap/rework rate of assembled boards and providing smooth and efficient product delivery times. The platform works with standard assembly machines, making it compatible with virtually every assembly line in the world.

What industries benefit most from Cybord's platform? Where do you see the most critical need for visual AI inspection?

With the growing ubiquity of chip integration in everyday electronic products, Cybord's solution is applicable for use across almost all verticals. Everyone who builds and integrates electronic boards into their products needs such a system. The platform addresses concerns facing OEMs and EMSs. We see our system utilized by Tier 1 OEMs, Tier 1 automotive manufacturers, defense contractors, health tech industries and DataCom companies. In industry 4.0, visual AI inspection is no longer 'nice to have,' but rather a must to serve industries across the board as the differentiating factor in obtaining 100% inspection and surgical traceability.

One of the major problems for OEMs is the prevalence of corrosion and faulty components. How does Cybord's technology

help alleviate the occurrence of recalls due to faulty components?

Statistics have shown that approximately 90% of component failures are associated with visual indications on the component itself. We identify those failures, verifying that each component is sourced from a reliable source, and that the homogeneity level within the same reel is high, free from any visual defects, oxidation, or mold evidence. By doing so, our platform is able to provide complete inspection of 100% of the components that go onto a PCBA (Printed Circuit Board Assembly) and deliver the kind of surgical traceability needed in a zero-trust supply chain environment.

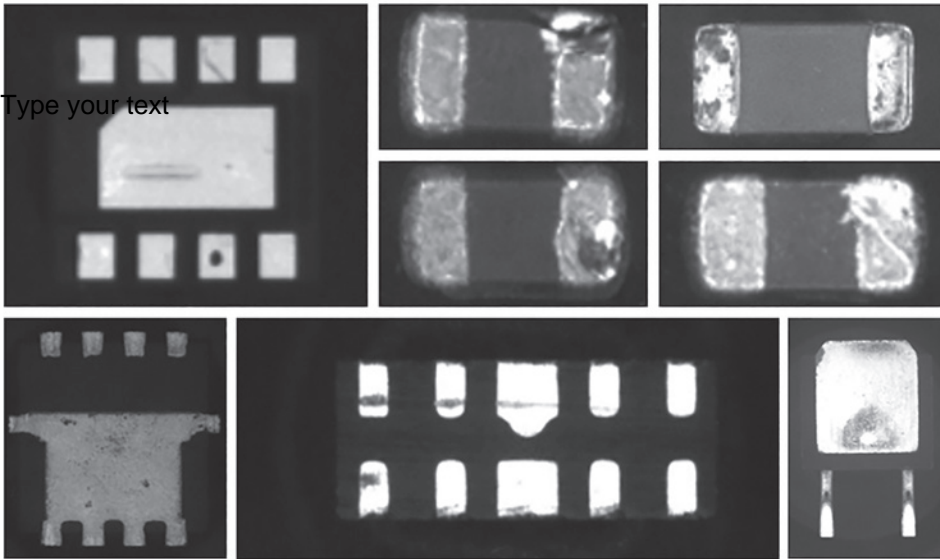
How does Cybord's platform integrate with existing SMT hardware? What, if any, additional hardware is required of companies that want to invest in bringing your solution in-house?

Our tech is a software solution built specifically to integrate with pre-existing SMT and AOI machines and processes, making it a seamless installation. Cybord is collaborating with the biggest machine manufacturers in the world to receive the components' images as part of the process without causing any delays or modifications to the existing lines. Cybord is working with the machine manufacturers to feedback the machines with the relevant analysis results so the customer can benefit from our technology while using the existing machine interfaces, and moving forward we will be able to enable the option to provide feedback with relevant analysis.

With both the US and Europe announcing CHIPS acts, and setting ambitious goals to grow their domestic chip manufacturing, how can we ensure quality control with the growing quantity of materials on the market?

The increase in domestic chip manufacturing brings with it the risk that the more materials flooding the market, the higher the chances of parts not up to scratch entering the supply chain. However, there are ways to mitigate the risks involved and turn these challenges into opportunities for smarter, more effective manufacturing. This 'nearshoring' of industries back under domestic management can help create more transparency in the complex supply chain, providing easier access to monitor and trace components, which in turn ensures their authenticity. Additionally, working with trusted local suppliers can help reduce the risks associated with aftermarket components. However, as we have previously noted, the best and most efficient way to tackle the issue

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Near real-time defects detection

of component quality is through utilizing big data and artificial intelligence technologies to ensure that whatever does make its way into the supply chain, be it local or internationally sourced, is made up of components of the highest quality and the safest materials. Only this way will OEMs make sure that their end product meets the regulatory requirements and exceeds business expectations.

As the market for chips grows, and with it our reliance on these products, how does Cybord's platform enable sustainable business practices?

For OEMs, the promise of sustainable practices go hand in hand with the quality assurance of electronic components. Our platform is employed at every stage of the production process to inspect the component level before allowing them to continue to the next check point. From procurement to assembly and installation, by embracing the power of AI we can improve our chances of catching potential errors, defects, and counterfeit components in near real time, as well as decrease E-waste exponentially. Reducing scrap and failure rates goes a long way in ensuring sustainability goals are met in addition to simultaneously cutting down on wasted spending.

What differentiates Cybord's Traceability solution from the current solutions employed by EMS?

Current traceability standards, while a good start, are all still based on log collection. This current maximum level of traceability incorrectly assumes that all components within a reel are exactly the same, when in reality we know this not to be true. Our AI-powered visual technology can enable this heightened level of traceability, offering a more efficient and cost-effective solution than does batch logging traceability. Our solution can rapidly analyze every component on every board for authenticity and component integrity, allowing manufacturers to pinpoint any problematic component and conduct rapid surgical recalls on an individual basis with minimal disruption to the manufacturing process. The fact that our traceability is based on visual evidence makes it significantly stronger than the rest of the existing solutions on the market today, as Cybord's system enables the customer to investigate the failure's root cause before they recall the products back from the field. This way, the population of

products the customer will eventually need to recall is significantly minimized.

With chip shortages predicted to continue through 2023 and into 2024, based on your industry knowledge, what industry verticals are the most susceptible to faulty and counterfeit parts?

In 2021 and 2022, the world was hit by a supply chain crisis, which – compounded by a severe lack of oversight for the electrical components critical to the manufacturing process – has resulted in an unstable ecosystem. However, we feel it is critical to point out that the supply chain challenges and shortages have always existed to an extent and will continue to re-appear in a cyclical manner. As the market demand for electronic components increases, we see an influx of faulty, counterfeit, or corrupt electrical components entering the market. It's a statistical reality, and there isn't one industry touched more or less by this reality, or more susceptible to supply chain shortages or inadequacies. There are, however, industries, like automotive, medical, and aerospace, in which the stakes are higher, and the need to eliminate counterfeit or faulty parts is felt with more urgency as lives are potentially at stake.

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