Kitov.ai

Smart Visual Inspection to Enhance Manufacturing Productivity

With the ever-increasing adoption of innovative technologies across all markets, organizations in the manufacturing industry are going through the 4th wave of industrial revolution while incorporating robotics, big data analytics and Artificial intelligence to supplant manual tasks with automation-driven events in their production process. In most cases, this transition from legacy to digital methodologies is helping manufacturers minimize inefficiencies and maximize productivity. However, visual quality inspection is one crucial process in the production line that continues to reel under the strenuous and error-prone manual method that involves the naked human eye. Factors such as product complexity, inspection requirements, and a high cost of customized solutions have deterred manufacturers from using automation in visual quality inspection. They seek a system that can determine defects in a product under production in a fully automated, reliable and consistent manner and that will provide actionable information needed to eliminate future defects.

To assist manufacturers in performing an automated visual inspection, Kitov.ai has developed a smart visual inspection technology for a broad range of production lines. Israel-based Kitov.ai has built an end-to-end, fully automated 3D inspection system powered by artificial intelligence and deep learning that enables manufacturers to produce quality products at a low cost rapidly. In an interview with CIO Applications, Hanan Gino, CEO of Kitov.ai, discusses the company's inception, value proposition, growth prospects, and their vision for the future of machine vision.

Give us an overview of Kitov.ai

Kitov.ai was founded in late 2014 by CTO and Founder Dr. Yossi Rubner, as a spin-off of RTC Vision, a company that has been developing advanced computer vision algorithms for leading companies for over a decade. Kitov.ai aimed to develop a universal system that can be intuitively trained by a non-expert to inspect almost any product and to effectively replace humans at the tedious task of finding and judging defects at production lines.

The first model, Kitov.ai One was launched by mid 2016 and was successfully deployed by first-tier customers in

Hanan Gino, CEO

Electronics, Plastics, Automotive and Defense industries including leading Electronics Manufacturing Services (EMS) providers such as Jabil, Flex and USI with mulitiple installations in Europe, China, Malaysia, USA, Mexico, Japan and Israel.

In October 2018, Kitov.ai raised $10M funds in order to grow the sales by reaching new customers in different industries. The investment was led by RSBG, a leading global investment firm and HAHN Group, a leading global provider of automation solution for automotive and medical devices industry with the participation of Global IOT Technology Venture (GiTV) from Japan.

> Our system can be trained by a non-expert to inspect almost any product in just few hours, and the longer it works the smarter it gets

What are the specific pain points that Kitov.ai addresses?

Most production lines today across most industries are implementing visual inspection, performed by human workers. Humans can be easily trained how to find defects in various products, but they tend to miss critical defects, their performance is non-consistent and they do not collect valuable data effectively. Human based visual inspection process is also costly due to increased labor cost and shortages in skilled workers across most territories.

Our customers first buy the system because they want to catch all the defects at the production floor, including those that are often missed by human workers. However, over time, they gain valuable insights about their manufacturing process and product design that actually help them to reduce the overall rate of defects, in some cases by 25 percent.

Describe your 3D visual inspection system highlighting its benefits.

Our system is powered by four core technologies that make our "secret sauce": 3D computer vision, artificial intelligence, advanced robotics, and big data analytics. We employ machine vision to acquire and process images and combine them with artificial intelligence to deliver a powerful system that can learn and improve its detection capability continuously as it assesses more manufactured products over time.

We have designed an optical head that is mounted on a robotic arm that moves around the inspected product in a flexible way and collects images from various positions and angles. Finally, big data analytics provides invaluable insights that helps manufacturers to improve production process and product design. The system seamlessly connects with any manufacturing system—both, in the legacy production setup as well as in cutting-edge Industry 4.0 environment.

The heart of our solution is our software and algorithms, which are able to detect all types of defects. It utilizes a unique patented technology that allows a non-expert with no programming skills and no background in robotics or in optics, to create new inspection plans for new product in just a few hours of using the intuitive and user-friendly user interface. That is a huge advantage for manufacturers in the high mix, low and medium volume segments that are very sensitive to quality issues such as in the high-end switches and communication platforms, defense and aerospace, medical devices and critical automotive components.

What lies ahead for Kitov.ai in the next 12-18 months?

We are now investing heavily in R&D and in new products that can address the current and future needs of our customers.

We are working closely with our customers and partners in all aspects of the business.

For example, We have recently launched new add-on solutions that enhance efficiency and utilization of our systems and allow supervisors to monitor all the data from multiple systems, track trends and Effectively and proactively address quality issues early on.

We are going to leverage our strong partnership with the Hahn Group, who is a well-established leader in automation and robotics solutions in order to get access to market segments such as Automotive and MedTech.

In terms of geographical expansion, we are currently developing distribution arms and operations in China and SEA, Europe, USA, Mexico and Japan. CA