

## **SCREEN Develops IM-4100 Automatic Visual Inspection System for Assembled Components**

*Automation of Conventional Visual Inspection Processes  
Improves Reliability in Mixed Production System Facilities*

Kyoto, Japan – June 13, 2016 – SCREEN Holdings Co., Ltd. has finalized development of its IM-4100 automatic visual precision inspection system for assembled units. The IM-4100 is designed to automate the visual inspection processes for assembled components at facilities employing mixed production systems. These processes previously relied almost exclusively on visual inspection by human operators.

The new system is expected to deliver major improvements in processing reliability at facilities and also to reduce the onward flow of defective items. Launch of the IM-4100 is currently scheduled for June 2016. A working model of this system will also be presented at Manufacturing World 2016, the 20th Mechanical Components and Materials Technology Expo, to be held at Tokyo Big Sight in Ariake, Tokyo from June 22 (Wed.) to 24 (Fri.), 2016.

### **IM-4100 automatic visual inspection system for assembled components**

Please download the photo from  
([www.screen.co.jp/eng/press/download/HD160613.zip](http://www.screen.co.jp/eng/press/download/HD160613.zip))



With the transition to Industry 4.0 in recent years, an increasing number of facilities have been adopting a mixed production system. This approach improves efficiency by channeling a wide range of assembled items through a single production line. However, the mixed production system combines units with various complicated shapes in the same manufacturing process.

Until now, inspection for problems such as missing parts or assembly errors has depended almost completely on human operators, making the procedure inefficient and leading to the onflow of defective items due to human error. As these issues have increased, there has been a growing requirement for a practical inspection system that can comprehensively eliminate this bottleneck.

Recognizing the difficulties faced by the industry, SCREEN has been working to apply its core image processing technologies to resolve the problem. The result is the IM-4100 automatic visual inspection system for assembled components, featuring a newly developed proprietary optical system.

The IM-4100 is equipped with a number of high-precision algorithms that use sensitive heuristic analysis to detect faulty or missing parts and determine whether factors such as positional alignment and installation angles are within acceptable limits. Automatic pass or fail assessment of all necessary inspection points can be performed at a speed of approximately 0.5 seconds\* per inspection.

The IM-4100 also utilizes QR and bar codes to acquire assembly data from the production control system in real time, allowing it to handle a wide array of items on mixed production systems. The system's impressive functionality delivers major improvements in reliability on assembly lines configured for low volume production of diverse items.

SCREEN sees the development of the new IM-4100 as a valuable opportunity to build the brand power of its IM series, with a view to switching the default standard from visual inspection by human operators to automatic software-based inspection. SCREEN intends to continue its work to meet the various needs of currently undeveloped areas and contribute to the growth of the wider inspection and measurement field.

\*Based on SCREEN test values for image capture and inspection times.

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