

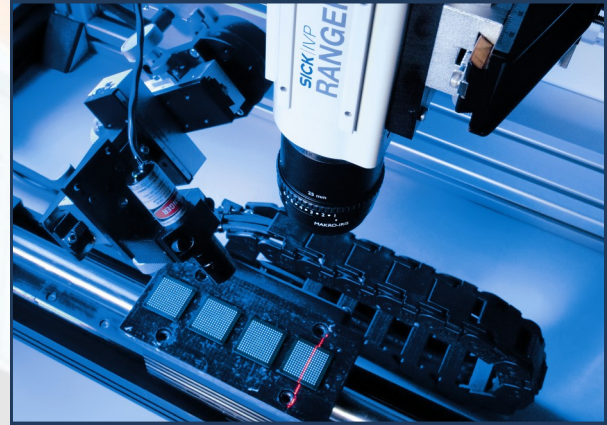
Background

A worldwide supplier of precision hydraulic valves was suffering from quality issues on a new product line. Failing tests were traced back to issues with mis-seated or missing o-rings. Relying on manual inspection of the o-rings was not yielding the desired results. The new product line was designed to be highly configurable with a nearly infinite number of potential products to be produced on it—thus internally-designed fixturing based solutions were out of the question.

Solution

IAS designed a system employing a SICK 3D camera at its heart. As an Authorized SICK Vision Integrator (ASVI), IAS was able to design a 3D inspection system which easily detects and highlights even slightly mis-seated o-rings.

The inspection station communicates seamlessly with the plant's MES system in order to automatically configure the inspection. By removing setup and configuration parameters from the shop floor device and instead relying on the enterprise MES system, the inspection is guaranteed to be correct. Part genealogy and quality are automatically tracked



Benefits

The benefits of IAS's system were substantial. The cost of a single rejected batch from a key customer far exceeded the total cost of the system implementation.

- :: Decreased labor cost the reduction in labor costs came not only from reducing the cost for operator inspection but also from preventing mis-seated o-rings from being assembled into the end product which leads to failures and expensive rework during final testing.
- :: Increased quality 100% automated inspection and tracking.
- :: Increased safety eliminated mis-seated o-rings from being assembled and potentially causing safety issues at the end customer.
- :: Increased throughput eliminating expensive and time-consuming rework allows the line to run better than 50% greater throughput.

Conclusion

While at the hands of an experienced integrator, the 3D vision inspection system solved the customer's issue and even when beyond purely solving the problem by saving the customer money through additional benefits provided by the system. The skills used to create a flexible and scalable system has continued to yield positive results for the company, and the system is still in use today. 3D vision can be implemented to solve a wide variety of quality, volumetric, verification, and color variance issues in multiple industry segments and IAS is the premier 3D vision integrator with the experience and capabilities to provide comprehensive solutions.