



# Automated Vision System for Car Parts Inspection

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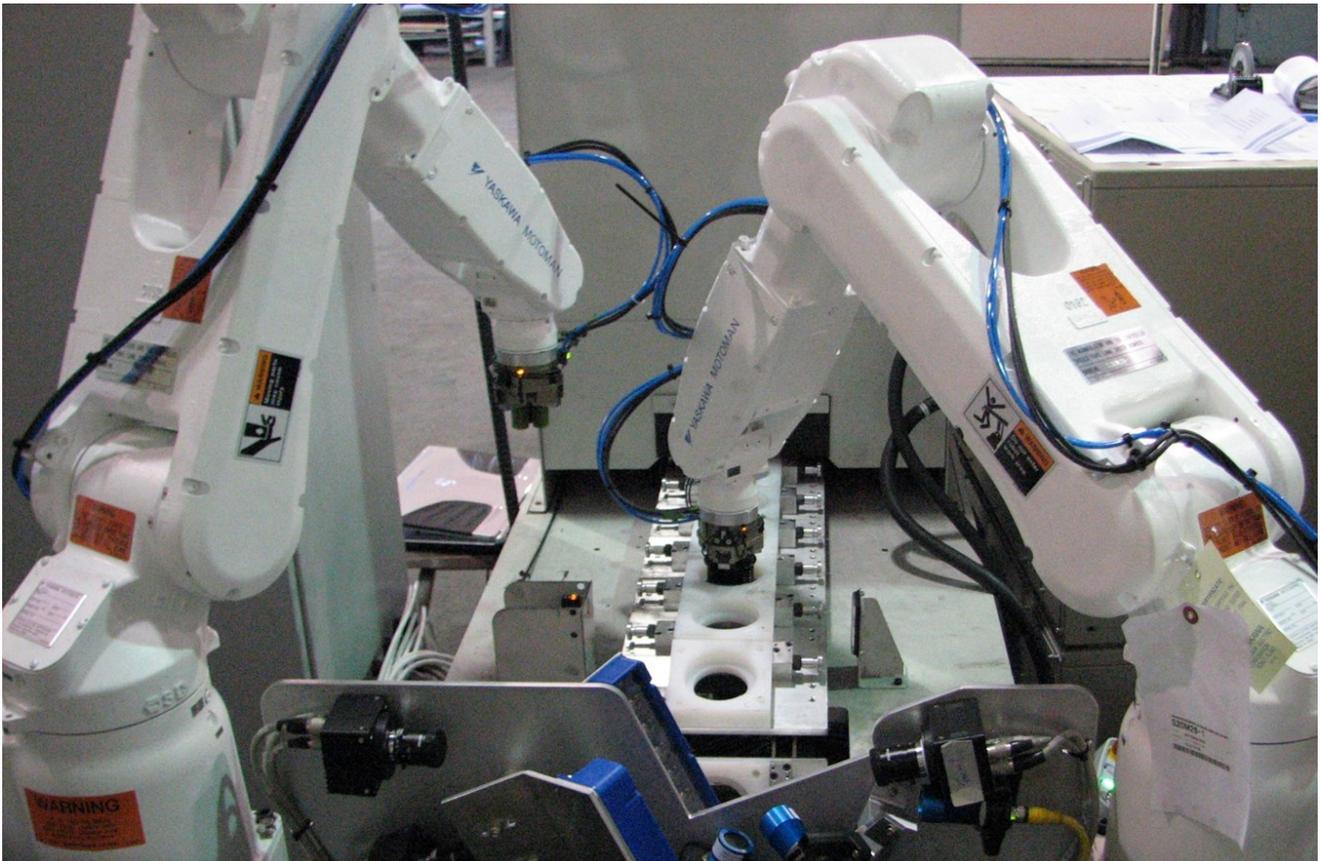
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*A remarkable feat!”*

Richard Guimont, President, Liberty Spring

## Business Case: Liberty Spring

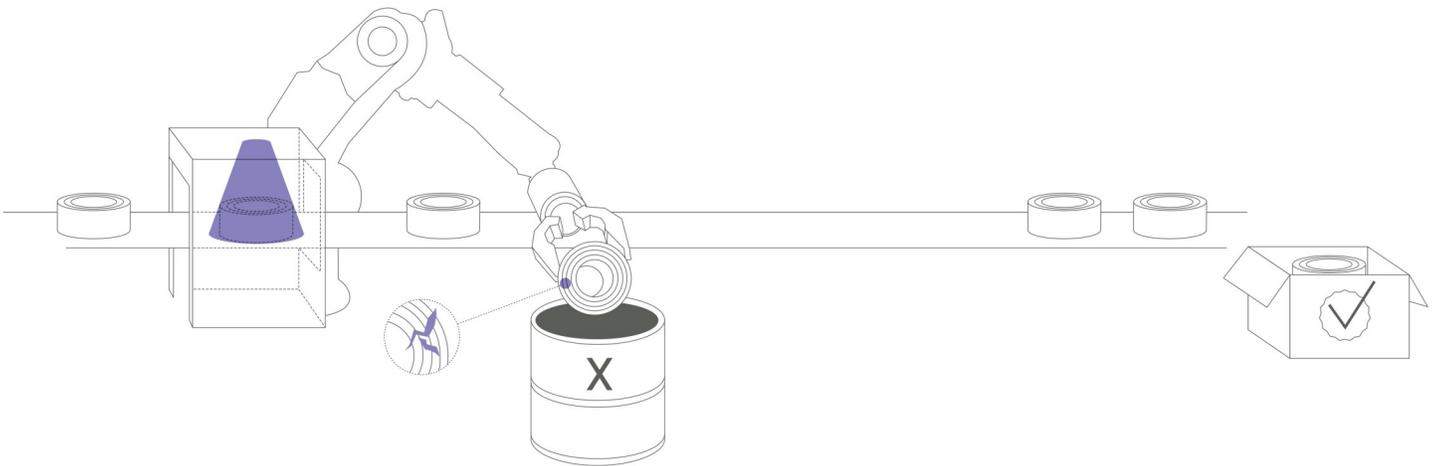
Liberty Spring is a world leader in the production and distribution of precision high-tech springs for the auto, aerospace, and recreational products industries. Liberty Spring produces close to 100 million springs annually for many of the biggest names in the auto industry, clients always on the lookout for the most effective technologies on the market.



## Product Conformity: A Big Issue

Liberty Spring had implemented automated inspection systems for several parts on its own. The company had been generally successful on this front, managing to boost production speed and lower labor costs while cutting the number of complaints for nonconformities.

However, alternator pulleys automated inspection presented huge challenges. In February 2012, Liberty Spring approached INO to see if there was a way to automate pulley inspection. A feasibility study showed that automated inspection of the part was in fact possible. Despite the great variance in shininess, complex part geometry, and presence of acceptable defects, a technique for successfully identifying true defects was developed thanks to an optimal configuration of key techniques such as light configuration, filtering, and image processing.



## Results: Zero-Defect

INO designed, in collaboration with Liberty Spring, an alternator pulleys inspection system. The manually loaded conveyor moves pulleys through an inspection tunnel where they are inspected from every angle. At the end of the conveyor belt, a robot gathers the pulleys, completes the inspection, and sorts them based on nonconformities. Since the alternator pulley inspection system was implemented in June 2013, it has been used to ensure conformity for parts used by major Japanese car manufacturers.

Extremely satisfied, Mr Guimont, Liberty Spring president, declared: **“Thanks to INO we’ve been able to develop a new part inspection system. When these parts leave our plant, there are no imperfections. We’re talking zero-defect. A remarkable feat!”**