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Acrovision helps enhance accuracy on a Critical Character Identification (CCID) traceability initiative for Tenneco

About

Tenneco are global leaders in developing clean air and ride performance solutions to the global automotive industry.

Tenneco supply car exhausts to its customers, with each part containing a DAM (Reference) and Model number marked with an "Impact marker".

Across the global automotive manufacturing industry, the identification of part making has become extremely important. Tenneco has implemented CCID - Critical Character Identification (CCID), which applies to all performance and safety related automotive components. The idea is to provide a traceability system for all these components from "the cradle to the grave". The DAM and Model numbers are used to provide such tracking.

Tenneco therefore looked for a camera vision system that checks the required information on all the parts and helps enhance readability and accuracy.

Tenneco turned to Acrovision for assistance in providing such a solution.

Tenneco supply car exhausts to car manufacturers

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Business challenge

Acrovision, a leading UK supplier of Automatic Identification solutions, recognised the potential issues of reading etched codes on challenging surfaces.

There were two different components on the exhaust, one part was flat and the other was a cylinder form. These provided challenges to make sure that the lighting of these parts were correct to ensure that the impact marking was illuminated consistently.

The exhaust parts have a reflective surface and take a cylinder form, making it difficult for any camera / lighting technology to obtain consistent images.

Acrovision Solution

After comprehensive discussions and a full evaluation, Acrovision used a combination of Cognex camera models and specified the relevant lighting techniques to check that all components on exhausts were marked correctly.
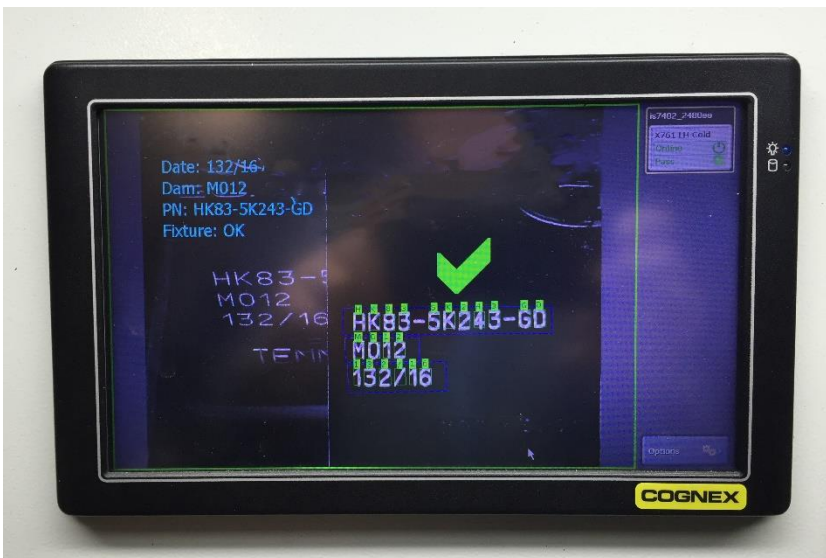
Screen showing correctly marked part

The camera system communicates with the machine's PLC to pass or fail parts, with live images of the camera inspections being displayed on a Cognex Vision View 900 HMI.

Working with Tenneco and their machine builders, the system was integrated successfully into the work stations using modular lighting for the resonator which was changeable with a part tool change. The solution was designed to ensure the time to change jobs for new part variations was kept to a minimum.

Polarised Filters were also used to take away the shiny glare from the images, which would normally make the task of reading the codes more difficult.

Result

The implementation of the Cognex Vision View 900 resulted in a successful, robust solution with extremely high first-read-rate success.

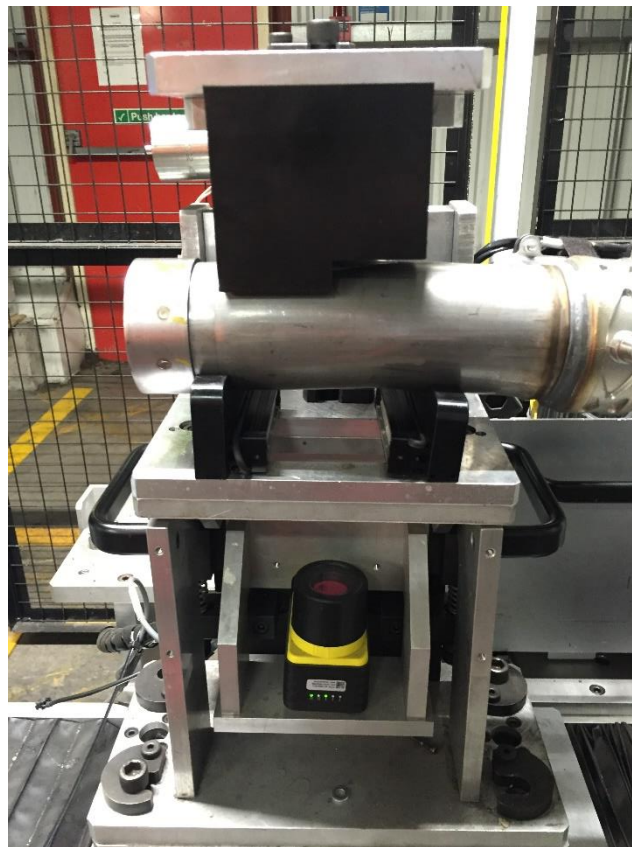This has led to over 20 vision systems being installed over the two Tenneco sites in South Wales.

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Comments

Tenneco exhaust parts

Paul Morrison, Applications Engineer at Acrovision commented, "Following the initial discussions with Tenneco for achieving 100% inspection across all CCID inspection systems, it has been extremely satisfying to overcome the many challenges that were presented to Acrovision with a large range of product variations.

"Over the period that Tenneco and Acrovision have been working together Acrovision have become the 'Trusted Advisor' for machine vision solutions along with barcode reading solutions. We are very pleased to have built a strong working relationship with Tenneco and look forward to this relationship getting stronger."

Richard Burrows Senior NPI and Advance Engineering, at Tenneco added, "Acrovision are a key partner for Tenneco UK regarding vision verification and part checking processes.

"Acrovision could not only provide us with solutions to match the complexity of our products, but they also worked with our engineers to understand our products in much greater detail."

Camera in situ

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