CASE STUDY

ADS Delivers Vision System for Automated Rivet Testing and Analysis for an Automotive Company

THE CHALLENGE

The client's engineers were spending considerable time manually testing rivets on one of their production lines. They believed that there must be a better way of testing by automating the process therefore reducing costs, improving consistency of results and reducing the need for human interaction.

The client approached ADS to research, develop and deliver an automated vision system to help improve the performance of its existing manual rivet testing equipment. The new system should be software centric and be able to perform the testing with minimal user input.

ADS was tasked with writing a requirement specification to identify the current issues of the existing system and the best way of updating this. By creating a specification document, ADS was able to offer an accurate fixed price solution for the development of the new vision based on the exact requirements required.

THE SOLUTION

ADS created a report detailing the findings of the investigation into commercial digital image analysis software including a survey of COTS (Commercial off-the-shelf) software solutions satisfying the features in the original statement of work (SOW). The specification also contained details of the Ideal images of various SPR joint complexes to be used along with a recommendation for the software development necessary to adapt and integrate the new commercial solution into the existing technology.

Once the specification phase was signed off by the client's test engineering team, ADS developed the solution and installed it on the production line. The digital online cameras were positioned and lit using LED lighting to enable accurate monitoring of the rivets as they passed. The intelligent vision system analyses the image data in real time and provides a go, no go result.

CONCLUSION

By creating an accurate specification document up front, ADS were able to deliver a fit for purpose, turnkey solution to meet the client's needs on time and to budget.