



INDUSTRY: Automotive

PROJECT: Assembly process automation

CUSTOMER: Multinational manufacturer of components for the automotive industry

## THE CHALLENGE

The project brief was to replace a manual benchtop fixture with an automated process to increase production capacity for a customer manufacturing components for the automotive industry. The process was being performed by two operators, on opposite shifts, assembling two plastic components using a manual press achieving an output of only 100 parts per hour. This manual process was causing issues with limited production output and lack of consistency in quality standards.

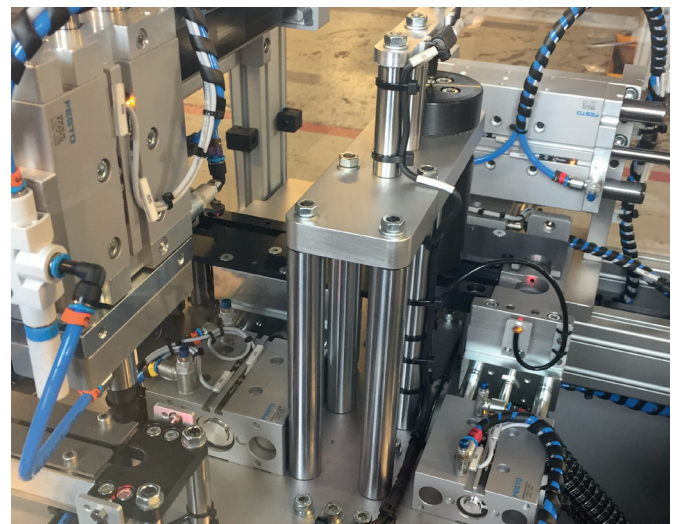
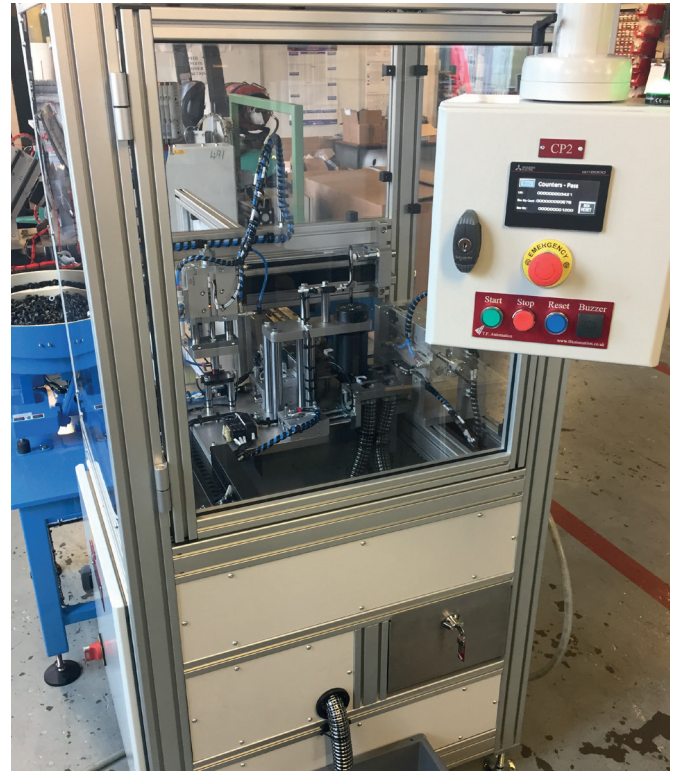
The challenge was to design and manufacture a specialist machine to automate this process including performing a load test to ensure the correct fit of the component. A critical element of the new process was the checking of product tolerances ( $\pm 0.6\text{mm}$ ) with an increase in production output a necessity.

## THE SOLUTION

We gained competitive advantage to secure the project through our innovative design solution, speed of response and consistency of delivery of information, ensuring the required consistency and precision demanded by the project.

The customer had been considering another option using a rotary transfer machine to move the two components, however our innovative solution simplified this process. The new machine, designed and manufactured completely in-house, uses pneumatics with linear transfer escapement to move the components, over shorter distances than the original rotary transfer solution, ensuring the required cycle time. The new machine uses one bowl feeder per component, assembling them to the required depth with a push-out test to ensure correct fit; the system is complete with PLC and HMI.

Our automated process assembly solution has not only achieved the required cycle time of 500 parts per hour (at uptime efficiency of 85%), but also enabled the operatives to be re-assigned to higher value operations.



## GET IN TOUCH

TF Automation is a team of dedicated designers and engineers working with manufacturers across a wide range of industries on small to medium sized process automation projects. With over 40 years' experience, we have the ability to assess and understand the needs and requirements of each individual project and customer ensuring the best solution.

For more information on this and other projects, please contact us!

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