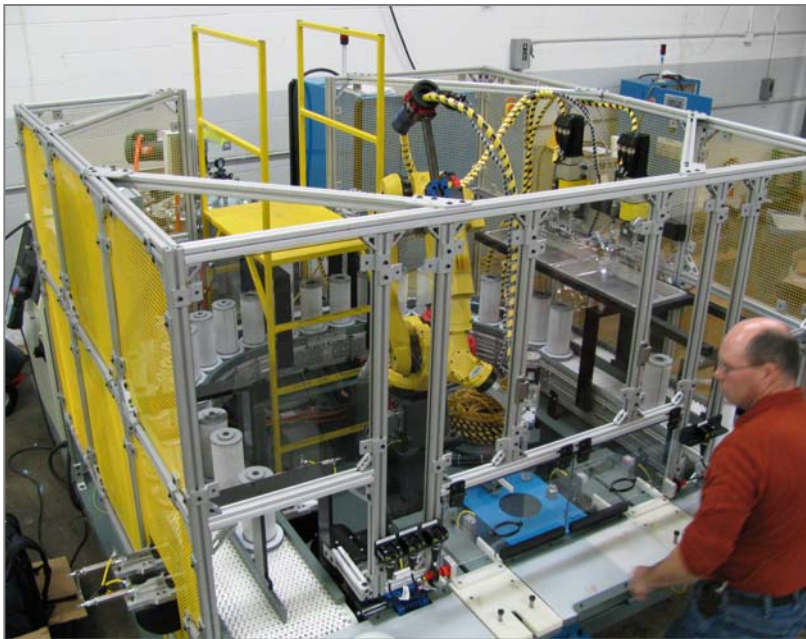


Islands of Automation

by Adam Cort, Senior Editor

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Stand-alone automation systems, like this robotic system that dispenses adhesives used in filter assembly, can eliminate bottlenecks, improve quality and eliminate ergonomic problems. Photo courtesy Sealant Equipment & Engineering, Inc.

A fully integrated automated assembly line is a wonder to behold, but it's not for everybody. Full automation is expensive and can be limiting in terms of the variety of products it can handle. Below a certain production threshold, full automation simply doesn't make sense economically.

Fortunately, with the advent of affordable, easy-to-use robotics and linear motion technologies, it is becoming easier and easier to combine employees and a stand-alone automated system, or systems, in a single workcell. The resulting mixed-mode approach can help assemblers eliminate bottlenecks, improve quality and increase throughput.

An automated workstation can also help a company create a healthier work environment by reducing the risk of repetitive stress injuries. One of the areas that lend themselves most readily to stand-alone automation is dispensing. In addition to being highly repetitive, today's dispensing applications require a level of precision that would have been unthinkable only a few years ago. Many gasketing applications, in particular, are simply beyond the ability of a human operator—nobody has as steady a hand as a robot.

Along these same lines, Sealant Equipment & Engineering Inc. recently worked with a major filter manufacturer to create a robotic cell that bonds the metal end caps onto fabric filter elements in automotive filters. The system's M-10iA six-axis robot from Fanuc Robotics America Inc. (Rochester Hills, MI) first dispenses a set amount of urethane adhesive into the filter end cap and then inserts the filters. After the first application of adhesive, the parts travel along a U-shaped dual-track conveyor so that they can cure for 15 minutes before a second adhesive application. In all, the cell accomplishes what it previously took two operators to do.