

MOBILE DEVICE INDUSTRY

FLEXIBLE ROBOTIC ASSEMBLY STATION

■ The Situation

The development team for a leading mobile device manufacturer needed to define the manufacturing process for their new product. The next generation device's tight assembly tolerances required automated assembly techniques and they needed a means to rapidly experiment with multiple approaches while keeping capital equipment costs to a minimum.

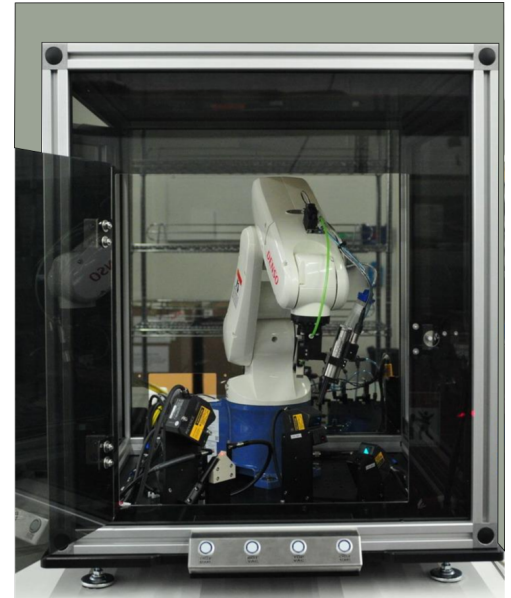
■ The Challenge

The team needed to test multiple process steps, such as adhesive dispense, vision aided alignment, cable insertion, and assembly sequence. Implementing each of these

steps as an independent workcell would be cost prohibitive, yet hard fixturing would not allow the rapid iteration necessary to support the changing product design and process development.

■ The Solution

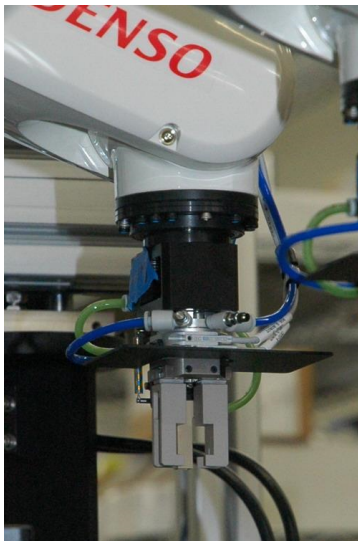
Owens Design developed a simple, flexible robotic workcell with a small safety enclosure and multiple end effectors. The robotic assembly station could be outfitted with a dispense tip, an assembly gripper, an on-end effector camera as well as other process fixtures depending on need. The robotic assembly station was



**Flexible, Robotic Assembly Station
Used For Process Development and Validation**

controlled by a PC to provide a graphical user interface, data collection, and ease of operation. The

manufacturer's development team created and validated their processes with this small, robotic workcell while also providing small quantities of product for evaluation. With the assembly processes proven, they were able to confidently proceed with development of the high volume equipment set.



Assembly



Adhesive Dispense



On-End Effector Vision