



# CASE STUDY

## FAI Develops State-Of-The-Art Assembly & Laser Marking Machine For Automate 2017

### Problem:

Flexible Automation, Inc. (FAI) needed to create a machine for a robotic exhibit that demonstrated their advanced solutions in robotic assembly.

### Solution:

FAI manufactured a cutting edge machine that engraves a screwdriver with a user's initials and aligns a driver bit into the hex socket on a screwdriver.

The process begins once a user enters their initials into the machine. The screwdriver transfers from a pallet by a Yamaha Cartesian robot and placed on a MagneMotion MagneMover LITE linear synchronous motor based conveyor. From there, a newly released Epson N series robot positions the screwdriver in a Keyence laser marking unit which engraves the screwdriver. Next, the Epson positions the screwdriver over a camera to identify the position of the hex socket. Downstream, a Fanuc M-1 delta robot uses vision guidance to obtain driver bits from a Flexomation flex feeder. The robots then collaborate to align the driver bit into the hex socket on the screwdriver, which is then returned to the user.

### Benefits:

With this machine, FAI was able to demonstrate their ability to offer top solutions in automation at one of the most advanced automation events in North America.

### About Flexible Automation Inc.:

FAI a group of automation, engineering & design specialists that creatively solve assembly problems. Based in Michigan, FAI has strong mid-west ethics with a tenacity to do everything it takes to find a solution. They feel this, along with their staff of over 60 automation experts is what allows them to be successful.

