



# Intelligent Robot Solutions



## Application: Packaging

**Industry:** Electronics

**Products Used:** (2) FANUC S-420



Heavy payload robot ideal for packing system.

### Challenges:

Increase case packing throughput rates and handle multiple product varieties, while ensuring employee safety and product quality. Like many of today's manufacturers, this major producer of electronic products recently faced this challenge.

The company needed to find a solution that provided the flexibility and throughput critical to succeeding in an ever-changing, increasingly competitive environment.

Eliminating repetitive and physically stressful manual case packing was also a top priority for this manufacturer.

### Solution:

After researching several options, the customer's automation team found a solution to their challenge: robotic automation.

The team discovered that robotic automation could provide increased throughput, flexibility and safety over the traditional method of hoist-assist manual packing of television sets weighing up to 180 pounds each.

The team members said they chose FANUC Robotics as their automation partner for television set packing because of FANUC Robotics' local presence, experience in providing quality turnkey systems and the company's long-standing support of other FANUC Robotics' systems.

According to the equipment maintenance manager, the company was also attracted to FANUC Robotics' dedication to teamwork - a concept the electronics company has long embraced.

## **Solution** *(cont.)*

“FANUC Robotics was supportive of setting up a project team that complemented our team of project management and engineering specialists,” the equipment maintenance manager explained. “The members from each company worked closely together throughout the duration of the project to ensure a quality packing system.”

### **Here's How The System Works**

Finished television sets are routed to the two robotic packing stations via two final assembly conveyors. Each packing station consists of a six-axis FANUC S-420 robot equipped with custom vacuum end-of-arm-tooling. The high-speed S-420 is durable enough to handle a wide range of heavy payload processes. The tooling, designed with uniquely shaped, soft vacuum cups, ensures a reliable grip of the set without any marring of its exterior surface.

Each robot is designed to handle both 27-inch and 32-inch sets.

When a television set arrives into the packing station, the S-420 lifts and adjusts each to ensure proper alignment in relation to the box. Once the television is in the correct position, the robot transfers it to a final packing conveyor, where a shipping box (bottom-cushioned with a protective liner) awaits. The robot then places the set into the box and returns to the final assembly conveyor. The sequence repeats. Each robot continuously packs a television set in less than 15 seconds per TV.

The equipment maintenance manager credits the success of the project to the synergy with FANUC Robotics' teams, the quality of the robotic equipment and the “top notch” support received from FANUC Robotics. “Our division had no experience with anything greater than tabletop robots. We relied on FANUC Robotics' capabilities to provide complete systems integration,” he said.

In addition to providing the flexibility to handle its complete line of 27-inch and 32-inch televisions (as well as future models), the system has improved the company's case packing throughput by over 30%. This translates into a payback of less than one year.

The switch to robotic automation has also come as good news to the customer's manual case packing employees. These workers have since been transferred to higher-skilled, less physically stressful positions within assembly and adjustment operations.

“We believe in establishing partnerships with our vendors. With our positive experience with FANUC Robotics, we plan to call in FANUC Robotics on our next project,” said the equipment maintenance manager.