

## Automation Case Study

### Inovance motion controller and servo motors deliver cost effective high performance for gantry system

#### Customer Profile

The customer is an India-based OEM that uses a wide variety of automation products such as PLCs, AC drives, servo systems, Scada robots, and HMIs. They are an expert at building pick & place applications using gantry systems and multi-axes robotic arms, and they specialise in a wide range of industry verticals including textiles, plastics, paper, chemicals, ceramics, glass, pharmaceuticals, and machine manufacturing.

#### The Challenge

The customer was looking for a servo motion solution for multi-axes robotic arms that delivered improved performance and cost effectiveness. They also needed a remote IoT monitoring system that could monitor the real-time data and performance of their machines.



# The solution

Global industrial automation company Inovance was called in to provide an accurate solution for all their requirements. Inovance was specifically chosen because of their expertise in providing complete cost-effective servo motion solutions. The company provided a combination of motion controllers, servo drives and servo motors, and HMIs, to control a 4 axes robot designed for pick-and-place applications.

The Inovance solution involved an AM series motion controller, SV660N servo drives, and MS1 series servo motors along with the IT7000 Series HMI. Additionally, the new Inovance IIoT device was deployed for enhanced performance & reliability.



# The benefits

Inovance's automation solution was able to meet all the enhanced performance requirements requested by the customer. By using the AM series motion controller, the customer can save time due to the ability to group 2-5 axes using the function axes setup, and can also achieve high accuracy due to the fast control enabled by EtherCAT communications. Meanwhile, with the MS1 series servo motor, absolute positioning accuracy can be reached within  $\pm 15$  arc seconds, and a built-in torque ripple compensation function results in a torque ripple of  $< 0.5\%$ .

With the SV660N series EtherCAT drive, the communication synchronization cycle can reach  $125 \mu s$ , and with up to 300 nodes at a distance of 120 m, can achieve 15 ns synchronization error, and a synchronization jitter of  $\pm 20$  ns. Finally, the deployment of the Inovance IIoT device allows the motion controller, drives and HMI to be connected in order to monitor and modify the parameters remotely.



# Key Benefits

- Improved performance
- Enhanced reliability
- High accuracy
- Cost-effectiveness
- Time saving

