

IoT: Driving Digital Transformation

“The Mazak iSMART Factory concept centers around open connectivity and the Internet. We must also provide those manufacturers the highest level of security possible, and we do so through our Mazak SmartBox technology developed in collaboration with Cisco Systems.”

— Brian Papke
 President of Mazak Corporation



Challenge

Mazak required a common, standards-based method to securely connect and derive value from the rich, raw data in its machine tools. An advanced security system suitable for IT and operations technology (OT) was necessary to protect from both internal and external attackers. The application needed to run on the network infrastructure on the factory floor, immediately transforming process, overall equipment effectiveness (OEE), and sensor data. The fog application needed to support the MTConnect specification for integration with existing systems and sensors. Real-time analytics were required to process high frequency vibration, temperature, coolant, and sound inputs to inform operator action and drive business support systems.

Business Outcomes

- Expanded market opportunity with Mazak SmartBox Connected Machine service
- Cost consolidation through running fog application and real-time analytics on IoT network infrastructure
- Rapid time to value with measurable customer impact: improved OEE, continuous customer service, and increased machine utilization

Solution

- Internet of Things (IoT) connectivity: Cisco® Industrial Ethernet 4000 (IE 4000) Switch
- Application framework: Cisco IOx
- Fog application: MTConnect
- Real-time analytics: Cisco Connected Streaming Analytics

