

MAZAK SMARTBOX™ Launches Manufacturers into the IIOT

Yamazaki Mazak Corporation has announced that in an industry-shaping collaboration, Mazak Corporation (the U.S. subsidiary of Yamazaki Mazak Corporation), together with information technology (IT) leader Cisco have developed what is described as an industry first – a “launch platform for easy and highly secure entrance into the Industrial Internet of Things (IIoT).” Called MAZAK SMARTBOX™, this technology represents a huge leap in digital integration across manufacturing. Access to real-time manufacturing data is used to improve overall productivity and responsiveness to customer/market changes. Using MTConnect technology as the foundation, MAZAK SMARTBOX™ connectivity of machines and devices allows for enhanced monitoring and analytical capabilities including advanced cyber security protection.

MAZAK SMARTBOX™ is yet another component within Mazak’s dynamic iSMART Factory concept and one that takes advantage of Cisco’s Connected Machines solution to provide insights into machine operations. Advanced manufacturing cells and systems, along with full digital integration, can achieve free-flow data sharing, i.e., process control and operation/equipment monitoring. The iSMART concept also incorporates Mazak’s SMOOTH Technology – a complete process-performance technology platform that includes the various levels of Mazak’s new Mazatrol Smooth CNC with advanced machine hardware and servo systems – working in tandem with the MTConnect standard connectivity protocol.

Mazak also developed MAZAK SMARTBOX™ to work with any machine regardless of make, model or age and will offer it in various configurations/kits based on the scenarios and challenges in which the units will be used. The device physically mounts to the side of machines without having to integrate into a machine’s electrical cabinet. With several standard input/output connecting ports, MAZAK SMARTBOX™ lets users quickly and easily connect any standard off-the-shelf sensors to the system for machine data gathering and condition monitoring. One MAZAK SMARTBOX™ may service several machine tools along with other associated manufacturing equipment, depending on the application.

At the heart of the MAZAK SMARTBOX™ is Cisco’s Connected Machines solution, based on the IoT System, designed specifically for industrial environments and equipped with an MTConnect software agent. Using a fog computing model, the MT Connect software runs directly on the ruggedized Cisco switch – providing real time visibility and insights into data right on the factory floor.

The Cisco hardware is designed to help prevent any issues with unauthorized access from both directions – to or from the machines and equipment within a network. MAZAK SMARTBOX™ satisfies the highly critical security concerns of IT departments when connecting legacy equipment to a plant's main network for the purpose of gathering manufacturing data via the MTConnect protocol.

The underlying Cisco networking platform helps ensure that IT technicians will be familiar with MAZAK SMARTBOX™'s operation and can use it to quickly and easily control and manage network security. Also, the hardware allows manufacturers to enable secure machine communications through secure access and identity policy mechanisms. Third parties, such as equipment suppliers, can then log on to a company's network and access only those machines equipped with a MAZAK SMARTBOX™.

The MAZAK SMARTBOX™ will be introduced in Japan at the Yamazaki Mazak Minokamo Factory during the TOUCH THE FUTURE 2016 Event to be held on Friday December 4 and Saturday December 5.

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