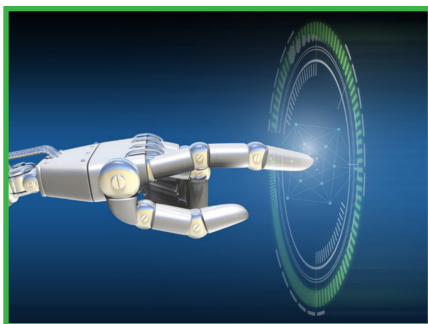


Force/Torque Robotic Integration

Force/Torque control is one of KUKA's hub technologies for their industrial robot line. The KUKA.ForceTorqueControl software and hardware package enhances the ability of KUKA's robots to perform precise and sensitive applications. This technology, combined with MWES' vast integration expertise, allows for precision workpiece alignment, assembly, grinding, buffing, part testing and many other ultra-precise applications that require a delicate touch.



Sense of Touch

The force/torque package gives a robot a way to "feel" the work its performing. This is useful in applications where the perception of touch (force) can enhance the robot's ability to perform delicate motions.



Sensors

The OptoForce sensor measures the force/torque seen by the end-of-arm tooling. It measures this force in the X, Y, and Z coordinates. Those values are then communicated to the KUKA.ForceTorqueControl.



Evaluation

To determine if force/torque control will work for your application, a proof of concept can be conducted to determine the feasibility of your application before incorporating it into your manufacturing process.

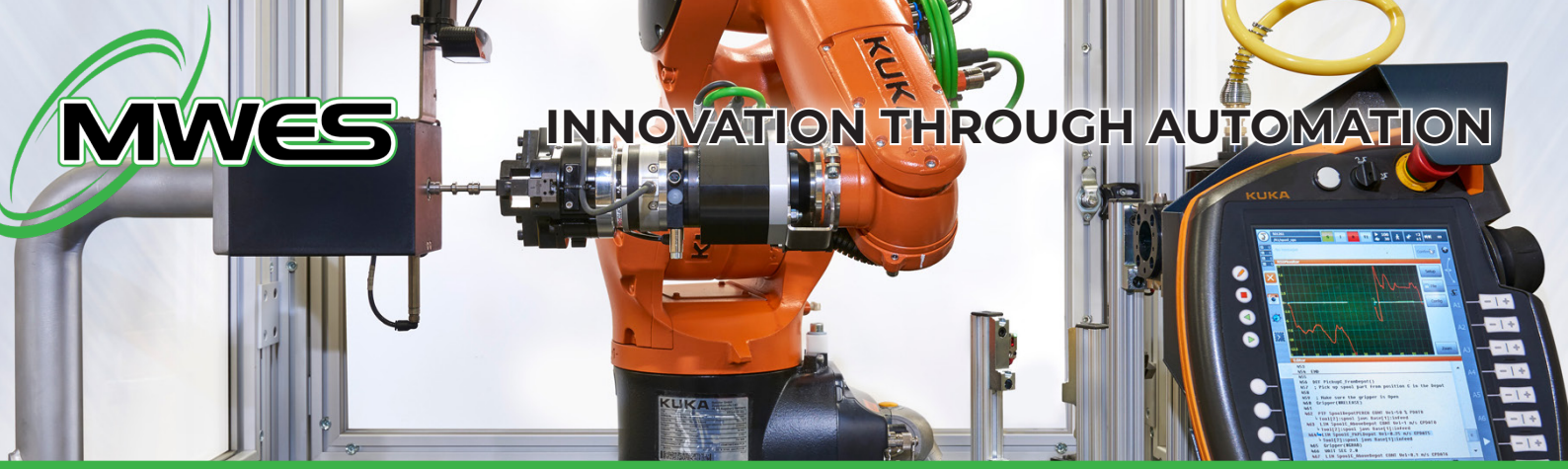
MIDWEST ENGINEERED SYSTEMS INC.

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Force/Torque Robotic Integration

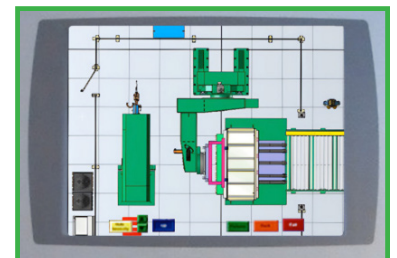


Data & Feedback

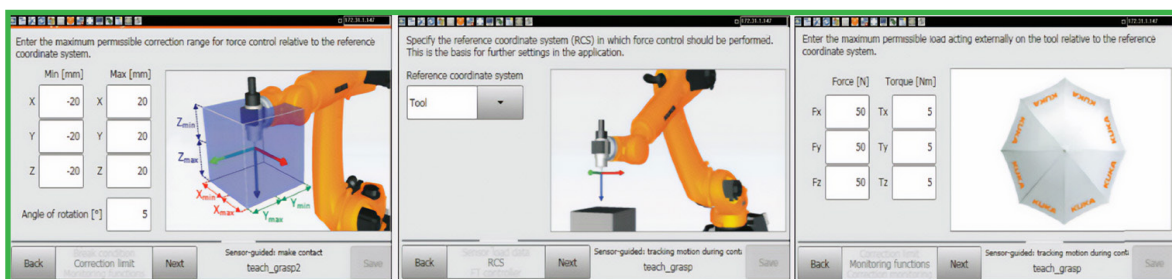
Real time monitoring of all the specific forces and torques experienced by the sensor are graphed on the robot's pendant HMI. If forces experienced by the sensor are out of spec, the system can stop and alarm for this condition. This is especially useful when troubleshooting an application.

Easy-to-Use Software

The hardware and software allow the robot to make minute path adjustments. That combination allows the robot to adjust its path and orientation when performing the designated application.



Setting Up A Force/Torque Application On The Teach Pendant



Our Partnership with KUKA

MWES is an official partner of KUKA Industrial Robotics. Our technical experience and knowledge base, in conjunction with our relationship with partners like KUKA, gives us the ability to provide complex configurations for manufacturing applications in a wide range of industries.



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