Mitsubishi Electric partners with Extend Robotics to support roll out of VR technology for non-uniform industrial robotic applications

Hatfield, England - April 2024

Mitsubishi Electric has partnered with Extend Robotics to support the scale-up of remotely controlled robots in non-uniform manufacturing operations.

Founded in 2019, Extend Robotics' pioneering Advanced Mechanics Assistance System (AMAS) is a lightweight middleware enabling platform which combines real-time volumetric telepresence with interactive digital twin technology.

[Source: Extend Robotics]

The resulting human-robot interface renders the workspace in 3D to

provide authentic depth perception during teleoperation, while facilitating fast user gesture input to control the robot with low latency, even on low bandwidths.

Operated via off-the-shelf consumer virtual reality (VR) hardware and distributed through VR game stores including META and HTC, AMAS deploys extended reality technology to enable non-robotic experts to operate robots safely and effectively from remote locations.

The low-cost cloud connected hardware, which requires a fraction of the set-up and training investment associate with bespoke solutions, is now compatible with Mitsubishi Electric's MELFA range of industrial robots.

The partnership will help manufacturers upskill existing employees at a much faster pace, while also enabling robotics to complete non-uniform tasks in real-time, even if the operator is based in a different location to the robot.

Extend Robotics believes the application has the potential to resolve several challenges linked to single purpose manufacturing set-ups, such as pick-and-place, machine-tending and general assembly. These include remote error recovery, which enables the operator to quickly log-in and use VR to pick-up a dropped item; rapid reprogramming to pick different items or tend new machines using gesture movement; and the opportunity for one remote technician to complete non-routine tasks across multiple sites.

Azmat Hossain, Business Development Director at Extend Robotics comments: "While industrial robots have been used throughout

manufacturing sites for decades, they have always relied on heavy operator involvement for the completion non-uniform tasks or supporting error recovery.

“However, through our AMAS platform, we hope to help industrial robot users unlock much greater functionality from their existing asset base. For example, if a robot fails to complete its preprogrammed task, a remote operator can simply connect to the unit and restart the process, without the need for a physical on-site presence. As a result, one operator can conceivably oversee multiple lines or sites from a single location. With Mitsubishi Electric robots among the most widely used in the manufacturing industry, we are incredibly excited to integrate our AMAS platform into the MELFA robot family.”

Barry Weller, Product Manager – Mechatronics at Mitsubishi Electric Automation Systems UK, comments: “Extend Robotics’ AMAS platform is an incredibly exciting development which can help manufacturers not only achieve more flexibility and productivity from their industrial robots, but also enable operators to be trained and upskilled at a much faster pace. With the manufacturing skills crisis showing no sign of relenting, intuitive technology such as the AMAS platform with have an important role to play going forward and we are very excited to help introduce its potential to our network of integrators and end-users.”

For more information on Extend Robotics and Mitsubishi Electric’s MELFA rage of industrial robots, please visit: www.extendrobotics.com and www.gb.mitsubishielectric.com/fa/products/rbt/robot.

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its "Changes for the Better." The company recorded a revenue of 5,003.6 billion yen (U.S.$ 37.3 billion*) in the fiscal year ended March 31, 2023.

For more information, please visit www.MitsubishiElectric.com

**U.S. dollar amounts are translated from yen at the rate of ¥134=U.S.$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2023.*

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