

## Snake robot makes UK debut in machine tending role

On the Hardinge Machine Tools stand at MACH 2008, Motoman's IA20 seven-axis robot, nicknamed the snake for its ability to access restricted spaces, was demonstrated automatically loading and unloading a Hardinge XV710 vertical machining centre.

In a very small footprint to the right of the machine that extended its width by little more than half a metre, the robot loaded a hydraulic fitting into the first collet of a Hardinge four-station indexing unit. After the first 4-axis machining operation, the part was transferred to the three other collets for additional operations before being unloaded.

The length of the multi-station indexer meant that the additional reach and positioning flexibility of the snake design was needed to access all four collets of the in-line fixture without unduly increasing the space taken up by the robot.

Capable of manipulating a maximum payload of 20 kg, the IA20 stands just 159 cm high. Its patented servo motors and actuators are built into each axis, positioning repeatability being  $\pm 0.1$  mm.

Motoman's NX-100 controller combines powerful processing capability with windows-based drop-down menus that are easy to follow and very flexible, making the robot one of the easiest to use in the market. All menus are displayed on a large colour touch screen, with additional user programmable screens when required.

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Two photographs herewith, showing different views of a Motoman IA20 'snake' robot tending a vertical machining centre on the Hardinge stand at MACH 2008.





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