
>Robotic system in Steel Injection Station

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News Release Robotic system to handle probes in a Steel Injection Station Apex Automation and Robotics have been delivering automation solutions for the manufacturing sector with the aim of increasing production, reducing labour and improving product quality and OH&S.

In this application for a leading steel manufacturer, Apex Automation and Robotics will be using a 6-axis robot to handle probes for a Steel Injection Station.

Steel injection involves the refining of liquid steel to generate a very high grade product. Molten steel is injected with different chemicals and part of the process involves the use of probes to measure temperature, Oxygen and Hydrogen as well as retrieve samples.

The robotic system will automatically load the required probe into the Lance module that eventually inserts it into the molten steel in a 300 tonne ladle.

A day-worth of different probes are loaded by the operator in a rack. The robot head is a custom-designed gripper that can handle all types of probes. During the operation, on demand from the control system, the robot picks up the relevant probe off the rack and hands it to the Lance gripper. In addition, the robot retrieves a sample probe from time to time and delivers it to a sampling module where the sample is removed and sent to the laboratory for analysis.

The robot controller will monitor the different cycles and it will communicate with the main PLC using the EtherNet/IP protocol.

In the metal manufacturing industry, manual operations are not only expensive, they involve hazards and can lead to injuries. This robotic cell is another innovative system supplied by Apex Automation and Robotics to this industry to improve OH&S and reduce production cost.