

Company news

OCRobotics triumph confined areas

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In January 2004 OCRobotics Ltd won a significant contract from Uddcomb Engineering AB to supply two types of snake-arm robot to Ringhals AB, a Swedish nuclear power utility.

The contract was successfully completed in August 2004. Five robots were delivered. The customer was highly satisfied with the successful completion of TUV assessed Factory Acceptance Tests which included a trial operation within the reactor itself. In addition the project team also completed the reactor repair in only 2 days.

The two robots nose-follow to gain access to an extremely confined area of the reactor. Once in place, the robots assist in the replacement of a section of stainless steel pipe.

The functions that the snake-arms are designed to fulfil include: precise positioning of fixtures, old and new section of pipe, tack welding, cutter tool placement, gas shields, inspection (visual and NDT), polishing and cleaning.

The two robots are called overhead arm (OA) and underneath arm (UA). The name indicates the direction of access to the working area (Plate 1).

The specifications for the robots are as follows.

The OA system consists of a gantry comprising two twinned vertical axes and a horizontal axis, a snake-arm comprising four segments (8-DoF) and a 3-DoF wrist - 13 DoF in total. The OA payload is 10 kg with a measured joystick motion resolution of better than 50 microns.

The UA system comprises a single vertical axis, a ten-segment snake and 2-DoF wrist -23 DoF in total.

The UA delivers cameras to enable remote operation.

The software, which is common to both robots, allows joystick control for nose following, individual joint mode, and also Cartesian motion in tool or world space.

For further information visit our Web site: www.ocrobotics.com