

Doing the dirty work

Studies consider robot role in nuclear power sector

BY STEPHEN HARRIS

Robots could increasingly carry out the more dangerous tasks in nuclear power stations, following research funded by the Technology Strategy Board (TSB).

Twenty feasibility studies sharing £2m from the TSB will look at how new technology could address challenges in the civil nuclear power sector, from advanced manufacture maintenance and construction to waste handling. Many of the projects will be carried out by firms without previous experience of working in the sector, with the aim of developing a stronger supply chain.

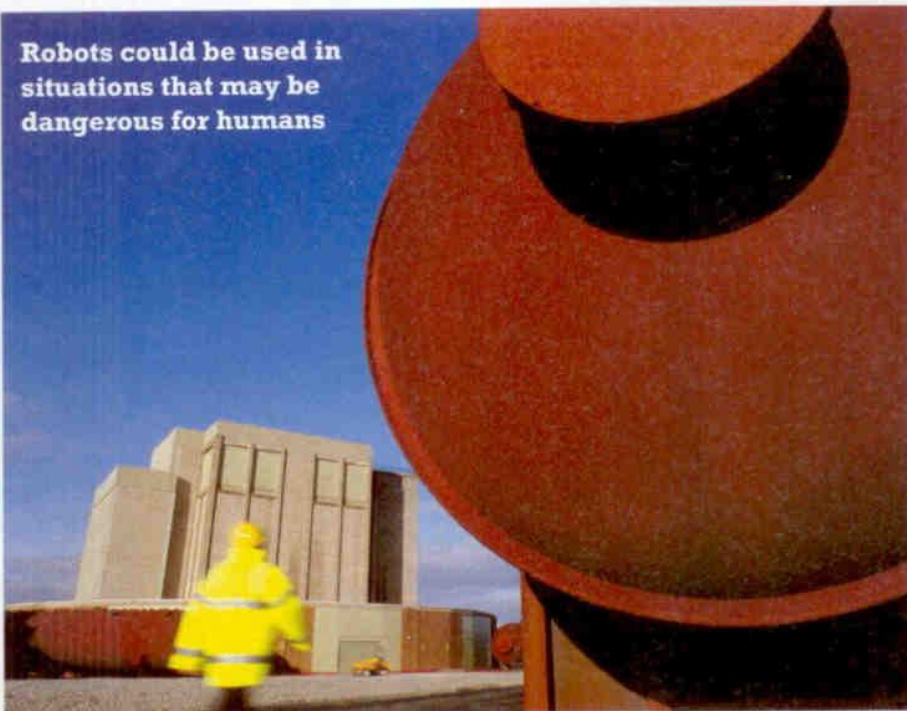
The Shadow Robot Company, which claims to have developed the world's most advanced robotic hand, is planning one study with the National Nuclear Laboratory to identify areas where robotics could be applied.

According to Rich Walker, managing director of Shadow, robots could be used in any difficult, dirty or dangerous situations where you'd rather not send a human in. He said: 'We want to see if we can make difficult tasks easier without compromising safety.'

For example, the company hopes to look at giving robots the capability to build a virtual map of their surroundings so that they can automatically avoid obstacles.

This would leave the human controller free to concentrate on the task

Robots could be used in situations that may be dangerous for humans



One study aims to identify areas where robotics could be applied

the robot is completing without worrying about its exact movements within confined areas.

'There's a lot of telemanipulation work in the nuclear industry already, where robots are performing skilled tasks but humans are directly controlling them using lots of informa-

tion,' said Walker. 'We want to ask what you can do to make it easier to do the job.'

Other robotics studies in the programme include the LaserSnake project from OCRobotics. This will combine flexible 'snake-arm' robots and fibre lasers to create a way of surgically removing components from within radioactive areas during decommissioning. The idea is that only the arm, carrying the laser fibre and focusing optics, will move around the radioactive environment while the robot drive system and the laser source remain outside in the accessible area.