

Robots arise as British manufacturing rebuilds

The number of robots in UK factories and production plants is growing at an unprecedented rate as the manufacturing sector prepares for an ever-more competitive and globalised future. A seminar organised by Mitsubishi Electric, Cognex Vision and the British Automation and Robot Association looked at developments in the field.

The banking collapse and other troubles in the financial sector have encouraged economists to reassess the value of a strong manufacturing sector to the nation. Because the UK is not a low wage economy, automated production is essential to achieve competitiveness against global competitor nations.

"Parts of British manufacturing are already highly automated," observes Barry Weller, a robots product manager with Mitsubishi Electric. "This tends to be plant and machinery for high volume manufacturing and in the processing industries. But we are really only just discovering the advantages of robots. These are highly flexible so can be programmed and reprogrammed to meet the constantly changing needs of shorter run production cycles."

This year will see about 1000 new robots installed in Britain, and it is expected that this will create 2000-3000 new jobs.

"We used to think that robots put people out of work, but perceptions have matured now and we understand that they allow manufacturers to expand, thus creating new jobs. Typically robots are used for dangerous work, in arduous environments for repetitious tasks and where a waged person would not be economically viable. They free up people for value-adding, interesting jobs. Significantly, the technology is now so stable that it is common for robots to be left running unsupervised through the night."

However, competitor nations are also taking to robots. China for instance installed 14 000 robots last year and other industrialising nations are following suit despite their low wage structures. Within Europe, Germany has 145,000 robots in non-automotive applications, Italy 62,000, France 34,000, and Spain 29,000, compared to Britain's 14,000.

"Globally there are 1 000 000 robots in manufacturing industry," says Mike Wilson of the British Automation and Robot Association. "According to MetraMartech, a UK market research organisation, these have created almost 3,000,000 jobs."

Robots become even more capable when integrated with other technologies, as Leigh Jordan of vision specialist Cognex UK explains. "A robot with vision capabilities can identify the exact location and orientation of workpieces and adapt its actions accordingly."

"This is already common in industry, while increasing miniaturisation and new sensing capabilities will make robots even more capable. They will be able to do more complicated tasks, a greater variety of functions and will find their way into new industries."

Robots are beginning to find their way into the care industries, pharmaceutical dispensaries, catering, transportation and security "Further technological integration and generational developments of robots will open up ever more opportunities."

To make sure that Britain keeps pace with international developments, the government is providing funding and support. Mike Wilson explains the procedure:

"The Automating Manufacturing Programme is to be run for the government by the British Automation and Robot Association (Bara). It offers funded, independent advice to manufacturing companies on how best to automate their processes."

"However the goal is not simply new installations. The idea is to build a widespread knowledge base of what automation

and robotics can deliver and a willingness to always consider it as an investment option." Research suggests that British management wants to see a return on automation investments in two years, whereas in most other countries a five year window is accepted.

"Clearly this needs to be addressed, but it should also be noted that British managers lead the world in the adoption of lean manufacturing techniques. They are very good at 'doing more with less', but find capital investment rather harder." "The government now recognises that manufacturing is a vital plank in a balanced economy, but they must drive a sea change in attitudes towards automation investments. The simple truth is that automation pays dividends - often only small investments are needed and we must not let competitor nations get ahead of us!"

As Henry Ford once said, "If you need a machine and don't buy it, then you will ultimately find that you have paid for it, but don't have it"

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Further Information:

Website: <http://automationsolutions.mitsubishielectric.co.uk>, Email: automation@meuk.mee.com

Editor Contact

Bob Dobson Ltd : Bob Dobson

Tel: +44 (0)1798 861677

Web: www.bobdobsonpr.com

Email: bob@bobdobson.com

Company Contact

Mitsubishi Electric Europe B.V. Automation Systems Division : Amaechi Oduah, Marketing Manager

Tel: 01707 276100

Fax: 01707 278695

Web: <http://automationsolutions.mitsubishielectric.co.uk>

Email: automation@meuk.mee.com