

## Robots on the move

According to the latest figures from the International Federation of Robotics (IFR) the world market for robots surged by 17% in 2004, the last year that figures are available for. After two years of falling demand of industrial robots a strong recovery began in 2003 with a worldwide growth of 19%, and that growth continued in 2004, albeit slightly down.

This was the result of strong demand in all Asian markets and robust growth in Europe and America. In 2004, more than 52,000 robots were supplied to Asian countries – nearly 30% more than 2003, as a result of strong investments within the automotive and electronics industries.

After two years of falling sales in Japan, a sharp recovery already started in 2003 when the market grew by 25%. In 2004, the increase of installations continued: About 37,100 units, 17% more than in 2003, were sold in Japan. Robot installations in the automotive industry as well as in the electronics industry surged by 42% and 64%, respectively. An increase of about 16% was recorded in the motor vehicle industry, while in the automotive parts industry, installations surged by 64%.

But the most staggering growth came in Asian markets excluding Japan and Korea, where sales surged by an average of about 125%. It must be remembered that most of these markets are still relatively small, but are gaining in importance as a result of expanding investments by the automotive industry.

In Europe, sales of multipurpose industrial robots rose by 18% in 2000 to 30,600 units. In 2001, sales

continued to grow, but only by a modest 3%, reaching 31,600 units. In 2002, the market fell by 15% to 26,700 units. In 2003, there was a slight recovery of 4% to 27,800 units. In 2004, again, modest growth of 5% was achieved, to about 29,300 units. Installations in the automotive industry as a whole increased by 5% – however, whereas investments by automotive parts suppliers surged by 23%, end manufacturers of motor vehicles decreased theirs by 6%. Other industries recorded remarkable increases in robot investments. Sales to the chemical industry surged by 72%, to the machinery industry by 22%, and to the food industry by 24%.

According to the IFR figures, accumulated yearly sales – measured since industrial robots started to be introduced in industry at the end of the 1960s – amounted at the end of 2004 to some 1,500,000 units. Many of these have, however, since been taken out of service. The stock of industrial robots in actual operation is therefore lower, at around a million.

In the near future the reasons for investments in robots are no surprise. Top of the list is to save costs, followed by increasing productivity and raising quality. In our feature 'Robotic woes' (p36) Tony James looks at some of the reasons that are preventing investment in industrial robots. However, it is not just the industrial sector that utilises robots, the medical sector is at last waking to the potential as we report in our feature 'The kindest cut' (p18).

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