

News from the international federation of robotics for robotica

1. The International Federation of Robotics expects to have a presence on the World Wide Web by the time this issue of Robotica is published. The URL will be <http://www.ifr.org>. The IFR Web pages will include information about the Federation's activities as well as links to its member associations in Europe, Asia, North America and Australia.

2. The IFR member in Singapore, the Singapore Industrial Automation Association, has just published that country's Fifth National Automation Survey. The main objectives of the survey are to determine comparative trends in factors affecting automation and to make projections in areas identified in Singapore's National Automation Master Plan as important for the promotion of automation in Singapore.

In July 1987, Singapore's Economic Development Board (EDB) initiated the establishment of a National Automation Master Plan Committee 'to draw up a plan on how to systematically promote and develop factory automation in Singapore'. In addition to the usual reasons for automation ('Singapore's industries must enhance their productivity, flexibility and product quality in order to remain competitive'), the Committee cited Singapore's limited labour resources – a labour force 'projected to grow at an average rate of 1.2% between 1990 and 2000' while the country's long term goal is to achieve annual 'economic growth of 4 to 6%' – as a 'very compelling reason for wanting to implement factory automation'.

The Committee proposed five key strategies – 'Manpower Development', 'Technology Development', 'Infrastructure Development', 'Automation Culture Development', and 'Co-ordination' – to achieve specified automation goals. The Singapore Government accepted the Committee's recommendations and in 1988 established the National Automation Programme as a 'strategic business unit' within EDB.

The National Automation Programme implemented a number of specific policies, including an Automation Leasing Scheme that provided low-cost loans for the acquisition of automation equipment, a programme of subsidised consultancy studies, an Industry-Wide Automation Development Programme that provided grants for up to 70% of development costs, a Design for Automation Scheme and an Investment Allowance

Scheme. Automation culture development was supported by activities such as the publication of pro-automation cartoons and the sponsorship of Robotics Festivals. The scope of the National Automation Programme was subsequently extended to embrace 'manufacturing-related' activities such as food processing.

In 1993, the EDB, noting the 'widespread application of automation technology' in the manufacturing and service sectors of the economy, incorporated the National Automation Programme into the Board's 'mainline industry development and investment marketing activities'.

The National Automation Surveys, carried out every other year, measure the extent of automation in Singapore and examine current attitudes toward automation. The latest survey, covering 2,656 users and 600 vendors of automation equipment and systems, indicates that 83% of the total automation equipment in Singapore is installed in the electronics industry. A large majority of vendors consider Singapore manufacturers to be keen to automate their operations. Respondents to the survey consider the most effective ways of encouraging automation are for vendors (1) to provide complete solutions and support, (2) to prove the effectiveness and benefits of automation, and (3) to minimise the cost of automation.

According to statistics collected by the Singapore Industrial Automation Association, about 5,000 robots were installed in that country last year. The vast majority of these are three-axis robots utilised in the electronics industry.

Copies of the fifth National Automation Survey are available for US\$50 including postage from the Singapore Industrial Automation Association, 151 Chin Swee Road, #03-13 Manhattan House, Singapore 169876.

(Submitted by Michael Kassler, Member Executive Committee, International Federation of Robotics.)

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