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TPM promoting use of robots for productivity

Hayati Hayatudin

WHEN robots were invented, the world looked at them as the creation of very imaginative individuals, with some enthusiasts saying that they would one day take the place of humans.

Although the use of robots is still in its infancy here, Technology Park Malaysia wants to change this by opening its doors to companies interested to learn more about the machines.

Since January, it has trained six companies, like Proton, in robotic use.

TPM's Robotics centre is located at its Master Centre which also houses prototype, production, design and mould-making centres, and a production tooling department.

Installation of the robotic equipment and computer control machines started at the beginning of December 1997 and was commissioned last month.

TPM chief executive officer Dr Mohamad Salleh Ismail said it had entered a partnership with Fanuc in Japan, the biggest robot producer in the world.

The park's engineers were trained for six months by Fanuc's specialists and now has 40 skilled trainers. In addition to robotics, it also provides courses in moulding (for plastic), die (for steel), automation and design.

It has 15 robotic units with four different types of robots: laser, arc-welding, material-handling (with vision systems) and component insertion.

The laser robot is used for precision cutting. It is enclosed in a steel house but provision is made for viewing the laser cutting via a special tinted plastic material.

The arc-welding robot can weld complex configurations and can automatically change its hand attachments.

"Changing drills takes time. This robot has 12 different tools and changing it automatically according to requirement provides an uninterrupted manufacturing process," Mohamad Salleh said.

The material-handling with vision system robot can pick up objects randomly distributed on a conveyor belt while they are still moving and store them away in designated spaces. It can also differentiate objects by size.

An alignment sensor allows the robot to align two different shaped objects and accurately screw them together.

Mohamad Salleh gave the example of eggs where the robot could differentiate the grades according to their sizes.

The component-insertion robot was designed to pick two different electronic components and insert them onto a printed circuit board.

"No human can do a job of a robot cause humans are not fast and accurate enough especially when it comes to tedious and monotonous tasks.

"At the same time the robot can train people on how to use the system," Mohamad Salleh said, adding that all the machines amounted to RM25 million.

"Robots will allow quicker movement from human-based mould production to time base automated mould production therefore we can even work on Sunday," he said on a lighter note.

TPM offers a wide range of four-day courses with special training benefits. Among the courses are computer aided design, computer aided manufacturing and CNC and robotics.

The MASTER centre's production centre produces plastic injection

moulding, electronic components, disc drive components and remote control component, sheet metal fabrication and metal stamping.

Currently, it produces about 100,000 components a month but the target is a million a month.

Prime Minister Datuk Seri Dr Mahathir Mohamad will officiate the MASTER centre on Tuesday (Feb 24) and visit some of the 80 companies already set up at the park.

The companies at the park are involved in a wide range of activities such as netcard, animal feed, information technology solutions and services, software development, internet banking system and environmental technology.

Mohamad Salleh said Malaysian industries needed a paradigm shift from labour intensive to knowledge-based as this was the only solution to the current economic scenario.

"There is an urgent need for the Government and industry to understand this need due to our lack of technological capabilities in the local industry.

"We need research, knowledge-based skills and IT as promoted by Dr Mahathir.

"The whole industry must change now and those that do not will end up closing down because they are no longer creative and do not meet consumer's demands.

"Foreign capital is fluid, if they do not invest here they will move out," Mohamad Salleh said, adding that Malaysia could not rely on them, therefore "we should look locally."

"TPM wants to address this issue and expose Malaysians to this new era."

On other developments, TPM will launch an automation drive in April where degrees, diplomas and courses with Universiti Teknologi Malaysia will be offered.

It will also open its doors to the Education Facility to school children for free. There are 100 computers there hooked up to the Internet and a smart board for easy teaching.

"At the centre, children will be given the opportunity to explore the internet and other multimedia facilities," Mohamad Salleh said.

"Children must be given the opportunity to think. We are thinking of inviting school children over every Saturday where they can explore the park," he added.

The homepage address for the park is www.tpm.com.my.

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