

MOTOMAN MAKES HISTORY



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TOKYO 2020 - the world is watching the Summer Olympics in Japan. A massive event like this needs many helpers, but not all of them will be humans in the future!

Serving at restaurants, selling ice cream or beating the taiko drum, this all can be done by Motoman, YASKAWA Electric Corporation's new generation, human-friendly robot.

YASKAWA Electric is the world's biggest maker of industrial robots; it ranks in the "Big Four" together with Germany's Kuka, Swedish ABB and Japan's Fanuc Corp. Established in 1915, YASKAWA Electric initially produced motors and applications, and over their almost 100 years in business, the company has become a leader in manufacturing inverter drives, servo drives and machine controllers.

Up to the present, YASKAWA Electric has released more than 270,000 robots for use in manufacturing to the world. In recent years, the total volume of units released has been increasing by around 20,000 units per year. In 1977, YASKAWA Electric put their first all-electric industrial robot on the market. It was named Motoman (motor + human).

"Motoman was not popular with potential clients initially, and we were worried, but in the 1990s Motoman became a much sought-after worker at Japan's automated factories, especially

in the automobile industry," explained Ayumi Hayashida, General Manager, Tokyo Administration Division & Corporate Communication Group, YASKAWA Electric Corporation. Priced at several million yen a unit, Motoman is really multi-faceted. While its core skills are welding, painting, assembly and handling, it is now even being used in the medical and biomedical industry.

Even at the present time, Motoman's main use is in the automobile industry. Almost all of Japan's automobile manufacturers use Motoman, and Europe's main automobile manufacturers and related components manufacturers have come to employ Motoman in many ways.

70% of robots manufactured by YASKAWA Electric are exported overseas. 54% of all products manufactured by the company are also exported. Of the 54%, sales in Asia (which includes China) make up 27%, while America makes up 17% and Europe 10%. The company has business centers in 28 countries and has 14,000 employees throughout the world.

In 2015, YASKAWA will celebrate their 100th anniversary, but the company is not resting on their laurels. They envision Motoman to be a key helping hand in the service industry. "Aging society is a global issue. In future, Motoman will assist humans in the fields of medicine and welfare as well as in daily life. This is our new challenge," said Hayashida.



Exhibition of Motoman technology at YASKAWA Electric plant

A closer dialogue between the robot maker, robot users and system integrators is needed to establish these new applications for YASKAWA Electric's robot technology. YASKAWA Electric has set up facilities (robot centers) in Munich, Germany; Ohio, USA; Saitama, Japan; and Shanghai, China which aim to deepen communication between the company and robot project business partners. In future, expansion of such centers in Asia is planned.

"In Japan, we manufacture a robot first, and then we consider how to use it, whereas overseas, the idea for a certain application comes first, then a robot that provides the solution to the problem is created," Hayashida explained. "We need more imagination. In Japan, we are good at making high performance robots but not at

creating innovative ideas with regards to their use. This is where we can learn a great deal from Europe and the US," he concluded. **7**



Motoman robots drumming