

# Sensors Make Sense For Nippon Automation

By Akira Hirukawa

One of the electronic devices making the most spectacular progress today is the sensor. As automation, small size and high precision become the watchwords of new product development, the role of the sensor in production, quality control and the products themselves assumes ever greater importance.

Nippon Automation is a rapidly growing sensor manufacturer, and at the same time, a venture business typical of the burgeoning Hamamatsu Technopolis, one of the technological and industrial centers promoted by the Ministry of International Trade and Industry to advance regional development. The company vigorously promotes interchange with companies in different industries, and is aggressively pursuing a strategy for internationalization.

President Michio Sakamoto has a clear-cut management philosophy. "The way to bring about growth," he says, "is to make fans of as many people as possible." Fans advertise a company through word-of-mouth communication. "If you need a sensor," they tell potential clients, "Nippon Automation is the place to go."



President Michio Sakamoto of Nippon Automation

other companies, it is possible to develop new, compound technologies.

Nippon Automation has reaped immeasurable advantages by tapping outside intellectual resources, be they businesses in other fields, universities,

laboratories, research organs or government agencies. "If a small-sized company engages in R&D single-handedly, there are limits to what it can achieve, no matter how hard it tries," says Sakamoto. "But if a small company can acquire knowledge, advice and information from outside sources, it will be able to grasp users' needs accurately. Moreover, the outside sources will stimulate and accelerate its own technical development. In this manner, a small company can gain a great deal from getting in touch with intellectual sources outside the company."

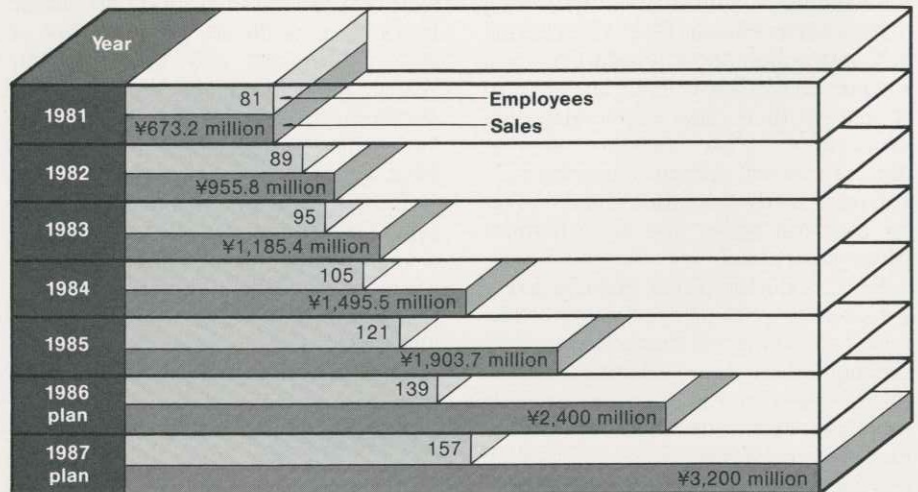
Nippon Automation's principal products—the proximity sensor for measuring distance, the thermal sensor for detecting heat and the float sensor for detecting the presence of liquids—were all developed with technical cooperation from other companies. Its non-contact magnetic proximity sensor, sales of which are growing by leaps and bounds, was developed with technology from Kangyo Denki Kiki Co. (see p. 40, our March/April issue).

Nippon Automation has established

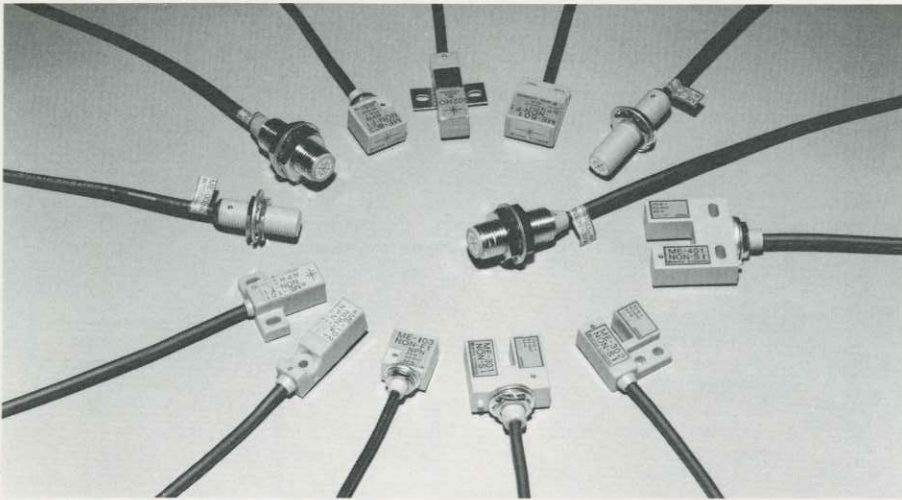
## Picking brains

It was to win as many fans as possible for his company that Sakamoto joined the Technology Interchange Plaza in western Shizuoka Prefecture and the Shizuoka Prefectural Development Business Study Group. Today he plays an active leadership role in both organizations. In the process, he has found that one of the merits of interchange with businesses in different industries is that one can learn a great deal from the managerial know-how of other enterprises which can be put to good use in one's own company. And by introducing technology developed by

## Annual Growth in Sales and Staff



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Some of Nippon Automation's sensor products

close ties with universities, laboratories and research organs. Its joint development projects with universities now number more than 20. They include instrumentation technology using lasers and a new sizing technology using optical sensors, ultrasonic sensors and high-frequency waves.

This use of external resources has helped fuel a rapid growth topping 20% per annum. Although annual sales in the first few years after its establishment in 1968 were less than ¥100 million, by 1981 they had surged to ¥670 million and to ¥2 billion by 1985. Sakamoto is aiming for annual sales of ¥10 billion (about \$55.5 million at the rate of \$1/¥180) in 1991, by which time he hopes to have his company listed on the stock exchange.

But while outside help has played its part, the company's rapid growth is primarily attributable to the fact that it set its sights on sensors long before other companies. And then there is the passion with which the company's technical staff dedicates itself to research and development work on new products suited to its customers' increasingly diverse demands. Of the company's 121 employees, 32 are assigned to R&D.

### A shaky start

Today, Nippon Automation is famous as a standard-bearer for Japan's venture businesses. But in the beginning it was not easy. The company had a dramatic founding and weathered many crises in its early years.

Sakamoto joined a leading electric appliance company after graduating from the Hamamatsu Higher Technical School in 1960. But he soon found out that in that company one had to be related to the president to expect promotions. His anger grew, until a fateful com-

pany meeting five years later where the president asked those present to speak whatever was on their mind. Sakamoto did. He expressed his concern that the denial of opportunity to any but the president's relatives would compromise the future of the company. For this, he was called "impertinent." And on the spur of the moment, he resigned. He was then only 23. He had a mere ¥90,000 to his name—the sum total of his separation allowance and his pocket money.

Sakamoto was at a loss as to what to do. The president of a trading firm advised him to develop a new product using the reed switch, a kind of switch whose contact point opens and closes when in proximity to a magnet, and he decided to go for it. With the small sum of money in his pocket, Sakamoto started Nippon Automation in 1968.

Through the application of reed switch technology, the company quickly developed one sensor product after another, from the proximity sensor to float and thermal sensors. But there were ordeals ahead.

Late in 1968, Sakamoto reorganized the firm into a joint stock company capitalized at ¥3 million. He entrusted the money to a financial broker and asked him to do all the paperwork for setting up a joint stock company.

But a year later, he received a letter out of the blue from the money broker demanding that he resign as president and leave the company. The reason, the money broker claimed, was that Sakamoto owned only one-fourth of the total stock. Astonished, Sakamoto investigated and discovered that three-fourths of the company's shares were registered in the name of a complete stranger. In the end, he had to buy back his own company at a price set by the money broker, and parted with the ¥8 million he had

managed to save since going independent. So engrossed in putting his company on track was he that he did not think through the incident at the time. But when he recalls it today, Sakamoto says, it sends cold chills down his spine.

In 1970, Sakamoto moved the company to his native town of Hamakita. But just as he was about to embark on full-scale operations at the new location, he was stuck with a dishonored bill for ¥12.8 million. With monthly turnover of less than ¥8 million, the company was on the verge of bankruptcy. The banks, financial institutions and clients who extended a helping hand to Sakamoto at that critical juncture still support Nippon Automation today, helping make possible its remarkable growth.

### Three-year strategies

Every three years Nippon Automation draws up a new business plan. Its third three-year program started this year. Under it, the company will be marching in step with the Hamamatsu Technopolis project. First of all, it is participating in the "Venture Highland Concept," the foundation of the Hamamatsu Technopolis project. And together with 15 R&D-type enterprises, Nippon Automation established "Technoland Hosoe" in Hosoe-cho, Inasa-gun this April. In 1988 the company will relocate its head office and plant to Technoland Hosoe, where it will grapple in earnest with various projects through tie-ups with businesses in different industries.

The company's participation in the Hamamatsu Technopolis will also accelerate its internationalization strategy. It plans to establish a joint venture in South Korea. Sakamoto went to the United States in June 1984 for business talks and showed samples of his sensors to American automakers. Moreover, he launched a PR campaign in the U.S. market with advertisements in American magazines.

As a result, one major American automaker is now considering a contract with Nippon Automation. And the company has already received nearly 200 other queries. The company's export ratio used to be around 10%, but it now hopes to boost this to 30% within three years by fully developing the American market.

Today, Nippon Automation is studying the advisability of obtaining basic technology from the U.S. through tie-ups with American universities and laboratories. It is seeking to grow into an international maker of computer-equipped sensor systems capable of satisfying every client need. ●