

# Japan a Major Market for Nihon MRC

By Tsukasa Fukuma

Japanese semiconductors are today used worldwide, not only by the domestic Japanese electronics industry but by manufacturers in markets around the world. Yet this very growth has sparked competition, calls for less aggressive marketing and protectionist moves in other countries. These trends, together with the yen's recent dramatic appreciation, have forced the Japanese semiconductor industry to rethink its sales strategies. Nevertheless, the Japanese semiconductor industry remains a world leader, as well as a leading market for semiconductor manufacturing equipment.

Materials Research Corporation (MRC), an American leader in sputtering systems and other semiconductor manufacturing equipment, has been a major presence in the Japanese semiconductor industry ever since it established its first subsidiary here five years ago and started Japanese production in 1983. Today, Nihon MRC President Josui Nashimoto says the company is aiming for 25% of the approximately ¥20 billion Japanese sputter market.

**Q:** What was behind MRC's decision to establish a base in Japan?

**A:** Nihon MRC was founded in April 1981. MRC's chairman, Sheldon Weinig, could see that the Japanese semiconductor manufacturers were rapidly moving to the forefront of the industry. At that time the Americans were still ahead, but Weinig foresaw that Japan would soon take the lead in technology development.

The usual pattern for foreign companies coming into Japan is to set up a marketing subsidiary, but Weinig knew that it would be impossible to draw on local technology without a factory here. MRC was fairly well known in Japan, since it had been selling its products through a local distributor for more than a decade, but there was a limit on how far we could get with this system, and this is why MRC decided to open its own manufacturing plant in September 1983, not so very long after Nihon MRC itself was established.

**Q:** For the benefit of readers who might

not know MRC, how would you characterize the company and its products?

**A:** Weinig was a professor at Columbia University 29 years ago when he founded MRC to commercialize his research breakthroughs, and the company started out making semiconductor materials. This was a very important start because high-purity materials are essential to semiconductor manufacturing, and it was the need to test his output that led Weinig into the equipment field seven or eight years later.

Out of this came a machine known as the sputter, which enabled MRC to develop into a company making not only the materials for processing but the equipment for processing them. Back then the integrated circuit was still only a glimmer of an idea, but MRC grew with the IC industry to achieve its present position, and we are now looking at super-thin film technologies.

## A lot of pressure is on MRC to stay ahead.

**Q:** What is the competition like in the Japanese sputter market?

**A:** This is an extremely competitive market. Japanese manufacturers are making a major effort in semiconductor equipment, and this market is by no means a piece of cake for MRC. Right now MRC has approximately 10% of the Japanese market. This may sound like a lot, but not when you remember that we had something like 30% in the early 1980s. The Japanese manufacturers have been making amazing technological advances, and they may even have edged ahead of us. We appreciate the fact that they see us as the leader—the one they want to overtake—but it puts a lot of pressure on us to stay ahead.

In fact, our decision to build a manufacturing plant in Japan stemmed from the need to counteract this erosion in our position here, plus an acknowledgment that there was something missing in our approach to the Japanese market. The fact that MRC has over 30% of the



Nihon MRC President Josui Nashimoto

American market and only 10% of the Japanese market can only mean that we're doing something wrong in Japan. Right now, we are developing and introducing new products in a bid for 25% of the Japanese market.

**Q:** Could you explain MRC's global strategy?

**A:** MRC considers the world in terms of the three broad regions of the United States, Japan and Europe, and we have marketing and manufacturing bases—which we refer to as centers of excellence—in each of these three regions. MRC's Japan base, for example, is responsible for Japan and all of Southeast Asia. Nihon MRC is naturally partly controlled by its American parent corporation, but it is MRC policy to encourage its subsidiaries to take the initiative in anticipating and responding to developments, and we certainly do not have to have instructions from New York on everything.

Our basic policy has been to draw on developments in the Japanese market and apply them to our own research and development in cooperation with New York. Product development cannot be restricted to New York, although the current recession in the semiconductor industry makes it impossible to predict exactly when Nihon MRC will eventually build its own development center to create products that are better suited to the Japanese market.

**Q:** What is Nihon MRC's place in the MRC Group?

**A:** At present, Nihon MRC accounts for about 10% of all MRC sales. MRC would like to see us raise this to 30%. For my part, I am concentrating on development and sales, and I would like to see us exporting products developed and manufactured by Nihon MRC to Southeast Asia, the United States and Europe.

Right now Chairman Weinig is study-



ing Japanese. He's been joking recently that if Nihon MRC ever passes the parent company in sales, he'll have to move corporate headquarters from the United States and live in Japan. He has great expectations for MRC in Japan.

## **MRC is very strongly oriented toward product development research.**

**Q:** *Are you still dependent on technology developed in the United States?*

**A:** Basically, yes. Still, although I wouldn't call this independent development, we do modify some products to make them easier for Japanese customers to use and for us to service. Of course, they make the same effort in the United States to make MRC products easy to use and service, but Japanese customers are much more demanding. In fact, one of the new products we recently announced was developed with the help of Japanese technicians we sent to the United States to give headquarters some Japanese market insights and input.

We have also sent some young engineers to study at MRC in the United States in preparation for the day when we will be able to do our own research and development here in Japan. MRC is very strongly oriented to product development research, and our people are coming back all excited with what they've learned and are anxious to get to work here. We are slowly but surely building a strong foundation for our own research and development.

**Q:** *How are Nihon MRC sales doing?*

**A:** For the year ended in October 1985 we totaled ¥2.7 billion (\$16.9 million at the rate of ¥160/\$). However, things are not looking so good for the first half of the current business year. Our sales usually tend to pick up in the latter half of the year, but this year it looks like they may actually drop somewhat. This recession is affecting the whole semiconductor industry worldwide. Japanese semiconductor manufacturers scaled back their capital investment in 1984 and 1985, and there's been another 30% cut between 1985 and 1986. Japanese manufacturers are only investing in the most necessary equipment and installations.

Fortunately Nihon MRC sells materials as well as manufacturing equipment, and since these materials are essential to semiconductor manufacture they are still selling. Semiconductor materials account for approximately one-third of Nihon MRC's total sales, and sputtering and etching equipment for the remainder.

**Q:** *When do you think the Japanese semiconductor industry will recover from its*

*current slump?*

**A:** That's hard to say. In fact, I've been asking Hitachi, NEC and the other Japanese companies the same thing, but no one seems to know where the industry's headed.

The semiconductor negotiations between Japan and the United States have reached broad agreement, but I'm sure none of the Japanese manufacturers are happy about the results. Under the circumstances, it's impossible to expect Japanese exports to the United States to increase by very much, and Japanese manufacturers are more likely to step up production in the United States.

**Q:** *Do you expect a further decline in capital investment by Japanese semiconductor manufacturers?*

**A:** No, I don't. Japanese have a well-deserved reputation as very good, highly skilled workers, and I would expect a considerable percentage of the world's semiconductors to continue to be made in Japan. Semiconductors are being exported both as semiconductors and in electronic products such as video cassette recorders.

**Q:** *Nihon MRC is also in charge of MRC sales for Southeast Asia. Have you already begun exporting products to the region yet?*

**A:** Yes, we have, including some recent exports to Korea. However, the yen's appreciation has thrown a monkey wrench into our export plans and made it difficult to be price competitive. We'd like to raise our prices, but then we might lose sales. Even so, the Korean semiconductor industry is growing rapidly and Korean sales are bound to be an important issue for Nihon MRC.

## **MRC is free to do business with any semiconductor manufacturer.**

**Q:** *Japanese semiconductors tend to have affiliated semiconductor manufacturing equipment makers. Isn't it hard to compete with these affiliates?*

**A:** Japanese semiconductor makers do get much of their equipment from their own affiliates, but the fact that we're not affiliated with any one company means MRC is free to do business with any semiconductor manufacturer. Still, since semiconductor manufacturers tend to be very tight-lipped about certain production processes, it is sometimes difficult for us to find out exactly what kind of equipment they need. In this particular area, the Japanese system of having affiliated equipment manufacturers makes it very difficult for us to break in. As a result, a significant portion of our sales are to semiconductor makers without affili-

ated equipment suppliers.

**Q:** *Why did Nihon MRC decide to locate its plant on the Kunisaki Peninsula in Kyushu's Oita Prefecture?*

**A:** Kyushu is Japan's Silicon Island. When we were looking for a site, a number of Japanese semiconductor manufacturers were building in Kyushu. Since we wanted to be as close to our customers as possible we decided to build there too. While we were looking at Kyushu sites, Oita Prefecture Governor Morihiro Hiramatsu encouraged us to build in the Kunisaki technopolis (see July/Aug. 1986 issue, p.34). Chairman Weinig was quite taken with Governor Hiramatsu and we decided on Oita. This is an excellent location for electronics companies, as shown by the presence of such companies as Sony and Canon.

**Q:** *Do you have plans to expand your production facilities?*

**A:** When I was appointed president of Nihon MRC early last year, one of the first orders I got from MRC headquarters in the United States was to look into plans for expanding the Kunisaki plant. Since then, however, the semiconductor industry has not been doing so well and we've been forced to set aside all thoughts of expansion for the time being. We do have enough land, however, to triple capacity when we decide to expand.

**Q:** *I've been told that you're also developing new applications to make that day come sooner. Could you tell us about that?*

**A:** We are promoting our sputter technology among video disk makers, and some of them are considering using sputtering to coat their magnetic disk player heads. There is also growing interest in using sputtering for facsimile heads as well. Although the commercial applications will still take some time, we are working with these companies in anticipation of the day sputter technology is used in consumer electronics.

**Q:** *What percentage of the products you sell in Japan are made here?*

**A:** There is quite a range depending on the product category, but it goes as high as 70% to 80% for some products. Of course, right now we get all our parts for new products from the United States, but we are gradually replacing these with domestically manufactured parts. We have to do this if we want to maintain product quality.

I should also point out that it is Nihon MRC, not the parent company, that makes the decisions on which parts should be imported and which should be made here. Still, the United States has the edge in such primary parts as vacuum pumps, and these we ship in from the United States. ●