

Corning Glass: Driven by Technologies

By Shozo Hochi

President Peter Booth characterized Corning Japan K.K. by saying the heart of the company is its original technologies. Those technologies, along with new developments, are finding diverse applications in a uniquely receptive Japanese market.

Q: *Is it true that you studied Japanese under Professor Edwin Reischauer at Harvard?*

A: Yes, it is. I studied Japanese under Professor Reischauer at college. During that period I spent two summers in Japan, first in 1959 and then again in 1961. So my acquaintance with Japan goes back 28 years. I have maintained my interest in this country all during that period, although my active business involvement didn't start until a little over 13 years ago.

Q: *Corning Glass Works has a long history. It was started in 1851 and the factory moved to Corning, New York, in 1868. That was the year the Meiji Restoration started, and was the beginning of the modernization of Japan. Can you fill in the history of Corning Glass Works a little?*

A: I'm not sure that the beginning of modernization of Corning Glass started so early. We were a very traditional glass company back in 1868 and it wasn't until the turn of the century that we established our first research laboratory. That was certainly one of the earliest industrial research laboratories in the world. I believe that its first major problem was to solve the matter of glass breakage in railroad lanterns. The lanterns used to break when cold rain hit them. The answer to the problem turned out to be a product that we now call Pyrex brand glass—a thermal-shock-resistant borosilicate glass. That was one of the first products that came out of our research laboratory around the turn of the century, and it is still a well-known name today.

Q: *Corning Glass is well known among Japanese consumers as a maker of Pyrex brand products, Corelle brand dishes and*



Peter Booth, president of Corning Japan K.K.

so on. But the role of your company as a manufacturer of such high-tech products as television sets, telecommunications systems, computers and even spacecraft is not as well known. Please explain just how large and diverse your company is.

A: Corning Glass Works does business around the world in four broad business sectors: consumer housewares, laboratory science, specialty glass and ceramics and telecommunications. Our housewares business is carried out in Japan by Iwaki Glass Co., which is a joint venture we formed with Asahi Glass Co. over 20 years ago. That consumer business continues to grow.

The second sector, laboratory sciences, is also largely carried out in Japan through Iwaki Glass. This sector started with laboratory glassware typically sold under the Pyrex brandmark, but it has expanded far beyond that kind of product. It is now growing very rapidly in the area of biotechnology. We have expectations of continued fairly rapid growth in this area in the future.

Q: *Can you still expand your activities through the joint venture with Asahi Glass Co.?*

A: Oh, yes, absolutely. Our major interest is in growing with the companies that we have today. We did recently form a joint venture in the area of laboratory sciences with Ciba-Geigy of Switzerland, and the new company is called Ciba Corning Diagnostics Corporation. It already has an important presence in Japan with products in the area of clinical blood testing, both instruments and reagents. Also in that sector in the United States we have a fairly large presence in the blood-testing area through a subsidiary called Met Path Inc. This is the major activity that Corning has in the services area, as opposed to goods production.

Q: *Do you expect that you will grow in that area in Japan?*

A: We really haven't thought very much about that here yet, although the area is growing very rapidly in the United States. Our historical base, of course, is specialty glass and ceramics. I listed it third, although this order does not imply anything about its size or importance in the company. Our first very important activity in Japan was in the area of television glass.

Television glass was developed originally by Corning, working with RCA, when RCA was developing the original television tube. We licensed our television glass technology to Asahi Glass back in 1954 and we have enjoyed more success in terms of royalty income than we ever dreamed of as the television industry became a very, very big thing in Japan. It was only some years later that Asahi suggested to Corning that we join them in Iwaki Glass to develop the borosilicate glass business here in Japan. Our first major product lines were in automotive lighting, and our glass is still used in most of the cars produced in Japan. Another early and very successful product in Iwaki was powdered glass, called Frit, for the color television industry. Frit is used to seal the base panel and funnel of color television bulbs together. It was one of very many developments and inventions

by Corning that made the color television industry possible.

Other products in the specialty glass and ceramic sector include the honeycomb ceramic material that Corning developed originally in the United States in connection with concerns about automotive pollution. Fortunately for our business in Japan, the Japanese government adopted the same kind of legislation that the American government had adopted and our product was suitable for this market as well. We also hope to serve the automotive industry in other areas of advanced ceramics that we are working on in our laboratories. A more traditional product is ophthalmic glass, where we continue to have a good business here in Japan.

The fourth sector is telecommunications. In 1971 Corning announced its development of the first fiber product appropriate for telecommunications applications. Today I believe that Corning is the world's largest producer of optical fibers. We have a joint venture with Siemens of Germany that makes optical cables. We are just beginning to sell our own optical fibers in Japan and our joint venture, Sיעor, is also just beginning to sell its optical cables.

Outside these four sectors we have other joint ventures. Historically, the biggest has been Owens-Corning Fiberglass, the original maker of fiberglass. Dow-Corning is very active in Japan as the majority owner of Toray Silicons and also is doing business through a 100%-owned subsidiary. Corning Glass owns 50% of Dow-Corning and Dow Chemical owns the other 50%. We have a number of other joint ventures as well which are not as big.

A Japanese presence

Q: *When was Corning Japan K.K. established?*

A: This is a wholly-owned subsidiary of Corning Glass and was formed only in 1971. We felt it was needed in order to get closer to the Japanese market and to begin working directly with customers here in Japan with a view to tailoring products specifically for this market. Even 15 years ago it was very apparent that Japan was an essential market for us. Since that time we have been making every effort to establish ourselves and our technology with customers here in Japan, especially in the electronics, automotive and telecommunications industries.

Q: *Would you say that those efforts have been successful?*

A: Well, one is probably never as suc-

cessful as one would like to be. I think on balance the record is one of success. We think in the future our success will be even greater than in the past. We are very glad about the actions we have taken. If anything, perhaps we should have been even more aggressive in our efforts in this market.

Q: *Have your products been accepted by your industrial customers?*

A: On the whole, we have had pretty good success in industrial markets, although it has taken us time to develop the staff and the skills necessary to operate effectively. I think we now have the base for much more significant business than we have had in the past, although our business has been good and has shown steady growth.

Q: *What were the total sales of Corning Glass worldwide last year?*

A: The total sales of Corning Glass in the consolidated sense were a little less than \$2 billion—\$1.9 billion or so—in 1986. That does not include nonconsolidated, joint-venture companies, whose sales in total are probably about the same as our consolidated sales. This is quite unusual among American companies, that the nonconsolidated companies occupy such an important position in the corporation as a whole.

Q: *What kinds of factories and laboratories do you have in Japan?*

A: Iwaki Glass has quite a large facility in Nakayama, in Chiba Prefecture, with a number of melting tanks melting primarily borosilicate glasses, but also working with other glasses, with plastics and in the fabrication of apparatus. We have a smaller facility in Sagami-hara, Kanagawa Prefecture, in which we hold an 80% interest, that primarily processes special flat glasses for both electronic and optoelectronic applications.

We have an R&D facility near Sagami-hara, in Machida, which is devoted to developing products for the Japanese market, drawing on technologies from our central research laboratory in Corning, and also working with our other laboratory in France. Corning is fundamentally a company that is driven by its technologies. The heart of the company really is in the technology we have developed and nurtured over more than 100 years. We expect that we will be able, over time, to work in the Japanese market with technologies that are very specific to this market. The only way to do that is to have our own R&D facility and our own scientists here in Japan.

Q: *How many researchers are employed in the Machida facility?*

A: It's still quite a small facility. I think

there are only about 30 people there now but we are expecting to expand it steadily over the next several years.

Q: *Is the laboratory staff all Japanese?*

A: They are all Japanese except for the director of the laboratory, who is an American deeply familiar with our central research laboratory and all its technologies.

Q: *Does he act as a liaison between the two laboratories?*

A: More than a liaison. Our Japanese laboratory is very much part of our total research community. At this stage in the life of the Japanese laboratory, we feel it is best that the director be somebody who knows very intimately all of the basic strengths and activities of our central research laboratory. The Japanese scientific staff works directly with our central research staff. They don't use the director as a liaison—they use him as a guide to the resources that we need, so that the total impact of our laboratory in Japan can be very much greater than is implied by its relatively small staff.

Overcoming obstacles

Q: *Have you ever had any difficulties in penetrating the Japanese market?*

A: We have had all of the usual problems that anyone trying to serve OEM customers has met in Japan. Any manufacturer prefers to have a source of supply close at hand and it's easier to work with a factory that's just down the road. We have had to overcome all the usual difficulties to secure business as an exporter. Over time, we've begun to add more and more value to our products locally, so I think our customers in at least some areas are beginning to see us more as a local supplier that imports glass as a raw material and then turns it into something else. That portion of our business is the part that is growing most rapidly.

In the telecommunications sector, we have had some fairly serious problems as a result of the strong traditional reluctance to permit any foreign participation in the telecommunications industry. Until rather recently, it was simply not possible for a foreign company to participate. This, of course, was very disappointing to us since we feel that Corning Glass Works actually gave birth to the optical communications industry with our inventions in the area of optical fibers. We've created a number of industries in the past, and when that happens we like to participate. Until recently, there seemed to be no real opportunity to participate in the telecommunications industry here.

But we feel that this is changing, and

that the market, for a whole variety of reasons, is going to open to foreign suppliers. This has not yet happened in a big way, but Corning is putting a lot of time, money and effort into this area with the faith that in fact we will eventually be quite welcome as participants here.

Q: *Do you think criticisms of Japan as a closed market are valid?*

A: There are many reasons why foreign companies have had difficulties in penetrating the Japanese market. There are also many reasons why American companies have had difficulties exporting into this or into other markets. I think personally that most of these reasons are the result of policies that governments adopted around 40 years ago that have been extremely successful policies, although perhaps they are a little outdated now. People are working to solve these problems, and I'm confident that they will be solved.

Q: *Do you think the Japanese government is doing its best in this respect?*

A: It's not my job to decide how well the Japanese government is doing. I wouldn't want to characterize it one way or another, myself.

Q: *What has been the most difficult problem Corning Japan has had to face in doing business here?*

A: The most difficult problem has been meeting the service and quality standards of our Japanese customers. I think we're getting better at that.

An advanced market

Q: *What is the potential of the Japanese market as compared with Corning's worldwide activities?*

A: The view from Tokyo is that the Japanese market is probably the most exciting market around for some of Corning's best and most advanced technologies. I think that the top management of Corning Glass Works agrees with me that some of our very best opportunities are here in Japan. I prefer not to put dollar values on markets that are still either very embryonic or developmental. An example of a new, advanced area is a full-color liquid crystal display, as now seen in small, hand-held television sets, where our glass is used. Another area of interest is the optical memory disk, on which we are working directly with a number of Japanese companies. Some of the biggest and best Japanese electronics companies are working with us as these markets develop.

Because of the efforts we have made over the years, it is now possible for Japanese companies to work directly with us

with good communications and confidence. We expect over time that these new areas will develop into important activities for us. The reality is that our Japanese customers lead the world in these areas. We believe that the technologies Corning has developed over many years are very well suited to these applications, yet the same applications either do not exist in the United States or are quite some way in the rear in terms of the timing of development. This means that if we do not participate directly in the Japanese market, there is a good chance that we will lose our opportunity forever. This is an example of why it is important for us to be in Japan and to be part of the industrial society here.

Q: *Do you mean that this market is the most advanced in technical terms?*

A: In some areas, absolutely. Our basic posture is to work with Corning's most advanced technologies in the Japanese market. In some respects, I think, we are finding it easier to work with Japanese companies in very advanced technical areas because Japanese companies are very receptive to new materials and new ideas. In the ceramics area in particular, where we have some interesting new materials coming out of our research laboratory, we find that the Japanese attitude toward new materials is very positive and very receptive. I don't want to overstate the differences between markets, of course. In the United States and Europe, there are great capabilities for creating new things. Still, the emphasis is different.

Q: *Does Corning Japan have any plans for diversification in this market?*

A: Our plan is to build and grow internally based on the strength of our own core technologies.

Q: *What is the importance of the Japanese market in terms of Corning Glass's global strategy?*

A: Japan is an important market for four reasons: First, it's a big market. Second, here we compete with the best. Third, our technology appears to match Japanese requirements in some areas more closely than anywhere else in the world. The fourth point, as I mentioned, is the Japanese receptivity to new things.

Q: *What do you think are the special characteristics of the Japanese market?*

A: Well, I agree with everyone else who says that the Japanese market is very competitive and very demanding. That's obvious to anyone who tries to do business here. The other major characteristic that I see is a tolerance for relatively low profit margins, although perhaps tolerance isn't the best word. It's more that

companies in Japan are satisfied with lower profit margins than companies elsewhere. This is probably the result of the relatively low cost of capital in Japan, which is in turn probably a result of the relatively high personal savings rate here. That savings rate I take to be the result of many policies developed to accelerate the growth rate of the country from its low base 40 years ago. This fundamental difference from the United States is translated into different perspectives concerning the length of time during which an investment can be permitted to continue without return, and many other things. This is a fundamental incompatibility between the systems and it does create some problems.

Of course, when interest rates are 3% or 4% there is less need for profit. Maybe if Americans were saving 20% of their income, American companies would be able to take a longer-term perspective.

Bullish expectations

Q: *In general, how do you expect economic trends to change in 1987?*

A: Our economists expect a pretty flat year in Japan. I expect a rapid expansion of the sales of Corning Japan despite the rather poor general economic conditions. Economists are also saying that the industrial production index—a better indicator for companies like us—will actually go down, but in our case we expect expanded demand.

Q: *Does this gloomy economic picture cause you any anxiety?*

A: No—I'm more worried about our own performance than I am about the performance of the general economy. I think that the businesses we are in should do pretty well in 1987 despite the relatively sluggish conditions generally.

Q: *What would be your advice for a foreign company hoping to enter the Japanese market?*

A: I would say, first, take a positive attitude and understand that it is possible to do good business in Japan. The Japanese love business and it is a great business environment. Second, I'd say employ Japanese. They will be as loyal and as hardworking for you as they would be if they were working for your competitors. Third, I might advise bringing your very best and most advanced products and technologies here. Only with that kind of product offering are you likely to succeed. Finally, I'd say you should expect to have a very good time. This is a fun place to be, it's where the action is and you shouldn't miss it. ●