

SYVEC, a 'VE' Company

By Katakura Hisafumi

Nagano Prefecture—venue for the 1998 Winter Olympics—is located approximately in the center of Japan. Though it lacks the kind of large multinational firms Japan is famous for, it is well-known as an area specializing in high-tech manufacturing. Here, there is a large concentration of small- to medium-sized industries supplying the aforementioned large manufacturers, and the region is known as Techno-Highlands Shinshu (Nagano)—Parts Supply Base.

Nevertheless, the Japanese economy has been mired in a recession for the past couple of years, and Nagano's industries have borne the brunt of it. Though there are signs of recovery, the repercussions of the low price trend among both consumers and wholesalers that is sweeping the nation are severely felt here. What's more, the accelerating strength of the yen has sharply reduced their competitiveness against foreign parts makers. To counter this, many parts makers in Nagano have had to shift their production abroad, notably to Southeast Asia and other nations. In circumstances such as these, their only hope of survival has been to adopt fresh, productive thinking and a spirit of challenge.

The implementation of VE (value engineering) is an example of this new attitude, and it is attracting a lot of attention. VE's distinctive characteristic is the timely provision, at the lowest possible cost, of high value-added goods and services of a quality that guarantees 100% operation at all times of all inherent functions. Without resorting to time-worn practices, VE is the effective utilization of people, materials, resources, information, and

funds at hand. Here, I will introduce a company recently in the spotlight for its effective adoption of VE.

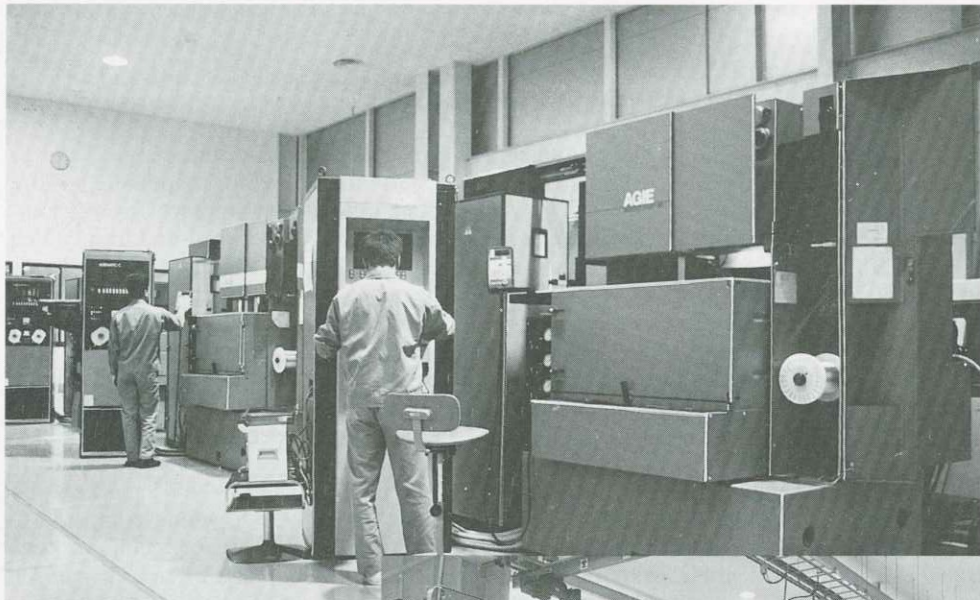
SYVEC Corporation (president: Hirabayashi Kengo; capitalization: ¥66 million; employees: 45), a press machiner, is located in Shiojiri, a central Nagano town, and it develops dies to produce ultra high-precision parts. The location of SYVEC's newest factory is the Alps Industrial Park, which itself occupies a corner of an expansive vineyard with a winery. In order to keep the reins on its young labor force, SYVEC's plant has done away with the usual dirt and noise associated with press works. Visitors are left impressed with a spaciousness and an environment more commonly found in plants in

North America and Europe.

Guests are also surprised by the plant's hotel-like entrance foyer—complete with chandeliers—and from which the quiet hum of the plant can hardly be heard. Each 150-200 ton class press has been installed with extensive sound-proofing equipment, enabling them to be near-silent. Furthermore, the plant is totally devoid of the usual aroma of oil and scattered metal dust—it is an agreeably pleasant environment to work in. The average age of the 45 workers (35 male) is only 26.5, young compared to the usual age of 40 for metal workers. This truly is a place where one can see youth at work. Fueled by this energy, these employees are a group of development engineers that have formed under



Exterior view of SYVEC Corporation



Above: Section of electric discharge machining line, with a row of electric discharge wire cutting machines made by the Swiss firm, Agie, and other equipment.

Left: Die press plant equipped with vibration and noise reduction devices, top quality Japanese equipment and facilities.



the banner of VE. Here is a group that has gotten much international attention as purveyors of information on the best possible avenues to reduce costs.

Innovation leads to success

Time-consuming manufacturing processes such as sintering, lost waxing, cutting, and grinding that previously required high-level equipment, expertise, and large production quantities are now being replaced, based on the VE concept, by press work. Higher quality and large scale cost reductions have been added to improvements, measurable in microns, in cutting accuracy. Increasing the added-value of their prod-

uct in this way has meant a tidal wave of orders from cost-conscious automobile, office automation, and electronic parts makers, so much so that the company can hardly keep up.

In June, 1991, SYVEC was awarded the very first Award of the Japanese Society of Die and Mold Technology by the Japanese Society of Die and Mold Technology. The award was given for development of cold forging progressive die and combination progressive die in line with the concept of VE. It was quite an achievement for a company this size to win a prize that is usually the monopoly of large manufacturers.

The firm's special attributes are the design and development of metal dies as well as precision press work using

these dies. Its greatest strength lies in its ability to develop dies for cold forging progressively. The revolutionary change in methods that they are proposing both inside and outside the company is that a single machine can handle exceedingly complicated press work within a short period of time, and that parts previously thought impossible can now be manufactured. VE has made it possible to produce parts of exceedingly higher quality at lower cost that can be supplied more speedily than ever before. What could be cheaper than a part that was previously ¥120 (sintered parts) but is now a mere ¥30 for pressed parts? Rapidly increasing

are orders for such parts as pickups that optically read signals on CD and laser disc players, and airbag sensors for automobiles; most large makers of printers have their dot printer heads made here.

Correspondingly astounding is the growth in the firm's operational results, with an average 30% increase recorded each year over the last three years. In contrast to the ¥600,000 per worker in a normal pressing plant, productivity here per person is an average of ¥1.5 million per month. Hirabayashi, the company's president, while admitting the firm's ¥10 machining cost is high in comparison with the ¥2-3 normally charged for one pressing, explained clearly that "the added value should be emphasized, and the basic concept is a totally different one from press working of the past."

There is no future in normal press working, such as extraction and bending, he says, and anything that can be copied by other firms is third-rate technology to begin with. According to Hirabayashi, the design and development of dies that cannot be imitated by other firms is his company's *raison d'être*. In actuality, the company spends

15% of its annual sales on research and development. It also invests heavily in die-production equipment.

Hirabayashi stresses that in order to do a first-class job, one must focus on surroundings, equipment, and personnel development, and to back this up the company invests ¥300 million annually in new facilities, including the press department. Since the dies the company produces require hardness and heat-resistance values greater than any previously produced, the equipment is of a globally top-notch standard, in a superb layout that is also very spacious.

It is no wonder then, that this factory, with its outstanding working environment and first-class equipment, backed up by production techniques no other company can imitate, is opened up to astound visitors from all over the country daily.

Investment in employee development has been a priority from the beginning. A technical center has been established in-house for employee retraining, while a gym is available to look after their health. Employee training does not depend on outside help, rather, each employee becomes a "teacher" and together they grapple with subjects. This also furnishes the company with its own technical support group.

SYVEC's policy is by no means limited to expanding its production facilities, but rather to become a leading specialist in the research and development of dies. It hopes to provide know-how and leave the actual press working to other, collaborating companies.

From 1994 SYVEC set forth on its agenda to expand overseas its technical know-how in die production. Unlike other companies, the expansion will be one purely concerning technical tie-ups, the company will not be shifting production abroad. Nevertheless, the recipient of its first technical foray overseas will be technologically-advanced North America. For this purpose, the company attained ISO9002 certification for quality control guarantees in May 1994, the first ever in its field. And that summer, it signed a technical tie-up agreement with the major press machiner Oberg of Pittsburgh, Pennsylvania.

Branching out

The hollowing out of America began earlier than in Japan, with a large number of small- to medium-sized industries falling by the wayside, though surviving industries have been doing brisk business as a result. Add to this SYVEC's unique cold-forging techniques, and it can be possible to produce sufficiently competitive pressed products even if the dies are to be exported. SYVEC provides its technology along with its combination progressive dies, while Oberg carries out pressing. The agreement begins in earnest this year and will last for 10 years. During that time, SYVEC will receive a technical fee upon each die shipment, and in addition, a royalty from the sales of each item pressed by Oberg.

With 30 die machines supplied by SYVEC, Oberg plans to construct a plant producing parts for automobiles and electronic as well as computer equipment.

America, Canada and Mexico will be the three sole recipients of SYVEC's dies and expertise. Hirabayashi sees progress in American pressing technology advancing, opening up unlimited new markets. While supplying technology to China and Southeast Asian countries may be the rage now, in his view it is still too early for his company to jump on the bandwagon. Although the company receives a large number of inquiries from South Korea and Europe, the international trend remains cut-throat pricing and Hirabayashi stresses that "survival is difficult if you do not possess state of the art technology that keeps up with the times."

Admitting that facilities augmentation is necessary to a certain degree, he maintains that voluntary self-imposed limits have to be set when one considers depreciation. Now is the age when production emphasizes reduced unit costs, and Hirabayashi knows the reality of being able to utilize, to the best of a company's ability, a labor force that is the most expensive. From this point of view it is said that the cheapest form of producing plastics is with dies, and that if this method were to disappear, manufacturing industries would cease to

exist. Though the dies themselves are expensive, the produced parts are cheap. At this moment in time, no technology exists that can adequately replace it. As a result, competition in the press working industry remains highly competitive, leaving many victims. The fact that Hirabayashi has realized success not only by taking on an industry noted for intense competition, but focusing on cheap part production, is an example of nothing but pure inspiration.

Another special characteristic of this company is that there is no "sales staff" as such. Hirabayashi delivers about 20 lectures every year around the country on the company's unique concept, and these have led to sales. It was the inspiration, purely Hirabayashi's, that led to the company changing from a common machiner to a press works—almost unheard of in the industry. On the contrary, it is experience in a number of different fields apart from press working, in Hirabayashi's lifetime, that has led to his latest inspiration.

Following the company's increase in business and corresponding construction of the new headquarters plant, a CI (corporate identity) policy has been implemented, and the company's image revitalized by adopting the name of SYVEC, standing for Shinyu Value Engineering For Customers, replacing the old name of Shinyu Kogyo. The name change, while being a reflection of the VE concept that pervades throughout the company, occurred just as the firm expanded production from office-related electronic parts to car parts. Now, exerting its energies in the production of high-tech parts for compact disc players, optical equipment, and medical equipment, SYVEC's expertise—that renders the impossible possible—is such that it will not be long before it is noticed globally and can take advantage of this position to exploit new markets. ■

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