

## FLASH

### Ministry seeks proposals for IT business model zones

The Ministry of Public Management, Home Affairs, Posts, and Telecommunications has solicited proposals from local government bodies for designation as "IT business model zones." By designating zones for the active promotion of information-technology business and creating attractive conditions for such business, the ministry is seeking to promote synergistic concentrations of IT activities and build regional development models for IT businesses so as to invigorate local economies. The ministry has secured an appropriation of about ¥6.7 billion (US\$56 million) to support this project in fiscal 2003 (April 2003 to March 2004). The results will be studied for possible extension to other regions.

### Second round brings 651 bids for deregulation zones

On January 15 the government closed its second round of soliciting proposals for the establishment of "special structural reform zones," specially targeted geographical districts in which existing regulations are relaxed or removed so as to rev up local economies. A total of 651 proposals were received, mainly from local governments and businesses, topping the 426 proposals received in last summer's first round. A wide range of ideas were submitted, including allowing joint stock companies or nonprofit organizations to operate schools, allowing joint stock companies to operate hospitals, and allowing joint stock companies to own farmland. The government plans to start processing the applications on April 1 and to certify the first set of special zones by the end of the month.

### Louis Vuitton Japan posts record sales in 2002

On January 14 Louis Vuitton Japan announced its sales results for 2002, reporting an increase of 15.1% over the previous year to ¥135.7 billion (US\$1.1 billion), a record high. The Japanese affiliate of the prestigious French brand has been actively expanding its retail network, and last autumn it opened the world's largest Louis Vuitton store in Tokyo's Omotesando district. This expansion has been successful, and despite price markups, the company was able to greatly increase its sales. Purchases per customer were in the range of ¥70,000-¥80,000 (US\$580-US\$670), basically unchanged from 2001. (Louis Vuitton prices are 40% higher in Japan than in Paris.) The full-fledged implementation of supply-chain management last spring reduced the amount of sales lost due to lack of inventory and thereby contributed to the increase in sales volume.

### Industrial Revitalization Corp. to be launched soon

The government is hurrying to establish its Industrial Revitalization Corporation to promote the disposal of bad loans. The aim of the new corporation is to support the revival of firms that are currently troubled but that are judged to be viable; it will do so by combining forces with the firms' main creditor banks, acquiring loans made to the firms in question by other banks. However, the legislative deliberations on the bill to enable the establishment of the IRC are not likely to start before the end of March, and the formal launch of the new corporation will probably be in May at the soonest.

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Currency conversions: US\$1 = ¥120, unless otherwise noted.

## Biotechnology

# Strategy for bioindustry begins to take shape

With the government's adoption of the Biotechnology Strategy Guidelines, the public and private sectors are gearing up for an advance into fertile but uncharted territory

Countries around the world are rushing to promote “bioindustry”—a broad range of businesses from medicine to agriculture buttressed by the life sciences—on the assumption that this sector will be just as important to economic growth as the information-technology sector already is. Critics charge, however, that Japan is lagging behind Western countries in this sphere and that it has allowed the United States in particular to move far out in front. Such is the context in which the government in December last year adopted the Biotechnology Strategy Guidelines, marking the start of a full-fledged promotional effort.

The Biotechnology Strategy Guidelines begin with an analysis of the current status of Japan's bioindustry. The document finds that the United States is funneling seven times more public funds into the life sciences than Japan is and that it is turning out six times more graduates with bachelor's degrees in biology and pharmacology. Such differentials have led to a large gap in research results, which can be seen in the fact that 52% of all biotechnology patent applications worldwide between 1990 and 1998 were made by Americans. Europeans placed second with 21% of the total, while Japanese were a close third with 20%.

The Guidelines then offer a breakdown of biotechnology for separate policies in the three fields of medicine and health, foods, and the environment

and energy. Efforts are to be made to improve setups for research and development and facilitate the formation of industries in each field, as well as to secure popular support and understanding. The document also unveils a vision of the future to be expected from the strategy's implementation. By 2010, for instance, there should be an increase by 20 percentage points in Japanese survivors of cancer, while the nation's food self-sufficiency ratio will rise from 40% to 45%. The development of alternative energy sources, meanwhile, should reduce carbon dioxide emissions by 2%.

## A strategy of international collaboration

Even as the government fleshes out policies for its biotechnology strategy, the private sector has redoubled its efforts to develop bioindustries. In the field of medicine and health, all eyes are on the advent of new medicines and therapeutic methods making use of genetic information. The outlook now is that the US Human Genome Project will come to an end ahead of schedule this spring. Thus the stage has been set for fiercer competition over new drugs among companies around the world.

Yamanouchi Pharmaceutical Co., Ltd., one of Japan's big drug manufacturers, has a plan for active collaboration with partners at home and abroad to make the most of its in-house R&D resources. In general Japan's pharmaceutical firms have not gone very far yet in the arrangement of an international division of labor. They have watched on the sidelines while

major Western drug makers have launched global initiatives to funnel R&D funds into bioventures and commercialize the medicines these firms develop. Yamanouchi, though, already has a well-designed collaboration strategy in place.

Yasuhisa Nemoto, an assistant research officer in Yamanouchi's Institute for Drug Discovery Research, fills in the background: "From the start, we've had an open corporate culture, and we've also recognized that in order to survive in the global competition over drug development, you have to get companies together and pool their strengths."

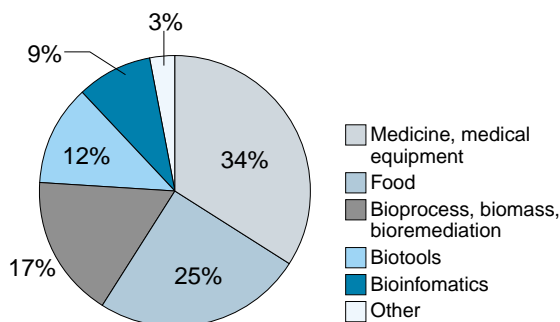
Initially, during the 1990s, Yamanouchi focused on cooperation with domestic research institutes and universities. Starting around 2000 it broadened the collaboration, reaching out to overseas companies, universities, and medical institutions. To cite one recent example, it teamed up with Hitachi, Ltd., to develop a method for analyzing the functions of genes and proteins, and this project paid off in 2002 with a practical application for "proteome analysis," the investigation of all the proteins in a cell or organism at any one time. "When you need to know which genes produce which proteins with what functions, this method really excels," Nemoto proudly reports.

In the area of tie-ups with overseas firms, mention might be made of the arrangement Yamanouchi worked out in 2001 with Celera Genomics, a US firm with a worldwide reputation for its human genome database. The use of this database will greatly facilitate the development of new medicines. Also of note is the tie-up with Metabolex, an American bioventure known for its novel therapeutics for diabetes. Metabolex's job is to identify the genes responsible for diabetes, while Yamanouchi will look for compounds that effectively control the genes' functions.

### Bioengineering the foods people eat

The experts working under the Ministry of Agriculture, Forestry, and Fisheries (MAFF) have a key role to play in foods, the second of the fields targeted by

**Projected bio-related market in 2010: ¥25 trillion**



Source: BT Strategy Council, Biotechnology Strategic Initiatives

the Guidelines. Genetic technologies are needed in this field, and Japan is a world leader in the technologies concerned with rice, the staple of the Japanese diet. It is also the leader of the International Rice Genome Sequencing Project, a collaborative effort by 10 countries, and has undertaken some 60% of the work. The consortium has now completed more than 90% of the sequencing. "This has set the stage for applications based on the rice genome," declares Yasunobu Ohkawa, counsellor for research and development in the Agriculture, Forestry, and Fisheries Research Council Secretariat.

In the case of crops, development of new varieties is crucial. MAFF is approaching this task with the help of DNA-based marker technology, which pinpoints the location of genes in individual plants and varieties. Once useful genes have been identified, plants can be intercrossed to produce new strains or varieties with these genes. The result will be varieties of rice that, for instance, begin to ear earlier or later than normal or have superior pest resistance.

Selective breeding with DNA-based markers is also useful in livestock improvement. In the case of pigs, MAFF specialists have identified the genes that control the thickness of the fat in the back and the number of vertebrae in the backbone. This information can be used to breed pigs that have just the desired amount of fat as well as long backs, yielding extra

pork for roasting. In the fisheries industry, where Japan stands out for its advanced research on seaweed varieties, researchers are rushing to complete DNA sequencing, and they are also seeking to develop new varieties by means of cell fusion.

The use of genetic technologies for foods is thus making progress in Japan. There is, to be sure, one stumbling block. Use must be made of gene recombination to get the most out of these technologies, and the Japanese, like many people in other countries, remain wary of genetically manipulated foods. The Guidelines for this reason lay stress on “communication with the people about food safety and functionality.” Ohkawa adds to this, “We have to publicize the safety of gene recombination technology and upgrade educational programs for students and the public in general.”

### Putting wood to use as biomass

One focus of interest in the area of the environment and energy, the third Guidelines field, is biomass energy—power generation from organic matter. Currently a number of companies are quickly perfecting new methods for making ethanol, a kind of alcohol. One of them is Tsukishima Kikai Co., Ltd., a major engineering firm. Its target is the generation of ethanol from scrap wood, such as that left over from building construction. “Since there aren’t many companies interested in scrap wood anywhere in the world,” explains Executive Officer and General Manager Koji Miwa of Tsukishima’s Bio Business Development Department, “we think we can give the environment a hand with the unique technology we’re developing.”

Basically ethanol is nothing more than a product of the fermentation of plant matter. There are many kinds of vegetation that are suitable as raw materials, and some, such as corn and sweet potatoes, are already in use in biomass energy generation. But when farm products are the inputs, money must be spent to procure them, and their prices go up and down. If freely available scrap wood can be used in-

stead, the cost of ethanol production can be slashed.

But wood presents a problem in that its composition differs from that of herbaceous plants like corn. The six-carbon sugars found in corn readily lend themselves to fermentation, but wood also has a large content of five-carbon sugars, which do not break down that easily. Their presence reduces the portion of the wood that can be used to make ethanol with ordinary fermentation techniques. Here the American bioventure BC International has devised a genetically engineered bacterium called “K011” that can take the place of yeast in the fermentation process. As K011 is able to convert five-carbon sugars as well as other ones, it opens the door wider to the production of ethanol from scrap wood.

In 2001 Tsukishima obtained from BC International the exclusive right to use its ethanol fermentation technology in Japan and Southeast Asia. The company is now building a pilot plant expected to become operational this summer, and if the rest of the plan proceeds on schedule, commercial production of ethanol from scrap wood will begin within two years. The government of Thailand is targeting a national policy of using ethanol as a fuel for cars, and Tsukishima hopes to turn this into a business chance.

### Local governments get into the act

With the adoption of the Guidelines for the foregoing three fields, local governments in many places are swinging into action with programs of their own for bioindustry promotion. Among them is Saitama Prefecture, one of Tokyo’s next-door neighbors. Last December it unveiled a “Saitama Bioproject” to be implemented in cooperation with local research institutes. The prefectural authorities are now busily assembling a setup for joint research.

One of the core technologies in the Saitama project is high-speed molecular evolution. The evolution of life in general is said to proceed by the process of mutation, or sudden structural change within genes

or chromosomes. When organisms with the altered structure manage to survive and prosper, they pass themselves on and proliferate. The same thing goes on at the level of DNA and RNA, and it is known as “molecular evolution.” This process can be made to move much faster in a laboratory than it does in nature, and the technology for this is the concern of the Saitama project. After molecules have been made to evolve in various ways at high speed, those that are beneficial can be singled out.

Saitama University is one of the world leaders in this research field, and the project hopes to capitalize on its expertise. The aim is to promote an exchange of information among the university’s researchers and those at other schools and laboratories, and also to facilitate the sharing of research facilities. To encourage joint research, the prefecture has selected SKIP City, the Saitama Kawaguchi Intelligent Park, as the place for a core laboratory for such projects.

The Saitama Bioproject is to continue for five years until 2007. It is hoped that good results will turn up in several areas, such as proteins useful for diagnosing or treating cancer and Alzheimer’s disease, microorganisms useful for cleaning the natural environment, and analytical instruments suited to microlevel research. Other local governments are promoting similar projects. Related organizations and associations are also getting into the act, and JETRO itself will be facilitating exchange among bioventures in Japan and overseas.

### Involving universities in collaboration

Clearly the star of biotechnology is on the rise over Japan. But many tasks remain to be dealt with, one of which is collaboration between industry and academia. According to Masahiro Tokunaga, who is in charge of bioindustrial affairs in the Corporate Research Department of Okasan Securities Co., Ltd., Japan’s basic research in the biotech sphere is among the most advanced in the world, but the fruits of the research are simply piling up within universities without much of a free flow into the industrial world.



Developing disease-resistant, allergy-relieving rice is the target of a gene recombination project at the National Institute of Agrobiological Sciences in Tsukuba, Ibaraki Prefecture.

The upshot is that in the area of applications, Western countries have taken the lead. To enhance collaboration with companies, Tokunaga asserts, “universities need a better research assessment system, one that gives high marks to cooperation in finding applications.”

The fostering of bioventures is another task. The United States and the European Union have huge throngs of such firms, which number in excess of 1,000 on each side of the Atlantic. But the number of such firms in Japan does not reach 300. As Tokunaga sees it, an environment conducive to bioventure start-ups requires larger infusions of venture capital and wider use of stock options. International tie-ups in biotech research also need to be arranged. On this front, he states, “we must quickly cultivate biotech experts who also have good language skills and negotiating abilities. With such people on hand, exchange with overseas researchers would go a lot more smoothly.”

According to the Guidelines, which urge the whole nation to move into action, the success or failure of Japan’s biotechnology strategy will depend on what transpires over the next 5 to 10 years. As we have seen, action is indeed being taken by national and local government organs, private companies, research institutes, and universities. The day of reckoning for Japanese bioindustry is now on the horizon.



# Pakistan: Promoting interactive trade relations

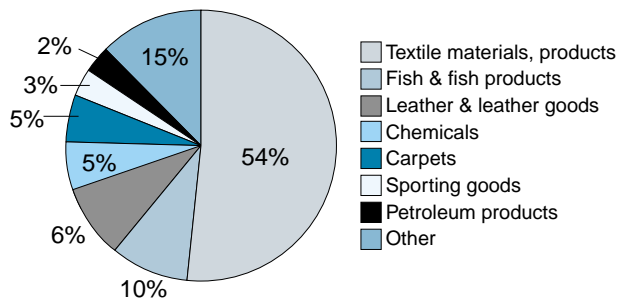
Commercial Counselor, Embassy of the Islamic Republic of Pakistan **Nighat Mehroze**



## ■ Could you tell us about the current state of trade between Japan and Pakistan?

Japan is one of Pakistan's main trading partners, but over the past several years the value of our bilateral trade has been tending to decrease; the decline in our exports to Japan has been especially pronounced. This is due largely to the drop in our exports of textile materials, which has been caused by the moves by many Japanese textile manufacturers to shift their production bases to countries like China and Vietnam. But some types of exports have been increasing, such as chemical and petroleum products and sporting goods.

**Pakistan's exports to Japan: Jan.- Nov. 2002**



## ■ How about investment from Japan?

Japan is the biggest source of foreign investment in Pakistan after the United States and Britain. By industry, the main areas of investment include autos, financial services, energy, and chemicals. Pakistan actively encourages the entry of foreign capital, and we have no restrictions on equity shares or remittances abroad. A major point of our investment promotion system is that foreign investment is legally protected through the Invest-

ment Protection Treaties and Protection of Economic Reforms Act, 1992, and Foreign Currency Accounts (Protection Ordinance), 2001.

In addition to these official incentives, Pakistan offers investors the advantage of low production costs—in particular, a labor force with a high level of technical skills relative to the modest level of wages. Also, our country is well situated as a production base for the larger regional market, including Afghanistan and the Gulf states. So it is fair to say that Pakistan is an attractive investment target.

## ■ What are you doing to increase bilateral trade and investment?

We feel that some Japanese companies are concerned about the difficulty of communication with Pakistani businesses and also public safety. We are trying to eliminate these concerns by having more people in each country visit the other country. Last month we arranged visits of some importers of rock salt and fresh vegetables to Pakistan. Similarly, a trade delegation of Pakistani exporters is visiting Japan in the last week of February 2003. The delegation will be led by Humayun Akhtar, federal minister for commerce of Pakistan.

This year we have organized an exhibition with help from JETRO focusing on home textiles and leather products, including products produced for Japanese companies. We have also organized an investment seminar to go along with the exhibition. We hope that the trade and investment ties between Pakistan and Japan will grow stronger yet, and we are sincerely working for that.



## Content business

# An anime culture blossoms in Japan

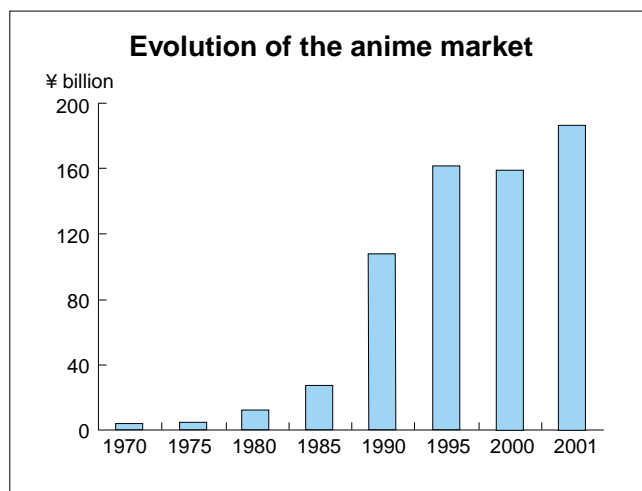
Japan's animation industry takes off as a content business with numerous overseas fans

**T**he animation industry in Japan is producing a cornucopia of works that appeal to children and adults alike and display an originality that has captivated viewers around the world and that is influencing overseas creators. *Anime* (ah-nee-may), as it is known, has grown so much that 60% of the world's animated television programs are Japanese made. As we enter the broadband age, this *anime* industry, making the most of its content creativity, is on the verge of constructing new business models for use in the international market.

Over 60 *anime* programs a week are telecast in Japan. In addition, there are works marketed for DVD and video, films created for the big screen, and "short *anime*" for use in video game software. Sales of movie, video, and TV productions alone reached ¥186 billion (US\$1.6 billion) in 2001. There is also an even larger spinoff effect. The total value of products using licensed characters is said to amount to ¥2 trillion (US\$16.7 billion) a year.

## World leader in content variety

Animated films based on original Japanese "story *manga*" (serial stories in comic books) have grown into a genre completely different from the children's animated films exemplified by Disney productions, which emphasize movement and comical humor. For a while American fans of Japanese anime called it "Japanimation," but now, thanks to its international spread, the word *anime* is widely recognized around the world.



Note: Sales of cinema, video, and TV productions  
Sources: Dentsu Institute for Human Studies; Digital Content Association of Japan

Hayao Miyazaki's feature-length animated film *Spirited Away* has won accolades overseas as well as in Japan, receiving the Golden Bear for best film at the 2002 Berlin International Film Festival. Opening in theaters in Japan in July 2001, it took in ¥30.4 billion (US\$253.3 million) at the box office and was seen by 23.5 million people, or 20% of the population, testimony to its appeal to all age groups. Japanese *anime* has also had a not inconsiderable influence on Hollywood, movie capital of the world.

## A new anime showcase

Some 90% of Japan's *anime* production companies are located in Tokyo. The city will host the Tokyo International Anime Fair (TAF) 2003 at Tokyo Big Sight in the Ariake district March 19–22. TAF will serve as a trade fair at which *anime*-related compa-



More than 50,000 people came to see the goings-on at TAF 2002, the Tokyo International Anime Fair.

nies can do deals and will include an *anime* competition (including commercial works) aimed at raising the cultural value of *anime*. There will also be a panoply of events displaying the charms of *anime* to the general public, among whom many overseas visitors are expected. Last year's TAF featured 76 Japanese and 28 overseas exhibitors and attracted 50,163 visitors. This year some 60,000 visitors, including industry insiders, are anticipated.

A major drawing card is TAF's function as a forum for business negotiations. It gives production companies a chance to sell their works directly instead of going through intermediaries. This should make it possible for buyers to enter into contracts based on a good understanding of programs' special features and content. TAF may also provide creators with opportunities to find investors in new works for specific markets. It is hoped that the fair will generate a new market not subject to the whims of domestic networks and specific sponsors alone.


The "big three" international TV program trade fairs where *anime* deals are done are MIPTV (International Television Programme Market) and MIPCOM (International Film and Programme Market for Television, Video, Cable, and Satellite) in Cannes and the NATPE (National Association of Television Program

Executives) Conference and Exhibition in the United States. Masayuki Sakai, chief producer of the TAF executive committee, hopes to see TAF become the fourth.

### Into the broadband age

Japan's *anime* industry has begun searching for new business models, prompted by the globalization of the market and the spread of broadband. Program production at present still relies mainly on the big networks in Tokyo, but new models are gradually emerging. For example, following the huge success of *Pokémon* in the United States, Twentieth Century Fox acquired the movie rights to Akira Toriyama's *Dragon Ball*, while Warner Bros. bought the movie rights to Katsuhiro Otomo's *Akira* (originally created in 1988). In addition, Osamu Tezuka's *Black Jack* and Sunrise's *Mobile Suit Gundam* were snapped up for broadband distribution. Overseas distribution of other famous works is anticipated.

Elsewhere in Asia, South Korea and China are both working hard to build up their *anime* industries. And in India, an animated film version of the *Ramayana* was made in 1999 in a Japan-India coproduction. The Japanese government, too, recognizing the importance of the *anime* industry in the content business age, has supported the establishment of an industry body, helped create systems facilitating the procurement of production funding, and supported the development of the technological infrastructure necessary for digital production, such as the creation of a standard animation database.

Japan's *anime* industry, making the most of the nation's distinctive *manga* culture, has led the world in the generation of content found nowhere else. Its strength is its broad base, as attested by the ability of Comic Market, a manga fanzine event organized by amateurs, to draw 450,000 visitors over three days. As long as there is this base of fans, who are both consumers and potential creators of *anime*, this industry will continue to supply works with distinctive content to the world market. 

## Management strategy

## Yes, Japan can change



Dean, Hitotsubashi University Graduate  
School of International Corporate Strategy **Hirotaka Takeuchi**

**T**here is enormous skepticism, both abroad and inside Japan, about the nation's ability to embrace fundamental change. But history has taught us that Japan is a nation that has demonstrated an extraordinary capacity to transform itself when its well-being is at stake. The Japan we know today was invented by a collective act of will following the devastation of World War II. This effort was successful because Japanese leaders at the time recognized the realities of a devastated economy with few natural resources, and they undertook the extraordinary steps that were needed to rebuild.

This capacity for change under adversity was repeated at least two more times in Japan's postwar history. The Oil Shock of the early 1970s triggered extraordinary upgrading in Japanese industry. When the price of crude oil quadrupled in 1973, Japanese companies invested heavily in energy-conserving technologies and moved toward higher value products. The Oil Shock was the catalyst for Japan's global leadership in energy conservation, which has benefited many industries.

The Yen Shock, which saw the Japanese yen appreciate by 100% in the two years after the Plaza Accord in September 1985, led to an equally rapid transformation. Almost overnight, Japanese products became expensive in international markets. Faced again with several pressures, Japanese companies improved their productivity enormously, shifting the production of less sophisticated, lower value products to overseas locations, and moving to more sophisticated products that were less susceptible to price competition. The Yen Shock was the catalyst for innovations that established Japan in advanced industries.

Japan responded to these adversities in the past by making bold

and systemic changes. In the wake of the previous shocks, the nation's goal and the needed direction were evident. Today, the goal and sense of direction are anything but evident. What Japan needs to do today is to embrace a new economic strategy, one based on a deeper understanding of the strengths and limitations of its past approaches to competition, coupled with a new and more sophisticated mind-set about the roles of government and companies in the global economy.

History has shown that Japan changed its overall economic strategy once before in the post-World War II period. In the late 1940s and 1950s, Japan competed largely on low price and low wages, selling cheap imitations of Western goods. Understanding the limits of that approach, the nation underwent a stunning transformation to a new mode of competition. Drawing on the ideas of W. Edwards Deming and Joseph Juran, Japan began to compete not just on price but on *quality*. The practices and approaches Japan pioneered in doing so changed competition forever throughout the world. Japanese companies enjoyed substantial price and quality advantages for many years, triggered by a global revolution in operational improvement, which they led in the 1970s and 1980s through such practices as total quality management (TQM), just-in-time manufacturing (*Kanban*), and continuous improvement (*Kaizen*).

In recent years, however, the limits of the current model have become increasingly evident. Today, Japan must move beyond just quality competition to competing on *strategy and innovation*. Japanese companies will need to develop distinctive strategies that result in superior, sustainable profitability. In order to do so, incremental improvements in best practice will not be enough. Genuine innovation not only in products but also in approaches to competing will be required. As it has shown in

earlier periods of transition, if mind-sets change, Japan has the capacity to move rapidly. A new national movement of no less significance than the quality movement is needed.

To help Japan embrace the strategy movement, the Graduate School of International Corporate Strategy (ICS) at Hitotsubashi University established a new prize, named the Porter Prize, in 2001, hoping that history will repeat itself. Japan moved beyond just competing on the basis of price to competing on quality in the 1950s in part as a result of the national movement spearheaded by the Union of Japanese Scientists and Engineers (JUSE) through the establishment of the Deming Prize in 1951. Just as the Deming Prize served as an impetus to kick off the quality movement in Japan, ICS hopes that the new prize on strategy will serve as a catalyst for the next great transformation toward the strategy movement.

ICS wanted to replicate history by establishing the Porter Prize exactly 50 years after the Deming Prize was established in Japan. Just as the Deming Prize was named after a world-renowned authority on statistical quality control (Dr. Edwards Deming), the Porter Prize was named after the leading authority on competitive strategy and international competitiveness, Professor Michael E. Porter of Harvard University. ICS's role with respect to the Porter Prize is similar to that of JUSE, which has served as the organizing body of the Deming Prize.


Professor Porter's relationship with Hitotsubashi University dates back to the early 1980s, when he and I conducted joint research on Japan as part of a larger study, which was published in Professor Porter's 1990 book, *The Competitive Advantage of Nations*. Our co-authored book, *Can Japan Compete?*, was published in 2000, the year ICS, the first "professional" graduate school ever to be established in Japan, started offering programs at Kanda Hitotsubashi. Professor Porter made two trips to Japan that year to be a keynote speaker, once when ICS's evening programs taught in Japanese opened in April and once when its day-time programs taught entirely in English opened in October. (For more information about ICS, please see the website <http://www.ics.hit-u.ac.jp/>)

The Porter Prize, which has the backing—both operationally and financially—of Daiwa Institute of Research and Accenture, has two categories of winners. They are (a) Japanese com-

panies competing in a single business or industry and (b) individual business divisions of Japanese companies with multiple businesses that have achieved superior, sustainable profitability by implementing unique and outstanding strategies. Since the essence of strategy is doing things differently from others, the Porter Prize recognizes those companies and business units that have deliberately chosen to compete in a distinctive way in a particular industry by delivering a unique value proposition and making tough trade-offs in choosing "what not to do." The singular focus on strategy is what sets the Porter Prize apart from a large number of other awards available in Japan.

After a rigorous screening process by four anonymous academics, the first Porter Prize in 2001 was awarded to four companies that competed successfully on strategy and innovation and had higher profitability levels than industry averages. They were (a) Mabuchi Motor and Matsui Securities in the single-business category, and (b) Canon's Lens Division and HOYA's Vision Care Company in the business unit category. The 2002 Porter Prize was awarded to three companies: (a) ASKUL and Takeda Chemical Industries, Ltd., in the single-business category, and (b) ORIX's Corporate Finance Section in the business unit category.

In both years Professor Porter announced the winners in person at an award ceremony held in early December. In addition to being recognized as leaders of strategy in Japan, the winners have been written up in case studies (both in Japanese and English) and featured in a number of TV programs and business publications. The benefits of the Porter Prize, however, are not limited only to the winners; they extend to all those who send in their application package to ICS. They have the opportunity of learning more about the principles of competitive strategy by interacting with ICS faculty members on an on-going basis and by attending a special seminar on strategy with Professor Porter in early December. (For more information about the Porter Prize, please see the website <http://www.porterprize.org/>)

All of us who are involved with the Porter Prize are hopeful that it will serve as a catalyst for the next great transformation toward the strategy movement. The winners lend us to believe, "Yes, Japan can change." 

This article contains sections drawn from *Can Japan Compete?* by Michael E. Porter, Hirotaka Takeuchi, and Mariko Sakakibara (Cambridge, Mass: Perseus Publishing, 2000).

Testo K.K.

# Outfitting plants with better measuring devices

Portable flue gas analyzers hold the promise of conserving energy and opening a broad market

**T**esto AG, a maker of measuring instruments based in Germany, is firming up the foundation of its Japanese operations with a strategy based on its excellent product line. Testo, which manufactures industrial equipment for measuring flue gas, temperature, humidity, wind speed, and much else, is especially adept at making portable measuring devices. In this field it has a 60% share in Germany and is also top in the world, with a 30% share of the global market. Senior Manager Hideo Gotou of Testo K.K., the Japanese subsidiary, believes that “through specialization in the niche of portable measuring instruments, Testo has come up with a strategy for enlarging the niche into a broad market.”

Upon its establishment in 1957, Testo began with the production of thermometers. It thereafter broadened its product line to cover many industrial measuring devices, especially those for flue gas and combustion analysis, and it also expanded into other countries, starting with the foundation of Testo France in 1979. With production bases in Germany and China, it now has sales subsidiaries in more than 20 countries. Business in Japan began with sales activities through an agent, a Japanese manufacturer in the same field. In 1987, when that company opted to concentrate on its own products, the Japanese subsidiary Testo K.K. was brought into being. And Yutaka Miyazaki, who had been handling the sales of Testo products for the Japanese manufacturer, was selected as the new firm's president.

## Best in the business for flue gas

Portable devices are readily available in Japan for measuring temperature and humidity. When it comes to flue gas, however, measuring systems still tend to be based on classic methods, and most manufacturers do not produce portable products. In this sphere, Testo has an absolute advantage. Making the most of it, Testo is seeking first to secure a foothold in the market for flue gas and combustion efficiency analyzers, after which it hopes to boost sales of other products.

Flue gas analysis became widespread in Japanese plants when the Air Pollution Control Law was enacted in 1968. Initially each plant could get by with the installation of a single stationary measuring apparatus. In 1998, however, the government introduced an improved set of energy policies, and major plants in Japan responded by setting and seeking to attain energy-saving goals.

The optimum results in energy conservation in plants are attained by assuring that the combustion in every boiler is proceeding as efficiently as possible. This entails measuring the concentration of oxygen, carbon monoxide and dioxide, nitrogen oxides, and other substances as well as the temperature of the released flue gas. Portable measuring devices come in handy when many boilers need attention, and thus the new energy-saving drive has suddenly opened up a broad market for Testo's products.

### Paving the way with PR activities

As yet most big Japanese plants are still making do with stationary measuring instruments and are pursuing an energy-saving strategy based on analysis of the stack gas from the entire plant. This has given Testo a convenient target for its PR activities. It can point out that buying one of its portable instruments is less expensive than buying a stationary device and that running costs as well, such as adjustment of measurement precision and replacement of parts, are very reasonable. In addition, Senior Manager Gotou points out, the measurement results can be easily analyzed by the in-house staff, so a company no longer needs to commission a specialized outside firm to handle this task.

Testo K.K. has made its instruments available to Japan's Energy Conservation Center for the energy-saving lectures and classes it holds. This provides all who attend with a chance to confirm the convenience of the products for themselves. The firm has also compiled a database of the plants that have established energy-saving targets and is sending them literature by fax and e-mail on the merits of its portable flue gas analyzers.

Testo K.K. thus has a solid sales campaign going, and good results can be anticipated. As yet, however, few plants have learned to appreciate the benefits of portable measuring devices, and fewer still are using Testo products. But with the drive to arrest global warming gaining momentum worldwide, energy conservation is receiving increasing attention. "Since portable measuring instruments are bound to attract notice as the need to save energy comes to be more keenly appreciated," says Gotou, "there is a chance for explosive growth in our sales any day now."

### Banking on one-stop shopping


About half the sales of the Testo Group come from flue gas and combustion efficiency analyzers. The second-ranking product group covers instruments for measuring temperature, humidity, wind speed, and so forth. Thus even as the Japanese company is



This Testo flue gas analyzer provides highly precise readings in addition to being easy to move about.

firming up the foundation under the first product group, it is laying a foundation for the second.

Most Japanese manufacturers, Gotou observes, specialize in just temperature, humidity, or wind measurement, which forces both users and retailers to deal with a number of makers. Testo, by contrast, has all the products needed for one-stop shopping, and it also has products with multifunctional measuring capabilities. This convenience provides it with a wedge for opening up the Japanese market.

At present the company is engaged in expanding and upgrading its sales bases and organization. Currently there are sales bases only in Yokohama and Osaka, but new ones are to open in major cities nationwide. More sales personnel are being taken on, and each is being provided with expert training. As Gotou notes, "Testo is a high-tech group channeling 12% of sales receipts back into R&D, which enables it to develop portable measuring instruments capable of making a big contribution to Japanese industry." Clearly Testo K.K. is one company to watch. 


 Employment

# Foreigners are creating more jobs in Japan

A JETRO survey has quantified the contribution by foreign firms to Japanese employment

**I**n May 2002 JETRO conducted a questionnaire survey on employment at foreign-owned or -affiliated companies in Japan. It sent the questionnaire to 5,113 domestic head offices and 1,565 branches, plants, shops, or other places of business, and it received valid replies from 2,066 of the former and 639 of the latter. After adjustment of the figures to exclude firms that had withdrawn from the market or had foreign participation under 10%, JETRO estimated that there are actually 4,190 foreign-owned or affiliated head offices and 1,464 other places of business in Japan. Of this group, the response rate amounted to 47.8%.

To facilitate international comparison of the data, the survey employed the standard definition of a foreign firm recommended by the Organization for Economic Cooperation and Development. (Simply stated, it is a firm in which a single foreign investor holds 10% or more of the stocks or has a voting right.) This was the first employment survey in Japan to apply the OECD standard.

Any expansion of foreign direct investment in Japan brings with it a host of benefits. It creates employment, strengthens industrial competitiveness through the transfer of production technologies and know-how, accelerates industrial realignment through intensified competition, and revitalizes regional economies. Naturally this investment also brings benefits to consumers. Given the current state of the economy, though, the top spot on the govern-

ment's policy agenda has been claimed by another concern: job creation. What effects does direct investment have in this area? The JETRO survey was designed to provide a quantitative estimate of the contribution foreign investment makes to employment in the Japanese economy.

## Employment breaks 1-million mark

The respondents to the survey reported that they had 505,554 full-time employees working for them. By extrapolation, this works out to 1,006,493 full-time employees working for all foreign-owned or -affiliated companies (both head offices and other places of business). Thus employment due to foreign investment has broken the 1-million mark.

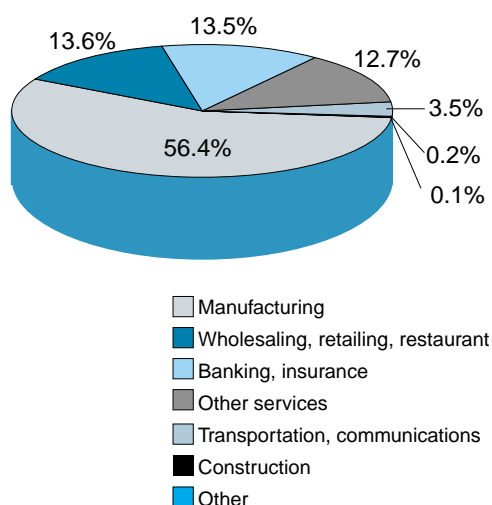
The share of these workers among all the corporate employees in Japan, of whom there are 43.2 million, comes to 2.3%. This is not quite half of the same ratio found in such other industrial countries as the United States (5.4%) and Germany (5.3%). There are some sectors, though, where foreign firms are big employers. In banking and insurance, for instance, 11.8% of all employees work for them.

## More Japanese workers, please

As the accompanying figure shows, the bulk of the jobs created by foreign firms are in manufacturing. Of all their full-time employees, 56.4% work in this sector. Next comes wholesaling, retailing, and the restaurant business (13.6%), followed by banking and insurance (13.5%).

Of note is that many of the foreign firms do not bother to send personnel from the home office to their Japanese operations, making do with an entirely native staff. That is, the survey found that all the employees were Japanese at some 60% of the head offices and some 50% of the other places of business. Evidently these firms are relying on Japanese to handle even managerial affairs.

**Number of full-time employees of foreign companies in Japan**  
100% = 1,006,493



The survey also found that the firms are hungry for workers. Some 80% of the respondents said they plan to increase, or at least maintain, their current level of employment. And of those looking to take on more workers, a high 95% said they were interested in hiring people in midcareer, workers with experience as clerical staff members or engineers. This means that the advance of foreign companies into Japan should help to absorb some of today's unemployment. Reading between the lines, we can see that foreign employers are taking a forward-looking approach to this country's long slump. They expect to be able to upgrade their businesses by effectively and aggressively lining up a talented staff. ■

*Invest-in-Japan Division,  
Investment Promotion Department, JETRO*

## Cover Photo



Shown in the Cover Photo is a site where genetic reengineering of rice is underway at the National Institute of Agrobiological Sciences, located in Tsukuba City northeast of Tokyo. The hope is that the varieties under cultivation will be more resistant to disease and helpful in alleviating allergies, among other benefits. People all around Japan are now channeling effort into biotechnology in a bid to develop a broad range of bioindustries. This issue's Cover Story reviews the moves afoot in government, industry, and academia.

### We welcome your opinions for this publication.

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