

# THE POWER TO CHANGE, THE PASSION FOR QUALITY

**I**n every industry and every market, the pace and magnitude of structural change is huge. We have been quick to initiate restructuring in response to accelerating change in the global business environment. Our goals for the 21st century are to react to every change in a flexible manner and develop new markets through constant provision of new value. Here is a summary of Nisshinbo's three-year management plan, a road map for further growth.

## Creating New Businesses

Nisshinbo's R&D activities, the basis for every aspect of corporate operations, are oriented toward the development of original technologies that can obtain a unique position in the marketplace. The key phrases are "adequate target-setting" and "speed."

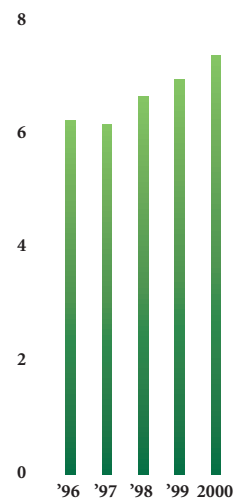
Our new R&D Center, which began operations in April 2000, serves as the core of Nisshinbo's R&D operations and the base for new business creation. Our R&D activities concentrate on the development of "original, superior technologies" by focusing on three areas that offer substantial growth potential: "Electronics/Information Technology,"



"Energy/Ecology," and "Life Sciences." Based on our three-year management plan, we will channel considerable management resources into R&D operations in order to ensure the excellence of its facilities and staff training. We will emphasize external as well as internal communications so that the R&D Center operates effectively in an increasingly "open" environment and achieves related benefits of synergy.

Our R&D expenditure for fiscal 2000 totaled

R&D Expenditure  
(Billions of yen)



Newly developed polymer-gel carrier for high-performance wastewater treatment, a facility at our new R&D Center (above)

¥7,394 million (US\$70 million), up 6.1% over fiscal 1999. As of March 31, 2000, the number of patents held by Nisshinbo was 746, while patent applications outstanding totaled 1,865. We are expanding the utilization of such intellectual property.

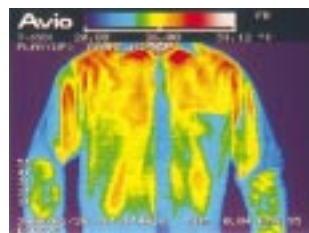
### Higher Added-Value

Product development is one of the most important designated tasks of the three-year plan. Enhancing our product lineup means increasing added-value. When the business environment undergoes drastic changes, original products with many potential applications will lead the market. The key to success is identifying long-term needs in the marketplace and translating them into products. A good example of this approach is *ECOSYS28°C*, a high-function summer shirt textile made mainly from SSP material, having excellent water absorption, air permeation, and deodorizing capabilities. *ECOSYS28°C* was created under the concept of providing comfort in an office environment where the air-conditioning is set to a



moderate 28°C for energy-saving purposes. The concept has been well received by consumers, resulting in steady sales growth. Similarly, we have commercialized *ECOSYS20°C*, a combination of materials for warm winter shirts that provides excellent heat-retention capability in a mildly heated office. Under the same brand names of *ECOSYS28°C* and *ECOSYS20°C*, we have begun to commercialize suits and slacks in order to increase our presence as a total office

wear manufacturer. Other needs-matching, high value-added products for which we expect strong sales include the *ABS NT* series, *OIKOS* non-woven all-cotton fabrics, *KENAF100GA* non-wood fine paper, and *EAUDOUCÉ* water-soluble tissue paper.



### Materials and Technologies

Having a diverse range of promising materials and technologies is the key to adding value to Nisshinbo's products. Among our range of materials, *MOBILON* in particular has shown outstanding growth.

*ECOSYS28°C shirt (above, left) and a thermograph showing its "heat-out" capability (above, right)*

*MOBILON* is a polyurethane elastomer used in the textile and chemical products fields. In addition to its use for panty hose, the applications of *MOBILON* are rapidly expanding into the industrial materials field, including tapes, bands and films.



Demand is strong both at home and overseas.

Other promising products in the chemical products field are *Aqua Porous Gel (APG)* and *Bio Contact N (BCN)*, both incorporating



hydrophilic polyurethane. They are used for equipment in such environment-related fields as the processing of sewerage water and industrial wastewater. This market is steadily expanding.

Our recently developed vacuum insulation panel (VIP) is yet another promising product. It

utilizes our non-fluorocarbon rigid polyurethane foam technology and provides a heat-insulation capability double that of conventional products. Our fiscal 2001 sales target for VIP for application in refrigerating and freezing facilities is ¥2,000 million, and we are confident of raising this figure to ¥20,000 million over the next few years.

In the biotechnology field, a market that is expected to grow rapidly, Nisshinbo offers original DNA-related services. We are preparing for future growth by accumulating know-how in this field to improve the reliability of our services. Carbon, CCM, secondary batteries, and fuel battery-related materials are also promising.

### Production/Sales System for a Borderless Market

The three key points relating to accelerating business growth are "taking initiatives in the borderless market," "establishment of a flexible system within and without the Nisshinbo group," and "cost reduction." It is from these viewpoints that we are stepping up our efforts to restructure our organizational and business operations.

*Bio Contact N has a high water-absorbing capability (above, right) A researcher at our new R&D Center (above, left)*

In the textiles segment, in January 2000 we merged the Textile Sales Division and the Textile Engineering Division into a Textile Division covering both sales and manufacturing operations. This horizontal structure enables us to respond to market needs in greater detail and more quickly. In 1999, we moved the Textile Engineering Division from Head Office to the Osaka Branch in order to encourage close cooperation between the two former entities. This resulted in enhanced development capabilities, reduced inventory, and quicker response to order placement. Through such measures, we are seeking to counter the effects of an ongoing increase in textile imports and a generally difficult business environment.

In parallel with the above, we are concentrating on enhancing our domestic and overseas production systems from a global viewpoint.

In pursuit of greater operational efficiency, we are reorganizing our domestic production facilities. As part of that effort, we will close our Harisaki and Notogawa plants by July 2002. Some of their facilities will be transferred to other plants, both in Japan and overseas. Although domestic production capacity will decrease, overseas facilities are expanding. We are also working on improving production efficiency and product quality through the introduction of a flexible operating system



and a shift to multi-product, small or medium-lot production. These efforts are intended to strengthen Nisshinbo's competitive edge in the global market.

There has been an increase in demand for *MOBILON* and

*OIKOS* in both the textiles and non-textiles fields. Accordingly, we plan to increase the production capacities of both products. Overseas, we liquidated a non-profitable subsidiary in the U.S. On the



production front, Nisshinbo sees Indonesia as its strategic base. P.T. Nikawa Textile Industry, a spinning company, and P.T. Gistex Nisshinbo Indonesia, a company engaged in dyeing processing, will undertake comprehensive production operations to promote the business development of materials for shirts and uniforms for the global market.

In the non-textiles segment, we are also accelerating our efforts to respond to market needs by building a flexible business structure. In the automobile brakes sector, the Company reached an agreement with Continental Teves AG & Co. oHG of Germany to establish a new joint venture, Continental Teves Corporation, by the fall of 2000. The Company will have a 49% stake in the joint venture, with our German partner owning the remainder. The sales target after five years of operation is ¥30 billion. The Company and Continental Teves AG & Co. oHG have already established a technological tie-up relating to disc brakes and ABS. We intend to promote the development of next-generation electronic braking systems, particularly stability control systems, and take an initiative in the intensely competitive world market by developing businesses in Asia, the U.S., and Europe. In July 1999, our joint venture in South Korea, Saeron Automotive Corporation, started its operations in the supply of friction materials and powder metallurgy products to the South Korean market. This was a timely move, in line with a recovery in automobile production



P.T. Nikawa Textile Industry  
(above, left)  
Signing ceremony with  
Continental Teves AG & Co.  
oHG (above, right)



in South Korea, and the new company achieved satisfactory business results. At home, we expanded ABS production capacity at the Chiba Plant.

In the machine tools field, which has shown poor business results, we revitalized our General Purpose Machine Tool Group and Customized Machine Tool Group, clarifying the distinct responsibilities of each. We are shifting our focus to more marketable products, such as solar batteries.

In the CCM sector, we have almost completed our domestic sales network and our domestic market shares are steadily increasing. We are now keen to advance into the Asian region, specifically the Thai market, with our *Hyper-CHOSHOKU SENKA* package.

### International Technical Agreements

#### As licensee:

- Meritor Automotive Inc. of the U.K. for commercial vehicle disc brake technology
- Continental Teves AG & Co. oHG of Germany for MK60 ABS and ESP TCS technology

#### As licensor:

- Rane Brake Linings Limited of India for friction materials technology
- Heng Tong Machinery Co., Ltd. of Taiwan for friction materials and passenger car disc brake technologies

#### As cross-licensing partners

- TMD Friction Beteiligungs GmbH & Co KG of Germany for friction materials technology
- TRW Inc. of the U.K. for drum brake technology
- Meritor Automotive Inc. of the U.K. for drum brake technology
- Continental Teves AG & Co. oHG of Germany for passenger car disc brake technology
- Continental Teves AG & Co. oHG of Germany for NT20/MK20 ABS and TCS technologies

### Increased Focus on Environmental Issues

The protection of the natural environment has always been and will remain an important task. The days of industrial expansion at the expense of the environment are over. Nisshinbo, as a total manufacturer, takes its responsibilities as a corporate citizen seriously, and concern for the environment is reflected in every aspect of its corporate activities, from product development to manufacturing.

In April 2000, we published a revised version of the Nisshinbo Earth Environment Charter (1993), renaming it the Nisshinbo Environment Charter. Among other things, the new charter stipulates the need to obtain ISO14001 certification, an international standard for environmental management systems, for all our plants and offices.

The development of environment-friendly and recyclable products is important in achieving better business results. In relation to recycling, we developed *ECOLOGIA* yarns made from recycled PET bottles, water-soluble *EAUDOUCE*, biodegradable *OIKOS*, and *KENAF100GA* and *TAKEBULKY GA* non-wood papers. We are now trying to establish a textile recycling system, where textile products using our fabrics are recovered from apparel manufacturers and retailers and taken to our Recycling Center. We have already launched this system for uniforms, and plan to introduce a number of recovery and recycling techniques for a variety of products.

Other environment-friendly products include the *ECOSYS* lineup, hydrophilic polyurethane, and non-fluorocarbon polyurethane foams. These products help to save energy, promote wastewater treatment, and avoid contamination of the natural environment, respectively.



A book using TAKEBULKY GA, made from bamboo

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*The Nisshinbo Group consists of Nisshinbo Industries, Inc., its 34 subsidiaries, and 12 affiliates. Nisshinbo Industries, Inc. serves as the core of the group, while group companies are engaged in a variety of operations covering a wide range of regions and business fields, including textiles, automobile brakes, papers, machine tools, chemical products, real estate and others. Their activities range from development and manufacturing to distribution, sales and marketing. Their operations are designed to meet the characteristics and market conditions of each business field.*

*The ties among group companies are close, providing synergies that enhance their combined strength in terms of costs, product lineup, distribution and human resources.*

## Main Group Companies

<b>Consolidated Subsidiaries</b>	
Nisshin Toa Inc.	Textiles, Food Ingredients, Papers
Ebisu Syokuhu Co., Ltd.	Textiles
Nisshinbo Mobix Co., Ltd.	Textiles
Nisshinbo Yarn Dyed Co., Ltd.	Textiles
Nisshin Denim Inc.	Textiles
Nisshin Tex Co., Ltd.	Textiles
Nisshinbo do Brasil Industria Textil Ltda.	Textiles
Nisshinbo Hong Kong Limited	Textiles
Nisshinbo Brake Sales Co., Ltd.	Automobile Brakes
Nisshinbo Techno Vehicle Inc.	Automobile Brakes
Nisshinbo Automotive Corporation	Automobile Brakes
Nisshinbo Automotive Manufacturing Inc.	Automobile Brakes
Nisshinbo Somboon Automotive Co., Ltd.	Automobile Brakes
Saeron Automotive Corporation	Automobile Brakes
Tokai Seishi Kougyou Co., Ltd.	Papers
Nihon Postal Franker Co., Ltd.	Papers, Chemical Products
Nisshinbo Urban Development Co., Ltd.	Real Estate
Kansai Nisshinbo Urban Development Co., Ltd.	Real Estate
Nisshinbo Europe B.V.	Real Estate, Machine Tools
Ueda Japan Radio Co., Ltd.	Electronics
Nippon Kohbunshi Co., Ltd.	Plastic Molded Products
Nisshinbo Kikai Hanbai Co., Ltd.	Machine Tools
Nisshinbo Engineering Co., Ltd.	Chemical Products
Nisshinbo Mechatronics Inc.	Machine Tools
Kohbunshi (Thailand) Ltd.	Plastic Molded Products
Pudong Kohbunshi (Shanghai) Co., Ltd.	Plastic Molded Products
<b>Affiliates Accounted for by the Equity Method</b>	
Japan Radio Co., Ltd.	Electronics
Nagano Japan Radio Co., Ltd.	Electronics
Naigai Shirts Co., Ltd.	Textiles
Shin-Tech Co., Ltd.	Automobile Brakes
P.T. Nikawa Textile Industry	Textiles

# TEXTILES

In fiscal 2000, ended March 31, 2000, Nisshinbo faced an adverse business environment in the textile segment due mainly to weak consumer spending. On a consolidated basis, sales in the textile segment totaled ¥83,804 million (US\$798 million), a decrease of 7.1% from fiscal 1999 and accounting for 36.8% of total consolidated net sales, down 3.0 percentage points. Operating income was ¥763 million (US\$7 million), compared with a ¥746 million loss in fiscal 1999.

Sales decreased as a result of the liquidation of Nisshinbo California Inc. Operating income increased, mainly due to continuing efforts to strengthen new product development and sales capabilities, a decrease in the price of raw cotton, and a drive to reduce factory costs and selling, general and administrative expenses.

In the yarns field, in the first half of fiscal 2000 the business environment was favorable. Import levels were low, and other spinning companies reduced their output. However, sales of yarns remained stagnant for fiscal 2000 as a whole due, in part, to competition from cheap raw cotton and an appreciation of the yen in the second half of the fiscal year. Sales



Our denim products (above) appeal to a wide range of consumers

and operating income in the specialty yarns and originally-developed yarns field increased, as a result of expanded sales networks for spandex core yarns and specialty high-twisted yarns.

Sales of knitted products were adversely affected by an increase in imports. However, cost reduction activities in both production and sales contributed to improved operating income.

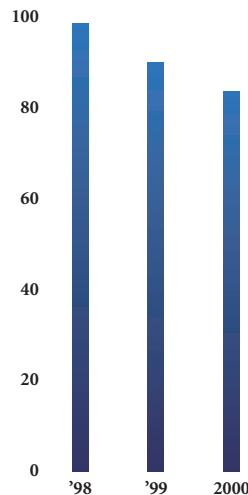
In the materials for shirts field, we have focused intensely on a shift to high value-added products, with *SUPER SOFT* and *SSP* as the base technologies. Exports were disappointing, affected as they were by an appreciation of the yen. In the domestic market sales decreased due to the increased popularity of low-price products and weak consumer spending. However, operating income increased, due mainly to high added-value products, for example *ECOSYS28 C*.

Imports increased in the household textiles field. With the exception of handkerchiefs and certain other products, shipments and prices fell. Domestic sales of bedding decreased substantially.

Sales of basic blue denim was up substantially, as was operating income, due to the material's renewed popularity among young ladies and an increase in sales to national brands. Sales of other materials for casual wear were stagnant as a result of competition from low-priced imports. Sales and operating income of material for uniforms increased due to an increase in demand for main products and cost down activities in the



Sales of Textiles  
(Billions of yen)



Our COMFORT PROPOSAL direct marketing business offers high value-added products, such as those in our prestigious *SUPER SOFT* line (above)



production process.

Domestic demand for *MOBILON* spandex for panty hose was weak. However, sales and operating income were stable due to a pick up in exports to Southeast Asian markets.

The high quality and all-cotton characteristics of our *OIKOS* non-woven cotton fabrics have met with a favorable response from users in numerous fields, including cosmetics, gauze, surgical wear, and medical and sanitary products.

Production is being expanded to meet

the extended range of applications.

In our direct marketing business, *COMFORT PROPOSAL*, *SUPER SOFT* products and other products sold well in the first half of fiscal 2000, but a long summer, and the consequent shorter autumn season, reduced consumer spending and so dampened sales in the second half. As a result, sales and operating income remained at approximately the same levels as those of fiscal 1999.

On December 7, 1999 the Company liquidated its U.S. subsidiary, Nisshinbo California Inc., the assets of which were sold to a U.S. textiles company, Mount Vernon Mills, Inc.

On January 1, 2000, the Company integrated the Textile Engineering Division with the Textile Sales Division to establish a new Textile Division, with a view to consolidating production and sales activities.

An entry at the Annual Nisshinbo Fashion Contest (above)

## NON-TEXTILES

Led by satisfactory performances in the automobile brakes, papers, and real estate fields, sales in the non-textiles segment increased 5.2% over fiscal 1999 to ¥143,648 million (US\$1,368 million), accounting for 63.2% of total consolidated net sales, an increase of 3.0 percentage points.

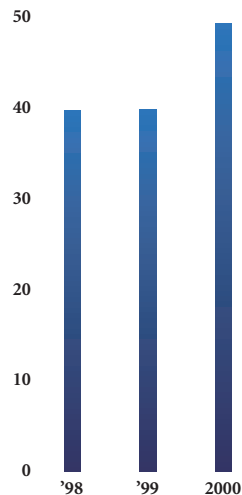
### AUTOMOBILE BRAKES

Sales of automobile brakes increased to ¥49,442 million (US\$471 million), up 23.6% over fiscal 1999. Operating income was ¥1,592 million (US\$15 million), up ¥1,428 million over fiscal 1999.

Sales and operating income in the friction materials and automobile brakes fields increased, thanks to growth in spot exports of brake products, increased production and sales by a subsidiary in the United States and an increase in



Sales of Automobile Brakes (Billions of yen)



Our friction materials (above, upper) and the ABS test course at our Chiba Plant (above, lower)



# REVIEW OF OPERATIONS



orders for friction materials received from Japanese customers by our subsidiary in Thailand. In July 1999, we established Saeron Automotive Corporation in South Korea as a joint

venture with Halla Engineering & Construction Corp. Helped by a recovery in the South Korean automobile production, Saeron Automotive's sales made a significant contribution to sales and operating income in this field.

Sales and operating income of ABS increased, despite intensive competition, due to increased ABS usage and an increase in the number of car models fitted with our ABS products.

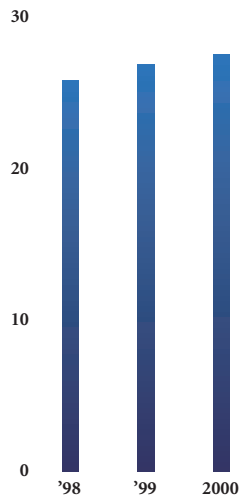
## PAPERS



Sales of paper products totaled ¥27,636 million (US\$263 million), up 2.6% over fiscal 1999. Operating income increased to ¥1,170 million (US\$11 million), a 90.9% increase over fiscal 1999.

Both sales and operating income increased in the household paper products field. Nisshinbo benefited from the continuing low prices

Sales of Papers  
(Billions of yen)



Our ABS is fitted in the Mazda PREMACY (above, upper: © Mazda Motor Corporation) Nisshinbo is a comprehensive supplier of household paper products (above, lower)

of raw materials, expanded its range of roll products, and increased the ratio of high value-added products in its lineup.

Sales of fine paper increased slightly and operating income was up substantially due to a recovery in orders for printing paper and a reduction in factory costs.

Despite expanding our range of products and entering new fields, sales and operating income were little changed in the specialty papers field, which includes synthetic paper and fabricated products.

Competition was fierce in the label printing field and sales and operating income decreased slightly.

## OTHER PRODUCTS

Sales in this field decreased to ¥62,833 million (US\$598 million), down 4.8% from fiscal 1999. Operating loss totaled ¥973 million (US\$9 million), down 8.8%.

### ● Machine Tools

Both sales and operating income in this field decreased due to stagnant domestic capital investment, a decrease in sales prices, and a decrease in income from overseas



We are pushing ahead with production of manufacturing equipment for photovoltaic modules. Above is our solar simulator to test the electrical performance of photovoltaic modules.

sales as a result of the strong yen.

In December 1999, in order to streamline management and promote rationalization, Nisshinbo revitalized its General Purpose Machine Tool Group and Customized Machine Tool Group, clarifying the distinct responsibilities of each.

● *Chemical Products*

Sales and operating income decreased in our main chemical products line, polyurethane foams, owing mainly to reduced demand in the construction and plant engineering industries. By the end of March 2000, all polyurethane foams production operations at Nisshinbo's Tokyo Plant were transferred to the Chiba Plant in order to enhance production efficiency.



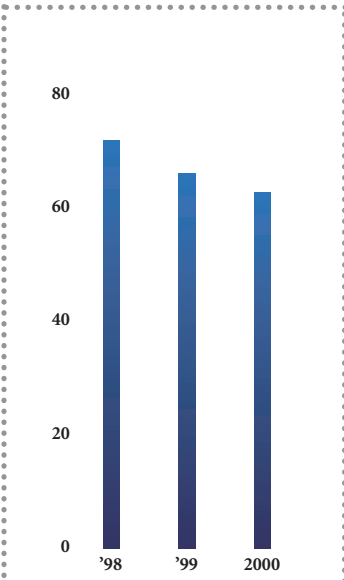
Strong demand, and the coming on stream of new production facilities constructed in fiscal 1999, led to increased sales and operating income in our polyurethane elastomers business.

In carbon products, sales and operating income increased slightly, due to a recovery in demand for semiconductors, and sales of new products.

● *Others*

Sales in the electronic communications equipment field increased, while operating income was little changed from fiscal 1999.

**Sales of Other Products  
(Billions of yen)**



*Polyurethane foams production facility in our Chiba Plant (above)*

In the Computer Color Matching Systems (CCM) field, Nisshinbo focused on developing new products and new sources of demand, both in Japan and overseas.



**R E A L E S T A T E**

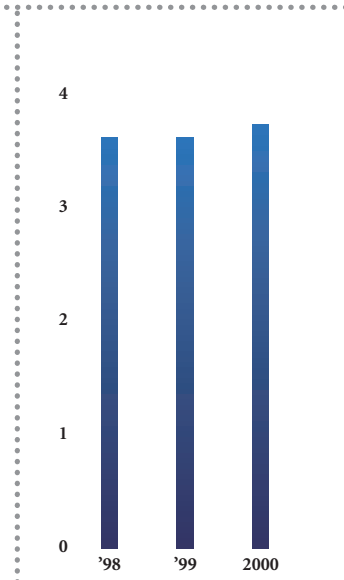
Real estate sales increased to ¥3,737 million (US\$36 million), up 3.3% over fiscal 1999. Operating income increased to ¥1,565 million (US\$15 million), up 18.6%.

In March 1999, UNY group opened a shopping center on a part of the site of the Company's Shimada Plant, thereby increasing segment sales.

In Okazaki City, construction is proceeding satisfactorily on a new shopping center scheduled to open in September 2000. The new center is being constructed by the lessee on land owned by Nisshinbo. It will be integrated with the existing Okazaki shopping center, the land and buildings of which are owned by Nisshinbo, and is expected to contribute to the performance of the Real Estate field in the very near future.



**Sales of Real Estate  
(Billions of yen)**



*CCM system display of detailed input data (above, upper)  
Artist's impression of our new shopping center in Okazaki (above, lower)*