

Chapter 4

Promotion of Group Management and Global Management: 1987–1996

Innovation in Attitudes and Practices, and Management Reform (1987–1991)

The rise in value of the yen after the 1985 Plaza Accord was damaging to Japanese manufacturing, but results recovered thanks to the efforts of corporations and falling cost of imported raw materials and fuel. However, the strong yen led to an increase in imported items, and at the same time encouraged production overseas. In the Japanese economy, structural reform was urged, but the period of economic expansion that began in December 1986 extended to 51 months, up to February 1991, with Japan experiencing a consumer boom marked by rising share and land values. It was the *bubble economy*.

In April 1987, Yoshikazu Ito stepped aside to become chairman and Managing Director Katsunosuke Maeda took his place as president. Two consecutive terms of sales and profit contraction, fiscal years 1985 and 1986, saw Toray's share value fall behind competitors Asahi Chemical Industry Co., Ltd. (now Asahi Kasei Corporation) and Teijin Limited.

Maeda, soon after becoming president, stressed that while the domestic fibers and textiles industry was maturing, globally it was an industry of limitless growth. Media at the time loudly proclaimed the industry was in decline and “the sun is setting on Toray as once an excellent company.” To employees who were beginning to lose confidence, Maeda kept reminding them that a profit recovery could still be achieved in the short term if they took active steps to improve themselves; that it was in the fibers and textiles business that Toray had accumulated its technological and sales know-how; and that reconstructing the business was the quickest way to reviving it. And he called for shifting to a corporate approach of paying close attention to the actual place where operations occur, actual items handled, and actual realities.



Katsunosuke Maeda

Sales and profit both fell by large margins in financial results for fiscal 1986, but reductions in fixed costs, in particular, had an immediate effect with earnings picking up from fiscal 1987. The economy also improved rapidly—in fact, it became somewhat overheated—and it was during that time that Toray’s project to restructure competitiveness in the fibers and textiles business began to have success.

In May 1988, all managers were issued a booklet they could carry around with them entitled, *Five Key Points in Innovation in Attitudes and Practices*. It was a collection of Maeda’s own words and provided a check list for shaping each of the five key aspects into specific action. The booklet called for facing up to realities and making improvements



Booklet *Five Key Points in Innovation in Attitudes and Practices*

in areas that needed them; emphasis on practice of particular action as opposed to abstract arguments; adoption of principles of competition; management of clear goals; doing away with uniformity; workplace discipline; and innovating attitudes and practices. It ends by declaring that all managers and all staff, too, must “come down on the ground.”

In 1988, the Affiliated Companies Division was established and, as a general rule, Toray’s domestic subsidiaries and affiliates were grouped under it. Emphasis was placed on consolidated results, encompassing the entire Toray Group, including overseas affiliates, and achieving such a style of business administration was positioned as an important issue for management, with organizations and structures for implementation being defined. To carry through a policy of drawing a sharp distinction between research and development, the Development Department of the Research & Development Division was abolished in August 1987 and new development promotion groups were established within the Technology Center, which was created in 1985. Furthermore, Maeda, rather than lay down numerical targets, stressed the importance of setting issues and challenges, and devising and executing solutions. He therefore did away with the earlier format of management plans and instead introduced a system of “mid-term management program.” In April 1991, Toray also compiled the AP-G2000 long-term corporate vision.

Execution of Strategy Looking to the 21st Century (1992–1996)

Having peaked in February 1991, the Japanese economy entered a recessionary phase. The length of the period of deceleration, extending to 32 months, and the depths to which it plunged lent to its being recognized as the “collapse of the bubble.” It is considered a complex recession as it was compounded by a number of different factors and outcomes. Toray felt the effects as consolidated and non-consolidated sales and profit declined in fiscal 1992 for the second year running. The result was the same in fiscal 1993. In November 1993, the economy picked up again, entering an expansion phase. A period of growth known as the Sazanami boom followed and would last 43 months until May 1997. Toray recorded sales and profit increases in fiscal 1995, as it did for a second consecutive term, fiscal 1996, when consolidated sales exceeded one trillion yen for the first time.

Around this time, Toray laid plans to generate new business and venture into new locations from a mid- to long-term perspective in anticipation of the coming 21st century. The reason Toray set up an Electronics and Information-related Products Division and a Pharmaceuticals and Medical Products Division in 1988 was because it believed that establishing business domains according to those groupings and assigning senior executives to take responsibility for each individual business would allow more efficient operations. The company also undertook aggressive investment overseas from a mid- to long-term vantage point, particularly in relation to strategic products “Lumirror” and “Torayca.”

In regard to new locations, Toray launched the Nantong Project in 1994, securing land spanning an area of one million square meters in

the city of Nantong in China's Jiangsu Province. China's population was already approaching 1.2 billion at the time, and the economy was growing, creating expectations of major growth in internal demand. There was also a plentiful supply of labor. As such, the manufacturing sector could expect to grow, including as an export industry.

Two joint ventures were set up with Sakai Ovex Co., Ltd.—polyester filament textile dyeing company Toray Sakai Printing & Dyeing (Nantong) Co., Ltd. (TSD), in August 1994, and Toray Sakai Weaving (Nantong) Co., Ltd. (TSW), a weaving company to supply textiles to TSD, in September 1995. In May that same year, Toray also established Toray Fibers (Nantong) Co., Ltd. (TFNL), with facilities for polyester polymerization and spinning, thus putting in place an integrated system from polymerization through to spinning, weaving and dyeing. The

Nantong Project was the beachhead via which Toray would expand business in China.

In April 1991, Toray formulated its AP-G2000 long-term corporate vision. The vision identified three elements of a direction for the Toray Group, represented by key terms indicating the long-term outlook—growth, group management, and globalization. It also issued seven guiding principles, namely, strengthen corporate structure and attitudes and practices; pursue group management; globalize; secure and



TSD opening ceremony (1996)



TFNL ground-breaking ceremony (1997)

develop human resources; strengthen basic research and fundamental technologies; address environmental matters; and shape a new corporate culture.

In April 1992, the three-year Identity 2000 (ID-2000) campaign was launched. ID-2000 was a group-wide campaign organized to let employees establish an identity for themselves and to shape a new corporate culture. One core program of the campaign was the Junior Board. Suggestions put forward by the Junior Board initiated extended discussion about revising Toray’s management philosophy. A new management philosophy framework was announced at the ID-2000 closing conference in April 1995.

Management Philosophy Framework	
Corporate Philosophy	Contributing to society through the creation of new value with innovative ideas, technologies and products
Corporate Missions	
For our customers	To provide new value to our customers through high-quality products and superior services
For our employees	To provide our employees with opportunities for self-development in a challenging environment
For our shareholders	To provide our shareholders with dependable and trustworthy management
For the local community	To act as a responsible corporate citizen to build a long-lasting beneficial partnership with the local communities in which we do business
Guiding Principles	Safety and Environment Customer Satisfaction International Competitiveness Global Teamwork Identity and Self-Improvement Meaning in Work Fairness and Sincerity

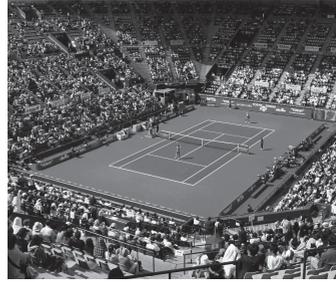
In December 1991, training for the purpose of strengthening management capability began (as the Toray School of Management). And because the existing training center was too small, a plan was devised to construct a new training center where level-based training programs and the Toray School of Management, for example, could take place, and which would have a large conference hall for holding welcome ceremonies for new employees and various group reporting sessions. The Toray Human Resources Development Center was completed in March 1996, replete with a large hall, training rooms, and a lodging facility, as well as a Corporate Culture Zone with exhibits explaining Toray's history and products.



Toray Human Resources Development Center

At around this time, Toray readily engaged in activities providing support for science and technology, arts and culture, and sports as a way of giving back to society, boosting its reputation. In Europe, on the occasion of its acquisition of a textile subsidiary of British company Courtaulds, Toray contributed 10 million pounds toward the establishment of an art museum where numerous masterpieces gifted to the University of London by the fourth generation of the Courtaulds founding family would be put on public display. In Asia, Toray Science Foundations were established in each of three countries—Malaysia, Indonesia, and Thailand—in 1993 and 1994. The foundations' activities involved provision of grants supporting the promotion of science and technology in those countries, and recognition of notable achievements in science and

technology and science education. And in 1995, the company started supporting performances by Orchestra Asia, a novel orchestra featuring folk instruments from China, Korea, and Japan. Members of Orchestra Asia are selected from the China National Traditional Orchestra, the National Orchestra of Korea, and Pro Musica Nipponia. They perform in locations across China, Korea, and Japan, opening up a unique new sound in the world of music.



Toray Pan Pacific Open Tennis Tournament

In 1987, Toray decided to continue its role as title sponsor of women's professional tennis tournament the Toray Pan Pacific Open Tennis Tournament, having commenced its support in 1984 as part of its "new founding campaign." It is a tournament on the Women's Tennis Association (WTA) Tour and has been held ever since, the biggest international women's pro tennis tournament in Japan. The 35th tournament was held in 2018. It continues to extend the world record for the longest time a tennis tournament has been supported by a single sponsor.

Strategic Restructuring of Business—Survival and Globalization of Core Business

As economic conditions deteriorated and internal demand slumped, Japanese synthetic textile manufacturers sustained sales volume by shifting their focus onto exports. So when the competitiveness of their exports was undermined by the appreciation of the yen following the

Plaza Accord of September 1985, production volume fell dramatically. On the other hand, competitors in Korea and Taiwan expanded their facilities considerably, gaining tremendous cost competitiveness. In 1985, more polyester filament yarn was produced in Taiwan than in Japan, and by 1987, Japan had been outstripped by Korea, too. Taiwan surpassed Japan in terms of total production of all types of synthetic fiber combined in 1987. China and Korea did the same in 1991 and 1992 respectively. In regard to its fibers and textiles business, Toray was in a dilemma—sustain operations and watch inventories stack up or cut production and feel the immense burden of fixed costs. Profit plummeted from fiscal 1985.

It was against this backdrop that the Fibers & Textiles Division and the Manufacturing Division drew up and implemented an Action Program for Survival (APS), a plan to reform business structure. The aims of the APS included establishing conditions for survival in light of changes in the business environment; defining business, sales and technology strategies for achieving those conditions; and setting a standard level of profit for the fibers and textiles business to realize over the mid-term. Concurrent with implementation of the APS, there was a shift in marketing strategy. Sales promotion activities targeting domestic demand would focus on domains such as women's wear, while in the export market emphasis would be placed on knitted and woven fabrics on the assumption they would return to Japan as imported garments or other products. Ahead of business structure reform in Japan, Toray Group's fiber and textile manufacturers in Thailand, Indonesia, and Malaysia advanced their own structural reform projects, improving quality and profitability as part of a shift of orientation away from domestic demand and toward exports. In 1986, conditions for export improved,

leading to strong performances by all of the companies in 1987. In addition to existing spun fabric businesses, such as polyester/cotton and polyester/rayon blended textiles, production of polyester filament fabric got underway at Luckytex (Thailand) Company Limited (LTX) in 1989. That same year, Toray agreed to a request from Courtaulds for it to acquire Samuel Courtauld & Co., Ltd., a textile subsidiary of the British company. As well as renaming the company “Toray Textiles Europe Ltd.” (TTEL), a new plant was established to carry out integrated operations from fiber processing through to weaving and dyeing.

In order to bolster production systems for filament yarn operations in response to these moves to expand business in fiber application processing domains, Toray, Toray Nylon Thai Co, Ltd. (TNT, now Thai Toray Synthetics Co., Ltd. (TTS)), and LTX jointly invested in the establishment of a new company, Toray Fibers (Thailand) Ltd. (TFL, now TTS) in April 1991. This put in place an integrated polyester filament production system in Thailand for carrying out spinning through to weaving and dyeing.

Meanwhile, Lumirror managed to retain its status as global leader in the polyester film industry through successive facility expansions and enhancements and secure its position as a mainstay business within Toray. In Japan, Lumirror operations were concentrated at the Mishima Plant, for magnetic material applications, and the Gifu Plant, for industrial material applications. Toray’s first overseas Lumirror production facility went online in 1991, at Toray Plastics (America), Inc. (TPA) in the United States. In 1996, Toray acquired the films subsidiary of French firm Rhône-Poulenc S.A. and established Toray Plastics Europe S.A. (TPEU; facilities later transferred to Toray Films Europe S.A.S. (TFE)). A decision



Signing of the acquisition agreement with Rhône-Poulenc (September 1996)

was also made to engage in local production of Lumirror at Penfibre Sdn. Berhad (PFR) in Malaysia (production began in mid-1998). As a result, Toray now had structures in place for producing Lumirror in four areas worldwide, including Japan. As for “Torayfan,” TPA’s production facility went online in 1988 and the Japanese domestic business also grew. However, profit plunged after peaking in 1991. An APS was formulated for each of the Torayfan and Lumirror businesses in 1993.

In the “Toyolac” business, a newly developed process achieving major cost reductions was introduced to the Chiba Plant, with the new setup operational from 1987. In 1990, Toray Plastics (Malaysia) Sdn. Berhad (TPM) was established. Production was divided between TPM, which took on general-purpose products, and Japan, manufacturing products with high added value. With regard to polyphenylene sulfide (PPS) resin business, Toray took over operations undertaken by Phillips Petroleum Toray Inc. in June 1991.

Aggressive Development of Strategic Business and Cultivation of New Business

Carbon fiber composite materials, the new business Toray was pursuing, also reached a major juncture. The Boeing Company of the U.S. was developing a next-generation civil airliner, the Boeing 777, and was exploring the use of carbon fiber composite materials for primary structural



Rollout of the Boeing 777
©The Boeing Company



TCA (now CMA) (United States, 1992)

components, publicly disclosing its target specifications. The Technology Center responded, designating development of prepreg technology for the 777 as a specific urgent task in December 1988. Researchers and engineers from many different fields were enlisted and, in a short period of time, developed a prepreg with high-toughness based on a particle-toughened interlayer. In April 1990, the material was approved under Boeing's standards for primary structural materials and it was the only carbon fiber prepreg selected for primary structural components of the 777. To supply Boeing, Toray decided to establish a new line at the Ehime Plant, as well as undertake production locally in the U.S. Obtaining a site adjacent to Boeing's plant on the outskirts of Seattle, Washington, Toray established Toray Composites (America), Inc. (TCA) (now Toray Composite Materials America, Inc. (CMA)) in May 1992.

In Europe, the continent's leading manufacturer of civil aircraft, France's Airbus Industrie GIE, had considered using carbon fiber reinforced plastic (CFRP) components during development of the A310, and in 1987 adopted a prepreg employing a product manufactured by Société des Fibres de Carbone S.A. (SOFICAR, now Toray Carbon Fibers

Europe S.A. (CFE)) for the tail assembly of the A320. SOFICAR started out afresh as a new company in December 1988 with Toray gaining the controlling interest (Toray: 70 percent, Atochem S.A. (now Arkema S.A.): 30 percent).



Dorner

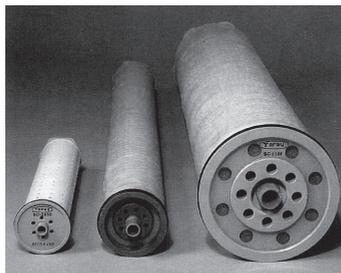
Consolidated profit for the composite materials business deteriorated after 1991 and efforts were made to optimize operations for the different products at the Ehime Plant and SOFICAR. Global operations were pursued and profits stabilized.

In the medical domain, Toray and Kaken Pharmaceutical K.K. jointly filed an application relating to PGI₂ oral derivative “Dorner” with the Ministry of Health and Welfare. Approval for manufacture was granted in January 1992. In order to establish a distribution framework for Dorner, Toray entered an agreement granting Yamanouchi Pharmaceutical Co., Ltd. (now Astellas Pharma Inc.) non-exclusive distribution rights in 1988, while Toray Medical Co., Ltd. also sold the product, a decision being made to supply ingredients for the drug to Kaken Pharmaceutical.

In April 1988, the electronic materials and graphic systems (printing materials) businesses were integrated and an Electronics and Information-related Products Division was established as an independent organization. Also incorporated into the division, as new development projects, were businesses such as IC molding encapsulant, toner for *kanji* (Chinese character) printers, and optical fiber. Toray, which had recognized the future potential of liquid-crystal displays (LCDs) early on, developed a unique color paste in 1985, based on which the

company advanced development of a color filter for thin-film transistor (TFT) LCDs. Production gradually expanded, from the establishment of a pilot production facility, LM-1, in October 1993, and LM-2 in 1995 at the Seta Plant to creation of LM-3 in 1996 and LM-4 in 1999 at the Shiga Plant. However, panel prices fell sharply and profits deteriorated. A survival project was initiated in 2002. At the same time as production on a fifth line, LM-5, got underway in 2005, Toray switched to a new strategy, breaking free from competition to create larger-sized panels, instead specializing in small- to medium-sized panels for mobile phones and car navigation systems.

In April 1990, Toray launched the Amenity & Civil Engineering (ACE) Project with the purpose of strategically developing housing and building material, and water and air purification businesses. Then in February 1991, the ACE Division was established, grouping together items including “Romembra” reverse osmosis (RO) membrane, “Torayvino” home water purifiers, and “Spuckturf” artificial turf. In June, the Consumer Products Division was established to strengthen the end-products field, taking on optical business (e.g. plastic lenses and contact lenses), the “Toraysee” microfiber cleaning cloth business, and apparel products business.



Romembra



Torayvino (mini)