April 1, 2006–March 31, 2007

Intellectual Property Report

Toray Industries, Inc. 2007
Today, in the first decade of the 21st century, major shifts in global society are bringing about change at an unexpectedly fast pace, making the outlook more and more uncertain. To maintain sustainable growth while adapting skillfully to this rapidly changing external environment, it is becoming increasingly essential that we evolve and create new value through tireless innovation while reinforcing our corporate structure.

In 2006, Toray Industries celebrated the 80th anniversary of its foundation. On the occasion of this corporate milestone, Toray Group drew up “AP-Innovation TORAY 21” as a long-term corporate vision covering the next ten years, as well as created the corporate slogan “Innovation by Chemistry” guided by the keyword “Innovation.” Under the long-term corporate vision, Toray Group continues to pursue new ideas and strategies and implement bold measures in its quest for ongoing growth in the 21st century. Working as one, the Group is not only pursuing technological innovation with chemistry as a core, but aims to be a global top company of advanced materials by also striving for “Innovation” in every aspect of its operations.

Strengthening intellectual property is an important management issue for Toray Group in its pursuit of dynamic and sustainable growth driven by “Innovation.” In June 2007, we established the Intellectual Property Division under the direct control of the president to further reinforce the intellectual property strategies of the Group as a whole. Supported by this reinforced system, Toray Group will pursue initiatives that integrate business strategies, R&D strategies, and intellectual property strategies. Together, we will constantly embrace the challenge of enhancing the corporate value of the entire Group and realize our corporate philosophy of “Contributing to society through the creation of new value with innovative ideas, technologies and products.”

Contents

1. Core Technologies and Business Models .................................................. 04
2. R&D Segments and Directions of Business Strategies ................................ 06
3. Overview of R&D Segments and Intellectual Property ............................. 08
4. Analysis of the Marketability and Competitive Advantages of Technologies 09
5. R&D and Intellectual Property Organization Charts, R&D Collaboration and Partnerships ................................................................. 12
7. Contribution of Licensing-related Activities to the Businesses .................. 15
8. Contribution of Patents to the Businesses .................................................. 15
9. Policies for Intellectual Property Portfolio ............................................. 17
10. Information on Risk Response ................................................................. 17
Overview of Toray Group

Corporate Outline (as of March 31, 2007)

Name: Toray Industries, Inc.
Established: January 1926
Capital: ¥96,937 million

No. of Group companies: Parent company and 144 subsidiaries (67 Japanese and 77 overseas subsidiaries)
No. of employees: 36,553 (Group), 6,830 (Parent company)

Corporate Philosophy

Corporate Philosophy

Contributing to society through the creation of new value with innovative ideas, technologies, and products

Corporate Missions

For society
To establish ties and develop mutual trust as a responsible corporate citizen

For our shareholders
To provide our shareholders with dependable and trustworthy management

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

Main Businesses

Fibers & Textiles
Filament yarns, staple fibers, spun yarns, woven and knitted fabrics of nylon, polyester and acrylics; non-woven fabrics; man-made suede, apparel products, etc.

Plastics & Chemicals
(Excludes films and plastic products included in IT-related Products segment, listed below) Nylon, ABS, PBT, PPS and other resins and molded products; polylefin foam; polyester, polypropylene, PPS and other films and processed film products; raw materials for synthetic fibers and plastics; gypsum; zeolite catalysts; pharmaceuticals and agrochemical intermediates and other fine chemicals; veterinary medicines, etc.

IT-related Products
Films and plastic products for information- and telecommunication-related products; electronic circuit materials, semiconductor-related materials; LCD color filters and its related materials and equipment; materials for plasma display panel; magnetic recording materials; graphic materials and IT-related equipment, etc.

Carbon Fiber Composite Materials
Carbon fiber, carbon fiber composite materials and their molded products

Environment & Engineering
Comprehensive engineering; condominiums; industrial equipment and machinery; environmental equipment; water treatment membranes and related equipment; materials for housing, building and civil engineering applications, etc.

Life Science & Other Businesses
Pharmaceuticals; medical products; analysis, physical evaluation, and research services, etc.

Net Sales
(Billions of yen)

Operating Income
(Billions of yen)

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<th>Net Sales</th>
<th>Operating Income</th>
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Fibers & Textiles | Plastics & Chemicals | IT-related Products | Carbon Fiber Composite Materials | Environment & Engineering | Life Science & Other Businesses
Since its foundation, Toray has cultivated "polymer science," "organic synthetic chemistry," and "biotechnology" as core technologies. While developing these technologies, we have constantly expanded our businesses from fibers and textiles to films, chemicals, and plastics. We have also developed businesses in the fields of electronics materials, carbon fiber composite materials, pharmaceuticals, medical products, and water treatment. With the more recent addition of nanotechnology to our portfolio of core technologies, today we develop a variety of advanced materials used mainly in four major growing business fields: Information, Telecommunications, and Electronics; Automobiles and Aircraft; Life Science; and Environment, Water-related and Energy.

Under the corporate slogan "Innovation by Chemistry," Toray will continue striving to contribute to society through the creation of new value by using its four core technologies and their integrated technologies with various processing technologies.
2. Business Models

In October 2006, we launched "Project Innovation TORAY 2010 (IT-2010)") to help realize our long-term corporate vision, “AP-Innovation TORAY 21.” The project’s goal is to maintain sustainable growth of Toray Group within a rapidly changing business environment. It seeks to transform Toray into a highly profitable business group through radical reforms to the business structure brought about by dynamic technological innovation and unrelenting efforts to strengthen competitiveness.

We predict changes in the business environment over the next 10 years, characterized by such factors as the emergence of a highly information-based society, the realization of sophisticated transportation systems due to stepped-up industrial advances, greater health and longevity and advances in life science, and the emergence of global environment issues, including decrease of water resources. To cope with these challenges, we have established four major growing business fields as pivotal domains to be targeted by Toray Group: (1) Information, Telecommunications and Electronics; (2) Automobiles and Aircraft; (3) Life Science; and (4) Environment, Water-related and Energy. Toray Group utilizes its core technologies and the ability to integrate them in the pursuit of technological innovation. Through the development of advanced materials, the Group continues to supply customer solutions in its quest to become a “global top company of advanced materials.”

<table>
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<th>Four Major Growing Business Fields Targeted by Toray Group</th>
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| **Information, Telecommunications and Electronics** | • Expand business targeting the rapidly growing market for digital network-related products, including flat panel displays, cellular phones, and personal computers  
• Develop and expand sales of innovative products through vertically integrated alliances with customers  
• Strengthen competitiveness by integrating various businesses, from plastic resins and films materials to components |
| **Automobiles and Aircraft** | • Develop new products in response to the growing hybrid car and car electronics markets  
• Increase applications of carbon fiber composite materials and engineering plastics by taking advantage of expanded functionality  
• Actively boost capital investment to meet growing demand for carbon fiber composite materials |
| **Life Science** | • Commercialize new drugs currently under development and broaden the new drug pipeline  
• Develop and commercialize high value-added medical devices  
• Create innovative bio-tools through the integration of biotechnology and nanotechnology |
| **Environment, Water-related and Energy** | • Develop applications for fibers & textiles, plastic resins, and films made from non-petrochemical materials such as polylactic acid  
• Globally expand our water treatment business, centering on high-performance separation membranes  
• Develop materials for next-generation energy sources, including solar cells, fuel cells, and wind-power generation |
The research and development activities of Toray Group are divided into seven segments, one for each business domain. They are: Fibers & Textiles; Resins & Chemicals; Films; Electronics & Information Related Products; Carbon Fiber Composite Materials; Life Science (pharmaceuticals and medical products); and Environment (water treatment).

The "Business Categories, R&D Segments, and Business Segments" chart shows the relationship between business categories and R&D/business segments.

### 1. R&D Segments

The Toray Group divides its business operations into three categories—Foundation Businesses, Strategically Expanding Businesses, and Strategically Developing Businesses—and has set clear basic strategies for each category.

In the Fibers & Textiles and Plastics & Chemicals segments, positioned as Foundation Businesses, we are targeting global expansion, pioneering of new products and commercial transactions as a “New Value Creator,” and the promotion of downstream and processing business development to establish a stable earnings foundation. Through the expansion of advanced materials within these Foundation Businesses, meanwhile, we will strive to achieve business advances.

The IT-related Products and Carbon Fiber Composite Materials segments, positioned as Strategically Expanding Businesses, are projected to chart major growth over the years to come. Our goal in these areas is to become more responsive to growing markets, such as information and telecommunications, automobiles, and aircraft. We will prioritize the allocation of management resources to achieve dynamic expansion in these businesses, which we regard as drivers of earnings.

Positioned as Strategically Developing Businesses are the Life Science (including pharmaceuticals, medical products, and bio-tools) and Environment (centering on the water treatment) segments. In our quest to transform these businesses into the next pillar of earnings expansion from 2010—the second stage of our long-term corporation vision, “AP-Innovation TORAY 21”—we have complemented the prioritized allocation of management resources with a policy of strategic development and expansion, encompassing corporate M&A and business alliances.

### 2. Basic Strategies by Business Category

To achieve these goals, the group has set the following strategies:

- **Foundation Businesses**:
  - Global business development
  - Promotion of "New Value Creator"
  - Downstream, processing business development
  - Advanced Materials expansion (automobiles, environment, etc.)

- **Strategically Expanding Businesses**:
  - Priority responses to growth markets (information and telecommunications, automobiles, aircraft)
  - Priority infusion of management resources

- **Strategically Developing Businesses**:
  - Priority allocation of management resources
  - M&A and business alliances

### Overview of Business Categories

- **Foundation Businesses**
  - Fibers & Textiles, Plastics & Chemicals
    - Global business development
    - New Value Creator promotion
    - Downstream, processing business development
    - Advanced Materials expansion
  - Establish stable earnings base
  - Promote advancement of Foundation Businesses

- **Strategically Expanding Businesses**
  - IT-related Products, Carbon Fiber Composite Materials
    - Priority responses to growth markets
    - Priority infusion of management resources
  - Aggressive expansion as earnings driving businesses

- **Strategically Developing Businesses**
  - Life Science, Environment (Water Treatment)
    - Priority allocation of management resources
    - M&A and business alliances
    - Strategic development and expansion

*New Value Creator: The development of new materials and products and the creation of new supply chains to meet customers’ needs.
Over the years, Toray has continued to create a variety of advanced materials through utilizing the following strength.

1. History and culture of creating innovative technologies (emphasis on basic research)
2. Numerous specialist organizations
3. Non-segmented R&D organization
4. Technological integration through industry-government-academia joint research
5. Advanced analytical capabilities (strong links to Toray Research Center)

To accelerate the R&D process, we select research themes judged to have the greatest impact on future business from the many available themes. The selected themes, which we call top priority “APEX 40” themes, are targeted for pivotal allocation of management resources.

With regard to new major themes that have advanced from the R&D stage to the technology development stage, we assign dedicated leaders to coordinate all divisions, from research and technology to production and sales, from the initial stages of development. Under this format, we have set up “Advanced Materials Projects” with the goal of achieving early product launches in no more than two years. Our goal is to speedily link the achievements of research and technology to the successful commercialization of specific themes.

APEX 40 and Commercialization Processes

APEX 40
Strategic allocation of management resources to 40 top priority themes

APEX Challenge
Increase themes reaching the next stage

Commercialization Examination Stage
Advanced Materials Project
Divisions/Departments Technical Departments, Manufacturing Departments

Strengthen intellectual property capabilities

R&D Investment Strategies

In FY Mar/07, Toray Group’s R&D expenses amounted to ¥42.3 billion, equal to 4.5% of net sales (excluding sales by trading subsidiaries). R&D expenses by each business segment as a percentage of total R&D expenses are shown in the pie charts below.

In our IT-2010 mid-term business strategies, we have outlined a plan to spend a total of ¥240 billion on R&D over the five year period from FY Mar/07 through FY Mar/11. We will allocate 80% of that total to strategic areas.

Of Toray Group’s 3,000 employees engaged in R&D, we will assign around two-thirds to work in advanced materials.

R&D Expenditures (Past Three Years)

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<td>FY Mar/05</td>
<td>313</td>
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<td>FY Mar/06</td>
<td>326</td>
</tr>
<tr>
<td>FY Mar/07</td>
<td>338</td>
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FY Mar/07 R&D Expenses by Business Segment

- Fibers & Textiles: 24%
- Plastics & Chemicals: 19%
- IT-Related Products: 14%
- Carbon Fiber Composite Materials: 10%
- Environment & Engineering: 5%
- Life Science & Other Businesses: 28%

Ratio of R&D Investment under IT-2010

- Advanced Materials: 20%
- Basic Materials: 80%

Toray Group channels keen energies into obtaining patents in all of its R&D segments, with the key focus on advanced materials. This is particularly true of the Strategically Expanding Businesses and Strategically Developing Businesses, positioned as drivers of mid-term and long-term earnings growth, with vigorous patent applications made both in Japan and overseas.

Toray has conventionally concentrated its patent applications and procurement of patent on synthetic fibers, films, and engineering plastics in the basic materials businesses, which have led to high market share and profitability.

At present, we are enhancing patent applications and procurement of important patents in advanced materials expected to expand in the four major growing business fields: Information, Telecommunications and Electronics; Automobiles and Aircraft; Life Science; and Environment, Water-related and Energy. We consider this strategy instrumental in supporting our growing business fields over the years to come.

2. Patent Selection and Concentration

In the course of shifting to a “Selection and Concentration in Patent Administration” policy, Toray has designated “Rank-A Projects” as top priority issues in the administration of patents. Under this approach, we appoint a leader and supervising executive for each project, and provide additional support through regularly scheduled follow-ups by technical division executives.

The following three “Rank-A Project” categories are currently in force.
(1) “Rank-A Patent Procurement Projects,” with the objective of establishing networks of patents for new technologies and related peripheral technologies through applications and procurement of claims for patent rights;
(2) “Rank-A Defense Projects,” targeting early clarification of relations with patent rights owned by other companies that are influential on important research and technology development, and prompt determination of countermeasures to address patents of other companies determined to have a major impact on Toray’s business; and
(3) “Rank-A Rights Enforcement Projects,” structured to fight infringement of Toray patents by other companies through proper enforcement of Toray’s rights, efforts to curb such infringement by other companies, and to obtain rightful compensation for practice of Toray’s patented invention by other companies.

Rank-A Projects are established in many technologies in major fields which are typified by advanced materials businesses in the four major growing businesses.

3. Reinforcing Intellectual Property Capabilities

We are reinforcing our intellectual property capabilities through initiatives to strengthen our research and technology foundation under the “R&D Capabilities Innovation Project,” one of eight projects implemented under IT-2010. Measures here include increasing incentives, improving the quality of patents, and enhancing patent education.

(1) Increasing Incentives for Inventions

For invention incentives, Toray has long maintained a compensation system for employee inventions ingenuity. This system includes fixed-sum compensations at the time of patent application and registration (including overseas patents in both cases) and performance compensations based on profits through the use of patent inventions and license fees. However, in order to effectively address the amended Patent Law and recent trends in court rulings, we revamped these internal rules with a focus on assessment procedures and removal of the cap amount of compensations. The revised rules, which were enacted on April 1, 2005, have raised the amount of compensations for inventions from the previous levels, and are expected to promote outstanding inventions so that Toray’s competitive strength over the years to come will be raised.

In FY Mar/07, we established an award system for not only inventors, but also others in Toray who make a valuable contribution to patent-related activities. We hope that our multifaceted system of incentives will lead to further vitalization of activities related to intellectual properties.

(2) Improving the Quality of Patents

Toray provides various tools to facilitate improvements in the quality of patents. They include conducting thorough prior art searches before filing patent applications and providing opportunities that enable inventors to communicate with patent practitioners in preparation for new patents applications. For example, the prior art searches are undertaken by patent searchers assigned to technical departments charged with the primary role of patent searches.

(3) Enhancing Patent Education

Multifaceted and multilevel education in patents is given to general managers through to new employees and frontline sales staff, with the aim of improving “patent mind” and fostering practical skills of the staffs in the marketing & sales and technical departments. The efficacy of this patent education is tested annually when researchers and engineers sit a Patent Operational Assessment Qualification Test. The test objectively assesses their legal knowledge of patents as well as practical skills. The results of the tests are reflected in the performance evaluations of employees working in technical areas.
With "Innovation by Chemistry" as its corporate slogan, Toray Group rises to the challenge of creating innovative new materials and technologies, determined to become a global top ranked business group at the leading edge industry on the strength of advanced materials.

As evidence of this commitment, Toray has introduced new product lines that have emerged as Foundation Businesses for synthetic fibers, high-performance films, and engineering plastics. We have likewise extended product lines that have forged new businesses in carbon fiber composite materials, electronics & information materials, printing materials, water treatment and medical high-performance membranes, fine chemicals, pharmaceuticals, and veterinary medicines.

Toray Group will lead advanced industries of the 21st century by developing environmentally friendly new materials, innovative materials used to create new displays, circuits, and semiconductor technology, advanced materials for bio-tools, innovative pharmaceuticals, and medical products, and supplying solutions in our four major growing business fields ("Information, Telecommunications, and Electronics," "Automobiles and Aircraft," "Life Science," and "Environment, Water-related and Energy").

1. Fibers & Textiles

Toray has built a solid position in the Fibers & Textiles field, supplying a host of products—from filament yarns and staple fibers of three major synthetic fibers (nylon, polyester, and acrylic) to textiles—for a wide range of applications, from apparel to industrial.

Recent results include the development of "nanofiber," a fiber that is one-thousandth the thickness of a human hair. Another example is a joint project with the "Toray Synthetic Fiber Cluster" concerning Foresse,* Toray's environmentally friendly cellulosic fiber produced by the "melt spinning method." The project’s aim is to develop textiles that utilize the ultra-light weight, ultra-softness, and other unique advantages of this fiber.

2. Resins & Chemicals

In plastic resins, Toray has exploited advances in polymerization and molecular designs, polymer alloy composites, molding processing, and other fundamental technologies to achieve excellent performance and function in ABS (acrylonitrile-butadiene-styrene) resin and nylon, polybutylene-terephthalate, polyphenylene sulfide, liquid-crystalline polyester, and other engineering plastics. This is paving the way for the use of such plastics in information and telecommunications devices, as well as automobile parts.

A recent example is Toray's success in developing the world's first "nano-alloy." Nano technology is used to combine or "alloy" two plastics with opposing material characteristics to produce a material that draws on the superior properties of each material. This technology has been used to develop the world's first impact-absorbing plastic in collaboration with a Yamagata University research group. The research is part of a project on Nanostructured Polymeric Materials sponsored by the New Energy and Industrial Technology Development Organization (NEDO).

In chemicals, Toray continues to advance its basic materials businesses based on photosynthesis, organic synthesis, and air oxidation, high-performance chemical materials businesses based on organic and inorganic synthesis technologies and veterinary medicine, where we apply biotechnology using silkworms.

In a recent example involving a new advanced material, Toray has succeeded in enhancing the performance of high-purity two-layer carbon nanotubes. This success is expediting the development of applications, such as prototype high-brightness electron guns with electron emission capability.
3. Films

In films, Toray was the first in Japan to commercialize biaxially oriented polyester film, which together with biaxially oriented polypropylene film has been leading the world in the field of high-performance and high-function films. We are also the global pioneer in the development and commercialization of biaxially oriented polyphenylene sulfide and aramid films.

To date, we have utilized our original film thickness control technology, special stretching technology, surface forming technology backed by film laminating methods, coating, cleaning, and static electricity control technologies, and nano-alloy technology. We have used these optimal functions to support various industrial applications in such areas as flat panel displays, packaging applications for retort foods, and magnetic materials applications for computer memory backups.

4. Electronics & Information Related Products

In Electronics & Information Related Products, Toray mobilizes its fundamental technologies in such areas as polymer design of heat resistance properties and optical functionality, organic synthetics, particle dispersion, thin layer-film forming, and photo-lithography to develop semiconductor buffer coating, insulator, and flexible substrate materials for optical devices and printed circuits, high-k insulator materials, ceramic substrate materials, color filters for liquid-crystal displays, plasma display rear panel forming technology, and low-molecular organic electroluminescent (EL) light-emitting materials.

Recent successes include development of halogen-free chemical mechanical polishing (CMP) pads with excellent planarization, as well as the world’s highest-density film circuit for IC bonding applications. Toray applied our proprietary polymeric molecular design technologies to create a technology that makes soluble polyimides and photosensitive agents compatible and has developed photosensitive polyimide coatings that combine thermal resistance and low-temperature curing and can also be developed with alkaline developers.

In tandem with its materials development, Toray also supports the electronics and information industry by developing high-function, manufacturing and testing equipment for semiconductors flat panel displays, and other applications.

Finally, we are gearing up to supply organic electronic products, such as flexible displays and organic solar cells, which are potentially huge market. To this end, we have made excellent progress in advancing research into organic semiconductors, flexible sheet materials, and other related components.

5. Carbon Fiber Composite Materials

Toray Group is the world’s largest manufacturer of carbon fibers and supplies carbon fibers, intermediate materials (such as fabrics and prepregs* of carbon fibers), and carbon fiber composites utilizing molding technologies. Here, we target applications in the aircraft, sports, civil engineering, automobiles, electronic information devices, and energy industries.

In aircraft applications, a large quantity of carbon fiber has been used as a primary structural material in the Airbus A380, a new large passenger aircraft that entered service in 2007. Boeing is also using Toray’s carbon fiber composite materials in its new passenger aircraft, the Boeing 787, scheduled to enter service in 2008. The materials, which account for 50% of the weight of the aircraft’s structural materials, were adopted to enable fuel savings during flight. The total weight of carbon fiber composite materials used as both primary and secondary structural materials per aircraft is expected to reach approximately 30 tons. In addition to this increase in demand for aircraft applications, we expect further demand to be created by alternative energy-related applications, including CNG tanks, as well as the widespread adoption of carbon fiber in future automobile applications. To meet increased demand, we are boosting integrated production of precursors and prepregs in the United States and expanding our production facilities in Japan.

A more recent success is Toray’s development of the world’s first metal-free metallic film with easy moldability. This was achieved using Toray’s proprietary high-precision multilayer (nano-multilayer) technologies enabling lamination of many different polymers at molecular order thickness of several nanometers.

Toray has also developed an environmentally friendly, flexible polyester film with easy moldability. Toray developed the film using its proprietary reactive extrusion technology by adding a highly concentrated, plant-based long-chain lipid compound.

Toray is also working on packaging and other applications for its environmentally friendly polylactic acid (PLA) films.

A recent success in this field is Toray’s development of the first mass production technologies in the world for industrial materials with complicated shapes made from carbon fiber composites. The technologies enable both flexible design and mass production comparable with that of other industrial materials, such as plastics and metals. Toray is continuing to work on their application in a diverse range of mass-produced items, including laptop computer casings, automotive parts, medical devices, and robot materials. Toray received an award from The Society of Polymer Science, Japan, in recognition of the innovative features of these new technologies.

*Prepreg: Sheet-form carbon fiber impregnated with resin
6. Life Science

In pharmaceuticals, Toray has commercialized a number of products, such as the natural interferon-\(\beta\) preparation Feron* (based on biotechnology) and the world’s first oral prostacyclin derivative preparation Dorner* (based on synthesis technology). In medical products, our offerings include Filtryzer* and Toraysulfone* (artificial kidneys with polymer biocompatibility and separation function) and Toraymyxin* (extra-corporeal blood purification column). These unique products are earning high admiration for their quality and performance.

One recent achievement is the granting of approval for Toray’s natural interferon-\(\beta\) drug Feron* for use in Japan to treat viremia associated with hepatitis C compensated cirrhosis. Consequently, Feron* is the first antiviral drug in Japan found to be effective in the treatment of hepatitis C compensated cirrhosis.

In another success, Toray has applied for approval for its antipruritic drug, developed jointly with Japan Tobacco Inc. and Torii Pharmaceutical Co., Ltd., for treating uremic pruritus in hemodialysis patients in Japan. The three companies also signed an agreement for the joint development and marketing of this drug for the treatment of hepatic disease-related pruritus.

Toray has been working on the development of a hepatitis C virus (HCV) vaccine following its success in the world’s first in vitro cultivation of the HCV in joint research conducted with the Tokyo Institute for Neuroscience, Tokyo Metropolitan Organization for Medical Research. Toray recently confirmed that experiments using mice have shown for the first time in the world that HCV particles produced and inactivated using this method have the potential for practical use as an HCV vaccine.

Toray’s New Frontiers Laboratories conduct research that integrates nanotechnologies and biotechnologies. It developed ultrahigh-sensitivity DNA chips featuring a 100-fold sensitivity compared with existing chips and released a number of chips: a genome-wide microarray with an entire set of yeast genes, DNA chips used for the analysis of human gene expression used in research on autoimmune diseases, metabolic syndrome and digestive cancer, and a chip used by industries to monitor the bioremediation of contaminated soil.

We have also developed a protein analysis chip that enables the detection of marker proteins using an extremely small blood sample.

7. Environment (Water Treatment)

In water treatment, Toray targets scientific and technological solutions to water environment problems. Responding to today’s highly diversified water treatment needs, we are advancing programs to further expand the depth and breadth of our technologies. Here, we focus on the outstanding polymeric separation technology perfected by Toray Group. We have deployed our own polymer processing technologies to create innovative selective separation membranes for use in seawater desalination, ultrapure water production, water purification, and sewage treatment. In the process, we have made important and direct contributions to technological solutions for today’s water and environmental problems.

Toray is also actively developing high-efficiency, low-cost water treatment systems, which use these high-performance membranes and incorporate the latest breakthroughs in biotechnology.

Recent results include the development of high-boron rejection reverse osmosis membranes for seawater desalination with pore diameters controlled at sub-nanometer precision. These products incorporate Toray’s original molecular design technology. Toray has also developed Torayfil*, a hollow-fiber ultrafiltration membrane module made from polyvinylidene fluoride (PVDF) that can operate at half the conventional filtration pressure. These modules significantly reduce the amount of flocculants and chemical purifiers used for treating contaminated raw water, and also lower energy and running costs.
1. R&D and Intellectual Property Organization

In 1985, Toray has built a research and technological development organization centering on its Technology Center. The role of the Center is to draft companywide strategies and key projects for research and technological development. In the Fibers & Textiles, Resins & Chemicals, Films and Carbon Fiber Composite Materials businesses, our current organization allows the Business Divisions, Manufacturing Division, and Technology Center to cooperate with each other while maintaining their own independence. In the Electronics & Information Related Products and Water Treatment & Environment businesses, we have established an organizational structure that integrates production and marketing and sales to allow highly flexible business management, prompt customer responses, and expedited technological development. In addition, we are building an organizational structure for life science business that combines those two types of organizational structures.

Each laboratory and technical department conducts R&D keyed to its own business operations. At the same time, they target approaches that cut across divisional borders to address the lateral evolution of collaborative research and fundamental technologies, probing solutions for emergency problems, and taking other pertinent actions.

To speed up all processes, from development to commercialization, we have established “Advanced Materials Projects” within the New Projects Development Division. Under this arrangement, we can clarify which business units should become the recipients of research and technological development outcomes, with dedicated project leaders stepping in to determine the term of the project. We have fully integrated the research, technology, production, and marketing and sales functions in order to expedite the work required to complete and commercialize the plans.

In 2002, we established Toray Fibers & Textiles Research Laboratories (China) Co., Ltd. (TFRC) in Nantong, Jiangsu Province. The activities of this, its first foreign affiliate, reflect the importance we attach to promoting R&D activities in China, a country with huge human resources and market growth potential. In 2004, we established a research facility in Shanghai to conduct research on water treatment and polymer materials using nanotechnologies.

Toray’s intellectual property organization was strengthened by the establishment of the Intellectual Property Division under the direct control of the president. Coinciding with the start of the Group’s IT-2010 mid-term business strategies, the new division affirms the importance attached to intellectual property by those both inside and outside the Group. It also ensures even greater links between management strategies and intellectual property strategies.
2. **R&D Collaboration and Partnerships**

Based on the policy that future research and technology development expands opportunity through outside R&D cooperation, Toray uses strategic outside partnerships to advance optimum technology mixes. True to this conviction, we are promoting energetic collaboration with outside sources through 150 partnerships and active participation in 35 national projects (as of March 2007) with various bodies, including NEDO and the Ministry of Economy, Trade and Industry.

One such project is a national project for the “Advanced Materials & Process Development for Next Generation Aircraft Structure,” conducted in collaboration with Fuji Heavy Industries Ltd. As part of this project, we have succeeded in developing a new resin for visible light curing that is safe and can be molded in a short period of time.

Research conducted with Kyoto University using Toray’s world-leading protein analysis technique has led to the discovery of new cancer markers that enable the early detection of bladder cancer.

In China, the Toray Fibers & Textiles Research Laboratories is pursuing research through close collaboration with Chinese universities, research institutes, and companies. This facility’s strategy of recruiting and training exceptional employees not only plays an important role in securing technical staff for Toray Group, but also positions the facility as a training center for employees who will be deployed in other countries in the future.

### Strengthening External Alliances

<table>
<thead>
<tr>
<th>Strategies</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic alliances with universities and state-funded research organizations</td>
<td></td>
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<tr>
<td>Active participation in alliances with universities and national projects</td>
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<tr>
<td>Dispatch students overseas</td>
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<tr>
<td>Laboratory space made available at the New Frontiers Research Laboratories</td>
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<tr>
<td>Alliances with RIKEN, etc.</td>
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<tr>
<td>Strategic alliances with leading companies</td>
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<td></td>
</tr>
<tr>
<td>Alliances with material manufacturers</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Structural alliances with leading customers</td>
<td></td>
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</tr>
<tr>
<td>Strategic alliances with venture companies</td>
<td></td>
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<tr>
<td>Gathering information by visiting other companies/organizations</td>
<td></td>
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<tr>
<td>Gathering information through a branch at the U.S. west coast</td>
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</tr>
</tbody>
</table>
1. **Procurement and Management of Intellectual Properties**

For procurement and management of patents, Toray adheres to its Patent Management Regulations and Patent Management Standards. These rules are permanently accessible on our intranet. Trademarks are handled in a similar manner with internal rules, including Trademark Management Regulations; Trade Name, Corporate Symbol and Brand Management Regulations; and Trademark Management Standards. These rules are disclosed throughout the company.

For patents, we have set up a “patent committee” within each business to discuss details and complete all required procedures. Participating in these committees are patent practitioners against patents of other companies of the Intellectual Property Department and Toray Intellectual Property Center, as well as members of the research, technology and business (sales) departments in each business. In this way, we adopt an integrated approach to the management of intellectual properties, research and technological development, and business strategies.

The patent committees provide a particularly useful forum for making key policy decisions to determine the technological areas on which patent application are focused, inventions for which applications should be filed, existing applications for which file requests for examinations, and patent rights that should be maintained or abandoned. Discussions likewise extend to the defense enforcement, of patent rights, and other key concerns.

2. **Management of Trade Secrets and Prevention of Technology Leakage**

In 2007, Toray established its own Confidential Information Management Regulations, based on earlier information management systems. We took this step due to the need for measures to enable more strict and systematic information management and to prevent information leakage in response to the growing needs for (1) prevention of unfair competition, (2) protection of personal information, (3) security trade administration, and (4) protection of classified information. We took this opportunity to also tighten our management of electronic information, which has become increasingly important to cope with risks in information leaks. These additional measures supplement our existing Electronic Information Security Standards. We also conduct regular internal audits and other measures to ensure the proper management of classified business information and technical information and prevent information leaks. Regular internal audits also permit effective management and prevent leakage of trade secrets.

3. **Brand Strategy**

“*Innovation of business awareness*” is defined as a key objective of the Group’s IT-2010 mid-term business strategies. To this end, we promote the “*Corporate Brand Strengthening Project,*” headed by an executive vice president and representative director.

This project exercises strict control over all intellectual properties that symbolizes Toray Group corporate activities, with the aim of advancing effective corporate brand strategies. Such intellectual properties include corporate brands, indicating the reasons for the company’s existence and originalities, corporate brands, indicating the reasons for the company’s existence and originalities, such as the “Toray Industries, Inc.” company name, as well as the “TORAY” corporate symbol, the three written versions of “Toray” used as trademarks, and the “toray.co.jp” and “toray.com” corporate domain names. Toray Group, expresses the company’s willingness communication with the internal and external members and communication, together with its aspiration to excel as a distinctive presence within society. This symbol is registered as a trademark for the primary businesses of Toray Group in over 150 countries around the world for which we have established exclusive use rights. We have also adopted rigid defensive measures to deal with unauthorized use by third parties.

One of our missions is to forge a broad understanding by the society of Toray Group’s goals in preserving the global environment and contributing to the creation of a recycling-oriented society. To this end, we have established ecodream as a brand encompassing all of our business activities, products, and services linked to the environment and recycling. Toray Group makes concerned efforts together to enhance environmental presentation activities.

In our quest to become a “global top company of advanced materials,” we have also established TOREX as a brand expressing the promise of high quality and grade mainly in advanced fiber and textile materials. We are actively utilizing and expanding this brand in Japan and China. Toray Group has obtained and is properly managing some 1,200 patented product brands that are protected by approx. 8,000 trademark rights. In all of our businesses, we actively promote product brand strategies as an important part of strengthening our business foundation.
Contribution of Licensing-related Activities to the Businesses

Toray Group rigorously promotes the procurement and enforcement of intellectual property rights as a way to distinguish its products and technologies and establish a competitive edge in the marketplace. At the same time, we consider cross-licensing as an important strategy in maintaining the continuity and expanding the sphere of our business. To improve overall business profitability, we energetically promote licensing operations not only for rights on technologies that are not used within the Group, but also for those that we do use internally. Although generating income through licensing is not considered to be an optimal approach for doing business, it bears mention that patent fee revenues have constituted a profitable arm of our corporate operations for many years.

Contribution of Patents to the Businesses

1. Valid and Enforceable Japanese Patents (Total for Toray Industries, Inc. and 31 Japanese and overseas affiliates at end March 2007)

Toray Group takes an aggressive approach to obtaining business patents with high potential for use in developing advanced materials, and will firmly maintain this stance in the future.

In recent years, we have engineered a pronounced shift in emphasis from quantity to quality, which translates into greater stress on improving the quality patents of our products. This has resulted in a more stringent focus on cost awareness and operational efficiency for determination of whether or not to file patent applications or to file a request for examination for our patent, applications as well as when rendering judgments on whether to maintain or abandon existing patent rights. At the end of March 2007, the number of valid and enforceable patents in Japan was 3,265, of which 1,387 (42.5%) were currently used within the Group, 1,122 (34.4%) were scheduled to be used in the future, and 756 (23.1%) were patents for defense and other applications. The following chart breaks down these patents by specific R&D segment.

<table>
<thead>
<tr>
<th>Number of Valid and Enforceable Japanese Patent at end March 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
</tr>
<tr>
<td>756</td>
</tr>
</tbody>
</table>

2. Valid and Enforceable Foreign Patents (Total for Toray Industries, Inc. and 31 Japanese and overseas affiliates at end March 2007)

At the end of March 2007, the number of our valid and enforceable patents in countries other than Japan was 3,356, with the following chart breaking down these patents by specific R&D segment. The large number of foreign patents for Electronics & Information Related Products, Carbon Fiber Composite Materials, and Life Science compared with Japanese patents owned in those areas reflects Toray's goal of expanding its operations globally in these businesses.

<table>
<thead>
<tr>
<th>Number of Valid and Enforceable Foreign Patents at end March 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
</tr>
<tr>
<td>474</td>
</tr>
</tbody>
</table>

During FY Mar/07, the number of applications for Japanese patents filed by Toray Industries, Inc. and 31 Japanese affiliates was 2,105, with the following chart breaking down these applications by R&D segment. The relatively high number of applications for these patents compared with that of enforceable patents in Japan, and particularly in Electronics & Information Related Products, Carbon Fiber Composite Materials, and Life Science, reflects the Toray Group’s policy of actively applying for new patents in its Strategically Expanding Businesses and Strategically Developing Businesses.

3.1 Number of Japanese Patent Applications in FY Mar/07

<table>
<thead>
<tr>
<th>R&amp;D segment</th>
<th>Number of Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibers &amp; Textiles</td>
<td>370</td>
</tr>
<tr>
<td>Resins &amp; Chemicals</td>
<td>339</td>
</tr>
<tr>
<td>Films</td>
<td>382</td>
</tr>
<tr>
<td>Electronics &amp; Information Related Products</td>
<td>362</td>
</tr>
<tr>
<td>Carbon Fiber Composite Materials</td>
<td>240</td>
</tr>
<tr>
<td>Life Science</td>
<td>176</td>
</tr>
<tr>
<td>Water Treatment</td>
<td>89</td>
</tr>
<tr>
<td>Others</td>
<td>147</td>
</tr>
<tr>
<td>Total</td>
<td>2,105</td>
</tr>
</tbody>
</table>

4. Track Record of Industry Awards

4.1 Awards Received in FY Mar/07

**Invention Commendations**

<table>
<thead>
<tr>
<th>Name of award</th>
<th>Region</th>
<th>Awarded for</th>
<th>R&amp;D segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement of Invention Prize</td>
<td>Chubu</td>
<td>Moisture absorbent-repellent nylon, Quup*</td>
<td>Fibers &amp; Textiles</td>
</tr>
<tr>
<td>Encouragement of Invention Prize</td>
<td>Chubu</td>
<td>White, flame-retardant nylon 66 technology</td>
<td>Resins</td>
</tr>
<tr>
<td>Encouragement of Invention Prize</td>
<td>Kinki</td>
<td>Manufacturing equipment and methods for para-based aramid films</td>
<td>Films</td>
</tr>
<tr>
<td>Encouragement of Invention Prize</td>
<td>Shikoku</td>
<td>Manufacturing methods and equipment for carbon fiber fabrics</td>
<td>Carbon Fiber Composite Materials</td>
</tr>
<tr>
<td>Encouragement of Invention Prize</td>
<td>Shikoku</td>
<td>Automotive propeller shaft with high impact safety</td>
<td>Carbon Fiber Composite Materials</td>
</tr>
</tbody>
</table>

**Other External Awards**

<table>
<thead>
<tr>
<th>Name of award</th>
<th>Name of institution</th>
<th>Awarded for</th>
<th>R&amp;D segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Society of Fiber Science and Technical Award</td>
<td>Society of Fiber Science and Technology</td>
<td>Development of nano fibers using the melt spinning method</td>
<td>Fibers &amp; Textiles</td>
</tr>
<tr>
<td>Green and Sustainable Chemistry Award</td>
<td>Green and Sustainable Chemistry Network</td>
<td>Development of environmentally friendly waterless CTP plate and printing system</td>
<td>Electronics &amp; Information Related Products</td>
</tr>
<tr>
<td>Japan Society for Composite Materials Technical Award</td>
<td>Japan Society for Composite Materials</td>
<td>Development of high-cycle, large integrated molding technology using the RTM (Resin Transfer Molding) method</td>
<td>Carbon Fiber Composite Materials</td>
</tr>
<tr>
<td>Chemical Society of Japan Award for Technical Development</td>
<td>Chemical Society of Japan</td>
<td>Development of an innovative blood pre-treatment device and the ultrahigh sensitivity protein analysis technique using that device</td>
<td>Life Science</td>
</tr>
<tr>
<td>Distinguished Service Award for Training and Education</td>
<td>Information Science and Technology Association Japan</td>
<td>Excellence in training related to information science and technology</td>
<td>Others</td>
</tr>
</tbody>
</table>
Policies for Intellectual Property Portfolio

As noted in Part 3 of this Report, Toray Group manages its intellectual property portfolio with a close eye on the future profitability and technical innovation of each technology and product. We have established "Rank-A Projects" for technologies assigned particularly high importance, with invention activities promoted on a prioritized basis. These projects promote activities of the formation of networks of patents through the creation of patent maps to grasp technologies and patents of other companies, and establishment of subsequent strategies for enforcement of the patent rights.

Information on Risk Response

As part of its defensive-oriented intellectual property activities, Toray regularly monitors the patents of its competitors in each technology. Our policy likewise requires mandatory confirmation of competitors' patents before any new product is released on the market, and judgments of whether patents are infringed upon. If obstacles are identified, the next step is to draft and execute countermeasures to remove such obstructions. At the present time, there are no intellectual property related lawsuits in the courts judged capable of exerting a serious impact on the business interests of Toray Group.

Note

The plans, prospects, and strategies referred to in this report are merely assumptions based on currently available information. They are subject to revision in the event of changes to Toray Group's operating conditions, the emergence of new technical innovations, and changes to the intellectual property environment.

* is a registered trademark of Toray Industries, Inc. and Toray Group.