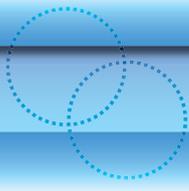


# Intellectual Property Report

April 1, 2008—March 31, 2009

2009



# Introduction

Under the corporate slogan “Innovation by Chemistry,” in April 2006 Toray Group formulated the “AP-Innovation TORAY21” long-term corporate vision. In keeping with this vision, Toray Group is rising to the challenge of innovation not only in technology but also in every aspect of our corporate activities, driven by our aspiration to become a “global top company of advanced materials.” Subsequently, in October 2006 we commenced “Innovation TORAY 2010 (IT-2010),” a set of mid-term business strategies under which we have strived for further growth through innovation in working to realize our long-term corporate vision.

However, with the dramatic change in the business environment accompanying the severe global economic downturn since autumn 2008, Toray has thus focused on improving cash flows and securing earnings as its top-priority tasks. Accordingly, for the time being we have frozen the numerical targets of management resource allocation and earnings expansion that we set under IT-2010. Additionally, from April 2009 we have decided to focus on overcoming the economic crisis over the next two years under “Project IT-II (Innovation Toray II),” a new medium-term management program. Under “IT-II,” we are promoting three group-wide projects: Total Cost Reduction Project (TC Project), “Action Program for Survival” Project (APS Project) and “Action Program for Growth” Project (APG Project).

In promoting the APS Project and the APG Project, we believe that innovation of technologies through R&D activities will be indispensable. Therefore, we promote the strengthening of our intellectual property capabilities as a crucial theme of both projects because we believe that intellectual property capability is one of the keys to innovation of technologies through R&D activities.

With an increasing awareness that a corporate brand has a significant impact on corporate image and value, we will strengthen and maximize the value of our various brands, including the Toray corporate brand, which represent valuable intellectual property of Toray Group.

To strengthen our intellectual property capabilities, the Intellectual Property Division was established in June 2007 as an independent organization under the direct control of the President to coordinate and control the strategic intellectual property activities for the entire Toray Group.

In this manner, Toray Group is adopting a trilateral integrated approach that incorporates its business strategies, R&D strategies and intellectual property strategies. Concurrently, while continually working to raise Toray Group’s corporate value, we will strive to realize our corporate philosophy of “Contributing to society through the creation of new value with innovative ideas, technologies and products.”

Product names with an asterisk ( \* ) are trademarks of Toray Industries, Inc. or its subsidiaries or affiliated companies.

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# Overview of Toray Group

## ■ Corporate Outline (as of March 31, 2009)

- Name: Toray Industries, Inc.
- Established: January 1926
- Paid-in Capital: ¥96,937 million
- No. of Group companies: Parent company and 135 consolidated subsidiaries (60 Japanese and 75 overseas consolidated subsidiaries)
- No. of employees: 37,924 (consolidated), 7,348 (non-consolidated)

## ■ Corporate Philosophy

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



## ■ Corporate Guiding Principles

<b>Safety and Environment</b>	Placing top priority on safety, accident prevention, and environmental preservation, ensuring the safety and health of our employees, our customers and local communities, and actively promoting environmental preservation
<b>Ethics and Fairness</b>	Obtaining the trust of society and meeting the expectations by acting fairly while maintaining high ethical standards and a strong sense of responsibility and maintaining transparency in management
<b>Customer Focus</b>	Providing customers with new values and solutions, and achieving sustainable growth together
<b>Innovation</b>	Achieving continuous innovation in all corporate activities, and aiming for dynamic evolution and growth
<b>Fieldwork and Initiative</b>	Strengthening fieldwork abilities and initiative, the foundations of our corporate activities, through consistent learning from one another and constant self-driven efforts
<b>Global Competitiveness</b>	Pursuing competitiveness through global top quality standards and cost management, and achieving growth and expansion in the global marketplace
<b>Global Coalition</b>	Developing global coalition through integrated internal linkages and strategic alliances with external parties
<b>Emphasis on Human Resources</b>	Providing an environment where employees find value in their work, and building positive, energetic relationships between people and the organization

# 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; polyolefin 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 and semiconductor-related materials; LCD color filters and its related materials and equipment; materials for plasma display panels; magnetic recording materials; graphic materials and IT-related equipment, etc.

## ■ Carbon Fiber Composite Materials

Carbon fibers, carbon fiber composite materials and their molded products

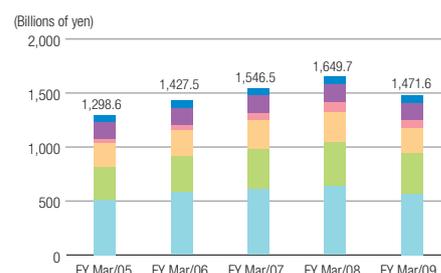
## ■ Environment & Engineering

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

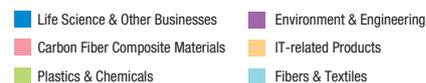
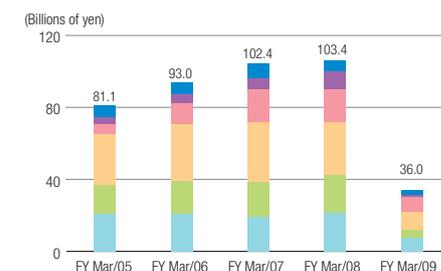
## ■ Life Science & Other Businesses

Pharmaceuticals; medical products; analysis, physical evaluation and research services, etc.

## ■ Net Sales



## ■ Operating Income



# Core Technologies and Management Strategies

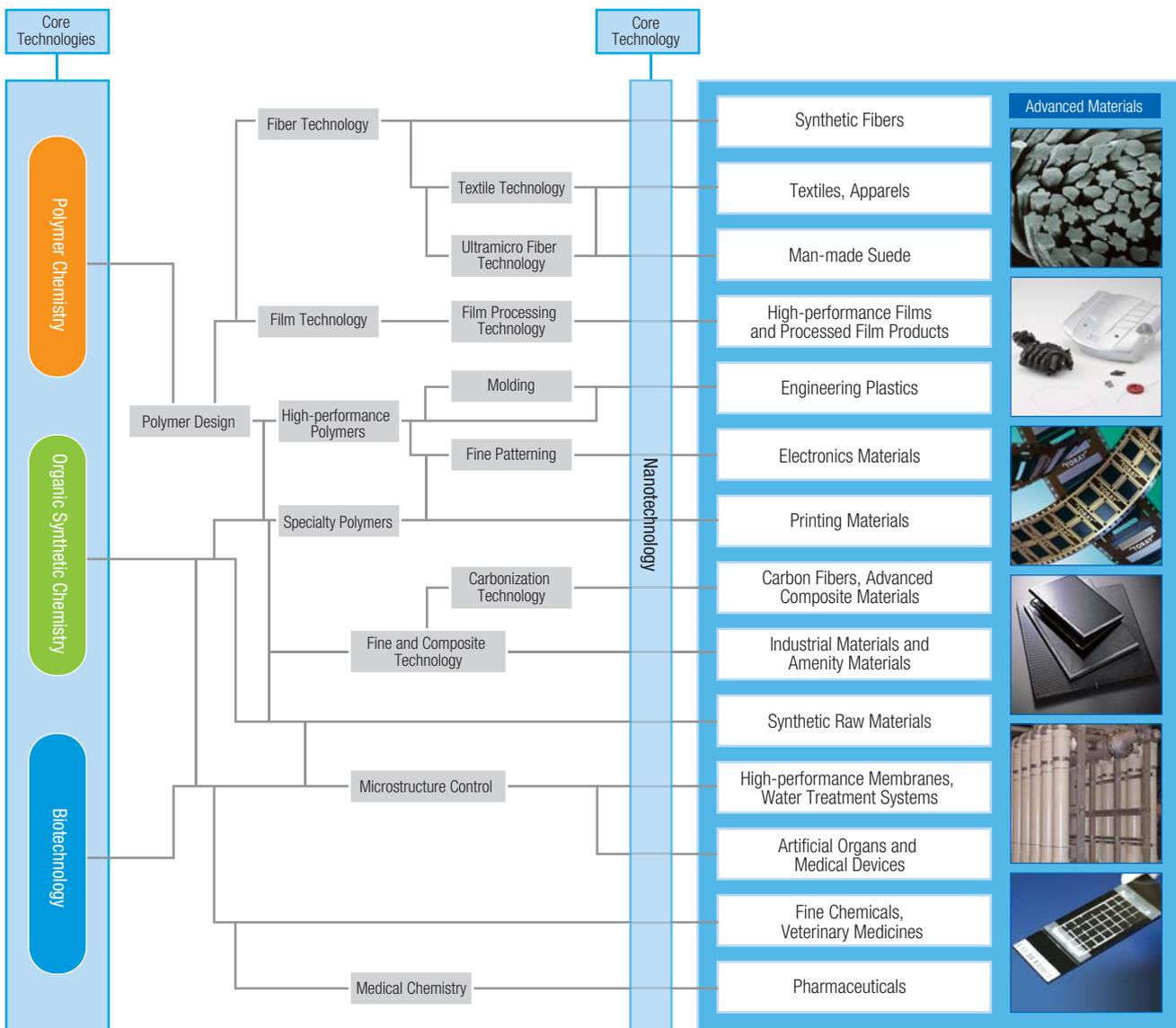
## 1 Core Technologies

Since its foundation, Toray has cultivated “polymer chemistry,” “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 & information materials, carbon fiber composite materials, pharmaceuticals, medical products and water treatment. With the recent addition

of “nanotechnology,” we are now utilizing our four core technologies to develop and commercialize a diverse array of advanced materials for a wide range of industries.

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.

### Toray Technologies and Businesses





# 1 Core Technologies and Management Strategies

Through the TC Project, we will thoroughly reduce all costs to bolster the Group's competitiveness to ensure that Toray overcomes the economic crisis. We will streamline personnel and fixed costs to a scale commensurate with our earnings power while reducing variable costs to the absolute minimum.

Under the APS Project, we will maximize earnings via comprehensive initiatives for "ensuring sales through every possible effort" even in contracting markets.

Given that the world economy is unlikely to quickly return to high growth rates achieved in the past, we will optimize the scale and systems of our businesses based on the medium-term forecast for the business environment in order to thoroughly strengthen our profitability. Moreover, we will review our technology development resources and will realize profits more quickly than planned by accelerating

development themes through the concentration of resources toward top-priority technology development themes expected to make quick contributions to profit.

Under the APG Project, we will promote business from the new perspective of providing solutions to constraints on future economic growth amid ongoing socioeconomic structural changes. In addition to the policies of "transforming to a highly profitable business group" and "expanding advanced materials in four major growing business fields," which are the basic strategies of IT-2010, we will utilize our overall strengths derived from the products and technologies that deploy Toray's core technologies and provide solutions to constraining factors of economic growth such as "environmental issues," "natural resources and energy," and "the aging population with declining birthrates."

## Solution Proposal to Constraining Factors on Economic Growth

Constraints	Solutions	Toray Group Products (Examples)				
		Latest (~ 2010)	Mid-term (~ 2015)	Long-term (~ 2020)		
Preservation of global environment (CO <sub>2</sub> emission reduction, etc.)	Energy conservation	CFRP for aircraft	CFRP for automobiles			
	Low environmental burden	Special PP film for hybrid cars	Energy-saving process with membranes	High-insulating film/foam	High-performance heat-transfer element	
		Halogen-free flame retardant resin/film	Paintless, surface decorating film			
	Air-purification	Air filter	Waterless printing plate			
Depletion of fossil resources and energy	New energy resources	Back sheet of solar cells	CFRP for wind turbine generator	Solar cells manufacturing equipment	Next-generation solar cell	
		Electrode substrate of fuel cells	Lithium-ion battery manufacturing equipment		Electrolyte membrane of fuel cells	
	Recycling	Lithium-battery separator				
		Recycled raw material	Carbon fiber recycling			
Securing of water resources / food stocks	Biomass	Polylactic acid	Thermoplasticity cellulose fiber	Bio-process with membranes	Non-edible biomass polymer	
	Water treatment	RO membrane element and system				
		Hollow-fiber membrane module	MBR membrane module	High virus-removable hollow-fiber membrane	Hybrid seawater desalination/NF membrane	
Aging population with declining birthrates	Curbing medical expenses	Hemodialyzer	Oral antipruritus drug	Urinary incontinence curative drug	Chronic c-type hepatitis curative drug	Inflammatory bowel disease curative drug
		Blood purification device				
	QOL improvement	Air filter	DNA chip	Protein analyzing chip	Leukocyte removal column	Drug delivery system

# 2

## Business Strategies and R&D Strategies

### 1 Basic Strategies by Business Categories

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.

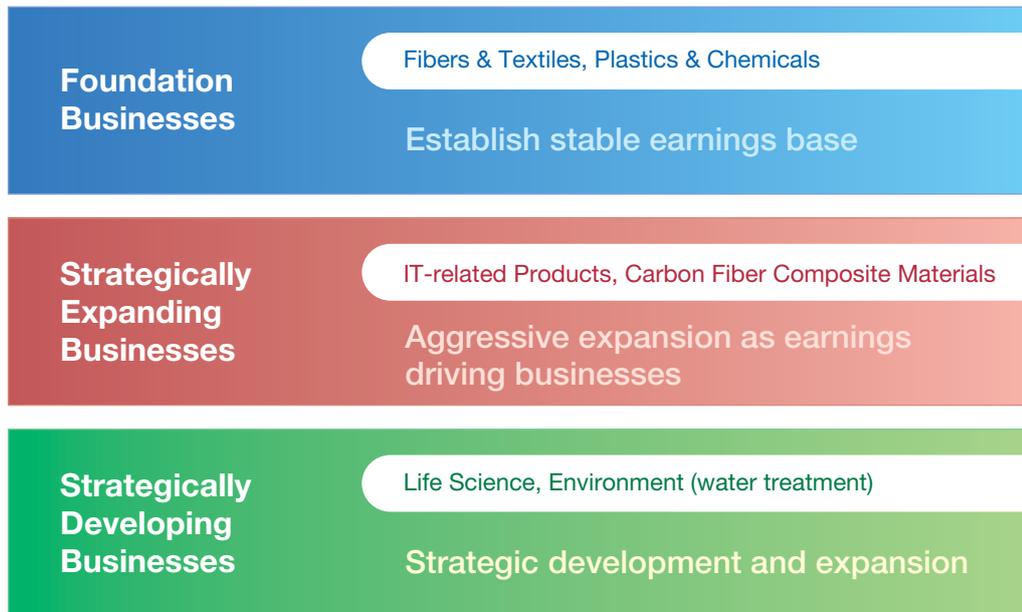
In the Fibers & Textiles and Plastics & Chemicals segments, positioned as Foundation Businesses, we are targeting global expansion, pioneering of new products and new distribution channels, and the promotion of downstream and processing business development to establish a stable earnings foundation.

In the IT-related Products and Carbon Fiber Composite Materials

segments, positioned as Strategically Expanding Businesses, we will strive for business expansion in growing markets, such as information and telecommunications, electronics, automobiles and aircraft.

Positioned as Strategically Developing Businesses are the Life Science (including pharmaceuticals, medical products and bio-tools) and Environment (centering on water treatment) segments. We are strategically cultivating and expanding these businesses as part of efforts to build these businesses into the next pillars of earnings expansion after the Strategically Expanding Businesses.

### Overview of Business Categories



## 2 R&D Segments

The research and development activities of Toray Group are divided into seven segments, one for each business domain, as follows: Fibers & Textiles; Resins & Chemicals; Films; Electronics & Information Related Products; Carbon Fiber Composite Materials; Life Science

(pharmaceuticals and medical products); and Water Treatment.

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

### Relationship between Business Categories and R&D/Business Segments

Business Categories	R&D Segments	Business Segments	Basic Materials	Advanced Materials
Foundation Businesses	Fibers & Textiles	Fibers & Textiles	Synthetic Fibers Resins Chemical Materials Films	High Function Fibers & Textiles
	Resins & Chemicals Films	Plastics & Chemicals		High Function Resins Functional Particles High Density Recording Materials High Function Films Display Materials Semiconductor-related Materials
Strategically Expanding Businesses	Electronics & Information Related Products	IT-related Products		Carbon Fiber Composite Materials
	Carbon Fiber Composite Materials	Carbon Fiber Composite Materials		Pharmaceuticals and Medical Devices Bio-tools
Strategically Developing Businesses	Life Science	Life Science		High Function Separation Membranes, etc.
	Water Treatment	Environment & Engineering		

### 3 Scheme for R&D and Commercialization

Toray has consistently created and commercialized numerous advanced materials by utilizing strengths in R&D that include its 1) history and culture of creating innovative technologies (emphasis on basic research, etc.); 2) numerous specialist organizations; 3) integrated research and technological development organization; 4) technological integration through industry-government-academia joint research; and 5) advanced analytical capabilities (strong links to the Toray Research Center).

To fully utilize these strengths, since 1985 Toray has been building a "research and technological development organization centering on the Technology Center." The role of the Center is to plan company-wide strategies and key projects for research and technological development.

Each research and technological development department conducts R&D in its own responsible area. At the same time, they collaborate with each other and integrate their technologies across divisional boundaries in order to promote innovative research and deepen and deploy fundamental technologies, find solutions to urgent

issues and take other pertinent actions. Additionally, utilizing high-caliber personnel, the development of global research bases is underway to further strengthen collaborations with advanced users and leading-edge research institutions worldwide.

To speed up all processes, from development to commercialization, we have established propulsion projects within the New Projects Development Division and are working to create large-scale businesses that integrate research, technology, production, and marketing and sales functions under a project leader.

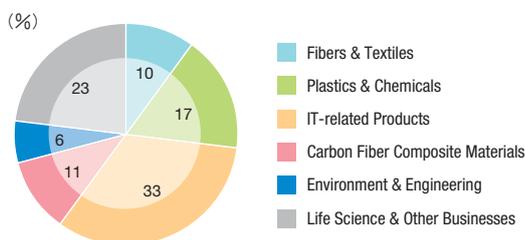
Furthermore, as part of initiatives in the "Action Program for Survival (APS)" Project under "Project IT-II", which was launched in April 2009, we are promoting development themes ahead of schedule to contribute to early profits. Accordingly, we are concentrating strategic efforts and collectively undertaking measures by respective business divisions with regard to technological development themes necessitating the highest priority and which are expected to contribute to profits at an early stage.

### 4 R&D Expenditures

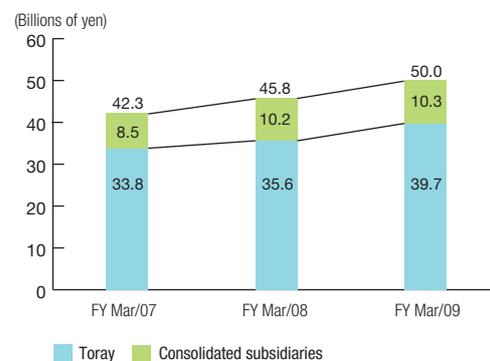
In FY Mar/09, Toray Group R&D expenses amounted to ¥50.0 billion (total R&D expenses of Toray parent were ¥39.7 billion). By business segment, we allocated approximately 10% of these expenditures to Fibers & Textiles, approximately 17% to Plastics & Chemicals, approximately 33% to IT-related Products, approximately 11% to Carbon Fiber Composite Materials, approximately 6% to Environment & Engineering

Composite Materials, approximately 6% to Environment & Engineering and approximately 23% to Life Science & Other Businesses. Of the Toray Group's 3,000 employees engaged in R&D, we will assign around two-thirds to work in advanced materials.

#### ■ FY Mar/09 R&D Expenses by Business Segment



#### ■ R&D Expenditures (past three years)

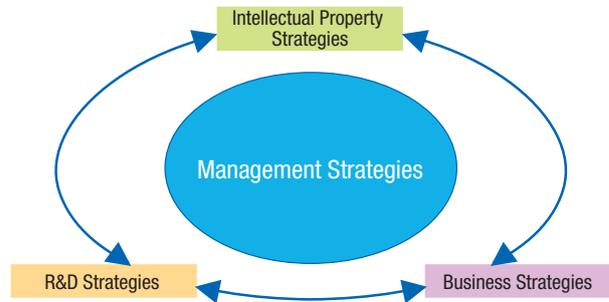


## 1 Basic Policies on Intellectual Property

Toray has formulated and executes the following four intellectual property strategies as its basic policies on intellectual property.

### (1) Intellectual property strategies, as a part of the strategy trinity, that conform to management principles

Toray regards intellectual property as one of its vital management resources. Based on this rationale, we believe that any intellectual property strategy cannot exist in isolation from business strategies and R&D strategies and that all three strategies must thus be mutually and organically integrated. Therefore, Toray has designated its intellectual property strategies as one of the most important elements of its management strategies.



### (2) Promoting the procurement of rights

In terms of intellectual property, it is necessary to actively acquire patent rights to protect our products and technologies and ensure profits. Therefore, holding as many useful patent rights as possible and building patent portfolios are our most important tasks. At the same

time, we also pay close attention to the efficient acquisition of patent rights by raising the quality of each patent and not making needless applications.

### (3) Respecting the rights of others

Executing business while infringing on the patent rights of other parties is not legally permissible. In keeping with the spirit of adhering to such related laws and ordinances, for many years Toray has operated a system for comprehensively investigating the relations between its own

products and technologies and the patents owned by other companies, and thoroughly educates employees to prevent infringement on the patent rights of other parties.

### (4) Rightful enforcement of our own rights

When Toray's patent rights are infringed upon by another party, we take proper steps by exercising our patent rights. We not only claim that infringement be ceased, but depending on the circumstances we

also receive monetary profits from licensing as well as use our patent rights for cross-licensing with the patent rights of other parties.

## 2 Reinforcing Patent Applications and Rights in Line with Our Business Strategies

Toray Group focuses concerted efforts on 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 filed both in Japan and overseas.

Toray has conventionally concentrated its patent applications and procurement of patents 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.

Moreover, to attain the objectives of the strategies of "Project IT-II" set to overcome the economic crisis, from FY Mar/10 we will undertake the following measures to continue enhancing efficiency and strengthen our patent capabilities.

### 3 Selection and Concentration in Patent Administration

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 Projects" categories are currently being pursued.

- (1) "Rank-A Patent Procurement Projects," with the objective of establishing patent portfolios for new technologies and related peripheral technologies through applications and procurement of patents;
- (2) "Rank-A Defense Projects," targeting early clarification of relations with patent rights owned by other companies that are influential on Toray's important research and technology development, and

prompt determination of countermeasures to address patents of other companies having a major impact on Toray's business; and (3) "Rank-A Rights Enforcement Projects," structured to cope with 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 inventions 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 business fields.

In filing new patent applications, including those covered by the Rank-A Projects, we stringently select inventions to file that can make contributions to the Company's business, by means of strengthening collaboration among technical and sales and marketing departments, and the Intellectual Property Division.

### 4 Reinforcing Intellectual Property Capabilities

To the present, Toray Group has been "reinforcing its intellectual property capabilities" through initiatives to strengthen its research and technology foundation and has implemented such measures as increasing incentives, improving the quality of patents and enhancing

and strengthening patent education.

Additionally, in executing comprehensive cost reductions under "Project IT-II" started from FY Mar/10, we are adopting new initiatives for reducing costs and strengthening our patent capabilities.

#### (1) Increasing incentives for inventions

For invention incentives, Toray has long maintained a compensation system for employee inventions. 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 patented 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 expect that our multifaceted system of incentives will lead to further vitalization of activities related to intellectual properties. This same type of system has also been established at numerous affiliated companies.

#### (2) Improving the quality of patents

With a view toward the strict judgments rendered by courts and the Patent Office concerning inventive steps and quality of disclosure of patent specifications, Toray believes that high-quality patents should have both patentability that can stand up to such judgments and ease of enforcement at the same time. Accordingly, Toray provides various tools to facilitate improvements in the quality of patents. These 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 patent applications. For example, the prior art searches are undertaken by patent searchers assigned to technical departments charged with the primary role of patent searches.

patent searchers and building a database for sharing know-how in performing searches more efficiently and will thereby stringently select inventions for which to file patent applications based on their ability to stand up to the strict judgments of the Patent Office.

Our efforts extend beyond merely raising the quality of each individual patent and we have formulated and utilize the *Manual for Building a Patent Portfolio* that condenses know-how for raising the quality of the overall patent portfolio for protecting a specific theme.

To promote advantageous business development through the effective use of Toray's patents when another company enters one of our markets, we are building a patent database arranged by product so that sales and marketing departments can easily ascertain Toray patents that could be used to defend against the entry of competitors.

Of particular note, in FY Mar/10 we are enhancing education of the

### (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-consciousness and fostering practical skills of staff in the sales and marketing and technical departments. To ensure the efficacy of this patent education, we conduct annually a Patent

Operational Assessment Qualification Test for researchers and engineers. 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.

## 5 Brand Strategy

In proactively undertaking its corporate brand strategy, Toray Group exercises strict control over all intellectual properties that symbolize Toray Group corporate activities. These intellectual properties express the significance of our corporate existence and our originality and include the "Toray Industries, Inc." company name as well as the **'TORAY'** corporate symbol and "Toray" business trademark in addition to the corporate domain names "toray.co.jp" and "toray.com."

Toray Group strives to elicit accurate social evaluations of its corporate image in order to raise its aggregate corporate brand value, with the aim of enhancing employee engagement and customer confidence and bolstering its ability to attract outstanding personnel. To this end, we pursue the following three initiatives.

- (1) Enhance employee brand awareness and employee loyalty.
- (2) Strengthen and appeal our corporate brand and corporate image externally.
- (3) Clarify corporate brand targets and coordinate business domain brands and product brands.

The corporate symbol **'TORAY'**, denoting the drive and spirit of Toray Group, expresses the Company's willingness to communicate with internal and external members, 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 stringent defensive measures to deal with unauthorized use by third parties.

One of our missions is to forge a broad understanding by 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 preservation 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 for advanced materials in the area of fibers and textiles. We are actively utilizing and expanding this brand in Japan and China.

Toray Group has obtained and is properly managing some 1,200 product brands that are protected by approximately 8,500 trademark rights. In all of our businesses, we actively promote product brand strategies as an important part of strengthening our business foundation.

A collection of the Company's logos for our main products is shown below.



# 4

## Analysis of the Marketability and Competitive Advantages of Technologies

# TORAY

### Innovation by Chemistry

With “Innovation by Chemistry” as its corporate slogan, Toray Group rises to the challenge of creating innovative new materials and technologies while promoting innovation in all of its business activities including R&D in aiming to become a global top ranked business group at the leading edge of industry through its strength in 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, engineering plastics and other products. 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.

In these businesses, we are striving to expand supplies of advanced materials to our four major growing business fields of Information, Telecommunications and Electronics, Automobiles and Aircraft, Life Science and Environment, Water-related and Energy. Moreover, utilizing Toray Group’s total capabilities, we are striving to achieve growth by providing solutions that address the constraining factors of economic growth—preservation of the global environment, depletion of energy and other resources and aging population with declining birthrates—which have become increasingly evident amid ongoing socioeconomic structural changes.

## 1 Fibers & Textiles

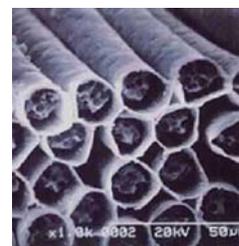
Toray has built a solid position in the Fibers & Textiles field, supplying a host of products—from filament yarns and staple fibers of three major synthetic fibers (nylon, polyester and acrylic) to textiles—for a wide range of applications from apparel to industrial. Determined to help prevent global warming and promote countermeasures for the depletion of resources, in recent years Toray has progressed with the development and commercialization of “polylactic acid” products and other non-petrochemical-based materials.

Turning to new technologies, in addition to our three series of nano-scale processing technologies (NANOMATRIX\*, NANOPLEM\* and NANOLAMELLA\*) developed to the present, Toray has succeeded in developing the NANOMODY\* series. NANOMODY\* enables functional chemical agents to penetrate the interior of fibers and utilizes a molecular-level reaction to uniformly improve polymer chains that form

the fibers. The development of this “Nanotech” series has boosted expectations of the continued creation of new materials and technologies. The “Nanotech” series has also earned acclaim and won the 39th Senken Shimbun Technical Award.

In new products, through collaboration with Toray Synthetic Textile Cluster, we have also developed and launched SUPER PAREL\* a polyester lining with high anti-static properties that was developed based on Toray’s anti-static fiber and Toray Synthetic Textile Cluster’s weaving and dyeing technologies.

### Nano-scale Processing Technology



## 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 telecommunication devices, as well as automobile parts.

Meanwhile, to respond to environmental concerns, we are focusing on the development of technologies that help curb global warming and solve the problem of resource depletion. As a recent achievement, we combined our polymer design technologies with our “nano-alloy” technologies to create an innovative basic technology for flowability enhancement that has applications in a wide range of polymer products. This new technology is expected to help realize thinner components and the design of products with complex shapes in

### Innovative Basic Technology for Flowability Enhancement



\*Comparison with model-molded products (glass fiber reinforced nylon 6, special polymer 1 wt% added)

addition to reducing greenhouse gases (GHG) and conserving energy by shortening the molding cycle and reducing molding processing temperatures.

Toray is also active in biomass-based polymers. In polylactic acid (PLA), we succeeded in developing a biomass plastic (non-halogen, non-flammable PLA material) (PC alloy, 5VB) that boasts the world's highest level of flame resistance, with more than 25% of its weight consisting of plant-derived ingredients. We are promoting applications such as exterior components for office copiers.

We also undertake research on the synthesis of polymer raw materials from non-edible biomass that utilizes microorganisms. We succeeded in creating a prototype of a nylon (Bio-nylon) that uses C5 diamine as a raw material. To do so, an amino acid produced from biomass through fermentation technologies was converted into C5 diamine using enzymes in microorganisms. In the future, we will work to commercialize technologies for breaking down non-edible biomass into sugar with the aim of expanding our business for environmentally-friendly products.

### 3 Films

In films, Toray was the first in Japan to commercialize biaxially oriented polyester film and has been leading the world in the field of high-performance and high-function films by advancing the technologies of the polyester film together with biaxially oriented polypropylene film. 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.

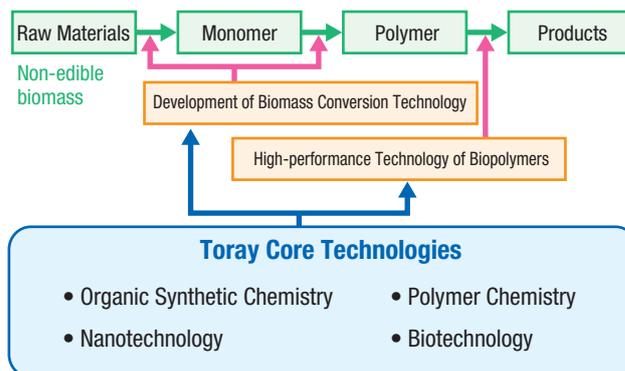
We have proceeded with the advanced development of PICASUS\*, a metallic luster film, with applications in automobiles, communications equipment, household electrical appliances and construction materials. We launched full-scale sales in FY Mar/09.

Utilizing our high-function alloy element design technologies, we also developed a flexible PLA film that combines thermal resistance, flexibility and transparency. This film is being used in such agricultural applications as fumigation sheets.

As a recent achievement, in nanotechnology-based technology development, we combined U.S.-based Cima NanoTech, Inc.'s silver nanoparticle coating technology with Toray's proprietary coating technology to succeed in building a continuous coating

Utilizing a new synthesis method, we are working toward the mass production of a high-purity, double-walled CNT (carbon nanotube) and are considering application in Toray's advanced materials such as transparent conductive film.

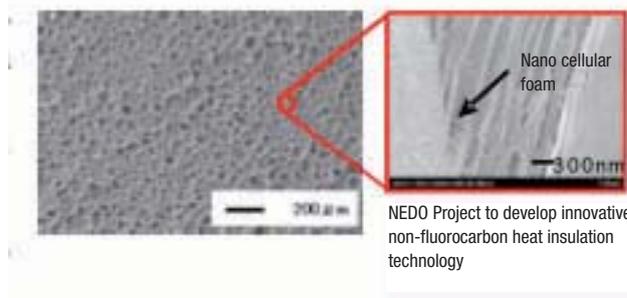
#### Toray's Biopolymer Strategies



process for a self-aligning transparent conductive film that applies silver nanoparticles. This film realizes both a high level of transparency and conductivity.

Using plant-derived PLA, we have created a heat-insulation material that utilizes a carbon dioxide gas with a lower global warming coefficient than hydrocarbons, a traditional foam material. Through precision control of bubble size and location in micro/nanoscale cellular foam, we succeeded in creating a micro/nanoscale cellular foam that achieves the world's highest-level porosity ratio of 98% and thereby enabling the highest performance level for heat-insulating materials.

#### Micro/nanoscale Cellular Foam with Outstanding Heat-insulating Properties



## 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 photolithography to develop semiconductor buffer coatings, 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.

As a recent achievement in light-sensitive diode (LSD) materials, we integrated a newly developed light-blocking material and nano-dispersion technologies that fully utilize the properties of this material to create black matrix resin materials that feature an extremely high level of light-blocking properties and improved adhesiveness.

Utilizing our proprietary plastic resin design technologies, we developed a coatable retarder material that can be shaped using only heat treatment and coating without requiring stretching and orientation processing.

Regarding new products, in PHOTONEECE\* positive tone photosensitive polyimide coating materials, which have applications as semiconductor buffer coatings, we developed the "PW-3000 Series"

by using our proprietary photo active compound gradient distribution technology. The PW-3000 Series offers both the world's highest-level photosensitivity and high dimensional stability.

We also developed and commenced sales of RAYBRID\*, a photosensitive functional material for electronic components mounted on mobile phones and other compact electronic devices. RAYBRID\* distributes inorganic particles on photosensitive plastic resin and enables the formation of thick films and detailed patterns.

### ■ Photosensitive Functional Material RAYBRID\*

#### Example of pattern formation



Photosensitive conductive materials  
(fired type)  
Thickness after oven firing: 12 $\mu$ m

Photosensitive high dielectric constant material  
(cured type)  
Thickness after curing: 5 $\mu$ m

## 5 Carbon Fiber Composite Materials

Toray Group is the world's largest manufacturer of carbon fibers and supplies carbon fibers and woven fabrics, intermediate materials such as prepregs and molding technologies of carbon fiber composite materials. Here, we target applications in the aircraft, sports, civil engineering and construction, automobile, electronics and information devices and energy industries.

Carbon fiber composite materials (carbon fiber reinforced plastics (CFRP)) recognized as advanced materials, weigh approximately one-fourth that of steel and have 10 times the specific strength. Thanks to such advantages, these materials are approaching a period of drastic increases in demand. In the aircraft industry, carbon fiber composite materials have won high acclaim as the best-suited and most-effective material for improving fuel efficiency by realizing lighter weights.

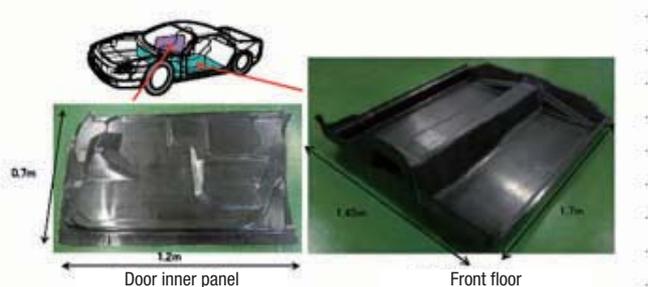
CFRP are being used for more than 50% of the new Boeing 787 passenger jet, including for the wings and fuselage. Additionally, together with Mitsubishi Heavy Industries, Ltd., we are currently carrying out joint development of a new molding technology for CFRP parts for use in the tail assembly on the Mitsubishi Regional Jet (MRJ).

In the automobile industry as well, we are striving to contribute to the realization of lighter vehicle bodies by progressing with technology development focused mainly on using thermoplastic components, which have excellent recyclability, for outer panels, exterior parts and substructural members.

As a recent achievement, in the national project "R&D of CFRP (Carbon Fiber Reinforced Plastics) Materials to Reduce Automobile

Weight," we developed a "short-cycle integral molding technology" that involves using CFRP to enable the front floor of an automobile platform to be molded within 10 minutes. Our development structure for strengthening our materials and molding technologies development is centered on the Automotive Center (AMC) and the Advanced Composite Center (ACC), which are development bases for the Automotive & Aircraft sector. Overseas, to establish a local development base for CFRP components in Europe, which has been a frontrunner in the adoption of CFRP components in automotive fields, we have acquired an equity stake in ACE Advanced Composite Engineering GmbH (ACE), a German manufacturer of CFRP components. We have positioned ACE as our CFRP development and production base in Europe as we progress with the development of CFRP components for automobiles under a global structure.

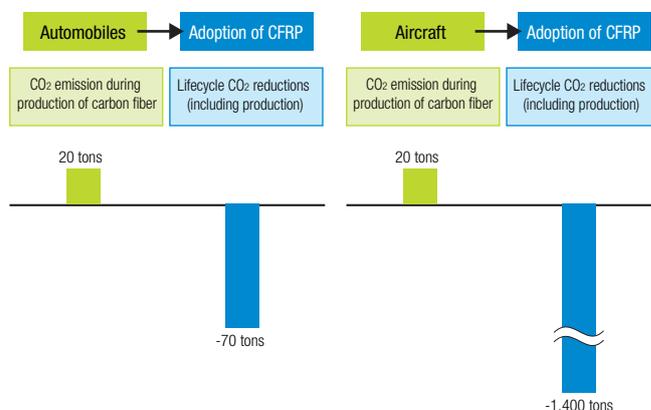
### ■ Automobile Component Molded Using Short-cycle Integral Molding Technology



To quantitatively assess carbon fibers as environmentally conscious materials, while collaborating with outside institutions, we implement Life Cycle Assessment calculations for CFRP-based automobiles and aircraft and have confirmed that carbon fibers are a type of material that significantly reduces CO<sub>2</sub>.

### Reductions in CO<sub>2</sub> Per Ton of Carbon Fiber

Model of The Japan Carbon Fiber Manufacturers Association



## 6 Life Science

In pharmaceuticals, Toray has commercialized 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\*, TORAYSULFONE\* (artificial kidneys with polymer biocompatibility and separation function), TORAYLIGHT\* (compact, lightweight, high-performance moist-type dialyzer) and TORAYMYXIN\* (extra-corporeal blood purification column). These unique products are earning high admiration for their quality and performance.

As a recent achievement in new technologies related to medical products, we developed a new protein analysis chip for diagnostics that has a high degree of sensitivity for enabling the easy detection of minute amounts of disease marker proteins in blood and urine. We are progressing with the commercialization of this chip as a new bio-tool for supporting clinical diagnostics and bio research. This technology earned The Chemical Society of Japan Award for Young Chemists in Technical Development for 2008. The development of this chip follows the launch of our 3D-Gene\* ultra-high sensitive DNA chip in 2006.

In pharmaceutical products, Toray has received approval to manufacture and sell REMITCH\*\* CAPSULES 2.5  $\mu$ g (generic name: nalfurafine hydrochloride), an oral antipruritus drug for the indication of improvement of pruritus in hemodialysis patients (only for cases resistant to conventional treatments). Torii Pharmaceutical Co., Ltd. has commenced sales of this drug.

In new drug R&D, Toray and Taiho Pharmaceutical Co., Ltd. have begun the co-development of a  $\beta$ 3-adrenoceptor agonist (Toray development No. TRK-380/Taiho Pharmaceutical development No. TAC-301) for the treatment of overactive bladders. This agonist was discovered through Toray's new drug discovery exploration research.

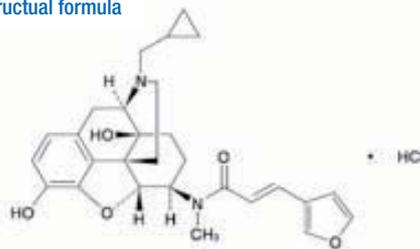
We also developed basic technologies for an innovative drug delivery system (DDS) for long-acting and slow-releasing bio-based drugs. This technology is expected to enable a significant reduction in the frequency of injections, improve therapeutic effects and reduce side effects.

\* REMITCH\*\* is a registered trademark of Torii Pharmaceutical Co., Ltd.

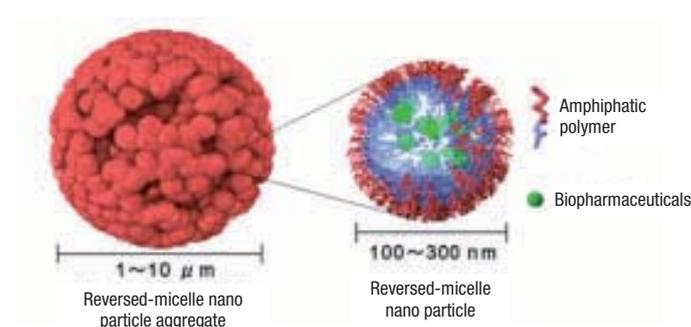
### Oral Antipruritus Drug REMITCH\*\* CAPSULES 2.5 $\mu$ g



Structural formula



### Diagram of the Innovative Drug Delivery System (DDS) that Includes the Biopharmaceuticals



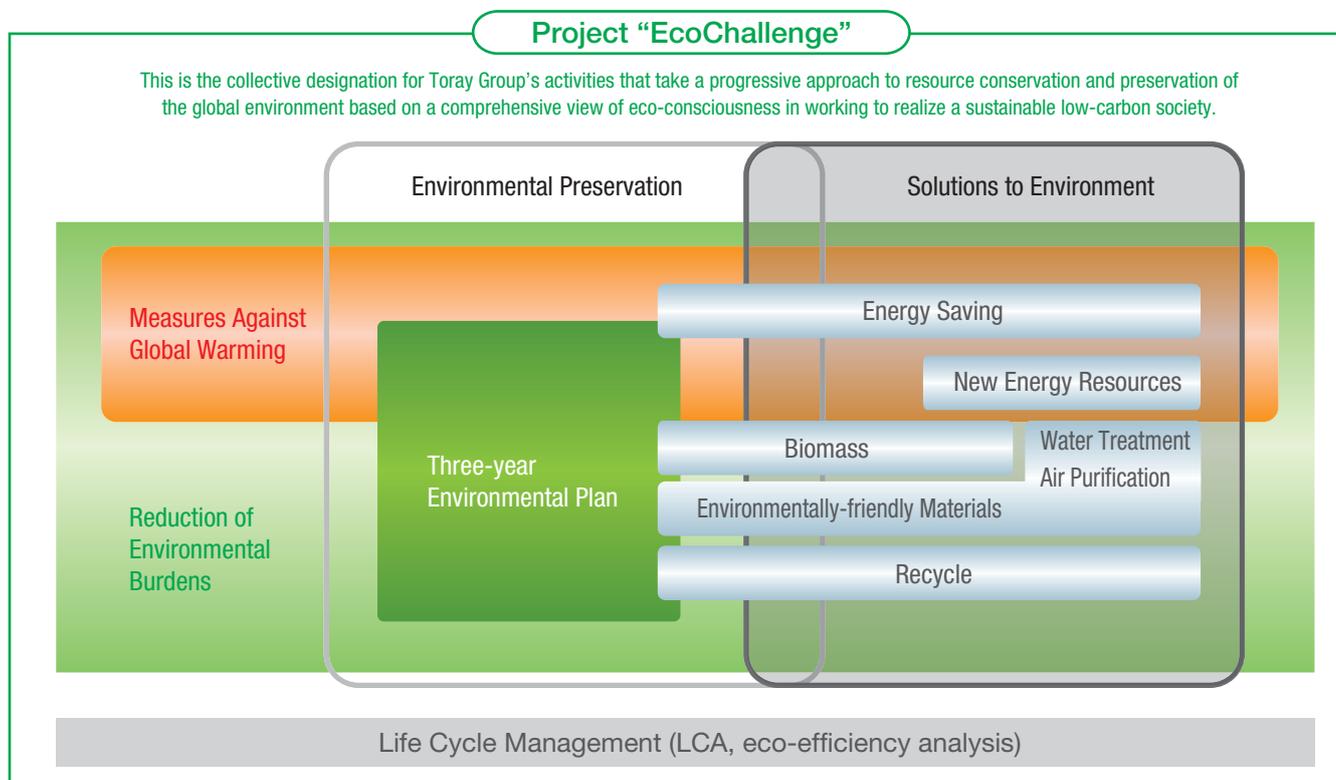
## 7 Environment

With all our business strategies focused on the global environment and viewing eco-consciousness from a comprehensive perspective, we are promoting the Project “EcoChallenge,” which takes a progressive approach to resource conservation and preservation of the global environment, in working to realize a sustainable low-carbon society. In undertaking this project, we are focusing on developing technologies that will help prevent global warming and solve problems related to resource depletion.

In new energy resources fields, such as solar cell-related materials

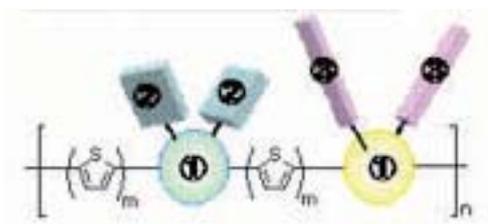
and technologies, we are progressing with diverse research focused on the cells, back sheets and other solar materials, and their production equipments. Regarding the cells, we combined our core technologies of polymer chemistry and organic synthetic chemistry to develop a new polymeric donor material, which is a key material in organic thin-film solar cells. This donor material achieves the world’s highest conversion efficiency of 5.5%. We are also progressing with R&D on key materials for fuel cells and rechargeable lithium-ion batteries, which will be crucial components in next-generation automobiles.

### Project “EcoChallenge”



### Key Material in Organic Thin-film Solar Cells

Structure of the new polymer donor material



- ① Framework for raising the energy differential with the acceptor → Realize high Voc  
 ② ③ Substituent groups suited to the bulk heterojunction → Realize Jsc and Voc

# 4

## Analysis of the Marketability and Competitive Advantages of Technologies

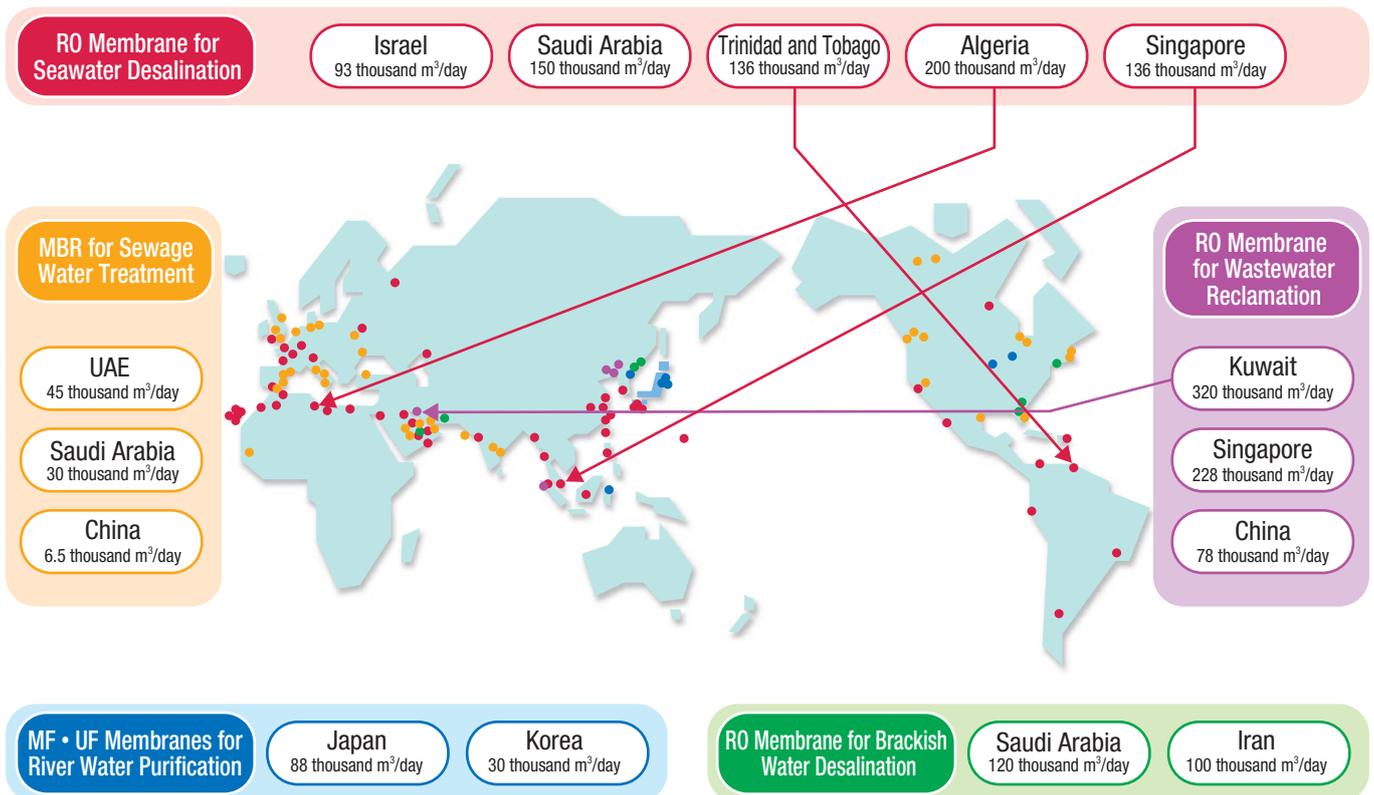
In water treatment, Toray targets scientific and technological solutions to water environment concerns. Responding to today's highly diversified water treatment needs, we are advancing programs to further expand the depth and breadth of our technologies. Such efforts focus on the outstanding polymeric separation technology perfected by Toray Group. We have deployed our own polymer processing technologies to create innovative selective separation membranes, and offer all four types of membranes for use in seawater desalination and ultrapure water production, including reverse osmosis (RO), nanofiltration (NF), ultrafiltration (UF) and microfiltration (MF) membranes.

In recent years, the market for RO membranes has continued expanding at a rapid annual rate of 10%, mirroring such factors as chronic water shortages worldwide as well as demands for securing water resources in consideration of the environment. In the future as

well, this market is expected to continue growing steadily, primarily in the United States, Europe, the Middle East, North Africa and China. In response to market needs, Toray has developed high-performance RO membranes, including the "high boron rejection RO membrane" and a "low-fouling RO membrane." Toray has won successive orders for its high-performance RO membranes for desalination plants in the Arab Gulf. In this field, Toray won the Environmental Technology Award at the 18th Nikkei Global Environmental Technology Awards for its development of a desalination RO membrane with improved boron removal properties.

Toray will proceed with the development of high-efficiency, low-cost water treatment systems that use these high-performance membranes and water treatment systems that utilize biotechnologies.

### Toray's Water Treatment Business and the Global Development of this Business – Representative Plants with Toray Membranes –



Total shipment of RO membranes (water volume conversion basis): 15.5 million m³/day (water for 65 million people) [As of March 31, 2009]

## 1 R&D and Intellectual Property Organization

As of 1985, Toray has built a research and technological development organization centering on its Technology Center. The role of the Center is to draft company-wide strategies and key projects for research and technological development.

Each research and technological development department conducts R&D in its own responsible area. At the same time, they collaborate with each other and integrate their technologies across divisional boundaries in order to promote innovative research and deepen and deploy fundamental technologies, probe solutions for urgent issues and take other pertinent actions.

To speed up all processes, from development to commercialization, we have established "Advanced Materials Projects" within the New Projects Development Division.

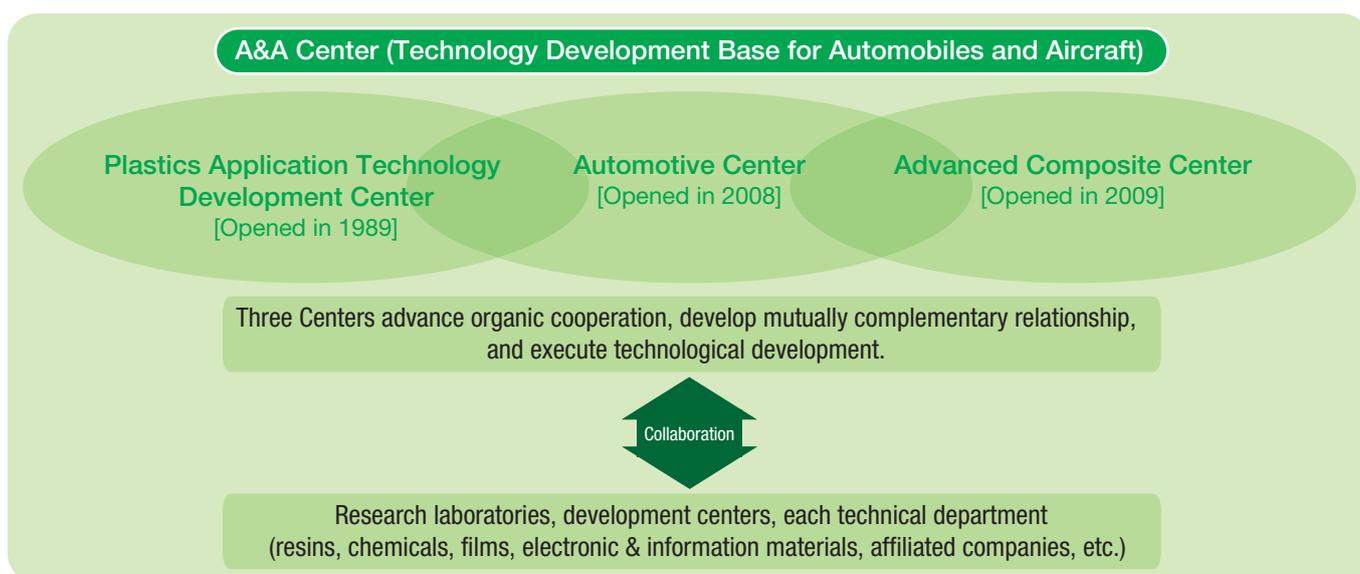
Under this arrangement, we can clarify which business units should become the recipients of research and technological development outcomes, with dedicated project leaders stepping in to determine the term of the project. We have fully integrated the research, technology, production, and marketing and sales functions in order to expedite the work required to complete and commercialize the plans.

As an independent organization under the direct control of the President, the Intellectual Property Division is strengthening the intellectual property capabilities of the entire Toray Group based on intellectual property strategies that are linked with management strategies.

### (1) A & A Center (Automotive & Aircraft Center)

Toray is strengthening its group-wide responses in Automobiles and Aircraft, one of our major growing business fields, and has completed the Advanced Composite Center (ACC), which will develop technologies for composite materials, as part of efforts to provide cross-organizational solutions to customers in this field. An opening ceremony for ACC was held in April 2009. With the opening of ACC, we have completed the A&A Center (Automotive & Aircraft Center), a comprehensive technology development base for automobiles and aircraft that also combines the Automotive Center (AMC), a technology development base for automobile applications that was opened in June 2008, and the existing Plastics Advanced Technology Development Center (PATEC).

The A&A Center, where AMC, PATEC and ACC promote mutual organic collaboration and complement each other, now serves as a new comprehensive technology development base for providing numerous customers with proposals for solutions that combine Toray Group's advanced materials and technologies. Toray will fully utilize the advantageous location of its Nagoya Plant, which is situated close to our main customers in the automobile and aircraft business, to strengthen joint development with customers as well as to speed up development.



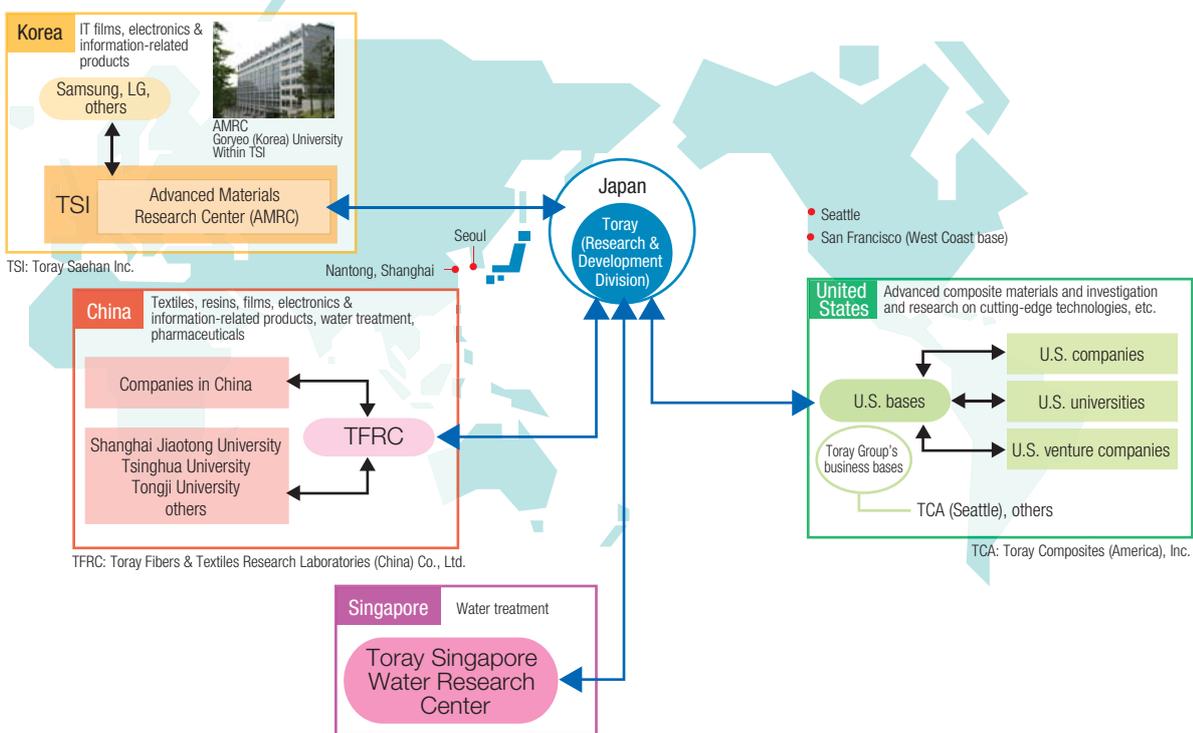
(2) Globalization of research and development

Toray carries out wide-ranging business activities overseas and therefore operates technology development bases in numerous regions worldwide. In addition to the technology development functions of these bases, Toray will progress with the building of global research bases to strengthen collaboration with leading users and cutting-edge research facilities worldwide and utilize excellent human resources around the world in basic research fields. In 2008, we opened the Advanced Materials Research Center (AMRC) in Korea to strengthen research functions for advanced materials. Toray will strengthen and upgrade its electronics and information-related fields such as electronic circuit materials, semiconductor-related materials and display materials in the IT-related Products business. At the same time, it will also carry

out research in fuel cells and photovoltaic materials, nano materials and other new fields. Also, while collaborating with Toray Fibers & Textiles Research Laboratories (China) Co., Ltd. (TFRC), we plan to promote global research and technology development.

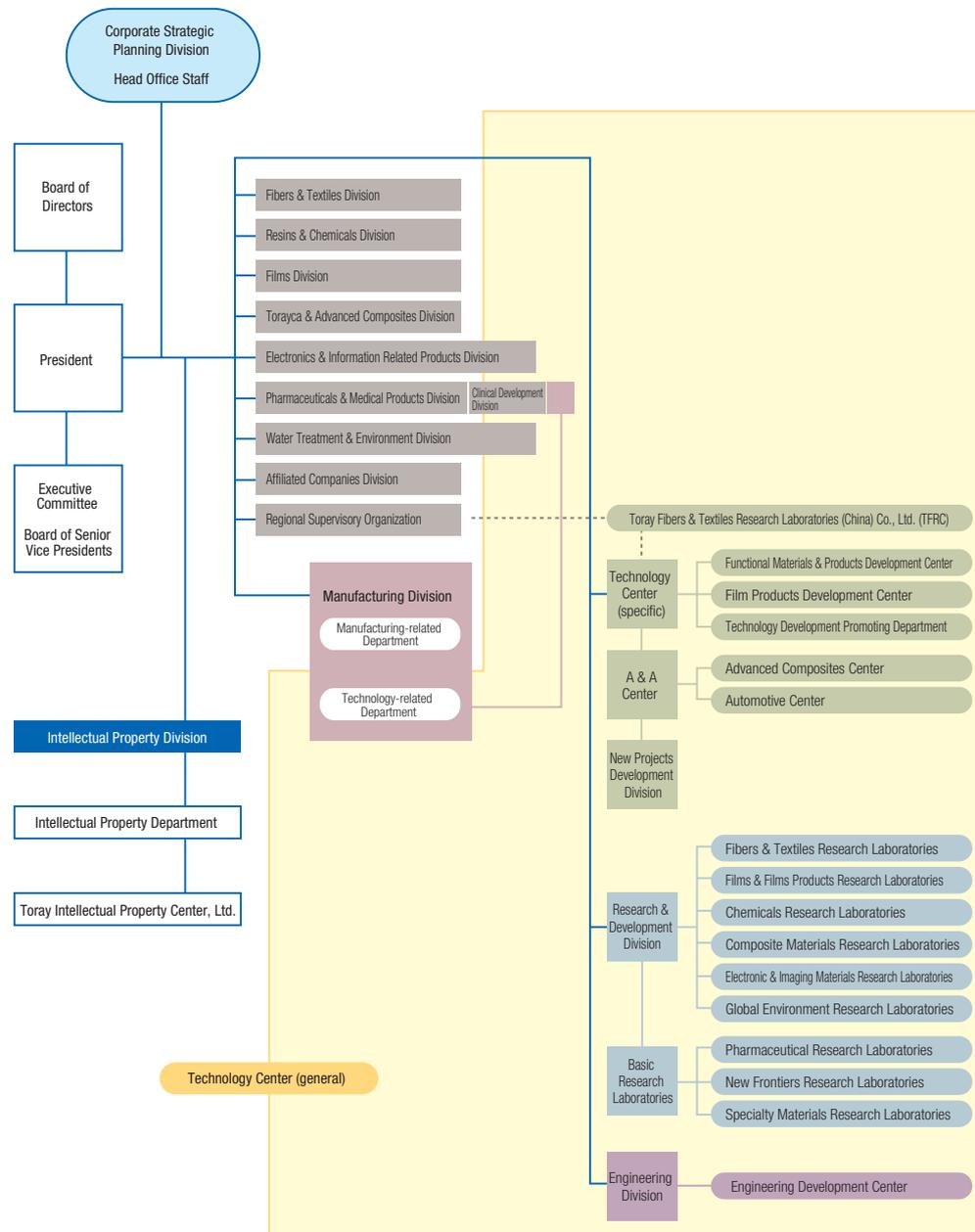
In August 2009, we established Toray Singapore Water Research Center in Singapore to carry out R&D of water treatment technologies that apply Toray's water treatment membranes. Toray Singapore Water Research Center will begin operations with a staff of researchers and technology development personnel dispatched from Japan as well as locally hired staff. Toray Singapore Water Research Center plans to expand its scale to several dozen staff after five years. Singapore is the third country to have a Toray R&D base for water treatment technologies after Japan and China.

■ Toray Group Global Research Bases



Toray has set up research bases in various regions and aims to build a globally focused research structure that incorporates basic research.

## Organization



## 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. In pursuing innovation in our four major growing business fields, we are promoting a collaborative and integrated approach centered on 1) acquiring advanced technologies from universities and public research institutions; 2) emphasizing strategic collaboration with leading companies; 3) introducing innovative technologies from venture companies; and 4) actively participating in national research projects. True to this conviction, we are promoting dynamic collaboration with outside sources through 150 partnerships and active participation in 35

national projects (as of June 2009).

Toray participated in the establishment of the Limited Liability Partnership Global Water Recycle System Association (GWRA) in January 2009, serving as the association's vice-chair. GWRA was established to formulate an "All-Japan" coalition that gathers Japan's outstanding water-related technologies and know-how to solve problems concerning water on a global scale. GWRA is composed of 38 companies (as of July 21, 2009), including Toray. With government-academia collaboration, GWRA is working to establish a platform for operating a water-circulation system operation business that will be undertaken overseas by March 2014.

# 6

## Guidelines on Procurement and Management of Intellectual Properties, Management of Trade Secrets, Prevention of Technology Leakage (including implementation of guidelines)

### 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 of the Intellectual Property Department and Toray Intellectual Property Center,

Ltd., 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 applications are focused, inventions for which applications should be filed, existing applications for which requests for examination are to be filed and patent rights that should be maintained or abandoned. Discussions likewise extend to the enforcement of existing 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 for making adjustments to previously existing 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

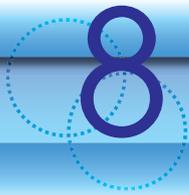
measures supplement our existing Electronic Information Security Standards. We also conduct regular internal audits and other measures to ensure the proper management of classified business information and technical information and prevent information leaks. Regular internal audits also permit effective management and prevent leakage of trade secrets. Along with the recent implementation of the Confidential Information Management Regulations, we have rearranged and strengthened details and are working to thoroughly manage and prevent the leakage of trade secrets and technical information.

# 7

## Contribution of Licensing-related Activities to Businesses

Toray Group actively 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 vigorously 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 mentioning that patent fee revenues have constituted a profitable arm of our corporate operations for many years.



# Valid and Enforceable Patents, Patent Applications, External Awards

## 1 Valid and Enforceable Japanese Patents (Total for Toray Industries, Inc. and 35 Japanese and overseas affiliates at end of March 2009)

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

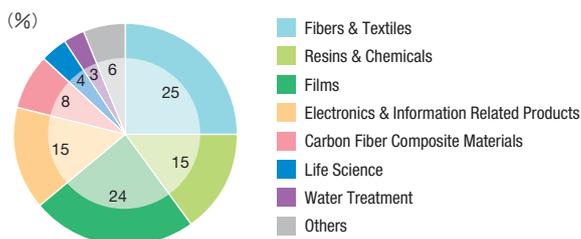
In recent years, we have engineered a pronounced shift in emphasis from quantity to quality, which translates into greater emphasis on improving the quality of patents. This has resulted in a more stringent focus on cost awareness and operational efficiency in determining of whether or not to file patent 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 2009, the number of valid and enforceable patents in Japan is 3,612, of which 1,543 (42.7%) have been currently used within the Group; 1,564 (43.3%) are scheduled to be used in the future; and 505 (14.0%) are patents for defense and other purposes. The following chart breaks down these patents by specific R&D segment.

### Number of Valid and Enforceable Japanese Patents at End of March 2009

Fibers & Textiles	901
Resins & Chemicals	557
Films	851
Electronics & Information Related Products	560
Carbon Fiber Composite Materials	281
Life Science	158
Water Treatment	105
Others	199
<b>Total</b>	<b>3,612</b>



## 2 Valid and Enforceable Foreign Patents (Total for Toray Industries, Inc. and 35 Japanese and overseas affiliates at end of March 2009)

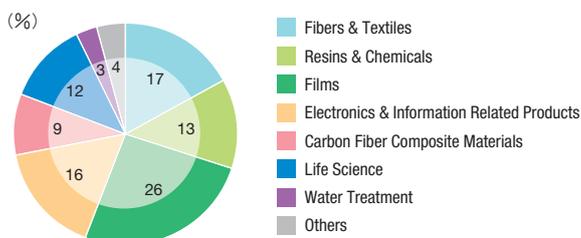
At the end of March 2009, the number of our valid and enforceable patents in countries other than Japan was 4,005, with the following chart breaking down these patents by specific R&D segment.

The large proportion of foreign patents for Electronics & Information Related

Products, Carbon Fiber Composite Materials and Life Science compared with that of Japanese patents owned in those areas reflects Toray's goal of expanding its operations globally in these businesses.

### Number of Valid and Enforceable Foreign Patents at End of March 2009

Fibers & Textiles	695
Resins & Chemicals	523
Films	1,038
Electronics & Information Related Products	644
Carbon Fiber Composite Materials	344
Life Science	489
Water Treatment	116
Others	156
<b>Total</b>	<b>4,005</b>



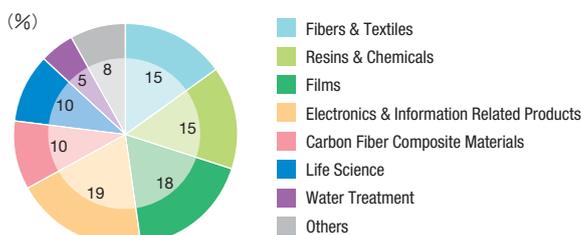
## 3 Japanese Patent Applications

During FY Mar/09, the number of applications for Japanese patents filed by Toray Industries, Inc. and 35 Japanese and overseas affiliates was 1,643, with the following chart breaking down these applications by R&D segment. The relatively large proportion of patent applications in Electronics & Information Related Products, Carbon Fiber

Composite Materials, Life Science and Water Treatment compared with that of the patents owned in those areas reflects Toray Group's policy of actively applying for new patents in its Strategically Expanding Businesses and Strategically Developing Businesses.

### Number of Japanese Patent Applications FY Mar/ 08

Fibers & Textiles	254
Resins & Chemicals	239
Films	294
Electronics & Information Related Products	306
Carbon Fiber Composite Materials	172
Life Science	163
Water Treatment	76
Others	139
<b>Total</b>	<b>1,643</b>



## 4 Industry Awards

### Awards Received in FY Mar/09

#### Invention Commendations

Name of award	Region	Awarded for	R&D segment
The Prize of Shizuoka Prefectural Governor	Kanto	Development of high-touch textile by mixed yarns with different molecular orientation	Fibers & Textiles
The Encouragement Prize for Invention	Kanto	Sustained- release prostaglandin I derivative preparation	Life Science
The Encouragement Prize for Invention	Kanto	A core-sheath type conjugated polyester monofilament for screen gauze	Fibers & Textiles
The Encouragement Prize for Invention	Chubu	Thermotropic resin composition	Resins & Chemicals
The Encouragement Prize of the President of Japan Patent Attorneys Association	Kinki	Superior sweat-absorbent, quick-drying knitted fabric	Fibers & Textiles

In FY Mar/10, Toray was awarded The Prime Minister Prize of the National Commendation for Invention.

#### Other External Awards

Name of award	Name of institution	Awarded for	R&D segment
The Japan Society of Composite Materials Award for Technical Advancement	Japan Society for Composite Materials	A new compression-molding approach using unidirectionally arrayed chopped strands	Carbon Fiber Composite Materials
The Award of SAMPE Japan for 2007	SAMPE Japan Chapter	Innovative mass production technology for integral molding of module type CFRP	Carbon Fiber Composite Materials
The Nikkei Global Environmental Technology Awards Environmental Technology Award	Nikkei Inc.	Development of the desalination reverse osmosis membrane with improved boron removal property	Water Treatment
5th JLCA Award The Encouragement Prize	Life Cycle Assessment Society of Japan	Quantification of CO <sub>2</sub> reduction effect through carbon fiber usage - Importance of Life Cycle Assessment (LCA) -	Carbon Fiber Composite Materials
The Chemical Society of Japan Award for Young Chemists in Technical Development for 2008	The Chemical Society of Japan	Development of highly sensitive protein analysis chip technologies	Life Science
39th Senken Shimibun Technical Award	Senken Shimibun	New nano-scale fabrication technologies	Fibers & Textiles
39th Senken Shimibun Material Award	Senken Shimibun	New silky-touch polyester materials SILLOOKDUET $\mu^*$	Fibers & Textiles



## 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 patent portfolios through the creation of patent maps to thoroughly comprehend 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 defense-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 commercialized and judgments of whether we could infringe on any of the patents. If any patents having an impact on our business are identified, the next step is to plan and

execute countermeasures to remove such impacts. 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 available information at the time of issuance of this report. 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.

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