

Overview of Toray Group's Performance in Fiscal 2018 (The Fiscal Year Ended March 31, 2019)

Record High Sales Against the Backdrop of a Harsh Profit Environment

With the goals of becoming a corporate group that continually increases revenues and profits while offering high value to all stakeholders, Toray Group formulated the long-term corporate vision "AP-Growth TORAY 2020 (abbreviated as "Vision 2020")" in 2011. Under this vision, we have set our sights on sustainably increasing revenues and profits. In specific terms, we are targeting consolidated net sales of ¥3 trillion, operating income of ¥300 billion, and ROE of 13% around 2020.

The current medium-term management program, "Project AP-G 2019," which covers the three-year period from April 2017 to March 2020, is the third stage of Vision 2020. Under Project AP-G 2019, we are carrying out three growth strategies with focus on taking advantage of growth business fields, pursuing business expansion in growth countries and regions, as well as further bolstering its cost competitiveness. At the same time, we are promoting initiatives aimed at creating new sources of earnings that will help drive Toray Group through a period of sustainable growth from 2020 onwards and enhance corporate value.

During the period under review, the global economy as a whole continued to recover gradually, underpinned by the strong U.S. economy amid prolonged pressure from the uncertain future weighing on the economy, but the pace of growth slowed in the second half of the fiscal year due to intensified trade frictions and the notable deceleration in the Chinese economy. The Japanese economy continued on its gradual recovery track, as

both the corporate and household sectors remained steady in general, although there were some weaknesses in exports and production toward the end of the fiscal year. At the same time, however, the rise in raw material and fuel prices had a negative impact on Toray Group's profit.

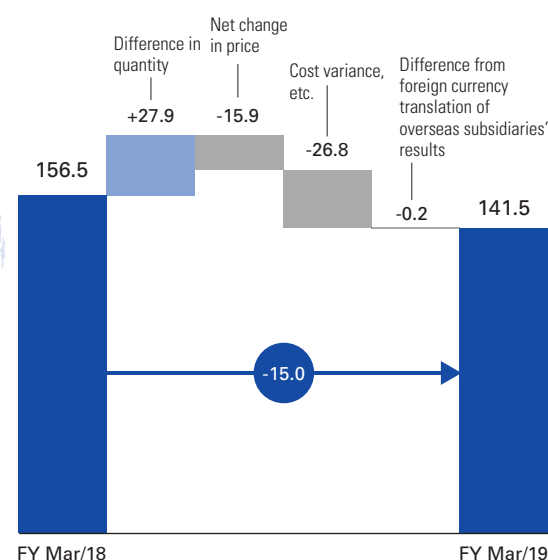
Under these circumstances, Toray Group's consolidated performance saw year-on-year increases in net sales across all segments excluding the Life Science business. In specific terms, consolidated net sales surged to a record high, climbing 8.3% compared with the previous fiscal year, to ¥2,388.8 billion. From a profit perspective, sales expenses increased on the back of sales expansion. At the same time, the Group incurred an upswing in production fixed costs. While steps were taken to pass rising raw materials costs on to selling prices, Toray Group was unable to fully pass on the raw materials price increase to the sales price. As a result, the Group reported a negative gap between raw material costs and selling prices. Taking into account each of these factors, consolidated operating income for the fiscal year under review came to ¥141.5 billion, down 9.6% compared with the previous fiscal year. Net income attributable to owners of parent was ¥79.4 billion, a year-on-year decrease of 17.2%.

As far as dividends are concerned, in light of the aforementioned performance trends, Toray Group set the annual dividend for fiscal 2018 at ¥16 per share, up ¥1 per share, for a dividend payout ratio of 32.3%.

Basic Issues of "Project AP-G 2019"

- 1 Proactively expand business in growth fields, countries, and regions
- 2 Improve profitability by continuously creating and expanding differentiated products
- 3 Steadily realize profit improvements through radical reforms both in business and organizational structures
- 4 Continue "strengthening of cost competitiveness" to reinforce and strengthen earning structure
- 5 Continue "pursuit of the ultimate limits" for the creation of new and innovative materials and create large-scale new businesses
- 6 Thoroughly implement "safety, accident prevention, and environmental preservation" and "business ethics and legal compliance" globally
- 7 Secure and develop human resources that can contribute to "strong workplace capability"

Income Variance Factor Analysis (Billion yen)



Medium-term Management Program: Project AP-G 2019

THREE BASIC STRATEGIES

01

Business Expansion in Growth Business Fields

Toray Group is working diligently to put forward the two Group-wide Green Innovation Business Expansion (GR) and Life Innovation Business Expansion (LI) projects.



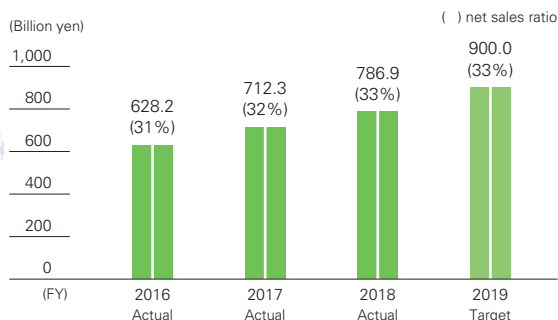
Green Innovation Business Expansion (GR) Project

In addition to preserving the global environment, Toray Group provides solutions that help address energy and resource issues while targeting business expansion. As a result, the Group takes every opportunity to reduce greenhouse gas (GHG) emissions, lower its environmental footprint, and to support the treatment of water, recycling, and air purification. In fiscal 2018, net sales from GR Project businesses were ¥786.9 billion, up 10.5% compared with the previous fiscal year.

Expanding Business in Fields That Address Issues such as the Reduction of GHG Emissions, Biomass, and Water Treatment

Under the fiscal 2018 GR Project, the decision was made to increase large tow carbon fiber production capacity at the facility in Hungary at Zoltek Companies, Inc., as a part of efforts to reduce GHG emissions. Moreover, the Company developed the new carbon fiber TORAYCA® MX series that realizes both higher tensile strength and tensile modulus. In the biomass field, we released Ultrasuede® BX, non-woven material with a suede texture that realizes the highest proportion of plant-based raw materials in the world. Turning to the field of water treatment, Toray Group commenced sales of the ROMEMBRA®TLF series, reverse osmosis (RO) membrane element ideal for the treatment of wastewater. The TLF series offers 30% higher permeability compared with current models, which in turn helps to significantly reduce operating costs. Utilizing a new membrane surface coating technology, the TLF series also lowers the frequency of replacement.

Net Sales of Green Innovation Businesses



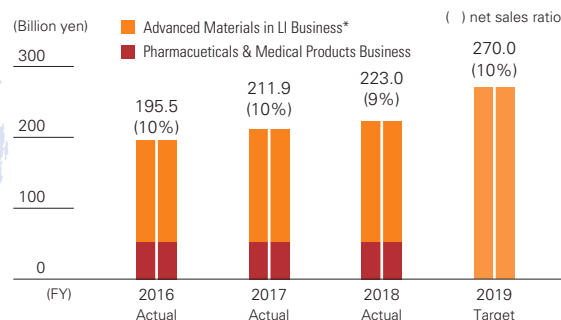
Life Innovation Business Expansion (LI) Project

Making the most of its management resources, Toray Group is working to expand its business by enhancing the quality of medical care, alleviating the burden of medical professionals, and contributing to the maintenance of health and longevity. In fiscal 2018, net sales from LI Project businesses were ¥223.0 billion, up 5.2% compared with the previous fiscal year.

Rolling Out the LI Project by Promoting Advanced Materials in Addition to Pharmaceuticals and Medical Devices

Under the LI Project, Toray Group upgraded and expanded its lineup of INOUE BALLOON™ expanding balloon mitral valvuloplasty catheters for use in aortic valves in the pharmaceuticals and medical devices fields. Moreover, the Company signed a license agreement with Meiji Seika Pharma Co., Ltd. on an orally disintegrating tablets formulation of the antipruritic drug TRK-820 developed and manufactured by Toray Group. The license allows Meiji Seika Pharma to exclusively develop and commercialize the product in Thailand and Indonesia. Meanwhile, every effort is being made to accelerate the rollout of the LI Project through advanced materials. Toray Group developed and commenced sales of hitoe®, a wearable monitoring system, for long-term medical use. In addition to acquiring the EU type examination certificate (CE marking) for its chemical protective clothing LIVMOA® 3000 series, the Company also developed LIVMOA® CL, a sterilized type of LIVMOA® comfortable disposable protective wear, for use in cleanrooms.

Net Sales of Life Innovation Businesses



*Toray Group estimation

Medium-term Management Program: Project AP-G 2019

THREE BASIC STRATEGIES

02

Expansion and Advancement of Global Business

Looking at conditions in which Toray Group operates, the need for advanced technologies in such wide-ranging fields as automobiles and energy is increasing in the U.S. and Europe. At the same time, standards of living are improving and environmental regulations becoming more stringent in China and emerging countries. Against this backdrop, Toray Group is working to expand its global business by capturing profit opportunities. In fiscal 2018, overseas sales were ¥1,271.3 billion, up 10.5% compared with the previous fiscal year.

Decision to Increase Production Capacity in the U.S. and Asia

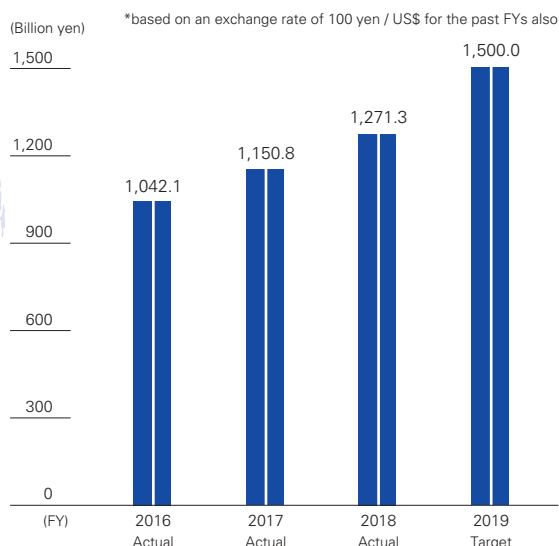
In a bid to expand and advance its global business, Toray Group ramped up efforts to increase production capacity in the U.S. and Asia. Turning first to India, the decision was made to establish a production facility for the nylon and polybutylene terephthalate (PBT) resin compounds used in such products as electronic components of automobiles and electrical and electronic connectors.

In Malaysia, Toray Group decided to increase its production capacity of its acrylonitrile butadiene styrene (ABS) resin TOYOLAC®. Operations are forecasted to commence in November 2020, in a bid to expand transparent-grade sales where the Group has the leading global market share. In China, positive steps were taken to establish a joint venture corporation to manufacture and market drinking water treatment facilities with ORIX Corporation and China Water Affairs Group Ltd.

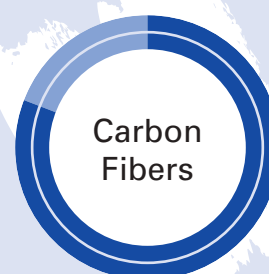
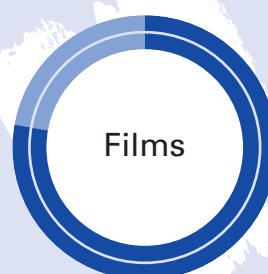
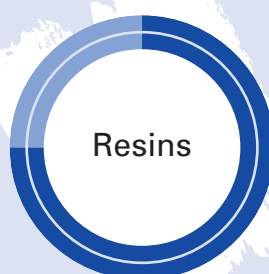
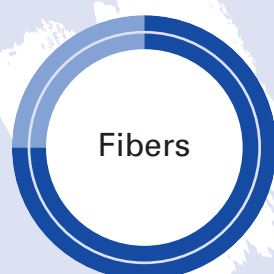
Moving on to the U.S., Toray Group decided to increase the production capacity of its polypropylene film TORAYFAN® in order to address increasing demand in the food packaging market. The aim is to commence operations from 2020.

Net Sales of Expansion and Advancement of Global Businesses

(Combined sales of overseas consolidated subsidiaries)



Overseas Production Ratio of Main Products (Production capacity at the end of March 2019)



Strengthening Competitiveness

In addition to the growth strategies of “business expansion in growth business fields” and “expansion and advancement of global business,” Toray Group is promoting efforts to strengthen its competitiveness from three specific perspectives: (1) total cost reduction, (2) strengthening its corporate structure, and (3) strengthening sales and marketing.

Total Cost Reduction

- ▶ Promote Total Cost Reduction (TC) Project on a Group-wide basis
- ▶ Activities of variable cost reduction (annual target at over 3.6%)
- ▶ Control fixed costs using the P-ratio* accounting method (P-ratio=under 0.96 each fiscal year)
- ▶ For innovation of the production process, identify themes by category in terms of “innovative cost reduction,” “large-scale total cost reduction” and “capacity increase of existing facilities” to achieve reduction effects by more than ¥50 billion in three years

Strengthening Corporate Structure

- ▶ Clarify issues of companies and businesses with profitability problems, and gather Toray Group’s collective efforts to improve revenue and profit
 > options include reducing or withdrawing from businesses with limited growth potential or excessive competition
- ▶ Manage the Group’s assets effectively and expand revenue and profit

Strengthening Sales and Marketing

- ▶ Sales and marketing leads to build a “profit-making system” in cooperation with production, technology, R&D departments, and external partners
- ▶ Maximize the revenue and profit of existing businesses through improvements in price policies, distribution systems and brand initiatives

Carried out Total Cost Reductions That Exceed the Previous Fiscal Year

Under its Group-wide Total Cost Reduction (TC) Project, Toray Group is looking to curtail costs by a total of ¥220 billion over the three-year period from fiscal 2017 through cutbacks in variable and fixed costs as well as production process innovation. In fiscal 2018, successful steps were taken to reduce costs by ¥84.1 billion compared with ¥69.3 billion in fiscal 2017.

In a bid to strengthen the Group’s corporate structure, Toray Advanced Material Korea Inc. absorbed Toray Chemical Korea Inc. in April 2019 with the aim of creating further synergies and pursuing operational efficiency. Working to strengthen sales and marketing, Toray Group completed the acquisition of TenCate Advanced Composites Holding B.V., a company that manufactures and markets carbon fiber composite materials, in July 2018. By unifying the brand name to “Toray Advanced Composites” and increasing awareness, the goal is to consolidate the employees of each company both in name and substance while strengthening collaboration.

Total Cost Reduction Results of FY2018



*P (Performance)-ratio=fixed cost growth rate/marginal profit growth rate. Target: less than 1.0 or monitored by division under budget.

Performance Forecasts for Fiscal 2019

Working Toward Further Increasing Revenues and Profits by Strengthening the Company's Corporate Structure, Expanding Business, and Promoting Business Structure Reform

The global economy as a whole is expected to recover slightly from late 2019, though a slowdown is expected in the pace of growth primarily in China and the U.S. However, attention should be also paid to risk factors such as increasing trade friction between countries such as the U.S. and China, the downward swing in the Chinese economy and the outcome of negotiations for the U.K.'s withdrawal from the EU. The Japanese economy is expected to continue on a gradual recovery track on the back of improvement in the employment and income environment while growths in exports and production are likely to slow. Nevertheless, it is necessary to note the economic impact of uncertainties in overseas economies and the fluctuations in crude oil prices and in the financial markets.

Under these circumstances, Toray Group is projecting consolidated net sales for fiscal 2019 of ¥2,530 billion. From a profit perspective, the forecast for operating income is ¥160 billion and net income attributable to owners of parent is ¥93 billion.

Based on the aforementioned, Toray Group is expected to pay an annual dividend of ¥16 per share, unchanged from the fiscal year under review.

Taking into consideration the various trends over these three years, including the rise in raw material and fuel prices, increasingly fierce trade friction between such countries as the U.S. and China, and the downturn in the Chinese economy, operating conditions in which Toray Group operates have changed dramatically compared with initial forecasts. Accordingly, results are anticipated to fall below the goals identified at the time AP-G 2019 was initially set. In fiscal 2019, every effort will again be made to stringently control fixed costs. At the same time, energies will be directed toward carrying out a project that aims to address priority issues. With the full support of the Group, steps will be taken to accelerate the pace of problem resolution, expand business, and promote business structure reform.

Consolidated Business Forecast for Fiscal 2019

Billion yen

	FY 2019 (Forecast)	Changes
Net Sales	2,530.0	+5.9%
Operating Income	160.0	+13.1%
Net Income Attributable to Owners of Parent	93.0	+17.2%

Assumed exchange rate : 110 yen / US\$

Forecast by Segment for Fiscal 2019

Billion yen

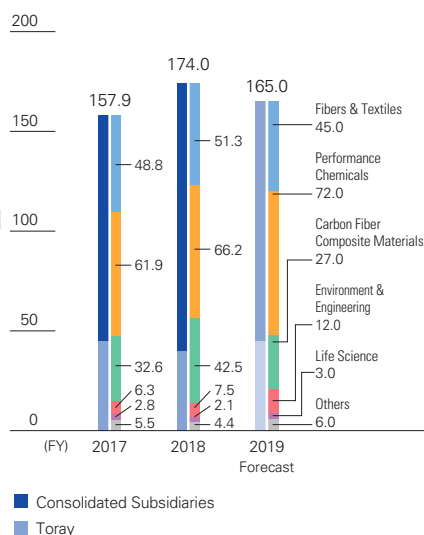
	Net Sales (Changes)	Operating Income (Changes)
Fibers & Textiles	1,000.0 (+25.7)	70.0 (-2.9)
Performance Chemicals	935.0 (+66.2)	81.0 (+13.3)
Carbon Fiber Composite Materials	250.0 (+34.1)	22.0 (+10.5)
Environment & Engineering	270.0 (+12.3)	14.0 (+1.8)
Life Science	55.0 (+1.3)	0.0 (-1.3)
Others	20.0 (+1.5)	3.0 (-0.1)
Adjustment	—	-30.0 (-2.7)
Consolidated	2,530.0 (+141.2)	160.0 (+18.5)

Promoting Capital Investments in Growth Fields with Focus on Overseas Businesses

As far as capital investments are concerned, Toray Group will look to reinforce facilities in growth fields with focus on overseas businesses. Plans are in place to undertake capital investments totaling ¥165 billion (depreciation and amortization of ¥113 billion) and R&D expenses of ¥73 billion in fiscal 2019.

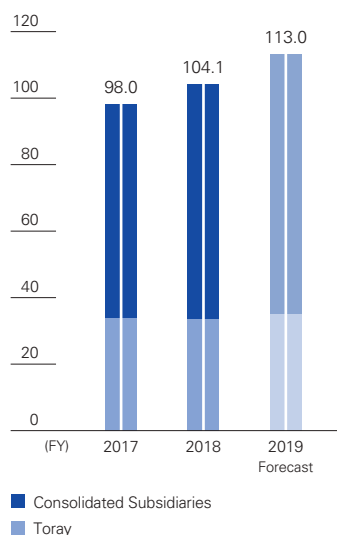
Capital Expenditures*

(Billion yen)



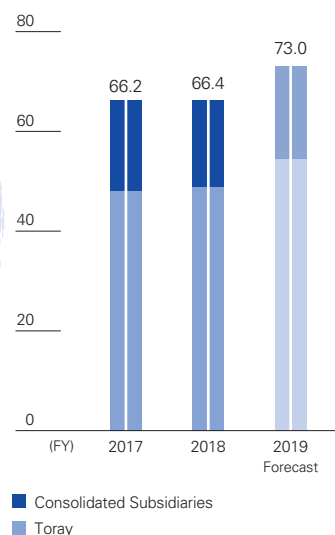
Depreciation*

(Billion yen)



R&D Expenses

(Billion yen)



* Total of tangible assets and intangible assets (excluding goodwill)

Major Capital Expenditure Projects

FY March 2019	Toray Battery Separator Film Korea Limited	Battery separator film SETELA® production facilities
	Zoltek Companies, Inc.	Large tow carbon fiber ZOLTEK™ production facilities
	Alcantara S.p.A.	Alcantara® production facilities
	Toray BSF Coating Korea Limited	Battery separator film SETELA® coating facilities
FY March 2020	Alcantara S.p.A.	Alcantara® production facilities
	Zoltek Zrt.	Large tow carbon fiber ZOLTEK™ production facilities
	Toray Plastics (Malaysia) Sdn. Berhad	ABS resin TOYOLAC® production facilities

Results by Segment for Fiscal 2018

Business Categories and Segments

Summary of Financial Results

STRATEGY

Core Growth Driving Business

Fibers & Textiles

In Japan, demand for industrial applications such as automobiles was strong in general, while shipment of apparel applications remained weak partly due to the unseasonable weather. Against this background, Toray Group not only strived to expand sales in each application but also worked to expand the business format that integrates fibers to textiles to final products while focusing on strengthening cost competitiveness.

Overseas, business performance of some subsidiaries in Southeast Asia remained slow, and was affected by a slowdown in demand for materials for automotive and other applications from the second half of the fiscal year, reflecting the deceleration of the Chinese economy. The Group expanded the integrated business for apparel applications. The segment's business both in Japan and abroad was generally affected by the increase in raw material prices.

Strategically Expanding Businesses

Performance Chemicals

In the resins business, Toray Group expanded sales of automotive applications while passing on the rise in raw material prices to the sales price, but the business was affected by the economic slowdown in China. The chemicals business saw an improvement in the basic chemicals market and sales of fine chemical products also increased. In the films business, shipment of battery separator films for lithium-ion secondary batteries increased reflecting demand growth, while polyester films and other products were broadly affected by the increase in raw material prices. The electronic & information materials business was affected by the slowing demand in the smartphone market.

Carbon Fiber Composite Materials

In the Carbon Fiber Composite Materials segment, demand for aircraft applications was mostly strong given the completion of the inventory adjustment in the supply chain. Demand for industrial applications showed a recovery trend for the most part, primarily in the environment and energy-related fields led by compressed natural gas tank applications and wind turbine blade applications. However, the segment was affected by rising raw material prices and intensifying competition. The cost of starting a new project at a composite subsidiary overseas increased and the segment also incurred fees related to the acquisition of the entire stake in TenCate Advanced Composites Holding B.V.

Intensively Developing and Expanding Businesses

Environment & Engineering

In the water treatment business, demand for reverse osmosis membranes and other products grew strongly on the whole in Japan and abroad. Among domestic subsidiaries in the segment, the trading volume of a trading subsidiary increased, while an engineering subsidiary outside Japan was affected by the conclusion of a large-scale plant construction project.

Life Science

In the pharmaceutical business, while sales volume of orally active prostacyclin derivative DORNER® increased in the overseas markets, the sales were affected by its generic versions and the revision of National Health Insurance drug price standards in Japan. Sales of pruritus treatment REMITCH®* were influenced by the market entry of its generic versions.

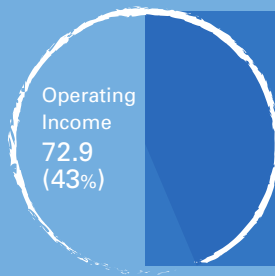
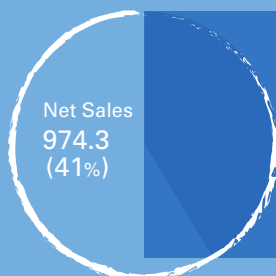
The medical devices business was affected by the reduction of the insurance reimbursement amount in Japan and the increase in raw material prices, while shipment of dialyzers grew strongly in Japan and overseas and sales volume of dialysis machines also expanded.

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

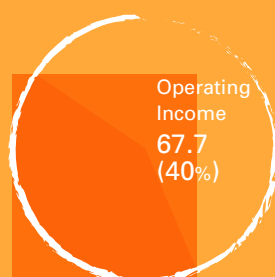
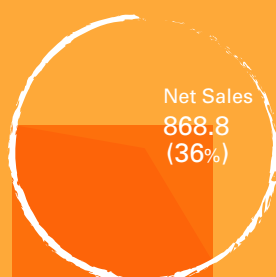
Performance (Billions of yen) Main Products

* The figures in parentheses of each segment are composition ratios by segment.

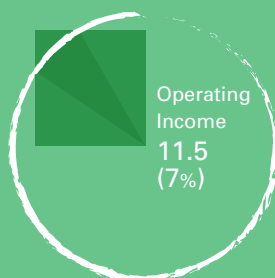
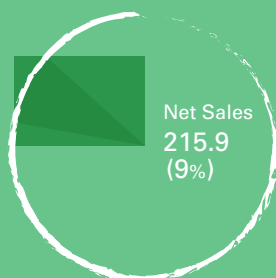
Main Products



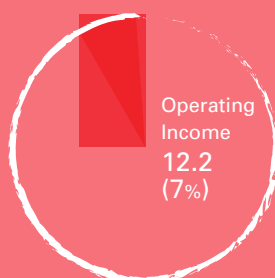
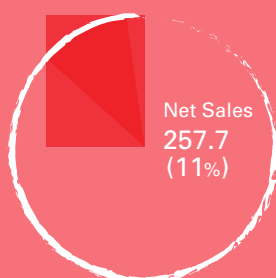
- Filament yarns, staple fibers, spun yarns, woven and knitted fabrics of nylon, polyester, acrylic, and others
- Non-woven fabrics
- Ultra-microfiber non-woven fabric with suede texture
- Apparel products, etc.



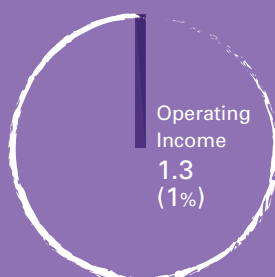
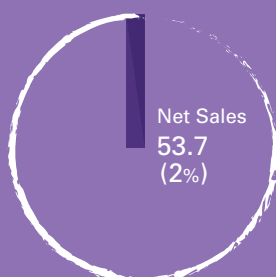
- Nylon, ABS, PBT, PPS, and other resins and molded products
- Polyolefin foam
- Polyester, polyethylene, polypropylene, and other films and processed film products
- Raw materials for synthetic fibers, and other plastics
- Fine chemicals
- Electronic and information materials and graphic materials, etc.



- Carbon fibers, carbon fiber composite materials, and molded products from those materials, etc.



- Comprehensive engineering
- Condominiums
- Industrial equipment and machinery
- IT-related equipment
- Water treatment membranes and related equipment
- Materials for housing, building, and civil engineering applications, etc.



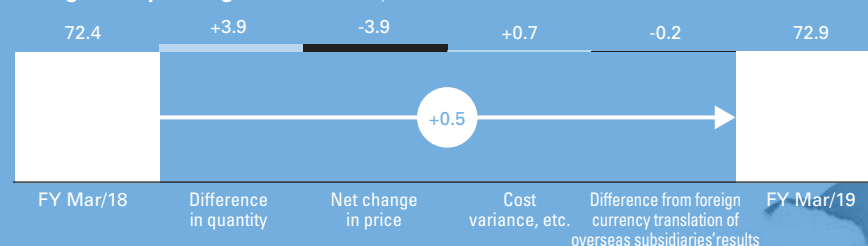
- Pharmaceuticals
- Medical devices, etc.

Excludes other businesses, equivalent to ¥18.5 billion (1%) in net sales and ¥3.1 billion (2%) in operating income, and adjustment of operating income of -¥27.3 billion. The composition ratio by segment of operating income is calculated excluding the adjustment amount.

Fibers & Textiles

Years ended March 31	2017	2018	Changes	2019 Forecast
Net sales (Billion yen)	913.6	974.3	+6.6%	1,000.0
Operating income (Billion yen)	72.4	72.9	+0.6%	70.0
Operating income to net sales	7.9%	7.5%		

Changes in Operating Income (Billion yen)



Net Sales
(Billion yen)

974.3

Operating Income
(Billion yen)

72.9

Operating Income to
Net Sales

7.5%

ROA
(Operating Income/
Assets)

9.3%

Basic Policy

- Strengthen its earnings structure as a core growth driving business of Toray, and expand business in growth business fields and regions
- Aim for significant growth in the segment through the further enhancement of global operations

Earnings Opportunities and Risks

- Growing need for advanced materials contributing to the resolution for global environmental and energy/resource issues, and health and longevity
- Changes in the global economy and personal spending trends
- Improving standards of living and tighter regulations in China and emerging economies as income levels in those areas rise
- Raw materials and fuel prices trends

Basic Strategies for Achieving the Medium-term Management Program "AP-G 2019" Targets

- Maintain and reinforce domestic business foundation and processing platform in production areas, and further strengthen business competitiveness
- Reinforce business foundation of existing operations at overseas locations, and expand business in growth business fields and regions
- Strengthen Toray Group's global operations and create new business areas by developing and expanding business on multiple levels combining its strength of diverse product lines, supply chain, and global sales
 - > Aim to achieve significant growth by the global fibers/textiles/final products integrated business format and SCM, reinforce value chain of strategic products, and expand new business areas

Fiscal 2019 Outlook

- In apparel applications, anticipate 2019 autumn/winter business to be weak due to the warm winter in 2018, despite the efforts to expand sales in all applications and high value-added products
- In industrial applications, seek to expand sales by utilizing enhanced facilities such as PP spunbond, airbags, and ultra-microfiber non-woven fabric with suede texture

Topics

01

Toray completes its new TECHNORAMA GIII textile and garment development base

Toray completed the construction of its new TECHNORAMA GIII textile and garment development base, located in the Advanced Textiles Development Center at the Company's Seta Plant, in June 2018. The Advanced Textiles Development Center is Toray's headquarters for the development of high-level processing technologies, from spinning and yarn texturing to weaving, knitting, dyeing and sewing. Toray launched the TECHNORAMA weather simulation laboratory for the first time in 1983 and has continued to develop numerous highly functional products, including moisture-permeable waterproof material and functional innerwear. Toray in 2008 established TECHNORAMA GII, a large-scale weather simulation laboratory that can accommodate items such as cars, at the Toray Fibers & Textiles Research Laboratories (China) Co., Ltd. (TFRC) in China, and has continued to promote the development of highly functional textiles, industrial materials and environment-conscious materials.

The new weather simulation laboratory at TECNORAMA GIII can not only recreate a diverse range of weather conditions, including extremely low temperature and low humidity environments, as well as torrential rain, but can also allow experiments focused on sudden temperature changes in our daily lives. It also enhances evaluation and analysis technologies through physiological analysis based on human engineering, and motion analysis based on sports engineering, so that Toray can continue to work on the development of new fields. The Company has also established an Open Lab, which is a joint development base designed to improve the sophistication of products and shorten development cycles through collaboration with partners both within and outside the Company.

02

Toray launches sales of Ultrasuede® BX, an environmentally friendly non-woven material with a suede texture that has the world's highest level of plant-based raw material content

Toray has launched sales of "Ultrasuede® BX," a non-woven material with a suede texture. The material uses plant-derived polyester and polyurethane as raw materials, giving it a plant-based raw material content ratio of about 30%, the highest in the world. Ultrasuede® BX is also the world's first non-woven material with a suede texture using plant-based polyurethane as a raw material. The Company targets sales of ¥500 million from the product in fiscal 2019 and sales of ¥3 billion in fiscal 2023.

In the past, durability and texture have been key challenges for plant based polyurethane. To solve these issues, Toray used its unique design technologies in areas from original polymers to material structures, as well as its polyurethane coagulation technology to succeed in developing the Ultrasuede® BX product, which has a high plant-based raw material ratio, as well as superior feeling and functionality, including in areas such as durability, air-permeability, and maintenance.

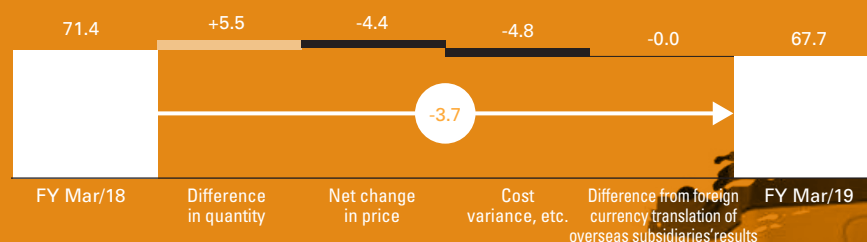
Marketed globally by Toray, Ultrasuede® is a cutting-edge non-woven material with a suede texture representing the best of Japanese quality. Toray developed the product in 1970 and through continuous technological advancements has created a highly sophisticated and functional material that can be used not only in fashion and interior design, but also in automotive and aircraft interiors, sports equipment, and accessories for smartphones and other mobile devices. Toray has also been focusing on the development of environmentally-friendly sustainable products and has been marketing "Ultrasuede® PX," which uses a plant-based polyester since 2016. The addition of Ultrasuede® BX to the brand's product lineup further expands the Company's development of non-woven materials with a suede texture that contribute to both sustainability and new creation.



Performance Chemicals

Years ended March 31	2017	2018	Changes	2019 Forecast
Net sales (Billion yen)	803.3	868.8	+8.2%	935.0
Operating income (Billion yen)	71.4	67.7	-5.1%	81.0
Operating income to net sales	8.9%	7.8%		

Changes in Operating Income (Billion yen)

Net Sales
(Billion yen)**868.8**Operating Income
(Billion yen)**67.7**Operating Income to
Net Sales**7.8%**ROA
(Operating Income/
Assets)**6.9%**

Basic Policy

- Expand business by expanding sales of high value-added products in growth business fields and maximum utilization of global bases
- Strengthen earnings base by business structure reform

Earnings Opportunities and Risks

- Growing need for advanced materials contributing to the resolution of global environmental and energy/resource issues
- Changing in the demand trends of end products such as automobiles, including electric vehicles, LCD TVs and smartphones, and changes in technological trends in various components
- Raw materials price trends

Basic Strategies for Achieving the Medium-term Management Program "AP-G 2019" Targets

■ Resins, Chemicals Business

- Allocate management resources and promote business expansion in growing businesses including PPS resins, resin compounds overseas, and automotive materials

■ Films Business

- Invest in facilities for lithium-ion battery separator films and promote sales expansion through product development
- Reorganize manufacturing of PET films, increase value of existing products by utilizing global operations, and enhance sales expansion

■ Electronic & Information Materials Business

- Expand sales of OLED-related materials and accelerate technology development and commercialization of products beyond the LCD display field

Fiscal 2019 Outlook

- In resins business, will expand sales of high-functional ABS resins and engineering plastics for automotive applications, etc.
- In films business, intend to expand sales in growth business fields, including battery separator films and MLCC release films
- In electronic & information materials business, expect to increase sales of OLED-related materials and electronic circuit materials

Topics

01

Toray bolsters production capacity for ABS resin TOYOLAC® at Malaysian Subsidiary

Toray has decided to increase the production capacity for its ABS resin TOYOLAC®, which is manufactured and distributed by Toray Plastics (Malaysia) Sdn. Berhad (TPM). The Company will add a facility with annual production capacity of 75,000 tons in an effort to expand sales of high performance varieties such as transparent grade, for which the Company has the No. 1 global market share, thanks to its cost competitiveness and stable quality, which is due in large part to the Company's proprietary continuous polymerization production process. The Company aims to launch operations under the new arrangement in November 2020. The move will increase TPM's production capacity to 425,000 tons a year, and Toray Group's capacity, including the existing facility at Toray Chiba Plant, to 497,000 tons a year.

ABS resin is a plastic that is light, strong, and elegant. It shows excellent processability, and it is used for an extremely wide range of applications, from industrial items to household goods. In 2018, global demand for ABS resins was 9 million tons and is expected to grow steadily at 3% a year, as demand is expected to increase in China, the ASEAN community, and emerging countries. Global demand for high performance ABS resin such as transparent ABS, and resins with added properties such as heat resistance and chemical resistance, in 2018 is estimated at about 2.1 million tons. Amid increased demand for enhanced functionality in a wide range of applications, including home appliances, office automation, automobiles, and toys, demand for these products is expected to grow at 4% or more annually.

While the mother plant in Chiba is accelerating the shift in its product mix to focus mainly on highly functional ABS resins, including medical-use transparent ABS, the increase in production in Malaysia will accelerate the expansion of potential applications and advance the Company's entry into the European, U.S., and Indian markets, in addition to the existing mainstay Chinese and ASEAN markets.

02

Toray to increase production capacity of polypropylene film TORAYFAN® at U.S. subsidiary

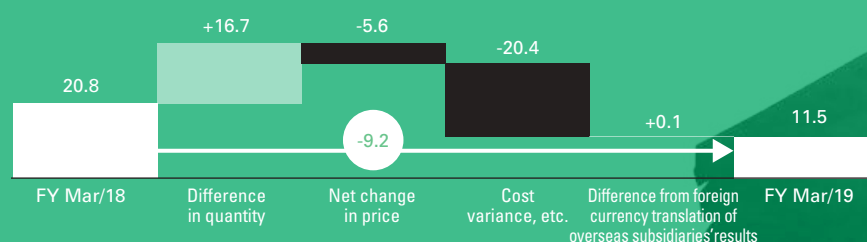
Toray has decided to increase production capacity for its polypropylene film TORAYFAN®, which is manufactured by Toray Plastics (America), Inc. (TPA). A new production facility with annual capacity of 30,000 tons will be additionally built at TPA's Rhode Island plant, with the goal of starting operations in 2020. TORAYFAN® is considered the lightest of the plastic films and shows superiority in transparency, toughness, and the ability to preserve aromas. It is widely used for general industrial applications, capacitors, and packaging materials. TPA has high share in high value-added packaging materials in the North American market.

The biaxially-oriented polypropylene market in North America is expected to grow at a pace of 3% a year as the population in the region expands. In the food packaging film market in particular, there is an increasing push to extend the shelf life of food and to diversify package designs for snacks, confections, and health foods such as nutrition bars. The announced production capacity increase is in response to this kind of diversification and the growing sophistication of customer needs, and by moving quickly to expand production capacity at TPA, the Company aims to further expand its biaxially-oriented polypropylene business.

Carbon Fiber Composite Materials

Years ended March 31	2017	2018	Changes	2019 Forecast
Net sales (Billion yen)	177.9	215.9	+21.3%	250.0
Operating income (Billion yen)	20.8	11.5	-44.4%	22.0
Operating income to net sales	11.7%	5.3%		

Changes in Operating Income (Billion yen)



Net Sales
(Billion yen)

215.9

Operating Income
(Billion yen)

11.5

Operating Income to
Net Sales

5.3%

ROA
(Operating Income/
Assets)

2.1%

Basic Policy

- Further expand the business as the world's number one manufacturer of carbon fibers

Earnings Opportunities and Risks

- Growing need for advanced materials contributing to the resolution of global environmental and energy/resource issues
- Demand trends in end products, including automobiles, compressed natural gas tanks, wind turbine blades, and aircraft
- Global supply and demand balance for carbon fiber
- Trends in raw materials and fuel prices, foreign currency exchange rates

Basic Strategies for Achieving the Medium-term Management Program "AP-G 2019" Targets

■ Aerospace Applications

- Further strengthen existing partnerships
- Capture new programs

■ Industrial Applications

- Reinforce dominant market share by leveraging comprehensive strengths in lineup of regular tow and large tow products
- Reinforce dominant market share in the wind turbine blade applications by strengthening alliance with major customers, supported by the cost competitiveness in large tow products
- Develop intermediate products/molding technologies and enhance the supply chain to meet the full-scale expansion in automotive application demand

Fiscal 2019 Outlook

- In aerospace applications, expect shipment to expand in response to the increase in production volume of our major customer
- In industrial applications, seek to expand sales primarily in the environment and energy-related fields
- Will promote cost reductions at a composite subsidiary overseas

Topics

01

Increasing production capacity for large tow carbon fiber at Zoltek Companies, Inc.

Toray has decided to increase production capacity for large tow* carbon fiber at the U.S. subsidiary Zoltek Companies, Inc. Through this facility expansion, the Company aims to increase production capacity at Zoltek's Hungarian facility from 10,000 tons to 15,000 tons annually. Total investment will exceed US\$130 million and production will start in early 2020. Zoltek has already implemented equipment enhancements and raised the capacity of their Mexican facility from 5,000 tons per year to 10,000 tons per year. Once the current enhancements at the Hungarian facility are in place, Zoltek's total annual production capacity will be approximately 25,000 tons or more.

Zoltek signed a strategic cooperation agreement with the Hungarian government in March 2015, with the company receiving strong support from the government, including in infrastructure development, employee recruitment, and employee education. The announced facility expansion has been planned in line with the content of the strategic cooperation agreement.

Demand for large tow carbon fiber for industrial applications is rapidly expanding. Demand for wind turbine blades, the main application for Zoltek's large tow carbon fiber, is expanding not only in Europe, but in South America as well as Asia, particularly China and India. Furthermore, due to the larger size of the turbines, carbon fiber usage per blade is also expected to increase.

Zoltek will continue to leverage the strengths of its production bases in the U.S., Hungary, and Mexico and follow a business model based on local production and consumption as it aims to capture the growing global demand of wind turbine blade manufacturers. Europe is taking the lead in the use of carbon fiber for automotive structural applications, and Zoltek has established a timely supply chain for the region originating from the Hungarian facility, which is currently expanding its production capacity. The company will continue to respond quickly to demand growth moving forward. Zoltek is also focused on enhancing its carbon fiber production facilities at the Hungarian and Mexican plants, and as the world's number one supplier of large tow carbon fiber remains committed to the building of a top-tier supply system.

*Large tow: carbon fiber having more than 40K filaments (40,000 fibers) that is used as a relative low-priced material and satisfies industrial application requirements, including those related to wind turbine blades and strengthening agents for resin compounds.

02

Toray acquires TenCate Advanced Composites stock

Toray purchased all outstanding shares of TenCate Advanced Composites Holdings B.V., a Dutch carbon fiber composite material manufacturer in July 2018. This company is a prepreg manufacturer with its main manufacturing bases in Europe and the U.S. and has an established track record of supplying thermoplastic prepreg and high heat resistance thermoset resin materials in a wide range of applications. Also, it is a global leader in carbon fiber intermediate materials using thermoplastic resins. The acquisition is expected to generate significant synergies by combining Toray's broad range of carbon fiber and polymer technologies with the product lineup of the newly acquired company. Moreover, by combining the two companies' distribution channels, Toray can offer a wider product lineup to its customers. Toray will continue to respond swiftly to the market expansion in small-sized aircraft and over the medium to long term to expand the business further in industrial applications, including automotive applications.

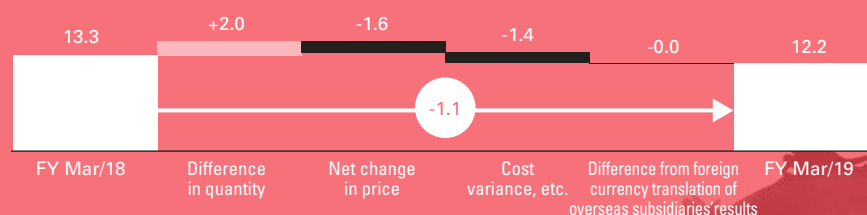


Intensively Developing and Expanding Businesses

Environment & Engineering

Years ended March 31	2017	2018	Changes	2019 Forecast
Net sales (Billion yen)	238.3	257.7	+8.1%	270.0
Operating income (Billion yen)	13.3	12.2	-7.9%	14.0
Operating income to net sales	5.6%	4.7%		

Changes in Operating Income (Billion yen)



Basic Policy

- Expand business in the environment and energy field with focus on water treatment membranes and facility design capabilities

Earnings Opportunities and Risks

- Growing need for advanced materials that can contribute to the resolution of global environmental and energy/resource issues, and related machinery to manufacture them
- Political instability in areas suffering from water shortages
- Crude oil price trends
- Capex trends at mainstay customers

Basic Strategies for Achieving the Medium-term Management Program "AP-G 2019" Targets

■ Water Treatment Business

- Expand business and strengthen competitiveness in the membrane business
- Enhance development of reverse osmosis membrane products and strengthen cost competitiveness
- Expand sales of UF membranes in China and the U.S.A.
- Strengthen the business foundation in the water treatment system and plant business

■ Engineering Business

- Expand plant business and industrial machinery (in the environment and energy fields and the life science field)
- Make use of external resources in growth areas
- Strengthen cost competitiveness
- Accelerate overseas expansion

Fiscal 2019 Outlook

- In the water treatment business, seek to expand sales of the membrane business including RO membranes to meet the growing global demand

Net Sales
(Billion yen)

257.7

Operating Income
(Billion yen)

12.2

Operating Income to
Net Sales

4.7%

ROA
(Operating Income/
Assets)

4.6%



Topics

01

Established a drinking water treatment facility production and sales company in China

Operating its water treatment business in China since the 1980's, Toray, along with ORIX Corporation (ORIX) and China Water Affairs Group Ltd. (China Water Affairs), established a joint-venture corporation (Jiangxi Yinli Drinking Water Equipment Co., Ltd.) in March 2019.

ORIX established China's first leasing company in 1981. Since then, it has utilized its experience to expand its financial and investment businesses in China. China Water Affairs is a comprehensive water treatment company listed on the Hong Kong Stock Exchange. In addition to the operation and management of water supply and sewage facilities in regional cities across China, the Chinese firm also handles peripheral projects including infrastructure and maintenance.

China, in recent years, has seen an increase in demand for water suitable for drinking straight from the tap. With this in mind, the three companies concluded a strategic partnership, and through the establishment of the joint venture will incorporate Toray's membrane filtration technologies to manufacture and sell drinking water treatment facilities that are capable of supplying water that is suitable for drinking directly from the source.

After obtaining water products production and sales license from the Chinese government, the joint venture intends to utilize China Water Affairs' expertise and networks in the water business in China to install facilities in public buildings such as schools and hospitals, as well as private buildings such as hotels, offices, and apartments.

02

Establishing a joint-venture company in the Republic of Korea to expand the air filter business

Toray established M&T Engineering Co., Ltd (M&TE) in the Republic of Korea as a joint venture company with MCM Co., Ltd. (MCM), a company under the Chung Ho Nais Group, which is engaged in the sales of water purifiers and air cleaners. M&TE commenced operations in October 2018. The company is capitalized at 6 billion won (about ¥600 million), with MCM having a 60% stake and Toray having a 40% stake. M&TE combines the assembling and processing, as well as automation expertise of MCM with Toray integrated design and development technology, starting from fibers and filter materials to assembled units, so as to build a local production setup for the high-performance filters necessary to expand the company's business in the Republic of Korea as well as to supply to Korean manufacturers with a global presence. The Chung Ho Nais Group has a strong share of the Korean water purifier market, and has a broad business base, with sales to major global players in the country and exports to some 60 countries.

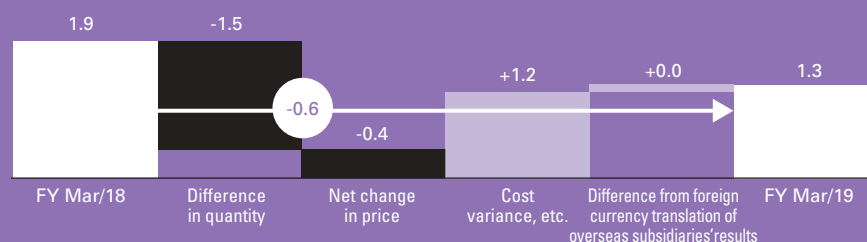
Toray has been producing non-woven fabric for air filters since 2012 at Toray Fibers (Nantong) Co., Ltd. (TFNL), its fiber production base in China. This has allowed the Company to build a local production and supply structure adapted to the Chinese GB standards* and contribute to measures aimed at reducing atmospheric pollution, which has become a serious social issue. M&TE will assemble filters that use TFNL's non-woven fabric for high-performance filters, thus accelerating the sales expansion in the country, as well as around the world, by directly supplying major home electronics and automobile manufacturers.

*Chinese GB standards: Chinese national standards related to initial performance and performance throughout the life of air purifiers.

Life Science

Years ended March 31	2017	2018	Changes	2019 Forecast
Net sales (Billion yen)	53.8	53.7	-0.3%	55.0
Operating income (Billion yen)	1.9	1.3	-33.0%	0
Operating income to net sales	3.6%	2.4%		

Changes in Operating Income (Billion yen)

Net Sales
(Billion yen)

53.7

Operating Income
(Billion yen)

1.3

Operating Income to
Net Sales

2.4%

ROA
(Operating Income/
Assets)

1.7%

Basic Policy

- Maintain and expand domestic market share, accelerate and strengthen overseas development
- Use selection and concentration to promote more efficient product development

Earnings Opportunities and Risks

- Growing need for advanced materials to improve quality of healthcare, ease burden on medical professionals, and contribute to health and longevity
- Japanese government's promotion of generic products and ongoing revision of National Health Insurance drug price standards as well as reduction of the insurance reimbursement prices
- Laws and regulations trends in each country

Basic Strategies for Achieving the Medium-term Management Program "AP-G 2019" Targets

■ Pharmaceutical Business

- Maintain the domestic market share and develop overseas markets of oral antipruritus drug REMITCH®*
- Create next-generation drugs using new processes

■ Medical Devices Business

- Expand sales of dialyzer products in Japan and overseas
- Expand domestic sales and accelerate overseas development in critical care and cardiovascular products
- Quickly commercialize bio-devices

Fiscal 2019 Outlook

- In pharmaceuticals, anticipate pruritus treatment REMITCH®* to be affected by its generic versions
- In the medical devices business, will expand sales of our dialysis-related products, but expect price competition to intensify and demand for some products to decrease

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

Exclusive license agreement for Antipruritic Agent TRK-820 in Thailand and Indonesia

Toray and Meiji Seika Pharma Co., Ltd. (Meiji) signed an exclusive license agreement on the orally disintegrating (OD) tablets formulation for the antipruritic drug TRK-820 developed by Toray. Pursuant to the agreement, Meiji gains the exclusive rights to develop and commercialize the product in Thailand and Indonesia. In return, Meiji will pay an initial payment as well as milestone payments in line with development progress to Toray.

TRK-820 is marketed as REMITCH®*1 Capsule 2.5μg and REMITCH® OD Tablet 2.5μg in Japan to improve pruritus in hemodialysis patients and patients with chronic liver disease (used only when sufficient efficacy is not obtained with the existing therapies or treatments). In particular, the REMITCH® OD Tablet can be administered both with and without water and is expected to contribute to improved medication compliance*2 for patients with a deteriorated swallowing function, which would include some senior citizens and those with limited water intake abilities.

Meiji has consolidated pharmaceutical manufacturing subsidiaries in Thailand and Indonesia. Thailand in particular has a large number of end-stage renal disease patients and it is one of the countries where there is a strong need for hemodialysis treatment. Toray and Meiji expect to make a significant contribution to easing pruritus in dialysis and chronic liver disease patients in Thailand and Indonesia who have until now not had access to effective treatment.

*1 REMITCH®: The world's first highly selective K(kappa)-opioid receptor agonist developed by Toray. REMITCH® is a registered trademark of Torii Pharmaceutical Co., Ltd.

*2 Medication compliance: The act of taking medication on schedule and taking medication as prescribed.

Nucleic acid drug TRK-250 receives orphan drug designation from the U.S. FDA

TRK-250 is a nucleic acid drug for the treatment of Idiopathic Pulmonary Fibrosis (IPF), originated by BONAC Corporation (BONAC) and currently undergoing a Phase I clinical trial in the U.S. with IPF patients by Toray. BONAC received an Orphan Drug Designation from the U.S. Food and Drug Administration (FDA) for TRK-250 in February 2019. The orphan drug designation enables benefits such as 7-year marketing exclusivity, tax credits for clinical trials costs, and a partial waiver on marketing application costs in the U.S.

IPF is a disorder with a poor prognosis and an unpredictable clinical course, in which fibrosis of intestinal pneumonia progresses irreversibly. Thus, the development of a novel drug with new mechanisms is expected to broaden the treatment options in clinical practice.

TRK-250 inhibits the progression of pulmonary fibrosis by selectively suppressing the expression of transforming growth factor-beta 1 (TGF-β1) protein, a key growth factor involved in lung fibrosis, at the gene expression level. One of the features of the agent is that it is a single strand long-chain nucleic acid with a unique molecular structure employing BONAC's proprietary nucleic acid platform. The treatment is expected to overcome the issue of stability, a common problem in conventional nucleic acid treatments. Moreover, it comes in an aerosol form that can be administered directly to the lung, which is expected to carry the agent efficiently to the target organ.

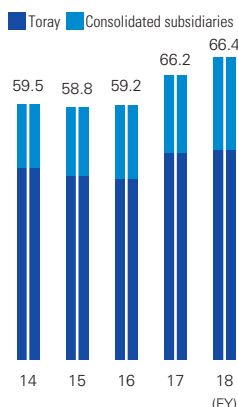
With TRK-250's orphan status in hand, Toray and BONAC are focused on further accelerating the development of TRK-250, and aim to market the treatment in the late 2020s.

R&D

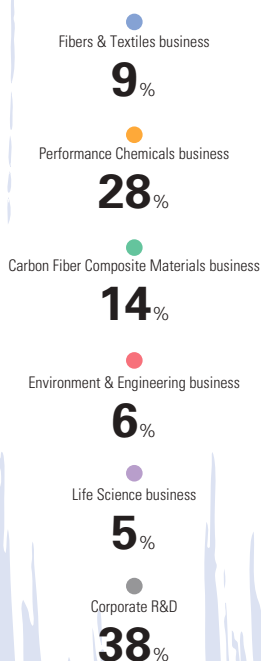
Fiscal 2018 R&D Expenses

¥66.4 billion

R&D Expenses
(Billion yen)



Percentage Breakdown of Total R&D Expenses in Fiscal 2018



Fiscal 2018 R&D Achievements

Fibers & Textiles

Using our innovative composite spinning technology, we have developed Primeflex[®], a material composed of two-component, bimetal thread that has the smallest diameter in the world at 0.8dtex. In addition, we have developed Deep Color Nylon[™], a UV-blocking nylon textile that features deep, vivid colors, superior color fastness, and is composed of a fiber structure with minimal amorphous components, which cause colors to fade. We have also developed "Ultrasuede[®] BX," an ultra-microfiber non-woven fabric with suede texture that is about 30% made of plant-based raw materials, realizing the highest proportion of plant-based raw materials—Polyester and Polyurethane—in the world.

Performance Chemicals

Using our proprietary precise control alloy technology, we have developed a new polyphenylene sulfide (PPS) resin that boasts the world's highest level of flexibility while featuring strong thermal and chemical resistance. We have also developed a solar control film that possesses one of the world's highest levels of heat reflection properties with respect to infrared radiation from the sun. This film also further deepens our nano-layering technology while maintaining glass-like transparency. In addition, we developed the world's first waterless offset printing equipment that does not use VOCs and capable of reducing power consumption by around 80% compared with conventional printing methods.

Carbon Fiber Composite Materials

We have developed the TORAYCA[®] MX series, a new carbon fiber that improves tensile strength by around 30% while retaining the equivalent tensile modulus to conventional carbon fibers through the application of technology to improve the orientation by closely controlling the graphite crystal structure in a nano order. We also have developed prepreg (resin-impregnated carbon-fiber sheets) for primary structural components of aircraft that applies new molding technology without using autoclaves that was developed in the previous fiscal year.

Environment & Engineering

We have developed technology that limits the resistance of the feed water and purified water flowing through the reverse osmosis (RO) membrane to the minimum, thus boosting the velocity of flow of feed water. Consequently, we have succeeded in improving water recovery by as much as twice. In addition, we have successfully created a polyvinylidene fluoride (PVDF) ultrafiltration (UF) membrane that further deepens pore diameter control technology, effectively separates micro substances, and features a high level of water permeability.

Life Science

We have created a new fibrous adsorbent for purifying blood that applies synthetic fiber spinning technology to selectively eliminate bio targets such as cells and proteins. In addition, we are accelerating the development of TRK-950 antibody drug currently undergoing Phase 1 clinical testing with the aim of gaining approval early as a cancer treatment. We have also begun a Phase 1 clinical trial in the United States for TRK-250, a nucleic acid drug jointly developed with BONAC Corporation. TRK-250 was granted an Orphan Drug Designation by the U.S. Food and Drug Administration (FDA) for the treatment of idiopathic pulmonary fibrosis.

Fiscal 2018 Topics

Toray Creates Innovative UV Blocking Film by Deepening Nano-multilayer Technology

The use of OLED displays has been spreading rapidly. However, according to some reports, such displays have been found to be sensitive to UV damage, even in the 400 nm range, close to visible light, leading to calls for further improvements in durability. Given this, Toray successfully developed an innovative UV blocking film that, while being thin, blocks 99.99% of UV rays, maintains transparency, and is capable of cutting UV up to around the 400 nm range. The new product, "PICASUS[®]UV" is a laminated film comprised of several hundreds to thousands of nano-scale layers, representing a greater depth of our proprietary technology that works to individually design the thickness and layout of these layers, and to precisely control the wavelength bands of reflection and transmission. Toray aims to mass produce this film from 2020, and going beyond displays, anticipates various other applications for automobile, building and construction material, agriculture, electronic material, and special packaging in the pharmaceutical and other fields.

Development and Commercialization of High-performance Positive Photosensitive Siloxane Coatings Recognized with the CSJ Award for Technical Development

Toray has been honored with the 67th (2018) CSJ Award for Technical Development by the Chemical Society of Japan. The award recognizes this innovative technology for its realization of high degrees of resolution and sensitivity with the positive-tone photosensitive properties of siloxane, a hybrid organic and inorganic material that offers exceptional transparency and heat resistance. The award also highly evaluated the technology for its high degrees of design and property freedom with, such as refraction index control and calcined silicates, which can lead to significant contributions to higher performance of displays, touch sensors, image sensors and other optical devices.

Successful Execution of National Project with Toray DNA Chip

Toray has developed its DNA Chip "3D-Gene[®]" that is 100 times more sensitive than conventional products. And based on this technology, Toray enabled the super sensitive detection of microRNA in blood. Until fiscal 2018, Toray has been promoting a large-scale national project with the National Cancer Center, the representative cancer research and clinical center of Japan, and other organizations. As a result, Toray carried out a study involving 1,000 cases, using serum samples from, such as breast cancer or colon cancer patients, and good results were obtained. Deepening the cooperation with related organizations, Toray will continue to concentrate all power and aim at the early application for marketing authorization and its approval.

Intellectual Property



Basic Policies on Intellectual Property

Toray Group 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 Group regards intellectual property as one of its vital management resources. We integrate our intellectual property strategies mutually and organically with our business strategies and R&D strategies, and as part of this “trinity,” we designate intellectual property strategies as one of the most important elements of our management strategies.

2 Promoting the procurement of rights

In order to protect Toray Group’s products and technologies and to ensure profits in terms of intellectual property, we hold as many useful patent rights as possible and build patent portfolios. At the same time, we pay close attention to efficient patenting by raising the quality of each patent and not making needless applications.

3 Respecting the rights of others

Toray has operated a system for comprehensively investigating the relations between its own products and technologies and patents owned by other companies, and we thoroughly educate employees to prevent infringement on patent rights of other parties.

4 Rightful enforcement of our own rights

When Toray Group’s patent rights are infringed upon by another party, we take proper steps depending on the circumstances by exercising our patent rights, such as demanding that infringement cease, receiving monetary profits from licensing, and using our patent rights for cross-licensing with the patent rights of other parties.

Intellectual Property Strategies in Line with Our Management Strategies

1 Promoting global intellectual property strategies of Toray Group

We will promote Toray’s patent applications and patenting in countries other than Japan, particularly in those growth countries and regions where we aim to achieve business expansion in the future. Together with this, we will support global business growth by working to strengthen patent applications and patenting from overseas subsidiaries and affiliated companies to ensure the appropriate protection of inventions created in our bases in each country. We will also establish Group-wide intellectual property strategies that bind Toray Group’s research and technology development for each business field. In addition, we will establish and strengthen patent and trademark management systems at each company in Toray Group.

2 Firmly maintaining our technological advantage through strategic patent applications and other such efforts and rolling them out at subsidiaries and affiliated companies in Japan and overseas

At Toray Group, we are working to build patent portfolios with emphasis on the “Green Innovation Business Expansion (GR) Project” and “Life Innovation Business Expansion (LI) Project” while avoiding careless disclosure of technical information through the publication of patent applications. We expect these initiatives to support our businesses in the growth fields as a powerful barrier against entry in the future. We will also spread these efforts to our subsidiaries and affiliated companies in Japan and overseas.

3 Executing intellectual property strategies that are organically linked to our business

In order to promote the execution of intellectual property strategies linked to our individual business activities, Toray Group will strengthen participation in the patent activities of business divisions, and together with this, will work on intellectual property education according to the needs of the individual business divisions.

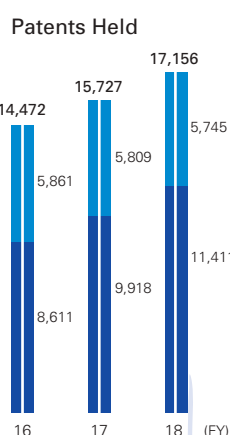
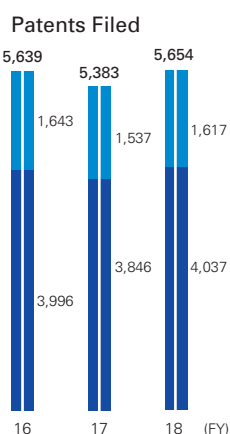
4 Strengthening utilization of our brand and trademarks

Together with our aim to enhance the value of our technology through technology brands, we will deal strictly with imitation products and other infringements of Toray Group’s trademarks amid surging growth in the number of online transactions.

5 Developing human resources to support global intellectual property activities

Toray carries out multifaceted and multilevel education for everyone from management to new employees and front-line sales representatives, covering domestic and overseas patent systems and practice. Additionally, at the Intellectual Property Division, together with encouraging the acquisition of patent attorney qualification, we actively support staff in their efforts to strengthen their foreign language capabilities and dispatch staff to overseas subsidiaries and affiliated companies.

We are also making concerted efforts to provide the same kind of intellectual property education at subsidiaries and affiliated companies in and outside of Japan. Moreover, we will assign intellectual property specialists to companies actively engaging in R&D and work to improve education for researchers and engineers.



■ Domestic
■ Overseas

Toray Selected as One of the 2018-2019 Top 100 Global Innovators

Analyzing trends in intellectual property based on proprietary data, Clarivate Analytics, based in the U.S., selects and celebrates the world’s 100 most innovative companies and institutions. This is the third time that Toray has been selected for the list, following 2015 and 2017.