Toray Integrated
Annual Report 2021
2020.4.1-2021.3.31

素材には、社会を変える力がある。

Materials Change Our Lives

TORAY
Innovation by Chemistry

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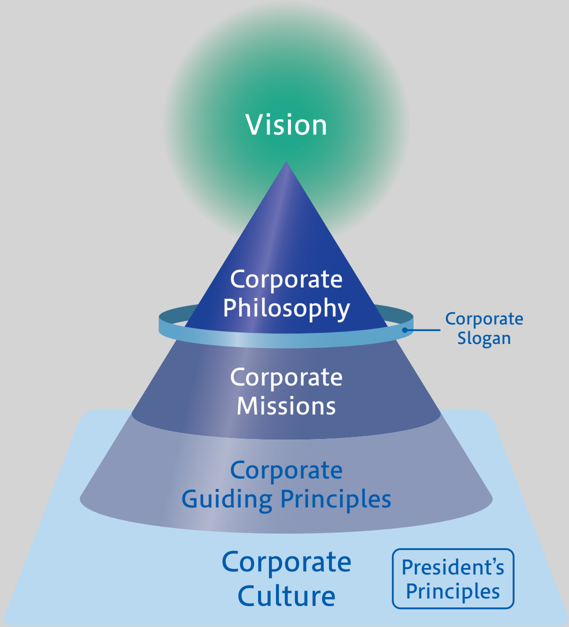
念

Toray Philosophy



Toray Philosophy

In addition to our traditional Management Philosophy (which includes the Corporate Philosophy, Corporate Missions, Corporate Guiding Principles), the Toray Philosophy includes the Corporate Slogan (which simply expresses Toray's stance on embodying the Corporate Philosophy), the Vision (which represents the direction the Group is headed), the Corporate Culture (which includes values and management perspectives that have been maintained since the company's founding), and the President's Principles.

Corporate Philosophy

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

Corporate Missions

For our customers: To provide new value to our customers through high-quality products and superior services
For our employees: To provide meaningful work and fair opportunities
For our shareholders: To practice sincere and trustworthy management
For society: To establish ties and develop mutual trust as a responsible corporate citizen

Corporate Guiding Principles

Safety and Environment
Placing top priority on safety, accident prevention and environmental preservation in order to protect the safety and health of employees, customers and local communities and contribute to building a sustainable society

Ethics and Fairness
Acting with fairness, high ethical standards and a strong sense of responsibility while complying with laws, regulations and social norms to earn trust and meet social expectations

Customer-Focus
Providing solutions of high value to customers, and pursuing customer satisfaction and the world's highest level of quality

Innovation
Achieving continuous innovation in all corporate activities, and aiming for dynamic evolution and growth

Strong *Genba-Ryoku* (Workplace Competency)
Learning from one another and making self-driven efforts to leverage technologies and expertise in order to strengthen workplace competency, which is the foundation of our corporate activities

Cooperation and Co-creation
Forming integrated internal linkages and strategic alliances with external partners, and evolving together with society by creating new value

Emphasis on Human Resources
Providing motivating work environments where employees can demonstrate their abilities, and building a vibrant corporate culture

Information Disclosure
Appropriately disclosing corporate information and enhancing communication with stakeholders in order to maintain management transparency

Respect for Human Rights
Fulfilling our responsibility to respect human rights as a good corporate citizen

Vision

Toray Group Sustainability Vision

Corporate Culture

• Contributing to society through business activities • People-centric management
• Management from a long-term perspective • Pioneering spirit

President's Principles

• Stay focused on the basics, search for ideal approaches, identify the right steps, and then carry them out
• All solutions can ultimately be found in the *Genba* (workplace)
• Consider what is best for the company • Have the integrity to do the right thing in the right way

Corporate Slogan

Innovation by Chemistry

Contents

ハイライト
Highlights

価値創造
Value Creation

地球環境問題への取り組み
Initiatives for Global Environmental Issues

DX
Digital Transformation

人材 Human Resources

ガバナンス Corporate Governance

事業概況 Segment Information

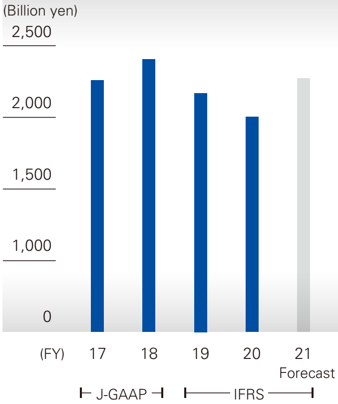
研究・技術開発 R&D 知的財産 Intellectual Property

情報 Data

Financial Highlights

Net Sales/Revenue

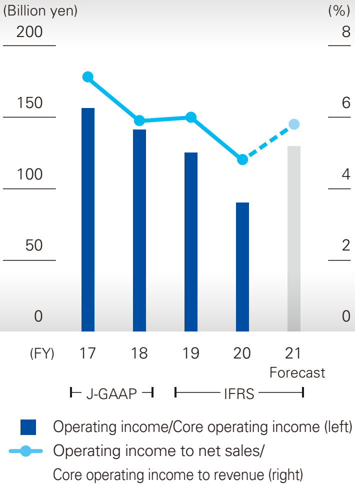
FY 2020
Revenue (consolidated)
¥1,883.6 billion



Operating Income/Core Operating Income, Operating Income to Net Sales/Core Operating Income to Revenue

FY 2020
Core Operating Income (consolidated)
¥90.3 billion

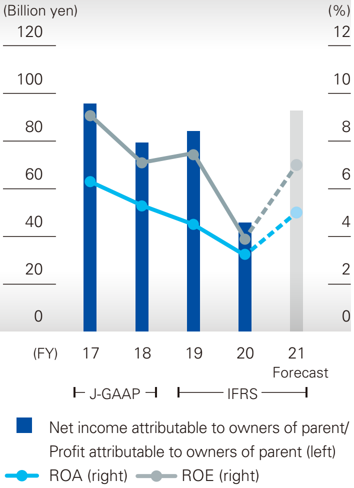
Core Operating Income to Revenue
4.8%



Net Income Attributable to Owners of Parent/Profit Attributable to Owners of Parent, ROA and ROE

FY 2020
Profit Attributable to Owners of Parent
¥45.8 billion

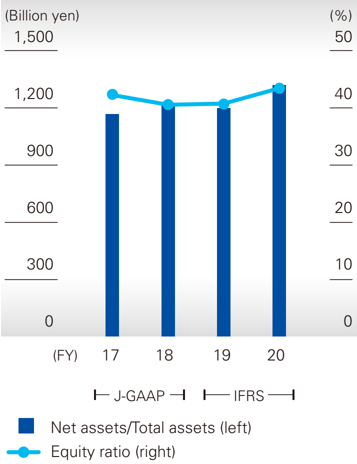
ROA **3.2%**
ROE **3.9%**



Net Assets/Total Assets and Equity Ratio

End of FY 2020
Total Assets
¥1,322.3 billion

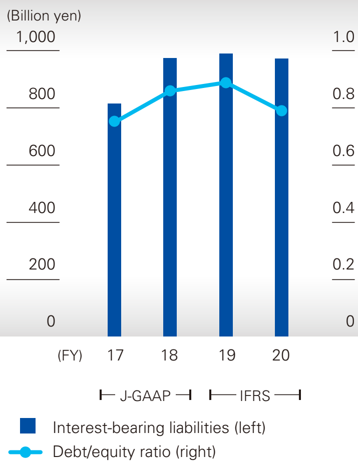
Equity Ratio
43.5%



Interest-bearing Liabilities and Debt/equity Ratio

End of FY 2020
Interest-bearing Liabilities
¥973.9 billion

Debt/equity Ratio
0.79

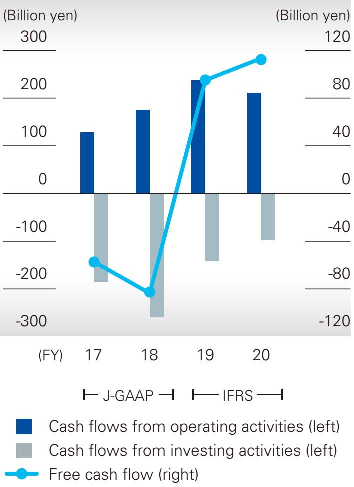


Cash Flows

FY 2020
Cash Flows from Operating Activities
¥211.6 billion

Cash Flows from Investing Activities
¥-97.9 billion

Free Cash Flow
¥113.7 billion



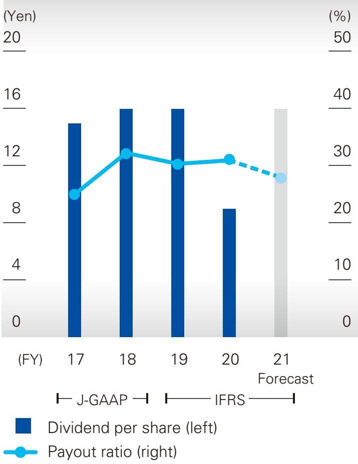
Dividend per Share and Payout Ratio

FY 2020
Dividend per Share

¥9.0

Payout Ratio

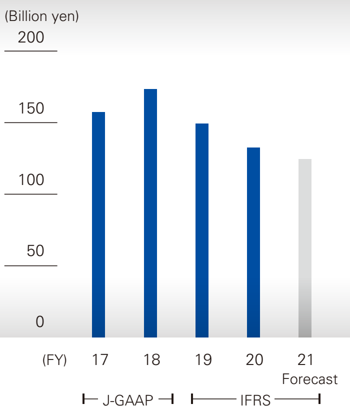
31.0%



Capital Expenditures

FY 2020
Capital Expenditures

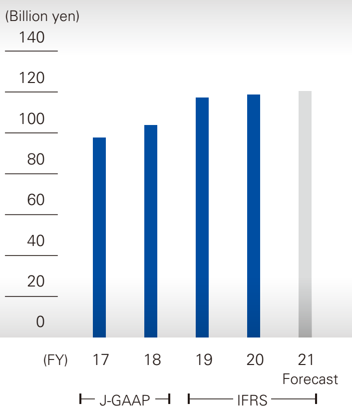
¥133.2 billion



Depreciation and Amortization

FY 2020
Depreciation and Amortization

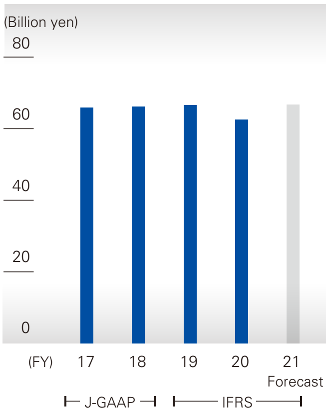
¥119.1 billion



R&D Expenses/Expenditures

FY 2020
R&D Expenditures

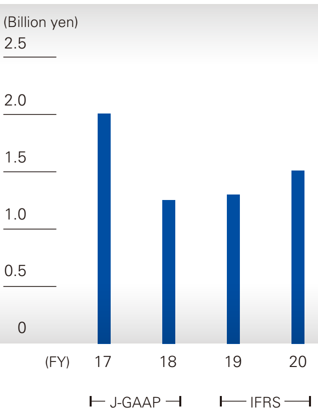
¥62.8 billion



Environmental Facility Investment

FY 2020
Environmental Facility Investment

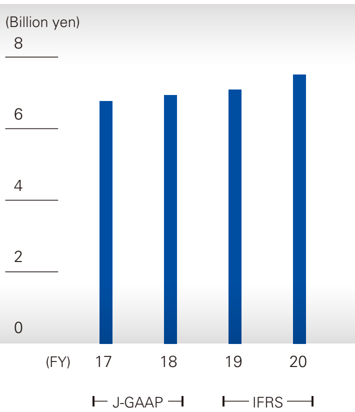
¥1.5 billion



Environmental Preservation Costs

FY 2020
Environmental Preservation Costs

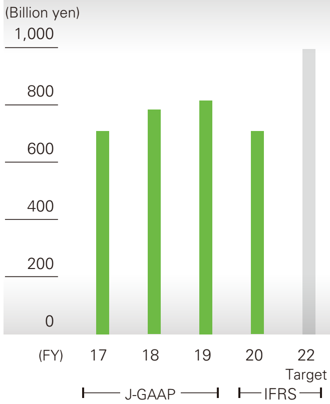
¥7.6 billion



Non-Financial Highlights

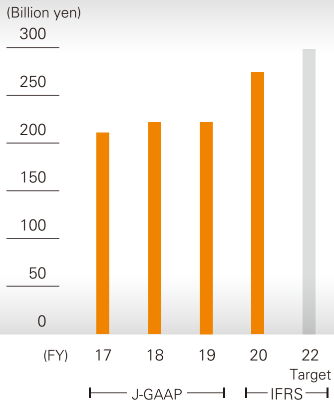
Net Sales/Revenue of Green Innovation Businesses

FY 2020
Revenue of Green Innovation Businesses
¥711.8 billion



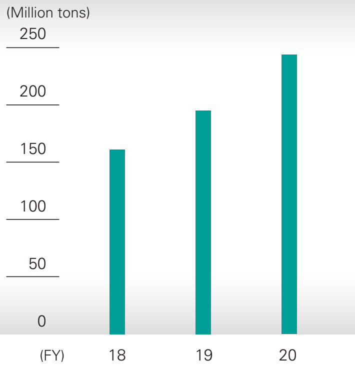
Net Sales/Revenue of Life Innovation Businesses

FY 2020
Revenue of Life Innovation Businesses
¥275.6 billion



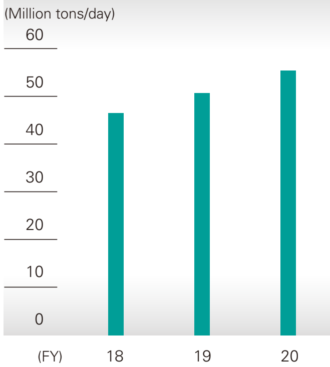
Avoided CO_2 Emissions

FY 2020
Avoided CO_2 Emissions
245 million tons



Contributed Annual Water Filtration Throughput

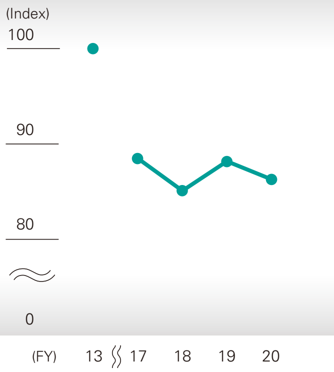
FY 2020
Contributed annual water filtration throughput
56 million tons/day



Reduction of Greenhouse Gas Emissions per Unit of Sales/Revenue (%) (VS. FY 2013)

FY 2020
Reduction of Greenhouse Gas Emissions per Unit of Revenue (%)
14%

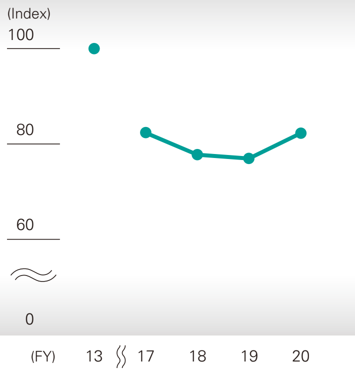
(FY 2013 is set to an index value of 100)



Reduction of Comparative Water Usage per Unit of Sales/Revenue (%) (VS. FY 2013)

FY 2020
Reduction of Comparative Water Usage per Unit of Revenue (%)
18%

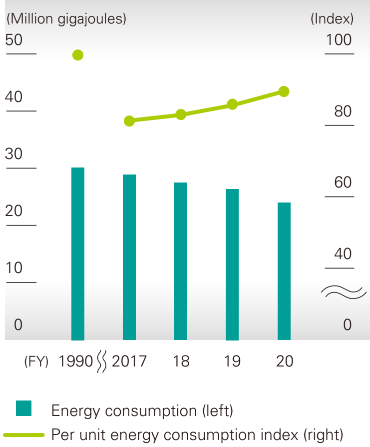
(FY 2013 is set to an index value of 100)



Energy Consumption and per Unit Energy Consumption Index
(VS. FY 1990 / Toray)

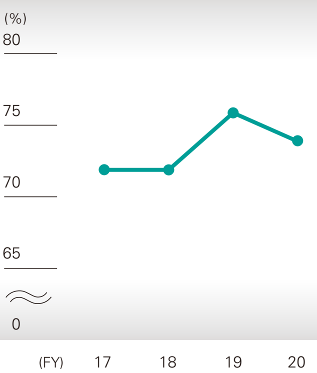
FY 2020
Energy Consumption
24.1 Million gigajoules

Per Unit Energy Consumption Index
89.8 (FY 1990 is set to an index value of 100)



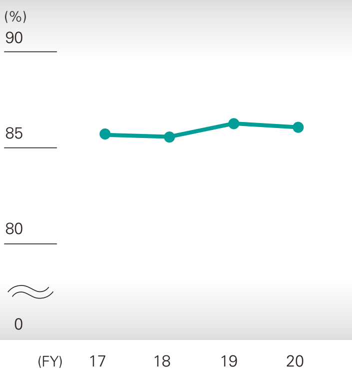
Reduction of Atmospheric VOC Emissions (VS. FY 2000)

FY 2020
Reduction of Atmospheric VOC Emissions
73.8%



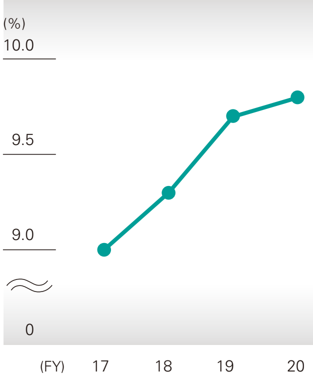
Waste Recycling Rate

FY 2020
Waste Recycling Rate
86.2%



Percentage of Women in Unit Manager or Higher Positions
(Toray)

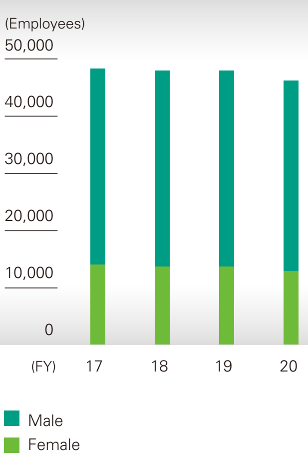
FY 2020
Percentage of Women in Unit Manager or Higher Positions
9.8%



Number of Employees by Gender

FY 2020

Male	Female
33,403	**12,864**

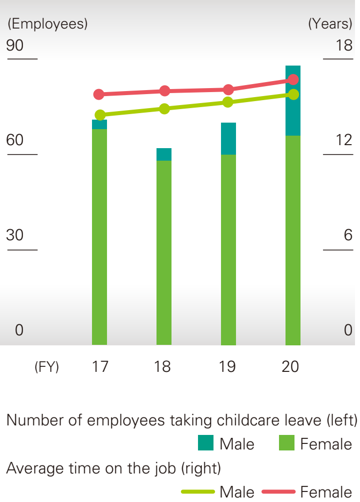


Average Time on the Job and Number of Employees Taking Childcare Leave (Toray)

FY 2020

Number of Employees Taking Childcare Leave: Male	Number of Employees Taking Childcare Leave: Female
22	**66**

Average Time on the Job: Male	Average Time on the Job: Female
15.8 years	**16.7** years



To Our Stakeholders

Contributing to Build a Sustainable Society by Innovation of Materials

Adversity puts our strengths in a new light

Despite the partial abatement of the COVID-19 pandemic thanks to progress in vaccinations, new mutant strains mean that the world has still yet to see any signs of an end to the spread of infection. I would therefore like to once again express our sympathies to all of those who have suffered from this calamity since last year.

Amid the restrictions placed on the movement of and contact between people throughout the globe, Toray Group has endeavored to manage our businesses in a way that fulfills our responsibility to continue supplying products as a basic materials manufacturer. Similarly, we have prioritized the health of our employees in Japan and around the world, as well as the prevention of infection by the virus. Unable to avoid the impacts of stagnation in production and consumption activities across the globe, however, consolidated revenue for fiscal 2020 declined 9.9% compared with the previous fiscal year to ¥1,883.6 billion, and core operating income fell 28.1% to ¥90.3 billion. Meanwhile, operating income declined 51.3% to ¥55.9 billion and profit attributable to owners of parent declined by 45.6% to ¥45.8 billion as a U.S. carbon fiber subsidiary recorded an impairment loss.

Although these challenges show how we were significantly affected by the COVID-19 pandemic during fiscal 2020, this actually allowed me to fully experience the power of Toray Group. First and foremost, we demonstrated our strengths in developing and providing materials for a variety of applications and met the expectations of a world that demands a sustainable society, thereby expanding the ways in which we deliver new value to society. And because our high-performance, high-grade, and innovative materials are realized through the ultra-long-term accumulation of technology that is unique to Japanese companies, I am certain the roles played by Toray Group will only continue to expand into the future. In addition, given that we produce 70 to 80% of our main products outside of Japan due to having advanced local production for local consumption on a global basis, our ability to maintain operations despite the restrictions on movement has served as a major advantage amid the COVID-19 pandemic.

Unwavering management with a long-term perspective

In order to realize the perspectives of the world which consider

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Akihiro Nikkaku
President
Toray Industries, Inc.

the way the world should be in 2050, as envisioned by the Toray Group Sustainability Vision, we aim to achieve sound, sustainable growth by focusing our energies on the Green Innovation (GR) Business, which contributes to solving global environmental and energy issues, and the Life Innovation (LI) Business, which contributes to solving issues such as those involved with longevity, for example. Similarly, we will seize upon the direction these changes in the world taken under TORAY VISION 2030 (VISION 2030), our 10-year long-term corporate vision formulated as the milestone for these efforts, and under Project AP-G 2022 (AP-G 2022), a 3-year medium-term management program we established to achieve the long-term vision. Along with our annual plans, we are steadily advancing management in a way that tackles existing problems in a manner that is founded on the three time frames of long-term, medium-term, and present. Steadily building a response to these existing problems will help define a path to the future and solidify our business foundation. In this way, our basic approach to management based on a long-term perspective remains unchanged.

In fiscal 2021, Toray Group's performance has taken a positive turn. Although economic recovery varies by country depending on their progress in vaccinations and economic measures, and despite the fact that an end to skyrocketing crude oil prices and other external environmental factors remain as deeply uncertain as ever, automotive applications and IT-related materials are performing strongly. Against this backdrop, we foresee the COVID-19 pandemic coming to an end and the global economy generally returning to a growth trajectory during fiscal 2022, the final year of AP-G 2022. Likewise, Toray Group will, in a timely manner, organize a system to increase production and supply for those markets forecasted to see a recovery and expansion in demand, and will endeavor to minimize the impact of more immediate issues, such as skyrocketing raw material prices, by working to use formula pricing that links market conditions to product prices.

Materials change our lives

With materials as the starting point of everything the world produces, we engage in business operations under the conviction that "materials, which form the base of all products, have the power to intrinsically change society."

As the digital economy advances, the makeup of the industrial structure is shifting from a focus on hardware to software, which is evolving to allow the world to steadily realize those ideas that were once only dreams. Yet, even AI, an area that is receiving the greatest amount of attention, cannot exist without development in hardware like high-speed logic elements and high-capacity memory elements. And it is the materials that comprise the hardware that are the basis for the hardware-based innovation, so there is no question that "innovation starting from materials" has become ever more common. Even in the technologically mature fibers and textiles industry, for example, we have developed innovative conjugate spinning technologies like NANODESIGN™, which have enabled us to add completely new functions and textures, and to deliver new added-value. In other words, materials hold an unlimited potential to drive innovation.

Expanding "Innovation through Co-creation"

"Innovation through Co-creation" is a unique feature and strength of the Toray Group Value Creation Process. Simply developing innovative materials alone will not give rise to markets, however. Which is why we require partners who will provide applications, who are willing to accept unfamiliar materials, and who possess a culture and vision overflowing with a readiness to take on new challenges, like Toray.

Our collaboration with Fast Retailing Co., Ltd. (Fast Retailing), which has produced revolutionary products like HEATTECH™, AIRism™, and Ultra Light Down™, is now in its twenty-second year, and has grown stronger with each passing year. This historic co-creation was the result of the meeting between Toray, with its conviction that "fibers and textiles is still a growth industry when looked at globally" in an era when many industries were moving away from these, and Fast Retailing, with its philosophy of "Changing clothes. Changing conventional wisdom. Change the world." With their leaders sharing the same vision, the burning desire of Toray's engineers to undertake challenges drove breakthroughs in response to the requests of Fast Retailing, which sincerely believes that its clothing concepts can change the world. Similarly, our alliance with The Boeing Company based in the U.S.A., which was only dreaming of building aircraft from carbon fibers at its outset, is a partnership that was achieved specifically because both companies share a corporate culture that values the continuous pursuit of innovation.

It is likely that more and more companies will seek out innovativeness from the power of materials as the world becomes flooded with things and only those things that offer unprecedented value will be chosen. Against this backdrop, we will increasingly accelerate "Innovation through Co-creation" together with various partners that boldly challenge breakthroughs.

Achieving carbon neutrality for society and the Company

In addition to the COVID-19 pandemic, population growth, aging population, climate change, water shortages, resource depletion, and other global-scale challenges are both related to each other and becoming worse. In recent years in particular, global environmental issues have become serious topics of discussion in those countries around the world that have experienced torrential rains and severe cold waves as a result of abnormal weather.

Toray Group has a history of focusing on environmental management, and we stated achieving "a net zero emissions world, where greenhouse gas emissions are completely offset by absorption," in other words carbon neutrality, as a goal in the Toray Group Sustainability Vision. In order to execute what we propose, we are advancing our "contributions to solving climate change issues through the value chain" for society as part of the GR Business, while engaging in efforts to "address climate change across business activities" within the Group, such as reducing GHG emissions at the manufacturing stage.

The GR Business contributes to reductions in GHG emissions throughout society by supplying various materials such as those that decrease the weight and improve the fuel efficiency of aircraft and automobiles. We believe that "technologies that contribute to a circular economy" and "hydrogen-related technologies" will also serve as major drivers in achieving carbon neutrality by 2050. In contributing to a circular economy, we will work to expand the business for fibers and textiles made of raw materials recycled from used polyester (PET) bottles, and to build a recycling system for release PET films used in electronic component applications. In terms of

* HEATTECH™, AIRism™ and Ultra Light Down™ is a trademark of Fast Retailing Co., Ltd.

hydrogen-related technologies, we entered a partnership agreement with Siemens Energy AG in regard to creating green hydrogen production technologies. Likewise, Toray Group's contributions to carbon neutrality through the value chain will likely increase to an immeasurable scale in the future.

As Toray Group is advocating for environmental management, in addition to the environmental contributions we are making externally based on the products that we have developed and with our partnerships, we believe that Toray Group's business activities themselves should also be carbon neutral. We will therefore focus our energies on various initiatives for this purpose, including switching to zero-emissions electricity and fuel, increasing the efficiency of existing production processes, developing low-GHG emission manufacturing technologies, developing recycling and bio-related technologies, and absorbing and recycling CO_2, etc.

Accelerating development of innovative technologies through digital technology

Working styles have undergone significant changes as a result of the COVID-19 pandemic. Just as teleworking reduced temporal and distance related restrictions on work, it is also making routine tasks, primarily, more efficient. We therefore believe it will continue to remain entrenched to some degree. From the perspective of communication, however, we have also discovered limits to its potential. Although we have increased the rate of teleworking across the Group as a means of addressing COVID-19, we will closely investigate the merits and demerits of doing so as we pursue ideal working styles.

At research and development sites, the use of AI and MI (materials informatics) has enhanced productivity. Meanwhile, production sites also now employ big data analysis and have gained the ability to discover those signs of problems that were only recognizable by skilled workers in the past. Yet, AI and MI do not produce anything from scratch. Despite being able to discover signs of problems at an early stage, without knowledge of the workplace itself these discoveries will not rapidly lead to solutions. Even now that we are faced with restrictions on going to workplaces in person due to the COVID-19 pandemic, I still say that all solutions can ultimately be found in the *Genba* (workplace). True digital transformation (DX) relies on the skillful use of digital tools to further increase the level of work, but only when based on an understanding of telework, as well as the rules and principles of the workplace.

Putting "People-centric Management" into practice globally

Toray has passed down a culture of "people-centric management" since our founding. Likewise, we recognize human resources as an important asset that is not listed on the balance sheet, and that fostering people directly connects to corporate value. This set of values befitting of a Japanese corporation is also accepted by Group companies outside of Japan.

In the U.S.A., where short-term results are prioritized, where there is a deep-rooted belief that labor costs are variable rather than fixed, and where labor turnover is severe, Toray Plastics (America), Inc., has truly embodied Toray's approach to "people-centric management." Amid the

COVID-19 pandemic, it seized upon the shift to longer food shelf-life and enhanced production capacity for packaging films to adhere to sustainable growth. When it operated as a manufacturer of video tape films in the past, the crushing wave of digitalization even brought it to the precipice of life or death as a company at one point. Even so, it did not consider downsizing and instead successfully turned this crisis into an opportunity by pioneering the window glass protection film market using its technologies. It later made another strategic shift in target applications, maintains a low turnover rate, and has put "people-centric management" into practice, despite being a company based in the U.S.A. As such, it has since emerged as a group member of which we are very proud.

Enhancing the effectiveness of the Board of Directors

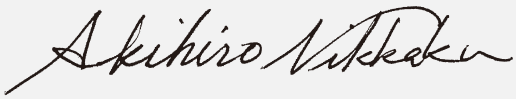
During fiscal 2020, we also revised our governance structure. The Board of Directors must evaluate the various risks that encompass our businesses from multiple standpoints in order to fulfill its oversight and decision-making roles. Specifically, we believe it is important for the Board to fulfill its oversight function by discussing beforehand the general direction of the Company, for example our approach to the long-term vision, large-scale capital investments, and M&As, among others, and by verifying the execution status of major initiatives.

As part of our reforms to the governance structure for fulfilling these oversight responsibilities, we appointed eight executive officers with responsibility for the major businesses and functions to represent the executive officers as internal directors, and four outside directors with experience and expertise in a wide range of fields to thoroughly debate the direction of the Company, management policies, and medium- and long-term business plans. This in turn allows the Board to fully deliberate on important issues from a wide range of viewpoints starting from the investigation stage prior to passing down resolutions, which helps lead to rapid decision-making.

Social contributions through the creation of new value

In May 2020, we organized the "Toray-style Management" passed down since our founding, and announced the "Toray Philosophy" with our corporate philosophy of "Contributing to society through the creation of new value with innovative ideas, technologies and products" at its top position. In order for each employee to realize contributions to society through the creation of new value as part of their respective jobs, we hold deep conversations at each group company and site, and repeatedly hold direct dialogue between executives and employees. In this way, we seek to maximize the value the Group delivers to society.

In part due to the COVID-19 pandemic, we are currently in a state of global political, economic, and social chaos. Even so, Toray Group remains committed to providing fundamental solutions to global-scale problems through the creation of innovative technologies and advanced materials, and is determined to fulfill our increasingly important roles as a corporate entity worthy of society's respect. For this reason, we ask that all of our stakeholders grant us their continued understanding and support.



Akihiro Nikkaku
President
Toray Industries, Inc.

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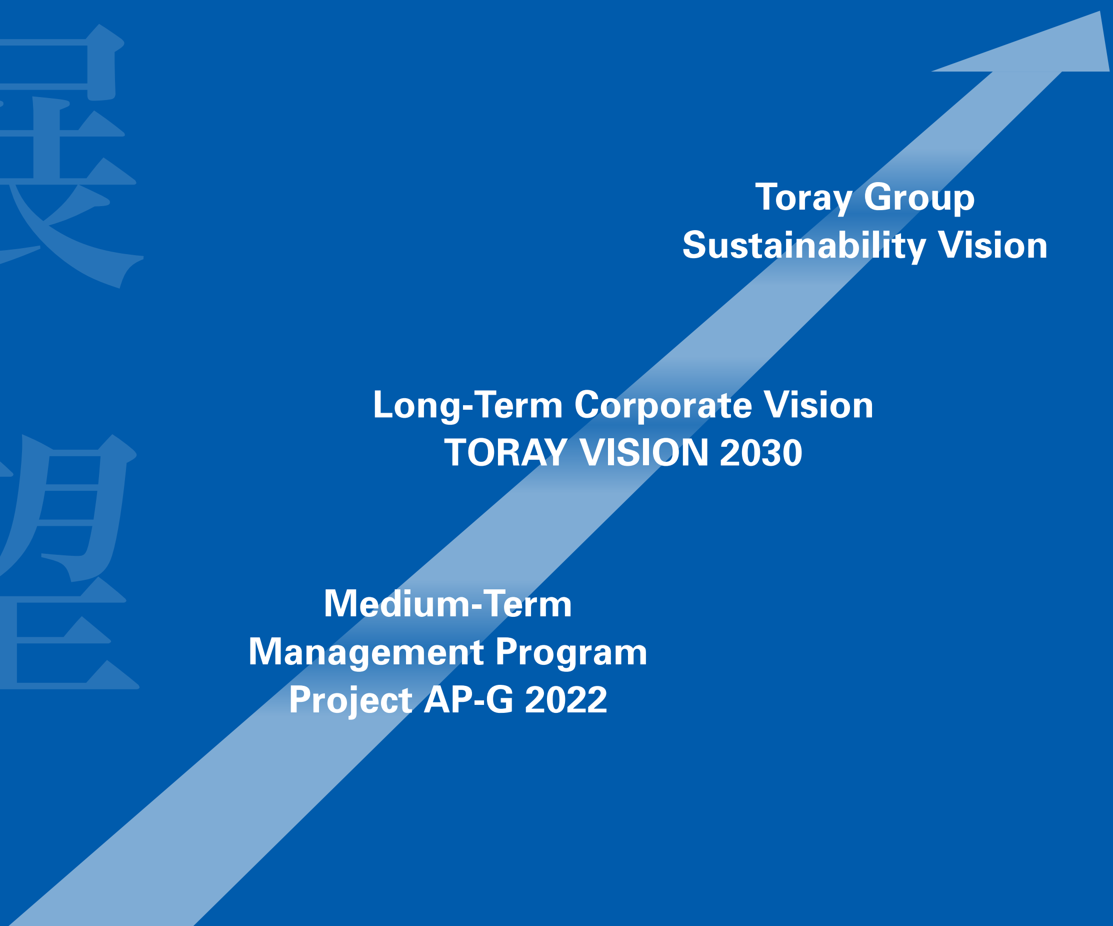
Vision

THE TORAY GROUP SUSTAINABILITY VISION and MID- TO LONG-TERM STRATEGY

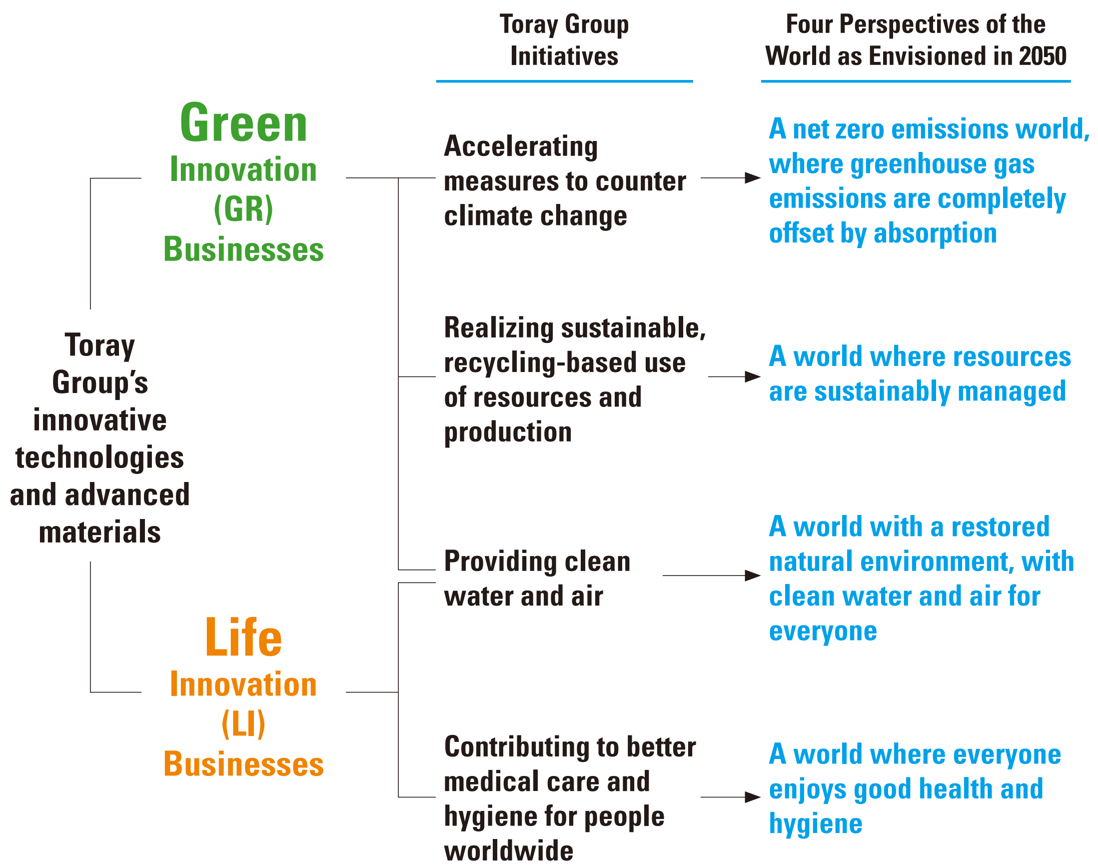
In order to realize the four perspectives of the world envisioned in 2050 as clarified in the Toray Group Sustainability Vision, Toray Group, in May 2020, announced its Long-Term Corporate vision, TORAY VISION 2030 (VISION 2030) as a milestone, along with the Medium-Term Management program, Project AP-G 2022 (AP-G 2022), which defines issues to be addressed over the three-year period from fiscal 2020 to fiscal 2022.



TORAY GROUP SUSTAINABILITY VISION

Toray Group Sustainability Vision, formulated in July 2018, clarifies the four perspectives of the world in 2050 that Toray Group aims to achieve, as well as the initiatives that must be taken in order to realize them. More specifically, Toray Group's mission is to provide through innovative technologies and advanced materials the necessary solutions to the challenges facing the world in terms of both development and sustainability, including the issues of an ever-increasing global population, aging populations, climate change, water shortages, and resource depletion. "We are convinced that Toray Group can continue to grow without negatively impacting global sustainability. We will do our utmost to address global issues, including the goals of the Paris Agreement and the United Nations Sustainable Development Goals (SDGs), while working closely with our business partners worldwide." This declaration forms the foundation for VISION 2030 and indicates the future direction of the Group.

The World as Envisioned in 2050 and Toray Group Initiatives

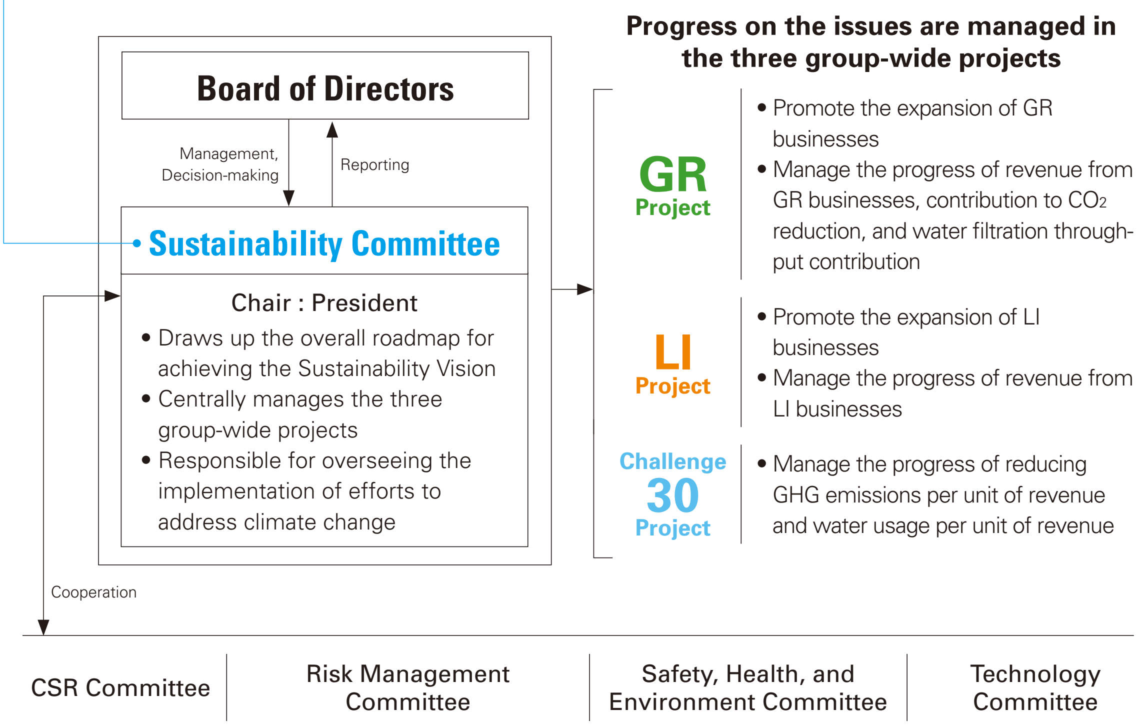


CORPORATE GOVERNANCE SYSTEM TO REALIZE TORAY GROUP SUSTAINABILITY

Three group-wide committees—the CSR Committee, the Risk Management Committee, and the Safety, Health, and Environment Committee—have monitored, evaluated, and functioned to manage global challenges, including climate change, at Toray Group. However, in order to accelerate these existing initiatives, on April 1, 2021, Toray Group newly established the **Sustainability Committee**, chaired by the President.

The Sustainability Committee is responsible for formulating the overall medium- to long-term roadmap and action plan for realizing the Sustainability Vision, while also comprehensively managing deliberations and implementation issues, as well as activity progress concerning the annual activity plans for the three group-wide projects (Green Innovation (GR) Project, Life Innovation (LI) Project, and the Challenge 30 Project) that guide the Group's journey toward achieving 2030 numerical targets. In addition, together with deliberations on important policies and issues pertaining to climate change, it works to coordinate with the CSR Committee, the Risk Management Committee, the Safety, Health, and Environment Committee, and the Technology Committee, committees which deal with climate change-related issues, to address items related to climate change throughout Toray Group.

The Board of Directors receives reports on deliberations of each of the group-wide committees one or more times per year, and conducts oversight and decision making. In the formulation of business strategy and management decisions at the Board of Directors, these reports are considered to be an important element with regard to issues of climate change and are comprehensively deliberated and decided.



LONG-TERM CORPORATE VISION
TORAY VISION 2030

Toray Group aims to achieve sound, sustainable growth while promoting a business model transformation by accurately identifying changing industrial trends brought about by demographic factors, environmental issues, and technological innovation. With this in mind, Toray Group is promoting active investment to promote "global expansion in growth business fields." To make this possible, the Group is working to maximize the value it can create over the medium- to long-term by "strengthening competitiveness" through continuous business model innovations and total cost reductions, and by "strengthening the management foundation" to enable investment for growth based on enhanced capital investment efficiency and an improved financial structure.

Under VISION 2030, Toray Group is promoting cross-segment initiatives to expand scale and improve revenues and profits in the GR business and LI business. At the same time, the Group is working on the Future Toray-2020s Project (FT Project), a group-wide effort to focus resources in major themes, both on a qualitative and quantitative basis, and accelerate the creation and development of new business models, in order to achieve total sales of around ¥1 trillion in the 2020s.

Long-term strategies to achieve "sound, sustainable growth"

1. Global expansion in growth business fields

- Promote GR businesses that help solve global environmental issues as well as resource and energy issues
- Promote LI businesses that contribute to better medical care and longevity, foster public health, and support personal safety

2. Strengthening competitiveness

- Create new value through business advancement and high added-value creation, thereby providing solutions with a materials-oriented approach to customers and society
- Pursue dramatic cost reductions by setting challenging targets as well as strive to reduce environmental impact

3. Strengthening the management foundation

- Improve cash flow and capital efficiency, and balance financial soundness and growth investment
- Conduct business structure and organizational structure reforms of low-growth and low-profitability businesses

FY 2030 Sustainability Targets

	FY 2013 Actual (baseline year) (J-GAAP)	FY 2030 Target (compared with FY 2013) (IFRS)
GR Net sales / Revenue	463.1 billion yen	4 fold
LI Net sales / Revenue	119.6 billion yen	6 fold
Avoided CO_2 emissions	38.4 million tons	8 fold
Contributed annual water filtration throughput	27.23 million tons/day	3 fold
Greenhouse gas emissions per unit of sales in production activities	3.37 thousand tons/billion yen	30% reduction
Water consumption per unit of sales in production activities	152 thousand tons/billion yen	30% reduction

MEDIUM-TERM MANAGEMENT PROGRAM PROJECT AP-G 2022

Under the Medium-Term Management Program, Project AP-G 2022 (AP-G 2022), which covers the three-year period from fiscal 2020 to fiscal 2022, the three basic strategies "**global expansion in growth business fields**," "**strengthening competitiveness**," and "**strengthening the management foundation**" were adopted **toward the realization of the sound and sustainable growth**, as mentioned in the Long-Term Corporate Vision, TORAY VISION 2030. Specifically, Toray Group is working to expand Green Innovation (GR) business, which will contribute to solving global environmental, resource and energy issues, and Life Innovation (LI) business, which will contribute to better medical care, longevity, foster public health, and support personal safety. In addition, to ensure financial soundness, the Group is conducting business operations with even more consideration than before of the balance between profit, cash flow, and asset efficiency, while promoting the business structure reform of low-growth and low-profitability businesses.

Financial Targets (Billion yen)

	FY 2020 Actual	FY 2021 Forecast	FY 2022 Target
Revenue	1,883.6	2,220.0	2,600.0
Core Operating Income	90.3	130.0	180.0
Core Operating Margin	4.8%	5.9%	7%
ROE	3.9%	about 7%	about 9%
ROA	3.2%	about 5%	about 7%
Free Cash Flow	113.7	Positive	120 billion yen or more (total of 3 years)
D/E Ratio	0.79	Management in accordance with the guideline (around 0.8)	around 0.8 (guideline)
Dividend Payout Ratio	31%	28%	about 30%

Basic Strategy 1
Global expansion in growth business fields

Utilizing Toray Group's advanced materials and core technologies, under the strategy "global expansion in growth business fields" in AP-G 2022, Toray Group is working to drive GR and LI business expansion through promotion of group-wide projects.

Green Innovation (GR) Business Expansion

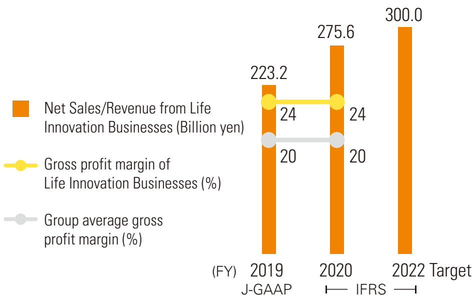
By allocating resources for capital investment and R&D in a focused manner and for large-scale themes, the Group is targeting revenue in the GR business in fiscal 2022 of **¥1 trillion**. The large-scale themes include lightweight materials, biomass-derived materials, recycled materials, lithium-ion battery separator films, large tow carbon fibers for wind turbine blade applications, water treatment membranes, and hydrogen- and fuel cell-related materials. In fiscal 2020, due to the impact of the COVID-19 pandemic, the energy-saving field that includes carbon fibers for aircraft remained sluggish, and the revenue of the GR business decreased 13.2% from the previous fiscal year to **¥711.8 billion**. However, revenue from carbon fibers for wind turbine blades, recycling and new energy fields remains strong, and the gross profit margin of the GR business is higher than the group average.

In fiscal 2020, Toray developed and began mass production of **advanced-grade TORAYFAN**™, a highly thermal- and voltage-resistant, biaxially oriented polypropylene (OPP) film for use in capacitors for electric vehicles (xEVs).

In the water treatment membrane business, the hollow **fiber membrane-type ultrafiltration (UF) membrane HFUG-2020AN, which features the largest membrane surface area in the world**, was selected for use in a large-scale wastewater treatment facility located in Wuxi, China, the full-scale operation of which began in June 2020. On sale since 2019, this UF membrane has been highly evaluated for its superior operational stability and economic performance due to its compact offering, and its adoption has been expanded to a variety of applications, such as water purification, industrial water purification, and industrial wastewater recycling. To date, this membrane has been adopted in nine countries around the world.

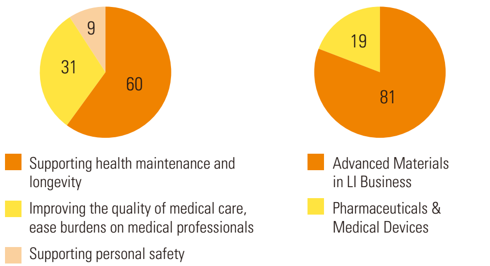
In addition, with Spain's SP Group, Toray succeeded in demonstrating the world's first **100% VOC-free waterless, electron beam (EB) offset printing technology** in the field of flexible packaging printing.

Net Sales/Revenue from Life Innovation Businesses

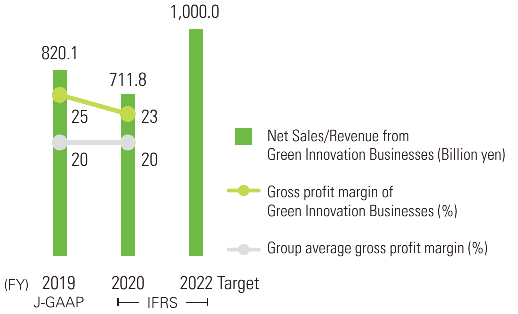


FY 2020 Revenue **275.6** Billion yen

Breakdown by Business Field (%) | Breakdown by Segment (%)

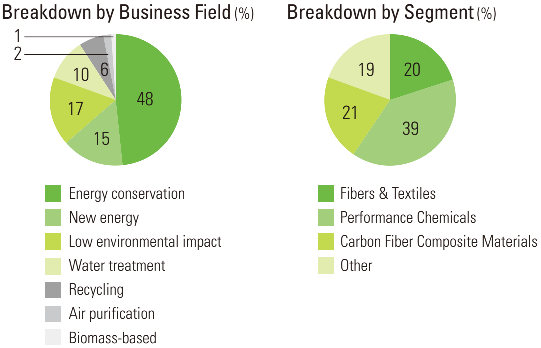


Net Sales/Revenue from Green Innovation Businesses



FY 2020 Revenue **711.8** Billion yen

Breakdown by Business Field (%) | Breakdown by Segment (%)



Life Innovation (LI) Business Expansion

In addition to the ideas of supporting health maintenance and longevity, as well as improving the quality of medical care and easing burdens on medical professionals, Toray Group has broadened the definition of Life Innovation to include products for personal safety, in response to threats such as abnormal weather and natural disasters, as these appear to have been increasing in recent years. Moreover, by providing solutions that are unique to the Group—thanks to its expertise in materials—to a variety of health-related social issues, the Group aims to boost revenue in the LI business to **¥300 billion** in fiscal 2022. In fiscal 2020, shipments of nonwoven fabrics for medical gowns and masks increased, and the addition of the "personal safety" area resulted in an increase in revenue of 23.5% compared with the previous fiscal year to **¥275.6 billion**. The gross profit margin is also higher than the group average.

In fiscal 2020, Toray Group contributed to the prevention of the spread and the treatment of COVID-19 infections by providing **TORAYMYXIN™ extracorporeal hemoperfusion cartridge**, single-use **medical gowns**, and **nonwoven fabrics for masks**. Based on requests from the Japanese government, the Group has put in place a domestic production system for medical gowns that can reliably deliver the required quantity to medical professionals in a short period of time. For nonwoven fabrics for masks, the Group made full use of its global production facilities and established a supply system five times the size of that prior to the COVID-19 pandemic.

Developed as a new concept antibody drug that can be expected to be effective in many types of cancer, **TRK-950** has been administered to more than 100 patients since the start of Phase I clinical trials which began in March 2017, in the U.S.A. and France. Toray has received no reports of safety issues to date*.

* Not the final result

Meanwhile, as a business development of the functional material **hitoe™**, Toray has commercialized—in collaboration with NTT TechnoCross Corporation and Goldwin Inc.—a shirt-type sensor that can simultaneously measure heart rate, temperature, and humidity as part of a "heat countermeasure service" that detects signs of poor physical condition in hot environments.

New Business Creation

To generate sources of earnings for the next growth stage under AP-G 2022, several large-scale themes were selected that can be expected to lead to the creation of one business domain in the 2020s and promoted under the **Future TORAY-2020s Project (FT Project)**.

Specifically, the aim is to create new businesses and form a large-scale business domain by accelerating development and business model construction concerning themes geared toward the resolving of global environmental issues and realizing a safe, secure, healthy and long-lived society. These themes include: hydrogen- and fuel cell-related materials; biomass utilization products and processing technologies; environmentally-friendly printing solutions; hygiene and health-care products; and sensing device-related materials.

For example, in biomass utilization products and processing technologies, the Company is developing applications for products obtained from a demonstration plant that produces cellulosic sugar from the surplus bagasse generated at a sugar refinery. In environmentally-friendly printing solutions, Toray succeeded in giving a practical demonstration of 100% VOC-free waterless electron beam (EB) offset printing technology in the field of flexible packaging printing, a world first, and have launched a dedicated printing plate.

Basic Strategy 2

Strengthening Competitiveness

To strengthen competitiveness, the Group is working on three priority issues: total cost reduction; business advancement and high added-value creation; and enhancing workplace competency in sales & marketing and production.

For total cost reduction, Total Cost Reduction Project (NTC Project) is promoted across the Group, and the target is to **reduce ¥150 billion over a three-year** period through activities to reduce variable and fixed costs and bring about innovation in production processes. In this regard, in **fiscal 2020, variable costs were reduced by ¥32.4 billion, fixed costs by ¥31.7 billion, and production process innovations reduced costs by ¥3.3 billion, for a total reduction of ¥67.4 billion (progress rate of 45%)**.

As for **business advancement and high added-value creation**, the Group is working not only to achieve advancement in products but also to add high value by integrating and combining products and services, to create new value through alliances, and to pursue innovation in the value chain by utilizing Information and Communication Technology (ICT). To **enhance workplace competency in sales & marketing and production**, the Group is devising ways to strengthen the global supply chain, especially for growth markets. To give an example, for the fibers, textiles, and garments for apparel-use, with regard to the "integrated business from fibers and textiles to garments" supply chain which is based on applications and end-customer needs, the Group is working on strengthening the supply chain in China, extending the supply chain in ASEAN countries, and establishing supply chains in South Asia, centered on India.

Basic Strategy 3

Strengthening the Management Foundation

In strengthening the management foundation, two themes are promoted: strengthening the financial structure by improving cash efficiency; and the business structure reform of low-growth and low-profitability businesses.

With **regard to strengthening the financial structure by improving cash efficiency**, business operations will be carried out with a stronger awareness of cash flow, which is the certainty of a return on investment, toward "sound, sustainable growth." Excluding M&A, the target is to **generate more than ¥120 billion in free cash flow** during the period covered by AP-G 2022. In fiscal 2020, the business environment was harsh due to the impact of the COVID-19 pandemic, but **free cash flow expanded to ¥113.7 billion**. In addition, the **D/E ratio was 0.79**, which was below the guideline set at around 0.8.

In the case of the business structure reform of low-growth and low-profitability businesses, structural reform of the polyester/cotton blended textile (T/C) business is underway in the fibers and textiles business. Specifically, in response to the irreversible decrease in demand for business shirts due to the COVID-19 pandemic, the decision to close the spinning mills of Penfabric Sdn. Berhad was taken in June 2020. In light of this situation, cooperation within the Group is further strengthened, in areas such as the supply of greige (textiles before dyeing and post-processing), and expansion into areas such as workwear, casual wear, and anti-epidemic applications are also promoted. In addition, in the domestic textile subsidiaries, Toray Group is working as one to reform the business structure centered on withdrawing from low-profitability businesses and shifting to highly profitable businesses in response to the gradual decline in domestic textile demand. Based on plans to cut aircraft production that were triggered by the COVID-19 pandemic, a carbon fiber composite materials subsidiary in the U.S.A. optimized its workforce and recorded impairment losses, while the surplus equipment of the Group are being used for production of carbon fiber for other applications.

Initiatives for Sustainability

With regard to sustainability targets, the growth in **the revenue of the GR business has temporarily slowed down** due to the impact of the COVID-19 pandemic, but **the revenue of the LI business is steadily increasing**. In addition, the avoided **CO_2 emissions and the contributed annual water filtration throughput are steadily expanding**. In addition to promoting the recycling of raw materials, biotechnology, the utilization of renewable energy, and the reuse of water resources, Toray is aiming to **realize a circular economy** by contributing to the development of hydrogen production (water electrolysis), hydrogen infrastructure (compression and storage), and hydrogen utilization (fuel cell) technologies that enable carbon neutrality. This will be achieved through the development, manufacture and sale of materials for water electrolysis, hydrogen compression, and fuel cells, such as polymer electrolyte membrane (PEM) and electrode base materials.

Sustainability Targets

	FY 2013 Actual (baseline year) (J-GAAP)	FY 2020 Actual (compared with FY 2013) (IFRS)	FY 2022 Target (compared with FY 2013) (IFRS)	FY 2030 Target (compared with FY 2013) (IFRS)
GR Net sales / Revenue	463.1 billion yen	711.8 billion yen (1.5 fold)	1,000.0 billion yen (2.2 fold)	4 fold
LI Net sales / Revenue	119.6 billion yen	275.6 billion yen (2.3 fold)	300.0 billion yen (2.5 fold)	6 fold
Avoided CO_2 emissions	38.4 million tons	6.4 fold	5.3 fold	8 fold
Contributed Annual water filtration throughput	27.23 million tons/day	2.0 fold	2.4 fold	3 fold
Greenhouse gas emissions per unit of sales in production activities	3.37 thousand tons/billion yen	2.90 thousand tons/billion yen (14% reduction)	20% reduction	30% reduction
Water consumption per unit of sales in production activities	152 thousand tons/billion yen	125.2 thousand tons/billion yen (18% reduction)	25% reduction	30% reduction

Financial Strategy

Message from Corporate Vice President, Finance & Controller's Division

Masahiko Okamoto
Member of the Board
Corporate Vice President,
Finance & Controller's Division

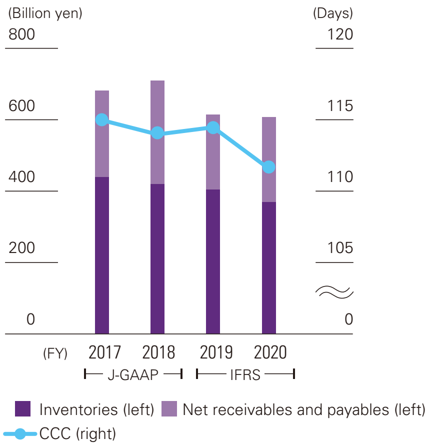
Strive to strengthen financial structure by improving capital efficiency while pursuing investment for future growth

Basic Policies of the Financial Strategy

The basic policies of Toray's financial strategy are to both expand its businesses and strengthen its financial structure.

Under the Medium-Term Management Program, Project AP-G 2022 (AP-G 2022), Toray plans to allocate a total of ¥**500** billion in capital expenditures and ¥**220** billion in R&D expenditures over a three-year period in order to pursue global business expansion in growth business fields centered on the Green Innovation (GR) Business and Life Innovation (LI) Business. On the other hand, to strengthen its financial structure, the Company aims to generate more than ¥**120** billion in free cash flow over a three-year period and has set an even stricter D/E ratio guideline of around **0.8** to enhance its financial discipline.

Working Capital and CCC (Cash Conversion Cycle)



Measures to Strengthen Financial Structure

1. Enhance Cash Flow Management

In order to improve cash flow company-wide, the Company introduced a system to manage free cash flow for each division in fiscal 2020, in which each division autonomously manages cash inflows from revenue and core operating income as well as cash outflows for capital expenditures and changes in working capital such as inventories. In addition, the Company continues to implement the "3C-i (Cash Conversion Cycle Improvement) Activity" in order to **reduce working capital**.

2. Increase Certainty of Return on Capital Investment

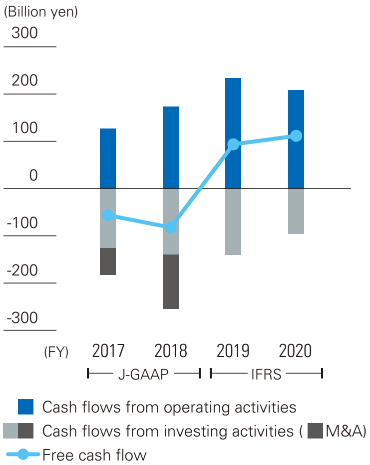
Toray engages in economic evaluation of capital investment plans by setting and checking investment profitability standards (hurdle rates) able to reach ROA and ROE targets. After the projects are implemented, the Company conducts regular follow-ups, and it discusses how to make up for underperforming projects and then implements countermeasures.

In addition, Toray has reviewed its capital investment management and operation methods since fiscal 2020 based on an analysis that the main reasons why past capital investments have not generated returns as planned were the occurrence of unexpected risks and not sufficiently responding to the risks that actually materialized. The Company identifies risks from every angle, starting from the conceptual stage of a capital investment, and thoroughly manages risks from the execution of the proposed plan to the recovery of investment to ensure that the planned return on invested capital is secured.

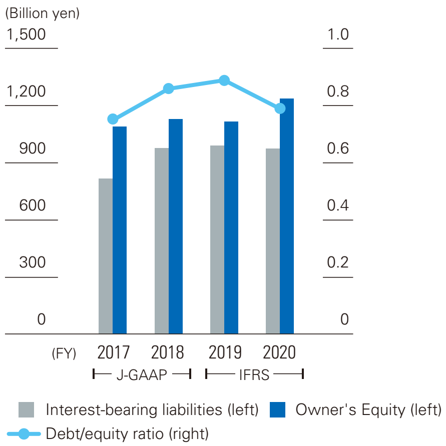
3. Business Structure Reform of Low-Growth, Low-Profitability Businesses

To improve company-wide profitability and capital efficiency, Toray has introduced return on invested capital (ROIC) as a profitability indicator for screening low-growth and low-profitability businesses. The Company calculates ROIC for each business and product, and for businesses and products where ROIC is below the cost of capital and growth potential is low, the Executive Committee discusses how to improve profitability and growth potential through restructuring and implements measures to restore the original profitability of the business.

Cash Flows



Interest-bearing Liabilities, Owner's Equity and Debt/equity Ratio (D/E Ratio)



Cash Flows and Balance Sheets

Free cash flow for fiscal 2020 was ¥113.7 billion (up ¥18.3 billion year-on-year), securing a high level of cash flow. Although core operating income decreased to ¥90.3 billion (down ¥35.3 billion year-on-year), cash flows provided by operating activities came to ¥211.6 billion (down ¥26.7 billion year-on-year) due to efforts to strengthen working capital management through 3C-i activities. In addition, net cash used in investing activities amounted to ¥97.9 billion (a decrease of ¥45.0 billion year-on-year), since while Toray made the necessary capital investments for growth based on strict project selection, it sold assets no longer worth holding. For fiscal 2021, Toray expects to maintain positive free cash flow by working to increase core operating income and thoroughly managing working capital and capital expenditures.

The **D/E ratio** for fiscal 2020 was 0.79, a decrease of 0.10 from the previous fiscal year due to an increase in owner's equity and a decrease in interest-bearing liabilities, which is in line with the guideline of around 0.8.

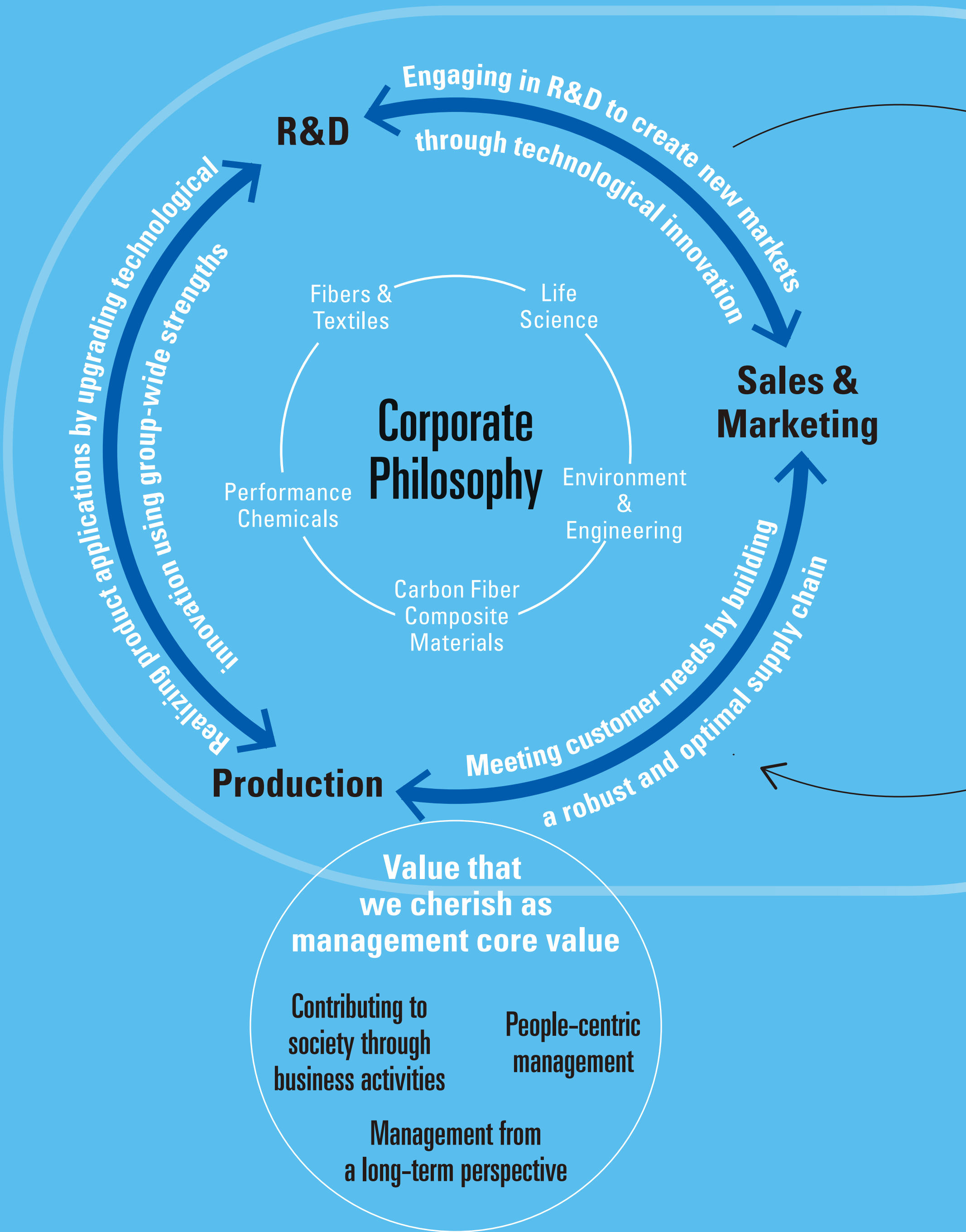
Shareholder Returns

Toray considers the appropriate distribution of profits to shareholders to be an important management issue, and its basic policy is to pay appropriate dividends by comprehensively taking into account business earnings trends, financial structure, and the securing of retained earnings necessary for future growth. Under AP-G 2022, Toray aims to continuously hike dividends, targeting a dividend payout ratio of about 30%.

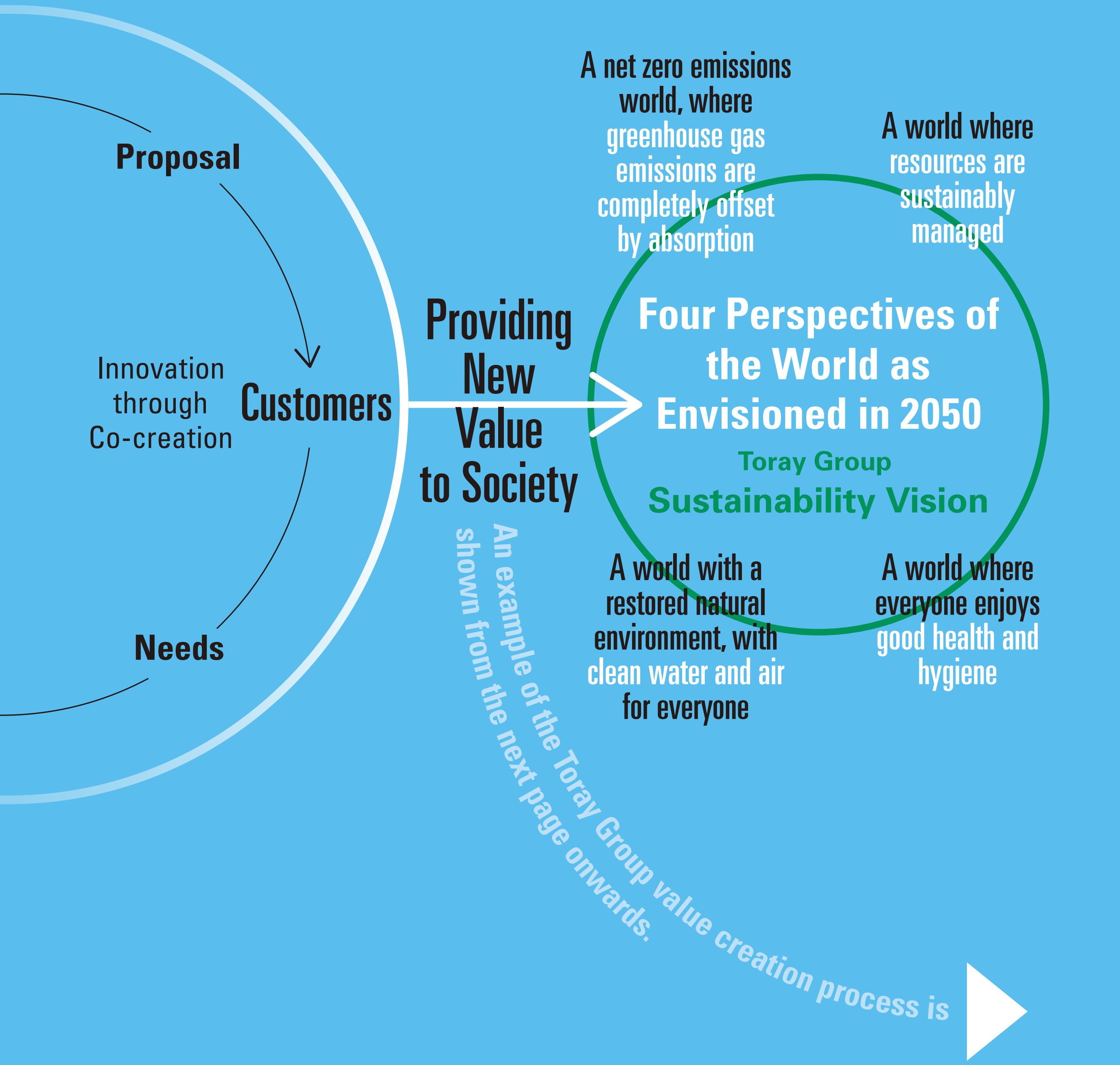
The Toray Group Value Creation Process

価値創造

Value Creation

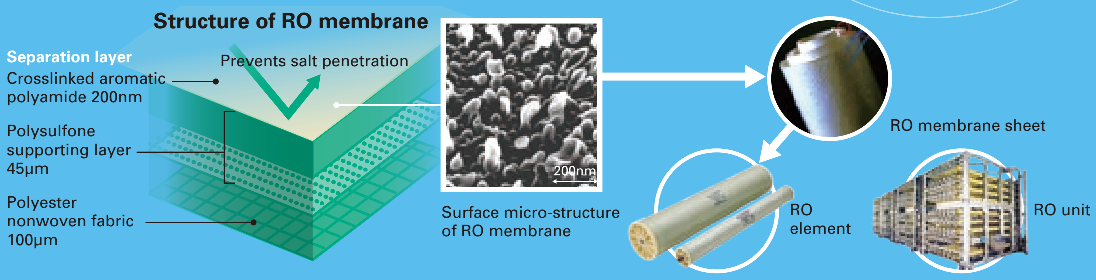


Under TORAY VISION 2030, we will continue to provide new value in society through mutual cooperation in R&D, sales and marketing, and production, the key strengths of Toray Group, based on the core values of "contributing to society through business activities," "management from a long-term perspective," and "people-centric management." At the same time, we will focus on fostering co-creation with our customers and supply chain partners, starting at the materials stage. In this way we will contribute to the realization of the four perspectives of the world as outlined in the Toray Group Sustainability Vision.



STORIES OF THE CREATION OF NEW VALUE WITH INNOVATIVE IDEAS, TECHNOLOGIES, AND PRODUCTS

RO MEMBRANES



HISTORIES OF TORAY'S RO BUSINESS EXPANSION AND R&D

R&D started in the U.S.A. and at Toray

In 1960, following a speech by J.F. Kennedy, the U.S.A. promoted a desalination project using Reverse Osmosis membranes (RO membranes) as a national project, and developed Cellulose Acetate membranes (CA membranes).

Toray began research on RO membranes in 1968 and has been developing RO membrane technologies, expanding its business for over 50 years, and introducing numerous RO membranes to the world.

Basic research, establishment of fundamental technologies and start of production

The history of Toray's RO membrane business can be divided into two periods: the emergence period from the start of research until around 2000, and the global business expansion period after 2006.

In the emergence period, Toray conducted R&D of membrane itself and developed manufacturing technologies, such as the assembly of membrane elements . In 1980, Toray started CA membrane production in Shiga, Japan, and in 1985, a full-scale RO production plant for polyamide composite membranes was completed in Ehime, Japan.

With the completion of the Ehime Plant, RO membranes for brackish water desalination were commercialized and sales were started.

Although CA membranes had been shipped for the original purpose of seawater desalination for small seawater desalination systems for remote islands in Japan, the demand was still small. The market for brackish desalination and wastewater treatment had not yet grown sufficiently, and the business situation remained severe.

Continuation of business with RO membranes for ultra-pure water production process and start of the seawater desalination business

In the 1980s, the semiconductor industry had grown into a huge market, leading the growth of the Japanese industrial sector, and RO membranes were used for the production of ultra-pure water used in semiconductor manufacturing.

However, as the semiconductor manufacturing hub shifted to the Republic of Korea and China, Toray decided on full-scale entry to the seawater desalination membrane, which was its original intention.

In 1991, Toray commercialized polyamide composite membranes for seawater desalination and received an order for membranes for the Okinawa seawater desalination Plant (40,000 m^3/day), the largest plant in Japan at the time. However, the demand for seawater desalination were small in Japan, where water was basically in plenty, and Toray decided to enter the overseas market in earnest.

Value Creation Process 1
ENTERING THE GLOBAL MARKET AND ESTABLISHING THE GLOBAL SALES TEAM (GST) SYSTEM

Entering the U.S.A. market and Organizing the Global Sales Team (GST)

In 2000, Toray Membrane America, Inc. (TMA) was established as a joint venture with IONICS (an engineering company that was later acquired by GE) in the U.S.A., which was the world's largest RO membrane market at the time. TMA began producing RO elements by importing seawater desalination RO membranes produced in Ehime and started sales of those elements. TMA supplied membranes to the Trinidad and Tobago Seawater Desalination Plant which was the biggest in the western hemisphere in 2002, and the Sulaibia Wastewater Treatment Plant in Kuwait which was the largest in the world, in 2005. Later, TMA was dissolved and Toray Membrane USA, Inc. (TMUS) was established as a wholly owned subsidiary of Toray. From TMUS, Toray Group established production, sales and Marketig, and development bases in various regions around the world, and during this time, Toray formed the basic concept for expanding its water treatment business.

Specifically,

- The quality of the feed water for water treatment (seawater, river water, etc.) differs from country to country and region to region, and the requirements for water treatment also differ. In order to grasp the needs of customers accurately, local sales representatives who are familiar with the local situation are necessary.
- In many cases, global giant water business companies and construction companies execute water treatment projects of large-scale seawater desalination in the world, so in order to respond to global business schemes such as borderless inquiries and procurement, it is necessary to have sales offices around the world and a global coordination system for each office.
- In addition, in order to reflect market trends and customer needs in products and services, it is necessary to have local development, production, and sales bases.

Based on this principle the GST was organized by inviting the finest people in the water treatment industry to each sales base as managers and hiring people with local sales experience.

The decision to make a full entry into the global market and the establishment of the GST system enabled Toray to directly grasp the actual situation of the market and customers, and it became a source of accelerating the creation of new value for the Company, which had previously conducted sales and marketing in overseas only through trading companies or distributors.

Interview

The reason for the establishment of TMUS and the situation at the time

Tatsuya Tamura, General Manager of RO Membrane Product Dept. (MC)

In this discussion, we have Mr. Steven Cappos and Mr. Kwak Soon-chul, who have been with us since the beginning of the GST. First, we would like to hear from Mr. Cappos, who was the plant manager when TMUS was established in 2006 and is currently the president of TMUS, about the situation at the time of the company's launch and the key points of sales in the Americas since then.

Steven Cappos, President of TMUS

When TMUS was established, experts of the RO membrane industry not only from the U.S.A. but also from around the world gathered. All of them knew the characteristics of the RO market in the U.S.A. and the needs of customers, and due to their experience, they were able to move around the U.S.A. to contribute to the sales expansion of TMUS. The U.S.A. has a wide range of applications for RO membranes and is the world's leading RO membrane market in terms of both business and technology, so we quickly captured the needs of the market and communicated them to GST members around the world. For example, we have captured the needs of membranes for boiler pure water for industrial use, and for food industry and drinking water, and utilized them in the development of TMUS's own products. In addition, the market for brackish RO membranes for industrial water is quite large in the U.S.A., and we formulated a business strategy for brackish RO that is different from that for large-scale seawater projects, and we have been constantly competing with large-scale competitors. Since the early stage of the launch of GST, we have accurately grasped the market information and have taken several measures, which have led to our current business expansion.

Sales by GST: Winning the Shuaibah project

MC One of the purposes of forming the GST was to win large projects through global collaboration. I would like to ask Mr. Kwak, who was mainly in charge of winning large seawater projects, about the situation and strategy at that time.

Kwak-Soon Chul, President of Toray Asia Pte. Ltd. (TAS)

In those days, I was mainly in charge of acquiring orders of large-scale projects. Since Toray was a new player in the RO membrane market for large-scale projects at the time, our primary target was emerging engineering companies that did not have strong relation to existing membrane manufacturers. One of the first successful examples of a large-scale project was the Shuaibah project in Kingdom of Saudi Arabia (KSA).

In this project, concerned parties were scattered around the world, as the operating company and the commission company were located in KSA, the investor was in KSA, the plant construction company was in the Republic of Korea, the plant design company was in the U.S.A., and the consultant was in Dubai, in the United Arab Emirates (UAE). In order to deal with this, each party worked together to negotiate and win the order. For example, TMUS handled the U.S.A., Toray HQ handled Republic of Korea, and TMEu handled KSA and Dubai in UAE. Since we were able to negotiate closely in each region, we were able to conduct sales activities by grasping the needs of customers in each area.

Entering the Singapore Market

MC Mr. Kwak, after winning the Shuaibah project, you moved to Singapore as the President of TAS in 2008, and now you are the GST Chairman. Could you tell us about the status of project acquisition in Singapore at the time?

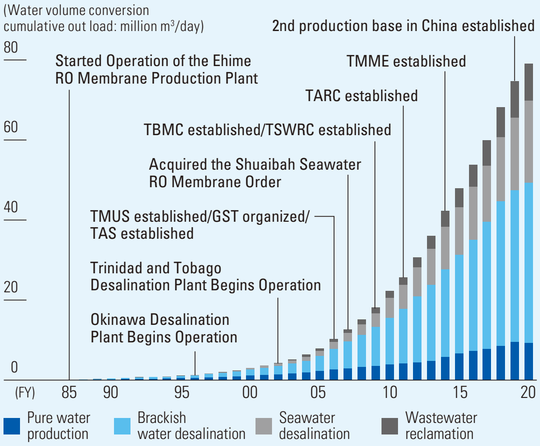
Kwak Singapore is an island nation where water is limited, and it depends on Malaysia for most of its water supply, so securing water is important for its national security. For this reason, Singapore has been actively promoting seawater desalination and reuse of wastewater (NEWater), in order to promote self-sufficiency of water resources. Since around 2006, GST has been working to win orders for RO membranes for large-scale plants to be constructed in Singapore, which we have targeted as our most important region for the RO membrane business. At that time, Singapore was aiming to become a global water technology hub and was trying to research and incorporate water treatment technologies from around the world, so we collaborated with a local university and established Toray Singapore Water Research Center (TSWRC) as a new water treatment research base for the Group. We also developed sales activities to win orders for large-scale projects by utilizing the GST network around the world, and the knowledge we gained from winning the Shuaibah project was very useful.

Entering the Chinese market, establishing JV

MC In China, which is currently the world's largest market for RO membranes, Toray BlueStar Membrane Co., Ltd. (TBMC) was established as a joint venture with ChemChina in 2009, and started production and sales activities in 2010. Mr. Gao, who has been a GST member since TBMC's establishment, as well as Chairman and President of Toray Industries (China) Co., Ltd., will talk about the situation at the time of TBMC's establishment and its subsequent sales activities.

Gao Zhiwen, Director of the Board & Vice President, Toray Industries (China) Co., Ltd. (TCH)
TBMC was established as a joint venture in accordance with Toray's policy for establishing overseas production bases: the existence of a market, the availability of raw materials, the presence of governmental support from both countries, and the presence of a strong local partner, etc. As you know, China has its own culture and rules. Unless you understand them well, you cannot capture the needs of local market and customers. When TBMC was established, sales leader with foreign nationality started to develop the Chinese market, but couldn't achieve satisfactory results because the person did not understand the market characteristics. In 2015, I was entrusted as the leader of the sales team. Based on the management up until that point, we gradually expanded our business by conducting sales and technical service activities by the Chinese people who were very familiar with the Chinese culture and market, and who have a good network of contacts, thus gaining the trust of customers.

Sales Volume of Toray RO Membranes Based on Cumulative Water Production Rate and History of Expansion of the Water Treatment Business



Cumulative water supply of 91,400,000 m³/day: equivalent to 8% of the world's population, or 640 million people (as of March 31, 2021)

Value Creation Process 2

DEVELOPMENT OF NEW TECHNOLOGIES AND PRODUCTS THAT MEET THE NEEDS

Interview

Development of high boron removal membrane for seawater desalination

MC By interacting directly with customers, GST has been able to accurately capture the different needs of each country, region and customer, and based on this information, R&D and technical departments have been able to develop new products, and in particular, there have been many cases of dramatic improvements in technology and product value. Mr. Cappos, could you give us examples of this?

Cappos I would like to mention the development of technology to improve boron removal performance.

In 2006, in accordance with WHO's Boron Guidelines, the tightening of its regulation value had a major impact on the operation and management of water utilities around the world and on the designs of plant manufacturers. In addition, the actual boron concentration setting values are determined by each country where the plant is installed, and the required removal performance varies from country to country. In order to respond to these changes, it was important for the GST to work closely with each region, government and users. The GST shared this information, as well as information on the market trends of each country and region, and collaborated with HQ to set targets for membrane development and consider how to respond to each project.

MC Due to tightening boron regulations, improvement of boron removal performance was required, and the technical department was subjected to quite challenging demands at the time. Let's hear about the difficulties from the General Manager of the Global Environment Research Laboratory and the General Manager of the membrane technical department, who were in charge of technological development.

Kozo Takahashi, General Manager of Global Environment Research Laboratories
The performance requirements for RO

membranes have always been high rejection rates, high permeability (low operating pressure), high durability, maintaining water quality of desalination process, and developing materials for low cost, but regulations are becoming stricter as issues of environmental sustainability, pollution prevention, and health maintenance become important issues.

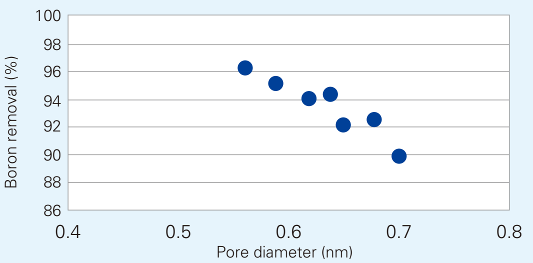
For example, in the case of seawater desalination, the WHO's regulation on boron concentration has become stricter due to the problems of reproductive abnormalities and withering of citrus plants caused by boron.

Seawater contains around 5 ppm of boron. Since the water produced by newly constructed desalination plants must comply with these regulations (0.5~1.0 ppm or below), higher boron removal performance was required for RO membranes.

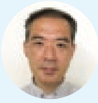
Since boron has a small atomic diameter, RO membranes, which are based on filtration separation by size, are required to have smaller and uniform pore size. In order to develop such a new RO membrane, it is necessary to measure the pore size of the membrane, but there was no way to measure the pore size of organic matter at the sub-nanometer level.

Therefore, in collaboration with Toray Research Center (TRC), a subsidiary of Toray that has one of the world's leading analytical technologies, we investigated a method to measure the pore size distribution of RO membranes using Positron Annihilation Lifetime Spectroscopy (PALS), and developed a technology to measure the membrane pore size (the size of the pores in the membrane) at the nanometer level. The measurement results were correlated with the boron removal rate, and the required pore size of the RO membrane was determined, and finally a high boron removal RO membrane was obtained on a bench scale.

Correlation between Boron Removal Ratio and Pore Diameter* of Membrane



*Pore size is measured by PALS (Positron Annihilation Lifetime Spectroscopy).



Takao Sasaki, General Manager of Membrane Technical Department

Specifications of final products are defined and mass production technology is established at the Membrane Technical Department. The specifications for the high boron removal membrane were clarified at the Global Environment Research Laboratories, and the target RO membrane was obtained on a bench scale. Taking over this technology, the Membrane Technical Department started to study the production conditions for the actual production machine. In order to control the pore size and obtain uniformity of membranes, we analyzed the factors of membrane production conditions, and after repeated prototyping and evaluation, we finally developed the target product. We followed up on the operation of the prototype RO membrane in an actual plant, confirmed its initial performance stability and durability, and launched it as a new product.

MC The technology obtained through this development was not only for the development of high boron removal RO membranes, but also for the uniformity of pore size control of the entire RO membrane, which greatly improved our subsequent research and new product development capabilities. This has been the driving force behind the expansion of our global market share to more than 60% of seawater RO membranes.

Development of highly durable brackish water desalination membrane (Tough Membrane)

MC The development, production, and sales of RO membranes for seawater desalination, which require state-of-the-art high performance, has been the concept since the start of the business, but the demand for large-scale seawater desalination plant construction fluctuates greatly from year to year depending on the global economic situation. In order to realize a stable expansion of business, it was necessary to focus on the area of RO membranes for brackish water applications, where the market is large and the needs are stable. The market share of brackish RO membranes has expanded to the point where it is now competing for the top share in the world market, but please tell us about the events that triggered this expansion, Mr. Gao.

Gao The RO membrane market in China has grown to be the largest in the world, and is a market in which membrane manufacturers around the world are competing. At that time, our two competitors were competing for the top share. Toray established a new local JV company, TBMC, and started full-scale sales of brackish RO membranes, but faced major problems in around 2011. The customer's plant experienced a number of troubles that caused the water quality to drop within a relatively short period of time after the start of operation. We investigated the plant, but couldn't find the cause. The HQ investigation concluded that it was probably an operational error where chlorine came into contact with the RO membrane during operation. We replaced elements, but the situation did not improve, and rumors spread that Toray RO was not durable enough, and TBMC was facing a critical situation. So we asked HQ to conduct a thorough investigation again.

Masahide Taniguchi, General Manager of Water Treatment Technical Department At the time, brackish RO membranes were sold all over the world. We obtained the degraded RO membranes from the customer and investigated them. As a result, we found that the degradation of performance was due to oxidation of the membrane surface, and we thought that the oxidation was caused by chlorine contact due to operational errors by the operator.

In response to repeated requests for investigation from TBMC, we dispatched a technical service team from HQ to the customer in China. As a result of thorough investigation, including parallel operation with another company's RO membranes, we found that there was an issue with our membranes when chemical cleaning method was used. This cleaning method, at the time, was becoming mainstream in China.

TBMC immediately asked the customers who were experiencing problems to improve their chemical cleaning methods and started development at the Global Environment Research Laboratory to enhance the durability of the membrane against chemicals.

Takahashi We started development to enhance the chemical durabilities (oxidation tolerance) of brackish RO membranes by establishing a project structure with sales and marketing, technical, and research departments becoming as one. Membrane performance is affected by the minor constituents in the raw water, so in order to determine the durability of the membrane, we repeatedly conducted durability tests using various prototype membranes with different formulations and using Chinese water at Toray Advanced Materials Research Laboratories (China) Co., Ltd. (TARC), our research base in China. As a result of promoting the development of highly durable RO membranes as a project team, we were able to develop a brackish RO membrane that is more durable than competitors and launch it into the market.

Sasaki These internal relevant departments analyzed the phenomenon, researched new products, and improved operational technology, while the Membrane Technical Department established manufacturing technology of new products.

Gao By quickly reporting requests from users to the R&D team, conducting joint evaluation and cause investigation by the Global Environment Research Laboratories and TARC, and developing technology to enhance durability based on the findings, we were able to develop a brackish RO membrane with strong chemical durability that surpassed that of competitors. We named this product "Tough Membrane" and launched it, which rapidly expanded sales and led to a large increase in market share in China.

Cappos The sales volume of Tough Membranes greatly expanded not only in China where performance of RO membrane easily deteriorated, but also in the U.S.A. and Europe, where there were no occurrences of such deterioration, and they grew to become a representative product of Toray Brackish RO membranes. In addition, Toray developed and launched a series of new products (Tough Series) that added new values to Tough Membrane, such as high productivity, energy saving, and low fouling, and became a driving force for Toray to compete for the world's top share in brackish RO.

Kwak The GST learned a lot from the development of the Tough Membrane as well. The Tough

Membrane eventually became a very easy to use RO membrane for our customers due to its enhanced chemical tolerance. We came to realize through this case is the fact that customers don't say anything does not mean they are satisfied, but they just think this product is the way it is. By materializing such hidden problems and needs, we were able to improve customer satisfaction. I recognized that it is very important for GST and technical service teams to work together to uncover the hidden needs of customers.

MC GST receives a complaint, and the technical service team conducts various investigations and tests at the customer's plant to determine the cause of the performance degradation problem, which is then passed on to R&D. Then, in the process of evaluating and analyzing the developed membrane at the customer's plant in collaboration with GST, the customer and the technical service team, we gained the customer's trust by responding to various information and questions from the customer, and as a result, though it looks troublesome at a glance, we were able to smoothly proceed with the development of the Tough Membrane.

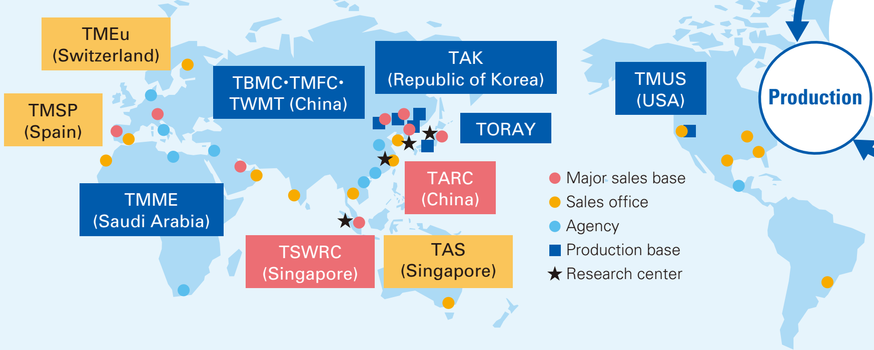
Taniguchi In order improve customer satisfaction with GST members at each base, currently, we have placed technical service teams at GST locations around the world and organized them as Global Technical Service Team (GTST) under the control of HQ to strengthen our capabilities. The role of the GTST team is to design RO membranes for large-scale seawater desalination projects and reuse of sewage wastewater, start-up and support operation of plant, investigate the causes of customer complaints and defects, identify product weaknesses and provide feedback to the R&D department, and evaluate the performance of new products. Regarding the RO membrane plant, in particular, as our business expands, the number of new requests including energy conservation, complaints and requests for cooperation from customers has also increased. Our company develops and sells high-performance membrane products, but we believe that it is important to get deeply involved with our customers in terms of usage rules and operational technology to let them handle the product perfectly. By cooperating and communicating with our customers, we can understand their true needs that even they are not aware of, and give an advice and make a proposal to them. Reflecting the knowledge acquired in new development themes, and "create new value" in cooperation with our customers. Taking advantage of GTST which is the strong point of our water treatment business, I would like to further strengthen such an initiative.

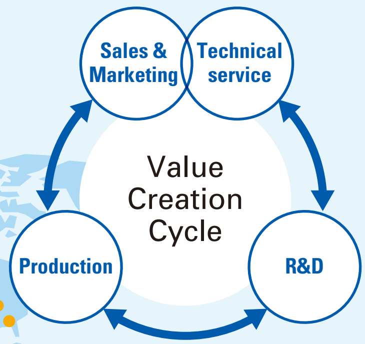
About the value chain in the company

MC In terms of value creation in the RO business, which is the main objective of the roundtable discussion, Toray Group's value chain has also made a significant contribution. Toray provides cutting-edge materials all over the world, and advanced materials such as tricot made from Toray's nonwoven polyester fabric Toray AXTER™

Global Expansion of Water Treatment Business

1. Identify customer needs and propose solutions through our global sales and technical service network
2. Development of new products that match customer needs through our global R&D system
3. Reliable supply of high quality products by global production network





and Toray TETORON™ are also used in key components that affect the performance and production cost of RO membranes. In addition, TRC, a wholly owned subsidiary of Toray, possesses one of the world's leading analytical facilities and technologies, which are essential for analyzing the used products, as well as for developing new products and technologies that pursue the ultimate limits of recent years.

And for RO production facilities, the Engineering Division, a group of professionals in equipment development and design, works together with the technology development department of the Water Treatment Division to develop, design, construct, and maintain the facilities. The engineering department contributes to the realization of highly competitive production facilities that include not only product performance and production capacity, but also ease of operation and maintainability of the facilities.

Sasaki Functional polymer is used as a base material for RO membranes, and it helps to maintain the strength and durability of RO membranes and RO elements. When RO membranes were first developed in the U.S.A., taffeta, which is used for yacht sails, was used as the base material, but today, staple nonwoven fabrics (paper-formed nonwoven fabrics) are the mainstream.

As a manufacturer of fibers and textiles materials, Toray supplied fibers used as raw materials for taffeta and nonwoven fabrics, but in order to meet the needs for enhanced pressure resistance due to the high-pressure operation of RO membranes in the desalination of high-temperature, high-concentration seawater in the Middle East, Toray worked on the development of base materials.

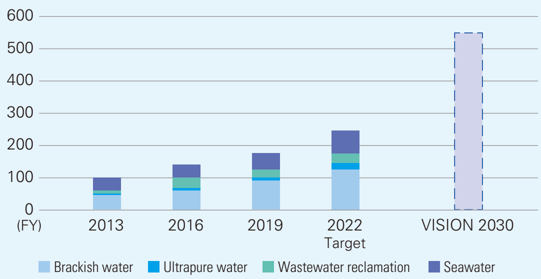
The key point in developing the technology to use the filament nonwoven fabric AXTER™, which is overwhelmingly superior in terms of strength and cost to the staple nonwoven fabric that is the industry standard, was the technology to equalize the thickness across the entire membrane surface (longitudinal and width directions) so that the chemical solution applied on the substrate would not leak. Toray's technology development departments of fibers and textiles and nonwoven fabrics, the Global Environment Research Laboratories, and the Membrane Technology Department worked together to develop AXTER™, a filament nonwoven fabric that can be used as a base material for RO membranes, through repeated facility modifications and trial evaluations, and were able to significantly strengthen the competitiveness of seawater RO membranes.

MC Toray's sales organization (GST), which grasps information on markets and customers and responds closely to them, and its technical service organization (GTST), which digs deeper into the activities of the GST from a technical perspective and identifies essential issues, have been creating new value by analyzing issues that have been obtained and by the technology development department, which creates new technologies and products, in cooperation with the internal value chain.

Thanks to the accumulation of such value creation, sales of RO membranes have expanded steadily, and in recent years, with the successive acquisition of large-scale seawater projects by Toray Membrane Middle East LLC (TMME) in the Middle East region, we have acquired a global market share of more than 60% for seawater RO membranes, and have expanded our business to compete for the top share in the world for brackish RO membranes.

Let's further strengthen these efforts and continue to create new value, aiming to ensure world's top share in RO during the current Medium-Term Management Program, AP-G 2022, as well as exceed 50% of world's market share which is the target of the Long-Term Corporate Vision, VISION 2030, so that we can realize our determination of "providing safe, secure, and affordable water to people suffering from water shortages around the world" at a higher level.

Sales of RO Element for Industrial Use (FY 2013 is set to an index of 100)



Initiatives for Global Environmental Issues

TOWARD ACHIEVING CARBON NEUTRALITY BY 2050

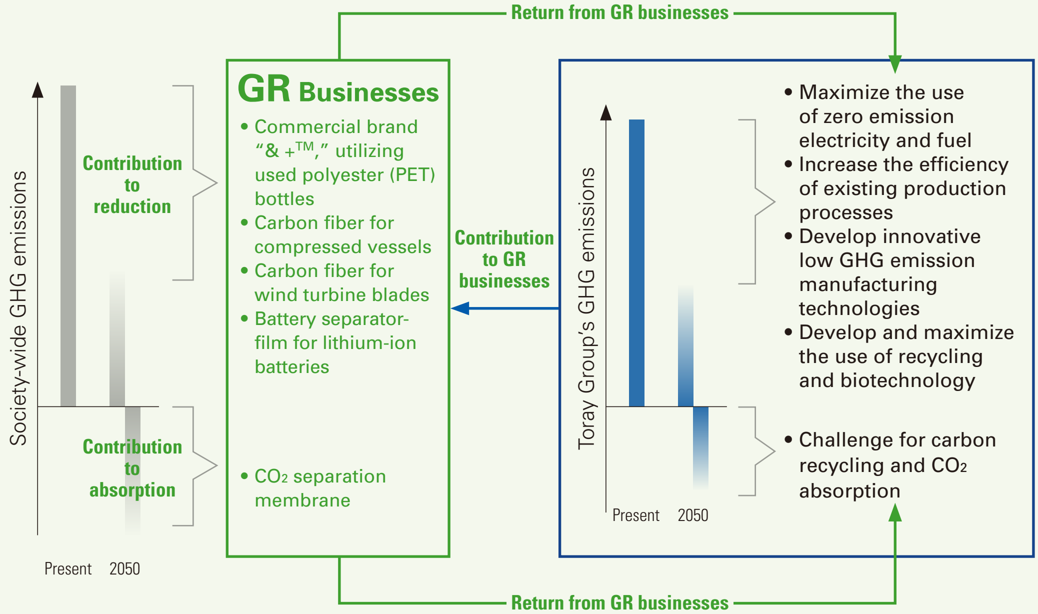
Toray Group is working to expand the Green Innovation (GR) Business, which has been engaged so far in renewable energy, hydrogen, and materials related to electrification, and to develop products that help absorb greenhouse gases (GHGs), such as CO_2 separation membranes, in an effort to make a contribution to reducing GHG emissions throughout society and in achieving carbon neutrality by 2050 for society as a whole. Also, the expansion of these GR businesses will be returned to Toray Group as sustainable energy and raw materials to reduce GHG emissions. In addition, the Group will promote further reduction of GHG emissions through innovative processes and carbon recycling technologies, aiming to become carbon neutral in its business operations in 2050.

Increase the contribution to GHG reduction through GR Businesses

Support the advancement of carbon-neutral technologies in the GR Business, including renewable energy, hydrogen, and materials related to electrification.

Introduction of GHG reduction technologies in business operations

Reduce total emissions through the use of sustainable energy and raw materials, innovative processes, carbon recycling technologies, etc.



Contributing to the realization of a carbon-neutral society

Aiming to become carbon neutral in the company's business operations

TCFD INITIATIVES

Impact Analysis of Climate Change

Upon announcing its support for the TCFD recommendations in May 2019, Toray Group took the opportunity to identify opportunities and risks related to climate change, which are both difficult to predict and uncertain. To determine how the opportunities and risks could impact Toray Group, **a scenario analysis was conducted as per the TCFD recommendations.**

The Paris Agreement target is to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels. Looking to help achieve this target and build a decarbonized society, Toray Group primarily analyzed the 1.5°C increase scenario, but also considered the 2°C increase scenario.

The Group also looked at the 4°C increase scenario assuming insufficient progress on efforts to ameliorate global climate change.

The Toray Group Sustainability Vision outlines the KPIs for fiscal 2030 as interim targets toward the world it envisions for 2050. Accordingly, the scenario analysis covered the period from 2030 to 2050. Toray Group also broadly summarized the impacts of climate change on the Group and conducted analysis emphasizing markets that are thought to have a particularly significant impact on the Group. These markets are synthetic fibers for apparel, electric vehicles, aircraft, wind power generation, lithium-ion batteries, next-generation batteries, fuel cells, and water treatment.

Results of Opportunity Analysis

There are significant opportunities for businesses that mitigate climate change, focusing on GR businesses. There is a possibility that the business opportunities will increase as efforts to address climate change continue to advance. There are also significant business opportunities related to adapting to climate change in segments such as water treatment. While there are significant opportunities in the scenario where efforts to address climate change make insufficient progress (world with a 4°C increase), there are expected to be ample business opportunities in the scenarios where progress is made on efforts to address climate change (world with a 1.5°C or 2°C increase). Furthermore, there are expected to be business opportunities for adapting to climate change in Life Innovation (LI) businesses in segments such as infectious disease protection garments.

Results of Risk Analysis

For the climate change risks, there is a particularly significant risk of carbon tax burdens and restrictions on GHG emissions. The carbon tax burden in the scenario where progress is made on efforts to address climate change was found to be around US$800 million (equivalent to approximately 85 billion yen).* Furthermore, Toray Group is engaged in a wide range of businesses worldwide and there is a possibility that some operating bases will be significantly impacted by water intake restrictions. Therefore, water usage restrictions were determined to be a significant risk.

* Calculated by multiplying the fiscal 2019 GHG emissions (5.75 million tons-CO_2) by the estimated carbon tax (US$140 per ton) under the 1.5°C and 2°C scenarios.

Main opportunities, risks, and responses related to climate change (excerpts*1) *1 Excerpts from Toray Group TCFD Report 2021

Social change	Main risks, opportunities		Responses by Toray Group	Magnitude of opportunity, risk*2 (1.5°C / 2°C / 4°C)
Increase in ratio of renewable energy	Opportunities	• Growth of renewable energy-related business • Growth of storage battery-related business	• Carbon fiber for wind turbine blades • Battery separator film GR	large
	Risks	• Increased electricity costs	• Energy conservation initiatives	large
Establishment and raising of carbon taxes and GHG emissions reduction targets	Opportunities	• Growth of energy conservation-related business	• Lightweight materials GR • Insulating and heat shielding products • Functional garments LI	large
	Risks	• Carbon tax burden, increased procurement costs for fossil-based raw materials and fuels	• Reduce GHG emissions	large

GR : GR products LI : LI products

*2 The magnitude of the impact was assessed to be large, moderate or small. Where the magnitude of the impact on a given item varies according to the climate scenario, the gradient indicates the particular scenario where the impact is greater.

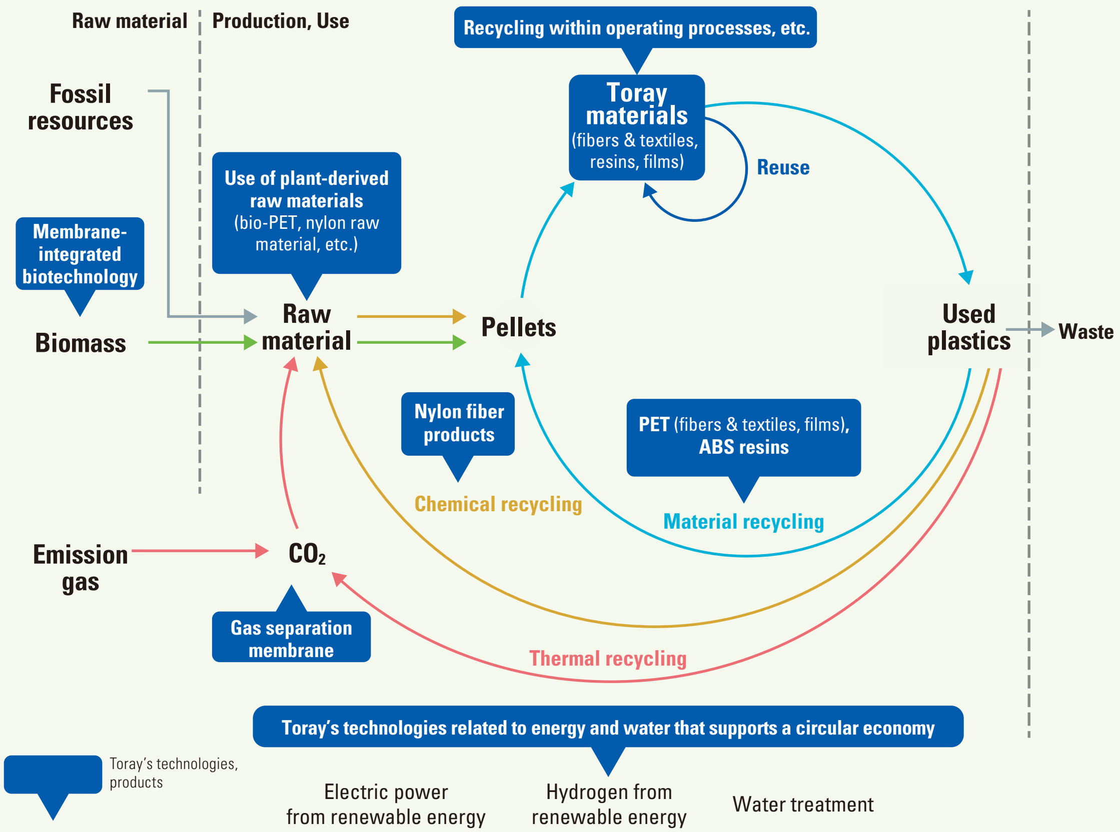
TOWARD REALIZATION OF A CIRCULAR ECONOMY

In addition to recycling of plastic products and using bio-based raw materials, and other carbon recycling technologies, Toray creates technologies designed to reuse water generated during manufacturing processes, technologies that utilize renewable energy and surplus power to enable hydrogen production, and technologies that utilize hydrogen. Development of these and other similar technologies is aimed at helping to achieve a circular economy and to reduce CO_2 emissions as a result.

In terms of recycling, Toray developed and released &+™, a recycled fiber made from used polyester (PET) bottles as a raw material. In addition, we more recently developed a new technology to strip various types of coating materials and resins from the surface of used PET films and a new technology to remove foreign matter during each manufacturing process. Toray released Ecouse™ series of environmentally-friendly PET films made from raw materials recovered and recycled using these technologies. In addition to reducing fossil-based raw materials and waste plastic, this series of environmentally-friendly PET films is expected to decrease CO_2 emissions by up to 50% compared to existing products.

Along with developing materials made from plant-derived raw materials and applying membrane-integrated biotechnology to efficiently produce raw materials from biomass, Toray is also engaged in creating CO_2 recovery technologies using gas separation membranes. Based on an all-carbon material with a two-ply structure consisting of a hollow porous carbon fiber layer and a separation layer, Toray developed a new separation membrane that combines a CO_2 separation function with high durability. We envision this membrane being deployed and put into practical application for natural gas and biogas purification, as well as for hydrogen production and purification, and exhaust gas CO_2 separation.

Contribute to initiatives including biomass plastics, recycling, promoting of enewable energy and the use of hydrogen, and water reuse



TOWARD REALIZATION OF DECARBONIZED HYDROGEN SOCIETY

Hydrogen is considered a clean, next-generation energy that does not emit CO_2 during the usage stage. Toray conducts R&D for various materials and technologies used in each phase of hydrogen production, transport, storage, and use in an effort to help achieve a carbon-free hydrogen society.

For example, carbon paper (CP) and gas diffusion layers (GDL), both products made from Toray carbon fibers, are used in the cell stacks for the fuel cells that function as the heart of fuel cell vehicles. Similarly, high-strength carbon fibers and plastic tank liners that leverage the cutting-edge technologies Toray has accumulated in the aerospace field are incorporated into the high-pressure hydrogen tanks used to store hydrogen.

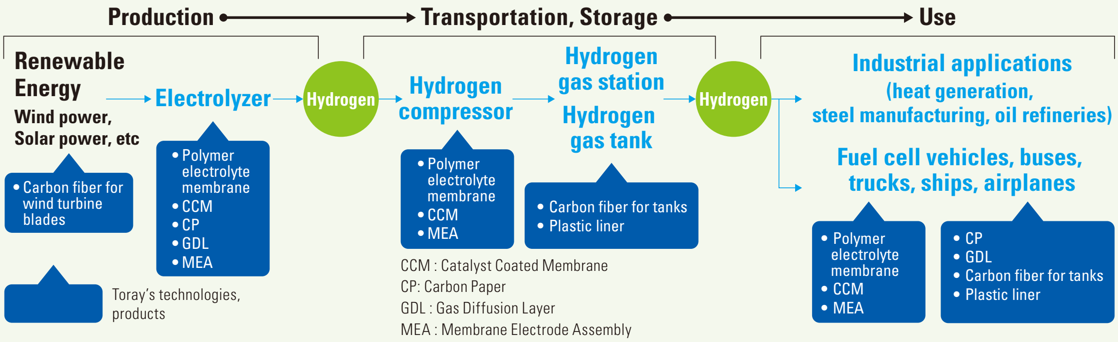
The Group's Germany-based subsidiary Greenerity is engaged in the R&D, production, and sale of the catalyst coated membranes (CCM) and membrane electrode assemblies (MEA) used for fuel cells and water electrolysis. Greenerity is currently the world's largest supplier of CCM. In 2022, a second plant is scheduled to begin operations and will primarily supply CCM and MEA for the fuel cells used in commercial vehicles and passenger cars, as well as for the water electrolyzers required to produce green hydrogen, both of which are expected to see growth in demand throughout the world.

In regard to reducing the costs of green hydrogen as the greatest challenge in achieving a hydrogen society, Toray is collaborating with partner corporations in Japan and abroad to develop and demonstrate a polymer electrolyte membrane (PEM) water electrolysis technology using our proprietary hydrocarbon (HC) type PEM. As part of the "P2G (Power-to-Gas) System Technology Development Project," Toray worked with Hitachi Zosen Corporation to develop Japan's first megawatt class PEM water electrolyzer. This project was commissioned by the New Energy and Industrial Technology Development Organization (NEDO) in partnership with Yamanashi Prefecture and Tokyo Electric Power Company Holdings, Inc., to produce green hydrogen using power from renewable energy. The water electrolyzer that resulted from this project has been demonstrated to produce twice the volume of hydrogen as other technologies using conventional fluorine membranes with the same voltage area. In April 2021, the project began delivering green hydrogen to factories and super markets in Yamanashi Prefecture.

Having been selected as eligible for funding from NEDO under the Green Innovation Funding Project, in September, Toray formed the consortium Yamanashi Hydrogen Energy Society (H2-YES) with Yamanashi Prefecture and Tokyo Electric Power Company Holdings, Inc., and began a project involved in energy demand conversion and usage technology development based on a large-scale P2G system. In order to further expand upon the achievements of green hydrogen demonstrated thus far, the Project is planning to develop and implement a large-scale 16-megawatt class PEM water electrolyzer using Toray's polymer electrolyte membrane, as well as demonstrate the potential to convert heat demand to carbon-free options, over the five-year period from fiscal 2021 to 2025.

At the same time, in September, Toray also entered into a memorandum of understanding regarding the building of a Strategic Partnership with Siemens Energy AG. This partnership is intended to help achieve a carbon neutral society through the creation of hydrogen technologies leveraging innovative PEM water hydrolysis. Going forward, the partnership will provide optimum solutions to customers in countries and regions around the world by leveraging the hydrogen and fuel cell related technologies and businesses owned and operated by both companies, as well as their global networks, in aims of capturing the global market, which is expected to expand dramatically. Likewise, the two companies will jointly advance the introduction and expansion of green hydrogen produced using renewable energy and the deployment of a strategic global business.

Promote R&D of various products for the realization of decarbonized hydrogen society



STATUS OF ENVIRONMENTAL MANAGEMENT INITIATIVES

For detailed environmental data, please refer to the CSR Report on our website. https://www.toray.com/global/sustainability/download/

Promoting Life Cycle Management

In addressing global environmental issues, it is vital to consider the entire life cycle of products and services in order to reduce environmental impact while also delivering improved economic and social value. In this respect, Toray Group practices life cycle management (LCM). LCM is the basis for Green Innovation (GR) products, and the Group has adopted life cycle assessment*1 and the Toray Eco-Efficiency Analysis (T-E2A)*2 tool and is working to establish LCM as a tool to measure CO_2 reduction in the entire life cycle of products and services. Those products that are able to demonstrate objective evidence of providing an effective solution for global environmental issues are certified as GR products, only after the products are subjected to a two-stage screening process by the divisional committees and the group-wide Green Innovation Certification Committee.

*1 Life cycle assessment is a method for quantitatively assessing the resources that have gone into a product and the impact the product will have on the environment and ecosystems over its life cycle.

*2 T-E2A is an environmental analysis tool developed by Toray Industries, Inc. It produces a map of multiple products plotted along the axes of environmental impact and economic performance, enabling users to select the most environmentally-friendly and economical products.

Environmental Accounting

Toray has been practicing environmental accounting since 1999, to track investments and gauge their cost effectiveness. In fiscal 2020, the Company's **environmental facility investment amounted to 1.52 billion yen**, up 0.21 billion yen compared to the previous fiscal year. **Environmental preservation costs totaled 7.56 billion yen**, up 0.43 billion yen compared to the previous fiscal year.

Fifth Medium-Term Environmental Plan

Toray Group implemented its **Fifth Medium-Term Environmental Plan**, which runs from fiscal 2016 to 2020. For the purpose of further reducing its environmental impact, Toray Group raised the following targets under the Toray Group Sustainability Vision in July 2018.

- Toray Group: Achieve a 30% reduction of greenhouse gas emissions per unit of revenue by fiscal 2030, compared with the fiscal 2013 level.
- Toray Industries and plants in Japan: Achieve a 7% reduction in the absolute volume of greenhouse emissions by fiscal 2030, compared with the fiscal 2013 level.

Since fiscal 2020, Toray Group has continued its efforts to reduce greenhouse gas emissions in aims of achieving the targets outlined in the Toray Group Sustainability Vision. In regard to reducing atmospheric VOC emissions and waste recycling, Toray Group is also taking action based on the numeric targets outlined in the CSR Roadmap.

Fifth Medium-Term Environmental Plan Target

Area	Toray Group fiscal 2020 target	Fiscal 2020 results
Curb global warming	Maintain greenhouse gas emissions at least 15% below the fiscal 1990 level (Toray Industries, Inc.)	35.0% reduction
	15% or greater reduction in greenhouse gas emissions per unit of revenue compared to fiscal 1990 (Toray Group in Japan)	29.7% reduction
Management of chemical substances	Atmospheric emissions of PRTR Law-Specified substances: Maintain at least 70% below the fiscal 2000 level (Toray Group)	69.7% reduction
	Atmospheric emissions of volatile organic compounds (VOCs): Maintain at least 70% below the fiscal 2000 level (Toray Group)	73.8% reduction
Waste reduction	Zero emissions goal: Achieve at 45 or more Toray Group plants	Achieved at 48 plants
	Simply disposed waste rate: 22.5% or lower (Toray Group)	20.8%
	Recycling rate: Maintain at 86% or more (Toray Group)	86.2%
	Landfill waste rate: 1.3% or lower (Toray Group in Japan)	2.4%

Greenhouse Gas Emission Reduction Initiatives

Toray has systematically worked to reduce greenhouse gas emissions, with the goal of maintaining greenhouse gas emissions at least 15% lower than the fiscal 1990 level by fiscal 2020. In fiscal 2020, the Company's CO_2 emissions decreased by 188,000 tons-CO_2 year-on-year. **Greenhouse gas emissions were down 10.9% year-on-year at 1.66 million tons-CO_2, which was 35.0% below the fiscal 1990 level**, continuing to meet the target.

Toray and its group companies in Japan are addressing climate change under a goal of reducing emissions by 15% on a per-unit-of-revenue basis by fiscal 2020 compared to the fiscal 1990 level. Greenhouse gas emissions for Toray and its group companies in Japan were down 10.4% in fiscal 2020 compared to the previous fiscal year. Although **greenhouse gas emissions per unit of revenue rose by 3.1 points, emissions declined 29.7% below the baseline year**.

In addition, **greenhouse gas emissions for Toray Group as a whole in fiscal 2020 declined 13.7% to 4.97 million tons-CO_2** due to lower production volumes coinciding with the COVID-19 pandemic and to the achievements of initiatives purposed to reduce greenhouse gas emissions. **On a per-unit-of-revenue basis, the Group achieved a 13.7% reduction compared with fiscal 2013 as the baseline year established in the Sustainability Vision and CSR Roadmap 2022**. Moving forward, despite higher production volumes projected due to business growth, the Group will work to reduce per-unit energy consumption* by 2% annually at all manufacturing companies and plants operated by Toray Group, and will endeavor to reduce greenhouse gas emissions throughout the Group in an effort to achieve the reduction targets for fiscal 2030 as outlined in the Sustainability Vision.

* Energy consumption per converted production volume

Installing Renewable Energy Systems

Toray Group is systematically installing renewable energy systems. The Group installed a solar power generation system at Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd., in fiscal 2019, and at Toray Plastics Precision (Zhongshan) Ltd., in fiscal 2020. Both systems are currently in operation. In addition, Toray Tokai Plant began co-combusting sludge fuel, which is carbon neutral, as boiler fuel from fiscal 2017.

Energy Conservation Measures

Toray is vigorously working on energy conservation activities with the goal of reducing its per-unit energy consumption by 2% annually. In fiscal 2020, the Company's **energy consumption was down 9.3% year-on-year** due mainly to a decrease in production volumes that resulted primarily from the COVID-19 pandemic. Meanwhile, its per-unit energy consumption deteriorated 4.6% as the ratio of fixed energy, which does not contribute to production, increased, due to lower production volumes.

Biodiversity Initiatives

Toray Group views conservation of biodiversity as a critical global environmental issue that is of equal importance to reducing greenhouse gas emissions. As one of its biodiversity conservation initiatives, the Group deploys and applies a set of rules formulated in fiscal 2015 for checking impact on biodiversity to all products. In particular, the Group views palm oil as a raw material that should be followed with priority given the growing amount of interest focused on the risk of its environmental impact. Over the three-year period from fiscal 2020 to 2022, the Group will investigate whether each of its products uses certified raw materials and advance the switch to alternative materials. In fiscal 2020, the Group investigated whether certified raw materials were used in regard to raw materials made from palm oil, and completed its investigation of 93% of relevant suppliers, although some suppliers did not respond. Going forward, the Group will continue to investigate those suppliers who did not respond, and determine the possibility of switching each raw material to a certified raw material, and advance this transition.

Advanced Business Management by Utilizing Digital Technologies

The Group-wide Effort to Promote Digital Transformation

A key focus in AP-G 2022 is promoting advancements in management through digital transformation (DX), which will strengthen competitiveness and transform business through the effective use of data and digital technologies. In order to facilitate reviews and discussions regarding group-wide efforts to promote DX, Toray established the Toray Digital Transformation (TDX) Promotion Committee, chaired by the President, and under that the Technology Center DX Promotion Committee and the Business Division DX Promotion Committee. The Company is advancing the group-wide TDX Promotion Project in addition to conventional departmental initiatives.

The Technology Center DX Promotion Committee streamlines R&D activities by leveraging material design prior to trials, relying on simulations to shed light on the true nature of materials and informatics for predictive design. It also works to enhance quality and productivity through the utilization of AI-based automation, among other efforts.

The Business Division DX Promotion Committee is engaged in operations with themes that can be applied horizontally, serving as leading examples across the Group, such as improving the sophistication and efficiency of global supply chain management (SCM), introduction of a customer relationship management (CRM) system to visualize the information communicated with customers, and marketing automation (MA)-driven digital marketing.

In addition, the Information Systems Division is working to build out IT infrastructure and strengthen information security in support of global business expansion.

Toray Digital Transformation (TDX) Promotion Committee

Technology Center DX Promotion Committee	Business Division DX Promotion Committee
Drive advancement and streamlining by leveraging digital technology in research and technological development(R&D), and production	Visualize global management information in sales & marketing, finance & accounting, and purchasing & logistics, and advance business management

The Strengthening and Development of Digital Human Resources

Based on its policy of "improving the digital skills of personnel with a good grasp of *Genba* (workplace) operations," the Company's DX program will immediately train dozens of experts with digital expertise and at least 100 key personnel who can utilize digital technology to proactively promote business, as well as research and technological development.

These key people, being personnel engaged in research and technological development, as well as being active in on-site production activities, will be educated in digital operations, by means including on-the-job training. To that end Toray has established in-house training programs to develop such digital personnel, and are also actively pursuing the recruitment of personnel who possess an exceptional affinity with digital initiatives.

Examples of DX Initiatives

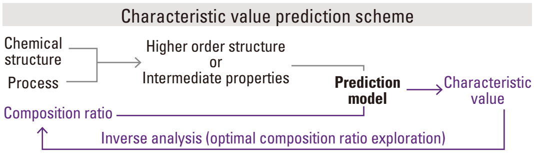
Advancement and Streamlining by Leveraging Digital Technology

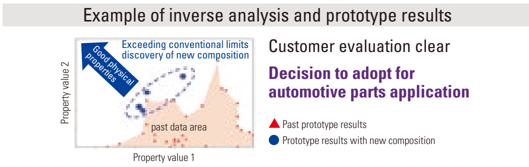
Example of Simulation

The Company has successfully accomplished the highly accurate calculation of contact angles, which are the macroscopic properties of polymer surfaces, by using microscopic molecular simulations. The results Toray achieved have been spotlighted as the cover story in a prestigious chemistry journal in the U.S.A., and following that, received the 2020 CSJ Award for Technical Development from the Chemical Society of Japan. This has also been highly evaluated academically.

Example of Informatics

To design resin materials for automobiles, Toray built a model that uses machine learning to simultaneously predict two types of characteristic values, searched for the optimal composition ratio utilizing inverse analysis, and discovered a new composition that exceeds conventional limits. The product that resulted satisfies the characteristics required by automobile manufacturers and its adoption has been finalized.



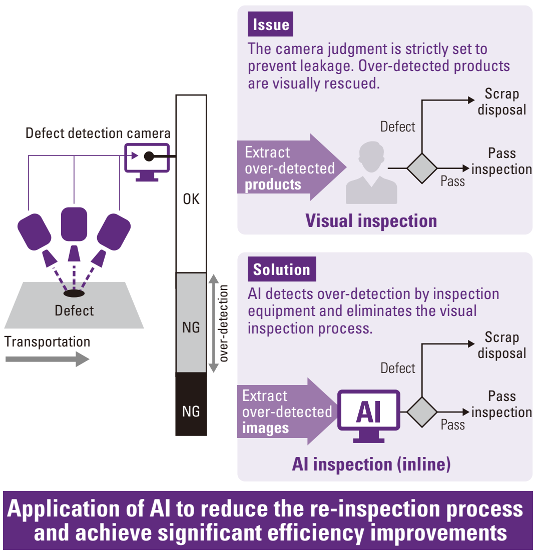


Improving Production Sites (Enhancing Quality and Productivity)

Example of AI Utilization

Defect detectors are used in a variety of applications, leveraging the ability to inspect products that are being transported. On the other hand, in line with the rising quality requirements of customers, it has become necessary to set stricter judgment criteria to prevent non-standard products from drifting outside of processes. As a result, there have been cases where defects that would normally pass the testing process were determined to not meet specifications (over-detection). In the past, this was remedied by having such over-detected products be visually re-inspected to determine whether they passed or failed.

As a solution to this problem, by having AI learn the details of qualified products, it became possible to determine a pass or fail grade for over-detection while the product was being conveyed, which greatly improved efficiency. In this way, by applying AI to various product inspections, Toray can realize improved productivity.



Human Resources Management

Commitment to Human Rights

We at Toray Group believe respect for human rights is a mandatory management principle for ensuring the continuity of corporate activities and building positive relationships with all of the Group's stakeholders. Working to promote and raise awareness of human rights, the Group also has declared its commitment to the respect of human rights in its Corporate Guiding Principles and **Ethics & Compliance Code of Conduct**. In the Code, discrimination of any kind based on race, creed, skin color, gender, religion, nationality, language, physical characteristics, socioeconomic status, place of birth, or any other personal characteristics, is strictly forbidden in every process from recruiting and hiring to work placement, treatment, training, and retirement.

The Ethics & Compliance Code of Conduct also explicitly states that sexual, maternity, and power harassment in the workplace shall not be tolerated. In addition, Toray has established a system for preventing and dealing with harassment in the workplace in its "Guidelines for Preventing Harassment in the Workplace," which is thoroughly conveyed to all executives and employees. The Group has also been tackling the issue of discrimination based on gender identification and sexual orientation. In January 2017, the Group established a dedicated hotline for LGBT (sexual minority) issues, ***Nijiiro* Consultation Service**.

In addition, as a global enterprise, the Group respects international norms such as the Universal Declaration of Human Rights, the International Labor Organization's conventions, and the UN Guiding Principles on Business and Human Rights. The Group has also established the **Toray Group Policy for Human Rights**, which lays out the Group's commitment to ensuring that it is not complicit in any human rights violations in the overall supply chain, which includes not only itself, but also suppliers and contract processing destinations, and to promptly and appropriately addressing issues if and when they arise. In addition, Toray respects human rights upon purchase of raw materials, and makes sure that the purchase is in accordance with its **CSR Procurement Guidelines** and that there is no forced labor, slave labor, or unfair low-wage labor upon production. In the event it has tentative confirmation that there are any problems, Toray's policy is to immediately suspend transactions.

Identifying, Assessing, and Preventing Human Rights Risk

Toray Group conducts **surveys related to awareness, education, and other human rights promotion activities once per year** at all offices and plants, major group companies in Japan, and overseas subsidiaries and affiliated companies. The Group verifies the results of these through the Human Rights Promotion Committee in Japan and the Global Human Rights Promotion Committee. From among the results, the Group identifies human rights related issues and problematic points, as well as points of concern, and investigates and implements initiatives in accordance with the human rights promotion framework. Moreover, the Group has designed systems that enable group employees to report and consult on human rights issues as part of its efforts to take prompt, appropriate action when a problem occurs and to help reduce human rights risk.

Implementation of Human Rights Training

In order to promote a correct understanding and awareness of human rights, Toray conducts an annual human rights awareness campaign, and at each office and plant, the Company holds training sessions for personnel in charge of operations and managers, as well as study sessions that utilize workplace meetings, in order to raise the human rights awareness of each and every employee. In fiscal 2020, remote training was provided to each office and plant in conjunction with the human rights awareness campaign. In addition, in March 2021, the Company held **an annual e-learning program on corporate ethics and legal compliance, specifically on human rights**, for all executives and employees (including temporary, part-time, and dispatched employees), with 6,849 participants attending.

Securing and Developing Human Resources

Based on on-the-job training, Toray systematically implements specialized training by grade and business field, and through personnel systems such as rotations and assessments, seeks to develop professional human resources who can perform globally. Toray also makes efforts to expand and raise the level of key personnel who are ready to put their strong capabilities to use in taking action on the frontlines, and strengthens their skills as future management candidates who can lead the next generation. The Company also dispatch personnel to the world's top universities and public institutions where they endeavor to acquire the foremost knowledge and techniques in various fields and to conduct joint research.

In fiscal 2020, to prevent the spread of COVID-19, many internal training programs were cancelled, as was the dispatch of personnel to domestic and overseas universities and public institutions, while participation in training and academic conferences was limited to those that were held online. As a result, the **training expenditures per employee** in fiscal 2020 was ¥36,092, compared to ¥96,821 in the previous fiscal year.

On the other hand, as part of its efforts to secure employment at its production plants where production fell due to the worsening of market conditions, Toray provided education and training for approximately 2,200 personnel involved in production to improve various skills that will be useful when production volume recovers.

Initiatives for Career Development Utilizing New HR Information System

Toray has introduced its "**career sheet**" as a human resources development tool to promote employee growth. By using the career sheet, employees reflect on their own past work experience and the level of skills required in their field, and in-depth career-focused discussions take place between supervisors and their subordinates. In fiscal 2020, 23% of employees had made use of the career sheet, exceeding the target of 20%.

Systematically Securing, Developing and Promoting National Staff Outside Japan

One of Toray Group's management issues is to systematically secure, train, and promote national staff at its affiliated companies outside Japan, and the Group is actively promoting them to the management level of each company. In addition, **in fiscal 2020, two core personnel from overseas affiliates were appointed as Toray's Vice Presidents, and three as Toray's directors** (a position equivalent to a senior management in terms of duties and responsibilities), and these executives are participating in Toray Group management.

Promoting Diversity

Toray Group is endeavoring to promote diversity toward the creation of thriving workplaces in which a diverse range of individuals can fully demonstrate their potential.

Fostering an Organizational Culture Conducive to the Career Advancement of Women

Toray has long advanced the creation of workplace environments in which women will feel comfortable in performing their duties. The number of female employees in upper-level positions has increased steadily, and as of **April 2021, women held 9.8% of unit manager or higher positions**, and **5.6% of section manager or higher positions**. In addition, in June 2015, Toray appointed its first female director (a position equivalent to a senior management in terms of duties and responsibilities). As of March 2021, there was one female director.

In March 2021, the Company formulated and announced a five-year action plan (April 2021 to March 2026) with the aim of increasing the retention rate of female employees and the ratio of female employees in management positions. The targets set in this action plan are as follows.

- Raise the ratio of female managers from the fiscal 2020 level of 5.1% to 6.5%.
- For employees who have been with the Company for up to 10 years, the ratio of female to male employees who continue to be employed shall be 1.0 for each human resources management category.

Hiring Diverse Human Resources

Toray Group is committed to securing outstanding human resources who have a high sense of ambition and who can play an active role in global business, regardless of gender, nationality, or career history at the time of hiring. In promoting globalization, Toray has been **hiring regardless of nationality** since 1998, and has hired 112 foreign nationals as full-time employees by fiscal 2020. The Company is actively recruiting non-Japanese employees, mainly international students to Japan, as well as Japanese students who have graduated from overseas universities. Each of these hires is playing an active role by utilizing his/her outstanding abilities and individuality.

Employment of Persons with Disabilities

Toray Group hires and employs persons with disabilities, from those with physical challenges to persons with intellectual and mental challenges. The Group is making workplace improvements to remove physical barriers for persons with handicaps as well as instituting safety measures. Additionally, the Group provides comprehensive training upon work placement and gathers feedback from persons with disabilities to make workplace improvements. Further, Toray meets Japan's legal minimum of 2.2% persons with disabilities, as do 62.5% of Toray group companies in Japan. Group companies actively seek to hire persons with disabilities through public organizations and job placement agencies. However, some individual group companies do not meet the mandated legal requirement due to hiring difficulties.

Creating a Positive Workplace for Employees

Toray has worked to further improve systems that help employees achieve a harmonious balance between work and family life by offering a wider variety of lifestyle options for both men and women. In particular, the systems Toray provides for childcare, family care, and maternity protection exceed the legally mandated minimums and have been improved for easy use. In 2007, Toray was **certified as an employer that complies with the action plan standards under the Act on Advancement of Measures to Support Raising Next-Generation Children**. From fiscal 2020, the Company is introducing an hourly annual paid leave system that allows employees to take hourly leave, an interoffice interval system, and hourly nursing and care leave.

Employee Health

Toray views employee health management as a management priority, and thus actively implements measures that encourage employee health, including sharing health information via in-house communication tools, holding participatory events that utilize health related information sites, and organizing awareness seminars for the prevention of lifestyle-related diseases. Toray is also addressing mental health, and has been independently implementing employee stress checkups through an external provider. Toray uses the results of these checkups in helping employees to recognize their own stress levels, supporting approaches to dealing with stress, and improving the workplace environment. In recognition of these efforts, Toray has received consecutive **Health and Productivity Management Organization certification**.

How to Inspire Team Spirit

Mike Brandmeier
President & CEO,
Toray Plastics (America) Inc.

Tell us about your leadership philosophy, which helped you win a regional Strategic Leadership Award. How does it help you build successful teams focused on a common goal while also fostering individual talent?

There are many kinds of leadership style. Mine is to consult and to guide. Certainly, Toray's success in building great teams depends on hiring the best people, but that's only the beginning of the story. To inspire the best from the best, a leader must give his teams a creative stake in their work and control over their outcomes. That requires a lot of trust. It means trusting your people to work things out and make the right calls. As the leader, I have to be the coach who listens carefully, who creates an environment that fosters success, and who then praises his people for what they've accomplished.

Another core value is "safety first," which is especially important during these challenging times. We're a manufacturing company, and we greatly value high output. What I tell my team, though, is not at the sacrifice of safety. If something's wrong, don't run a broken process. Take a step back. Ask, "What do we need to do to fix the equipment or adjust the environment so that no one on the team is injured?" Our commitment to safety extends to our local communities in the U.S. and to the global society, as well.

How does your leadership vision tie in with the "Toray way" of business and innovation to build solutions for humanity? And how do you impart a sense of being part of the wider Toray Group?

A former president of our largest client gave an inspirational speech on what he called "servant leadership". The corporation exists to serve society, not the other way around. It's a message I took to heart.

To be a successful leader, you have to move beyond the straight management-by-objectives approach. Don't misunderstand me; at Toray we're goal-focused and our success hinges upon our meeting objectives. To meet targets, however, you have to inspire people, make them believe that the team's objectives are truly important. By working together as one, we achieve goals for the good of society. That's the Toray way.

An excellent example of how the Toray spirit has flourished at Toray Plastics (America), or TPA, is found in our story. TPA was established in 1985 and for the first ten years it was a manufacturing extension of Toray Industries. That meant 100% of products were designed in Japan and manufactured in the U.S. Jump ahead to 2021, and 80% of what we produce is designed, developed and commercialized based on our U.S. R&D team's efforts. We're proud of that achievement, but it could never have happened without the support of our parent company. Investing heavily in R&D with the goal of contributing to society is in Toray's genetic make-up, and it is what makes Toray Group, and TPA, the preferred partner of choice among our largest customers. We are a dynamic organization that has entrusted its teams with creative responsibility, inspired by the common goal of working for the benefit of humanity and the planet.

Your team is focused on the R&D of eco-friendly plastics, and yet within the pursuit of that goal resides a paradox: the development of sustainable solutions may require the consumption of more resources than are affordable or even available. How does TPA forge collaborative strategies for renewable innovation?

It's true that we face huge challenges across the materials industry. According to recent research, the world needs as much as a tenfold improvement in the eco-efficiency of resources and materials by 2050 so that an estimated population of nine billion will be able to live comfortably within the planet's means. At TPA, one of our greatest challenges is the development of food packaging that phases out hydrocarbons [compounds made from fossil fuels]. The final product must provide to the food the same protection that we have today and simultaneously meet the long-term economic targets set by the current film options. It's a big challenge!

We believe that Toray is ideally positioned to meet that challenge. Our winning will be based on the same collaborative spirit that has driven all Toray breakthroughs—from carbon fiber that reduces the Boeing Dreamliner's carbon footprint to biofuel made from sugarcane waste in Thailand.

Our breakthroughs will be built on R&D synergies between TPA and the entire Toray Group, as we work together as a team to devise cutting-edge packaging solutions. Once again, global teamwork will enable the critical task of bringing viable products to market. It also means collaborating with global food companies to understand their needs and objectives. The Toray Group's fundamental understanding of "Innovation by Chemistry" and its commitment to contribute to society position us to tackle this complex problem and be the innovator of new sustainable products that we believe can have a positive impact on the world in which we live.

In leading a firm with a Japanese parent company, how do you in Rhode Island and Toray Industries in Japan foster team spirit across cultures that can be quite different?

I'm an admirer of President Theodore Roosevelt and in particular his speech "Citizenship in a Republic." It offers a message that transcends East and West and captures the "never give up" spirit for which the Japanese people and Toray are renowned.

In the speech, Roosevelt salutes the indomitable spirit of people who, no matter how difficult the challenge, rise up time after time and continue to do their best. Among them is that individual "whose face is marred by dust and sweat and blood; who strives valiantly; who errs, and comes short again and again, because there is no effort without error and shortcoming; but who does actually strive to do the deeds; who knows the great enthusiasms, the great devotions; who spends himself in a worthy cause."

It is that kind of spirit, which I find every day in the men and women who work across the Toray Group, that leads our people and our teams to make such a positive contribution to society. In cherishing it, we embody the best of both worlds—we share common traits of curiosity, perseverance, diversity, creativity and, above all, commitment, which make a difference to humanity's common journey.

WSJ CUSTOM CONTENT
Written by The Wall Street Journal Custom Studios, 2020-2021
https://partners.wsj.com/toray/essential-materials/

The Value of Developing Cultural Bridges in Business

Gao Zhiwen
Director of the Board & Vice President,
Toray Industries (China), Co., Ltd.

Can you explain why you believe that a profound understanding and respect for local culture is so critical to building a meaningful worldwide presence?

Having worked at Toray for almost 30 years, I believe localization that organically links people and products through a deep understanding of local cultures is the key to our company's global success. From consumers to business partners to employees, local people are crucial to establishing strong foundations in a particular market. Recognizing this has enabled Toray to understand the tastes and psychology of Chinese consumers, to respond to the needs of business partners and customers, and to improve motivation and productivity by strengthening internal communication with employees. The Chinese market is huge and competition is intense, so global manufacturers must make it their mission to produce and sell high-spec, low-cost products that local manufacturers cannot match.

There is a saying in Sun Tzu's *Art of War* that I'm particularly fond of: "If you know the enemy and know yourself, you need not fear the result of a hundred battles." I constantly reflect on these words when seeking solutions to management problems. I believe that if Toray can understand and respect the culture of the country or region in which it operates, it will be able to fully understand the logic and philosophy that shape the market economy, policies and other factors, so that globalization can follow naturally.

In your career with Toray, how have you personally built bridges between cultures and fostered inspirational local bonds to drive innovation and manufacturing excellence?

As a high-tech company engaged in the manufacture of advanced materials, Toray has been actively pursuing business opportunities in China since the 1990s. At that time, China had not yet joined the World Trade Organization (WTO). As the head of our textile operations in Nantong, I realized that the level of technology at midstream and downstream manufacturers was still relatively low, and that Toray did not fully understand the needs of Chinese customers. Convinced that this was the key to success, I proposed a number of business reforms to make us more competitive, including greater use of locally produced materials and the streamlining of logistics. To better understand the business environment in China, I tried to get senior management to engage more actively with the Chinese market. On one occasion, I drove my Japanese staff to an employee's country home far from our workplace where we ate dumplings and talked with the employee's family to gain a deeper understanding of what Chinese consumers think.

By gathering raw information through many channels, I've been able to get top management to better understand my proposals, while strengthening ties with Chinese customers has allowed us to achieve a better balance between the mix of standard, mass-produced products and differentiated, high value-added products that we offer. Today, Toray Nantong's textile business is stronger than ever.

Please discuss your unique cultural take on leveraging ancient Chinese philosophy to drive a 21st-century corporate mission. What are the lessons global businesspeople can learn from The Analects of Confucius or Records of the Three Kingdoms?

China is rich in schools of thought and philosophies. We study the *Records of the Three Kingdoms* and *The Water Margin* in elementary school, and *The Four Books and Five Classics* and *The Analects* in junior high and high school. And we incorporate the five cardinal Confucian virtues of benevolence, righteousness, propriety, wisdom and fidelity into our work and lives. These values have influenced my understanding of what it means to be a member of society and of the Toray organization.

People in China often say that *The Analects* of Confucius enable you to rule the world because they contain countless management philosophies. The core philosophy of *The Analects* is harmony, which in terms of corporate management I understand to mean co-operation and integration with all stakeholders. The *Records of the Three Kingdoms* is another work that contains sound management advice. In a homogeneous market environment, I think the key to gaining market share is to grasp the needs and psychology of the target group and provide differentiated products that other companies cannot imitate.

If we adapt these ancient precepts to today's business world we can "strategize in our tent to win battles a thousand leagues away."

Cultural difference isn't only about countries; it can also mean different perspectives between business strategists and researchers, or management and the factory floor. How do you deploy your bridge-building vision to foster common purpose among different layers of the organization?

I believe that diversity is what makes things interesting and that a company's development can be accelerated by people who come up with outstanding ideas. I also believe that making good use of the different personalities in a hierarchy can be a driving force for the development of a company and for individual growth. Based on this thinking, and with a good understanding of Japanese companies and business in China and Japan, I have been able to reliably serve as a bridge between Japanese and Chinese people by valuing three principles. First, understanding and respect: seeing things from the perspective of others, fulfilling one's own role, and building mutual trust and co-operation. Second, knowledge of others: making the most of their strengths, boldly entrusting them with tasks, and providing strong backup. Finally, sharing and promoting: communicating the company's vision and strategy correctly and sharing goals. These principles create an atmosphere where people and the organization are full of vitality and enthusiasm.

I was born in Xi'an, where the Silk Road begins—the historical trade route connecting East and West, where both cultures were strongly connected and influenced one another, playing an important role in the development of the global economy and social systems. As such, this perspective is engrained in my DNA.

How does your personal experience developing the RO-110 water membrane system influence your vision of corporate management—and your overall commitment to building teams that forge transformative sustainability solutions?

Looking ahead to the sort of world the Toray Group wants to see in 2050, one of the greatest challenges is to ensure that everyone has access to safe water and air, and that the natural environment around the world is restored. That's why we're promoting Green Innovation (GR) business activities across the company.

As the lead inventor of the RO-110 system, I created a tool that enables end users to maintain stable reverse-osmosis membrane operations by employing a unique diagnostic method and Big Data processing to monitor RO membrane use and predict operational errors in advance. With the launch of this system, we've been able to establish a complete after-sales service network for RO membranes throughout China, and can advise customers on economical treatment methods, which has strengthened the bonds of trust we have with them.

As one of the world's leading manufacturers of water treatment membranes, Toray provides customers with more comprehensive and efficient solutions. We also analyze operational data from all customer sites to ensure intelligent system management and optimal membrane performance, delivering high added value to our customers that enhances the competitiveness of our brand.

Having led the development of the RO-110, I strongly believe that close collaboration between salespeople and the R&D team is necessary for the creation of any product or service. By enabling sales staff to communicate user requests to the R&D team in real time, research and development of differentiated products can proceed smoothly and new business opportunities can be realized.

Can you share an anecdote of a creative or commercial breakthrough made possible through an approach of building cultural bridges?

In 1994, Toray secured an industrial site of one million square meters in the Economic and Technological Development Zone of Nantong City, Jiangsu Province, China, to prepare for the establishment of certain of our subsidiaries and the start of full-scale integrated textile products polymerization, yarn making, weaving and dyeing. But when China joined the WTO in 2001, transportation infrastructure in regional cities was still rather underdeveloped. Supervisory personnel often had to travel back and forth between Japan and Nantong to oversee construction of our project and they had to go through Shanghai, which was inconvenient. Toray's then-president, Katsunosuke Maeda, suggested we call for the opening of direct flights between Nantong and Japan. Acting on this, I worked directly with relevant people inside and outside the company to call on local and central governments and encourage them to improve infrastructure access. As a result, there are now several flights a week between Nantong and Nagoya and Osaka. I believe that much of the region's subsequent economic development owes a great deal to the foresight of Toray's management at that time.

How have you been able to deploy your principles of respect for difference, loyalty and sincerity, and motivation for innovation to attract the best Chinese talent to Toray?

Toray currently has more than 46,000 employees, of which about 29,000 are overseas. As a truly global company, Toray respects the cultures and social norms of the countries and regions in which it operates. One of the basic management policies outlined in our corporate philosophy is to provide meaningful work and fair opportunities. In this way, Toray ensures that employees are loyal and faithful to each other, and able to communicate freely, which in turn enables them to build good relationships and work efficiently. I believe that creating such an environment is one of the key reasons we are able to attract so many excellent Chinese employees.

What makes China such an important market, both from a business point of view and the broader perspective of Toray's mission to innovate for the betterment of humanity in an age of COVID-19 and climate change?

Toray's business development in China started with the establishment of a trading company in Hong Kong in 1955, and as of March 2021 it has invested approximately 20.1 billion RMB in facilities in China, and has 38 consolidated subsidiaries employing close to 10,000 people. This is comparable to the number of employees at Toray's headquarters in Japan.

The Chinese economy is the second-largest in the world, and despite the impact of COVID-19 its GDP is expected to grow by 8% in 2021. It is an extremely important market for Toray, and the country's rising standard of living and the sophistication of its industrial development coincide with the goals of our Green Innovation and Life Innovation business strategies. We will continue to provide products and services that offer new value and high quality, while at the same time actively working to improve the global environment. Since the start of the pandemic, China has struck a balance between measures to control the virus and the resumption of economic activities. Toray's protective clothing, nonwoven fabrics for masks and hygienic air filtration, and materials for IT equipment have all played a role in helping China achieve that balance.

Please discuss the future of Toray Industries (China) Co., Ltd. (TCH), especially in terms of exciting innovations and how your unique approach to globally-minded, locally-focused management will contribute to ongoing success.

TCH conducts business in China worth more than 400 billion yen a year. We remain fully committed to expanding this business. Looking 10, 20, and even 30 years ahead, it's clear that society will not be able to develop sustainably unless problems such as environmental issues, declining birth rates and aging populations, and the increasing sophistication of medical care are solved. At the same time, China is leading the world in the development of 5G and AI—technologies necessary for the betterment of human society, and in which dramatic progress will be possible if appropriate new materials can be made available. TCH's mission is to "produce in the right place and sell in the right place" the materials necessary for the development of the Chinese economy. We are already using materials informatics (MI) and AI to research and develop electronic information materials that take into account the various characteristics and structures that those new materials will be required to offer. Projects related to 5G and AI materials are being steadily promoted to expand our business.

On a personal level, I will continue to place the highest priority on the realization of Toray's corporate philosophy, and do my utmost to contribute to the further growth of our business in China by strengthening internal communication and deepening external collaboration through the application of the philosophies I've described here today.

WSJ CUSTOM CONTENT
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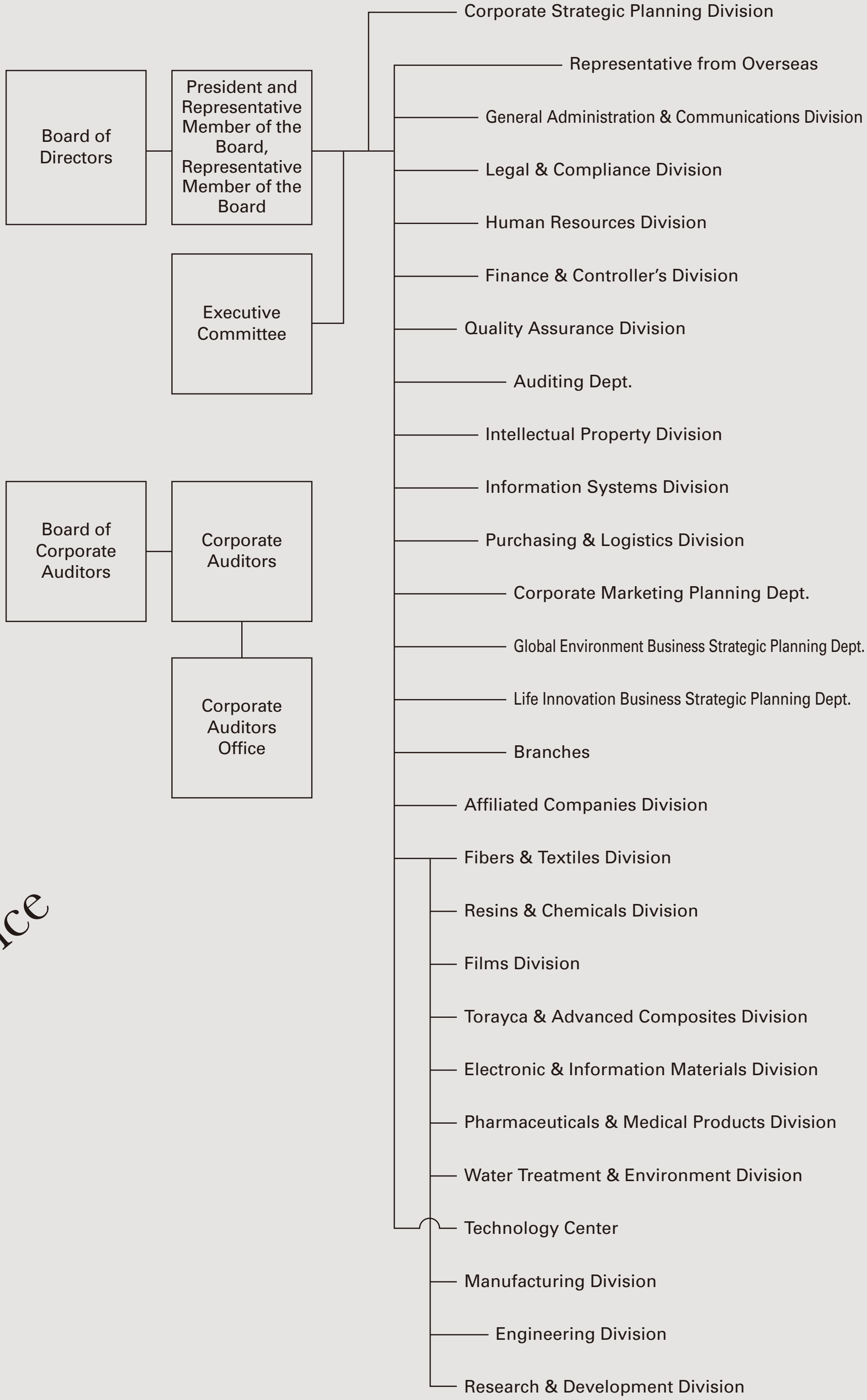
https://partners.wsj.com/toray/essential-materials/

Corporate Governance

Organization

(As of July 1, 2021)



Members of the Board and Corporate Auditors

(As of June 22, 2021)

Akihiro Nikkaku
President and
Representative Member of the Board

Koichi Abe
Representative
Member of the Board

Mitsuo Ohya
Representative
Member of the Board

Satoru Hagiwara
Member of the Board

Kazuyuki Adachi
Member of the Board

Minoru Yoshinaga
Member of the Board

Yasuo Suga
Member of the Board

Masahiko Okamoto
Member of the Board

Kunio Ito
Member of the Board
(Outside)

Ryoji Noyori
Member of the Board
(Outside)

Susumu Kaminaga
Member of the Board
(Outside)

Kazuo Futagawa
Member of the Board
(Outside)

Toru Fukasawa
Corporate Auditor

Yoshiyuki Tanaka
Corporate Auditor

Toshio Nagai
Corporate Auditor
(Outside)

Kazuya Jono
Corporate Auditor
(Outside)

Hiroyuki Kumasaka
Corporate Auditor
(Outside)

Management Team

(As of June 22, 2021)

Members of the Board

President and Representative Member of the Board

Akihiro Nikkaku

1973 Joined the Company
2001 General Manager, Engineering Division; General Manager, Second Engineering Dept.
2002 Vice President (Member of the Board)
2004 Senior Vice President (Member of the Board)
2006 Senior Vice President (Member of the Board & Member of the Executive Committee)
2007 Executive Vice President and Representative Member of the Board
2010 President and Representative Member of the Board
2020 President and Representative Member of the Board, Chief Executive Officer, Chief Operating Officer (incumbent)

Representative Member of the Board

Koichi Abe

1977 Joined the Company
2004 General Manager, Aichi Plant
2005 Vice President (Member of the Board)
2009 Senior Vice President (Member of the Board)
2011 Senior Vice President (Member of the Board & Member of the Executive Committee)
2013 Senior Vice President and Representative Member of the Board
2014 Executive Vice President and Representative Member of the Board
2020 Executive Vice President (Representative Member of the Board) (incumbent)

Representative Member of the Board

Mitsuo Ohya

1980 Joined the Company
2009 General Manager, Industrial & Textile Fibers Division
2012 Vice President (Member of the Board)
2014 Retired from Vice President (Member of the Board)
President and Representative Member of the Board, Toray International, Inc.
2016 Senior Vice President (Member of the Board & Member of the Executive Committee)
2020 Executive Vice President (Representative Member of the Board) (incumbent)

Member of the Board

Satoru Hagiwara

1981 Joined the Company
2012 General Manager, Industrial Films Division; Chairman, Toray Films Europe S.A.S.; Chairman, Toray Plastics Europe S.A.
2012 Vice President (Member of the Board)
2014 Senior Vice President (Member of the Board)
2017 President and Representative Member of the Board, Toray Advanced Film Co., Ltd.
2020 Senior Vice President (Member of the Board) (incumbent)

Member of the Board

Kazuyuki Adachi

1980 Joined the Company
2017 Director, Toray Industries (Thailand) Co., Ltd.; President, Luckytex (Thailand) Public Company Limited; Chairman, Thai Toray Textile Mills Public Company Limited
2018 Senior Vice President (Member of the Board)
2020 Senior Vice President (Member of the Board) (incumbent)

Member of the Board

Minoru Yoshinaga

1979 Joined the Company
2008 General Manager, Manufacturing Division (Torayca & Prepreg Manufacturing, ACM Technology Dept.)
2011 Vice President (Member of the Board)
2015 Chief Executive Representative for the Americas; Chief Representative for the Americas; Chairman, Toray Holding (U.S.A.), Inc.; President, Toray Industries (America), Inc.; General Manager, Torayca & Advanced Technology and Manufacturing for the Americas
2019 General Manager, Torayca & Advanced Composites Division (Carbon Fiber Business Strategy)
2020 Senior Vice President (Member of the Board) (incumbent)

Member of the Board

Yasuo Suga

1980 Joined the Company
2013 Chairman and Representative Director, Toray Carbon Magic Co., Ltd.
2013 Vice President (Member of the Board)
2016 Senior Vice President (Member of the Board)
2019 Retired from Senior Vice President (Member of the Board) Chief Representative for Europe; President, Toray Industries Europe GmbH
2020 Senior Vice President
2021 Senior Vice President, Corporate Strategic Planning Division (incumbent)

Member of the Board

Masahiko Okamoto

1986 Joined the Company
2009 Vice President (Member of the Board), Toray Industries (Malaysia) Sdn. Berhad; Vice President (Member of the Board), Penfabric Sdn. Berhad; General Manager on Special Assignment, Finance & Controller's Division (Finance & Controller's Chief for Malaysia)
2011 General Manager on Special Assignment, International Division
2013 General Manager, Finance Dept.
2017 General Manager, Controller's Dept.
2020 Corporate Vice President (Member of the Board) (incumbent)

Member of the Board (Outside)

Kunio Ito

2002 Dean, Graduate School of Commerce and Management and Faculty of Commerce and Management, Hitotsubashi University
2004 Executive Vice President and Board Member, Hitotsubashi University
2013 Director, Kobayashi Pharmaceutical Co., Ltd. (incumbent)
2014 Director, Seven & i Holdings Co., Ltd. (incumbent)
Vice President (Member of the Board) of the Company
2018 Research Professor, Department of Business Administration, Hitotsubashi University Business School (incumbent)
2020 Member of the Board of the Company (incumbent)

Member of the Board (Outside)

Ryoji Noyori

1997 Dean, Graduate School of Science and School of Science, Nagoya University
2001 Director, TAKASAGO INTERNATIONAL CORPORATION (incumbent)
2003 President, RIKEN
2004 Special Professor, Nagoya University (incumbent)
2015 Director-General, Center for Research and Development Strategy, Japan Science and Technology Agency (incumbent)
Vice President (Member of the Board) of the Company
2020 Member of the Board of the Company (incumbent)

Member of the Board (Outside)

Susumu Kaminaga

1969 Joined Sumitomo Precision Products CO., LTD.
1995 Representative Director, Surface Technology Systems Ltd.
2000 Director, Sumitomo Precision Products CO., LTD.
2002 Managing Director, Sumitomo Precision Products CO., LTD.
2004 President, Sumitomo Precision Products CO., LTD.
2012 Senior Advisor, Sumitomo Precision Products CO., LTD.; Representative Director, SK Global Advisers Co., Ltd. (incumbent)
2012 Director, DEFTA Capital (incumbent)
2016 Outside Director, Olympus Corporation (incumbent)
2020 Member of the Board of the Company (incumbent)

Member of the Board (Outside)

Kazuo Futagawa

1980 Joined the Ministry of Health and Welfare
2012 Director-General of Minister's Secretariat, the Ministry of Health, Labour and Welfare
2014 Director-General, Health Policy Bureau, the Ministry of Health, Labour and Welfare
2015 Vice-Minister of Health, Labour and Welfare
2017 Retired from Vice-Minister of Health, Labour and Welfare
2018 Special Advisor on Policy, Social Security Reform Office, Cabinet Secretariat
2020 Member of the Board of the Company (incumbent)

Corporate Auditors

Corporate Auditor

Toru Fukasawa

1978 Joined the Company
2003 Executive Officer, Chori Co., Ltd.
2005 General Manager on Special Assignment, Corporate Strategic Planning Division; General Manager on Special Assignment, Investor Relations Dept.
2006 General Manager, Controller's Dept.
2010 Chief Executive Representative for America; Chief Representative for America; Chairman, Toray Holding (U.S.A.), Inc.; President, Toray Industries (America), Inc.
2012 Vice President (Member of the Board)
2015 Senior Vice President (Member of the Board)
2018 Senior Vice President (Member of the Board and Member of the Executive Committee)
2020 Corporate Auditor (incumbent)

Corporate Auditor

Yoshiyuki Tanaka

1984 Joined the Company
2006 Executive Vice President, Toray Fluorofibers (America), Inc.
2014 General Manager, Okazaki Plant
2015 Vice President (Member of the Board)
2018 General Manager, Manufacturing Division (Fibers & Textiles Technology and Manufacturing)
2020 President and Representative Member of the Board, Toray Opelontex Co., Ltd.
2021 Corporate Auditor (incumbent)

Outside Corporate Auditor

Toshio Nagai

2008 Chief Research Officer, Supreme Court
2012 President, Hiroshima High Court
2013 President, Osaka High Court
2014 Mandatorily retired
Registered as a lawyer (The Dai-ichi Tokyo Bar Association)
Takusyou Sogo Law Office (incumbent)
2015 Outside Corporate Auditor of the Company (incumbent)
2016 Outside Corporate Auditor, SUMITOMO CORPORATION (incumbent)

Outside Corporate Auditor

Kazuya Jono

1977 Joined Mitsui Bank, Limited
2005 Executive Officer, Sumitomo Mitsui Banking Corporation
2007 Managing Executive Officer, Sumitomo Mitsui Banking Corporation
2010 Senior Managing Director, Sumitomo Mitsui Banking Corporation
2012 Retired
Representative Director, President & CEO, Citibank Japan Ltd.
2014 Retired
2015 Outside Corporate Auditor of the Company (incumbent)
2019 Outside Corporate Auditor, Brother Industries (incumbent)

Outside Corporate Auditor

Hiroyuki Kumasaka

1973 Joined FUSO Audit Corporation (later MISUZU Audit Corporation)
2007 Chairs of the Board of Council; Head, Tokyo Office, the Audit Corporation
Representative Liquidator, the Audit Corporation
2008 Outside Corporate Auditor, MATSUDA SANGYO CO., LTD.
2011 External Corporate Auditor of the Board, Japan Airlines Co., Ltd.
2015 Outside Audit and Supervisory Committee Member, MATSUDA SANGYO CO., LTD.
2019 Outside Corporate Auditor of the Company (incumbent)

President, Vice Presidents, and Executive Fellow

President
Akihiro Nikkaku

President,
Chief Executive Officer,
Chief Operating Officer

Executive Vice President
Koichi Abe

Executive Vice President,
Intellectual Property Division, Global Environment Business Strategic Planning Dept., and Life Innovation Business Strategic Planning Dept.; Technology Center; Toray Human Resources Development Center

Executive Vice President
Mitsuo Ohya

Executive Vice President,
Legal & Compliance Division (Security Trade Administration Dept.); Marketing and Sales; Corporate Marketing Planning Dept., and branches; Affiliated Companies Division

Senior Vice President
Hiroshi Otani

Senior Vice President,
Water Treatment & Environment Division; Chairman, Toray Asia Pte. Ltd.; Chairman, Toray Membrane (Foshan) Co., Ltd.

Senior Vice President
Satoru Hagiwara

Senior Vice President,
Films Division; Chairman, Toray Films Europe S.A.S.

Senior Vice President
Kazuyuki Adachi

Senior Vice President,
Purchasing & Logistics Division; Manufacturing Division

Senior Vice President
Minoru Yoshinaga

Senior Vice President,
Torayca & Advanced Composites Division; Chairman, Toray Carbon Fibers Europe S.A.

Senior Vice President
Yasuo Suga

Senior Vice President,
Corporate Strategic Planning Division; Quality Assurance Division; HS Business Development Dept.

Senior Vice President
Kazuhiko Shuto

Senior Vice President,
Chief Representative for China; Chairman and President, Toray Industries (China) Co., Ltd.; Chairman,Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.

Senior Vice President
Hirofumi Kobayashi

Senior Vice President,
Pharmaceuticals & Medical Products Division; Pharmaceuticals & Medical Products Division (Technology & Manufacturing)

Senior Vice President
Tetsuya Tsunekawa

Senior Vice President,
Chief Representative for Europe; President, Toray Industries Europe GmbH

Senior Vice President
Shigeki Taniguchi

Senior Vice President,
Human Resources Division

Senior Vice President
Kenichiro Miki

Senior Vice President,
Fibers & Textiles Division; Osaka Head Office

Corporate Vice President
Satoru Nishino

Corporate Vice President,
Films Technology & Manufacturing Division

Corporate Vice President
Hideki Hirabayashi

Corporate Vice President,
CSR & Investor Relations; Legal & Compliance Division; General Administration & Communications Division; Tokyo Head Office

Corporate Vice President
Hiroshi Enomoto

Corporate Vice President,
Electronic & Information Materials Division

Corporate Vice President
Nobuyuki Inohara

Corporate Vice President, Resins & Chemicals Division

Corporate Vice President
Hajime Ishii

Corporate Vice President, Fibers & Textiles Division; Global SCM Division

Corporate Vice President
Hiroyuki Matsuda

Corporate Vice President, Information Systems Division; Engineering Division

Corporate Vice President
Masahiko Okamoto

Corporate Vice President,
Electronic & Information Materials Division; Display & Graphic Materials Division

Corporate Vice President
Yuichiro Iguchi

Corporate Vice President,
Research & Development Division; Basic Research Center

Vice President
Young Kwan Lee

Vice President,
Chief Representative for the Republic of Korea; President, Toray Industries Korea Inc.; Chairman, Toray Advanced Materials Korea Inc.

Vice President
Teh Hock Soon

Vice President,
Chief Representative for Malaysia; President,Toray Industries (Malaysia) Sdn. Berhad; Chairman, Penfabric Sdn. Berhad; Chairman, Toray Malaysia Systems Solution Sdn. Bhd.; Chairman, P.T. Century Textile Industry Tbk

Vice President
Yoshio Yamamoto

Vice President,
Legal & Compliance Division; Compliance Dept.

Vice President
Kei Shimaji

Vice President,
Chief Representative for Americas; President, Toray Industries (America), Inc.

Vice President
Osamu Tsuneki

Vice President,
Purchasing & Logistics Division

Vice President
Kazuyuki Yakushiji

Vice President,
Composite Materials Technology & Manufacturing Division

Vice President
Yasuo Fukuda

Vice President,
Fibers & Textiles Technology & Manufacturing Division

Vice President
Masahide Matsumura

Vice President,
Chief Representative for Thailand; President, Toray Industries (Thailand) Co., Ltd.; Chairman, Toray Textiles (Thailand) Public Company Limited

Executive Fellow

Executive Fellow
Akihiko Kitano

Automotive & Aircraft Center;
ACM Technology Division

Roundtable Discussion of Outside Directors

Towards Enhancing Toray's Corporate Value

Kunio Ito
Outside Director

Ryoji Noyori
Outside Director

Susumu Kaminaga
Outside Director

Kazuo Futagawa
Outside Director

In fiscal 2020, Toray reduced the number of Board members from 19 to 12, while increasing the number of outside directors from 2 to 4. The Company also expanded the composition of the Governance Committee, which, chaired by an outside director, serves as an advisory board to the Board of Directors and acts as the nomination and remuneration committee, to 3 internal members of the Board and 4 outside directors. In addition, the Company introduced an executive officer system to make management execution more flexible and efficient. In this roundtable discussion, the 4 outside directors exchanged their frank opinions on the new governance structure, Toray's issues, and their expectations for the Company.

Ito **How would you like to be involved and what role would you like to play in the Board of Directors and Governance Committee in which you participate as an outside director?**

Noyori With the introduction of the executive officer system, I think the roles of the Board of Directors and the Executive Committee have become clearer. Companies must properly manage their businesses in accordance with their respective philosophies and as public institutions trusted by society. Directors are responsible for weighing the appropriateness of various subjects for discussion from this perspective. In addition, I think it is important to discuss medium- and long-term direction and issues. I believe that outside directors, in particular, must not only respond promptly to individual situations from an outside perspective, but also express their opinions more objectively and more fairly.

Kaminaga As a member of the Board of Directors, I believe that my fundamental role is to contribute to the realization of Toray's long-term corporate vision as outlined in the Toray Group Sustainability Vision, which sets out the world as envisioned by the Toray Group in 2050, and TORAY VISION 2030 (VISION 2030), which I see as an extension of all that Toray has cultivated over the years since its founding. With this in mind, I strive to monitor and provide advice from the perspective of how each operational issue is positioned in the Company as a whole, and how it demonstrates comprehensive capabilities across the entire Company, including horizontal expansion.

Within the Governance Committee, I would like to set out issues to be discussed on all governance matters and raise them to the Board of Directors. In addition, regarding its capacity as the nomination and remuneration committee, I intend to provide advice on how we should utilize core personnel for business promotion and on incentive and compensation systems from my business experience globally.

Futagawa Besides the essential role of deciding what is required by law and the Articles of Incorporation, I believe that the Board of Directors must also discuss Toray's overall direction. As a newcomer to the Company, I actively attended not only Board of Directors meetings, but also Vice Presidents meetings, as well as other meetings, including research presentations, that I was invited to, in order to gain a better understanding of the Company. I think I probably qualify for a perfect attendance award (laughs). As I had been working as an office worker for a long time in the hierarchy of the Ministry of Health, Labour and Welfare, I understand people tend to make comments gauging their bosses' feelings. Outside directors, on the other hand, are in a position to speak freely and independently of the organization, and I believe that discussions are becoming more active by raising issues from that perspective. I also think that the Governance Committee system is one that respects diverse ways of thinking, which I intend to bear in mind in my monitoring role.

Ito I attend Board of Directors meetings with the motto "read the context, not the mood" about agenda items. I know that it takes a long time to put the agenda together. But my feeling is that if I try to sense the mood of the people in charge and think too much about their efforts, I will be unable to say anything, so I steer clear of trying to "read the mood." That is number one.

Number two is to make judgements on a medium- to long-term basis. As those who are engaged in practical business submit items to pass, sometimes the medium- to long-term time perspective is overlooked. As an outsider, I'm very aware of this. However, Toray is a company where "long-term continuity" has taken root, so we may not have to worry too much about it. Number three, I am conscious of whether or not the Company's activities and the decisions made by the Board of Directors can be explained to stakeholders, including shareholders and other investors, and whether or not they have been sorted and fine-tuned to an explainable level.

As chair of the Governance Committee, I am very conscious of making sure that governance is not only a question of form but also has substance. Substance is about action; it is not something that can be written into the rules of the Corporate Governance Code. There is no rule book to guide us, that means, how do we improve the quality and effectiveness of Toray's governance? In this respect, I think there have been great improvements. One example is the succession plan, which is now being discussed along with the names of candidates. I believe this is a reflection of our collective efforts to make the Governance Committee work.

Ito How do you apply your expertise and experience in the Board of Directors and Governance Committee?

Noyori My focus has been on education and research for a long time, and I have been involved in science and technology policy, keenly interested in the development of industrial technology. I do not have any knowledge of business management. But we have people with vast experience and knowledge in this field here, and I see my role as offering a different perspective. In the first place, I understand that the Board of Directors is a public-spirited organization consisting of people in leadership positions with broad management skills and high-level expertise. The CEO is then required to comprehensively synthesize this wisdom and make the final management decision. Under these circumstances, we cannot expect any individual to be omniscient Rather, each individual director must recognize issues from their different perspectives, provide diverse opinions, and contribute to the overall judgment of the CEO. I hope that I can contribute to this.

Kaminaga I have been in positions involving corporate management from a medium- to long-term perspective, gaining experience in global business development, from R&D to commercialization, and then to industrialization. Against that backdrop, I think I can say my skills include technology, business management, and global experience. As Mr. Ito has mentioned, Toray is engaging in unwavering management from a medium- to long-term perspective. However, if the medium- to long-term is the big picture, getting there also hinges on the details and the here and now. Even if Toray has a medium-to long-term perspective, what must be done today and tomorrow should not be neglected and postponed. In doing so, any medium- to long-term vision will be nothing more than a pie in the sky. From what I have seen over the past year, I do not think Toray has any concerns here, but I will continue to monitor it firmly based on my own experience.

Futagawa I have been involved in public administration and have learned the importance of disclosing negative information such as scandals to the public as soon as possible to show how they are being dealt with. I am ashamed to say that I had an experience where the situation got worse because of a delay in the disclosure of information. Thinking of it as an example of how not to behave, I would like to help the Company in the area of information disclosure and compliance.

Ito I have continued to make frequent comments based on my expertise in mainly governance, business administration, accounting, and ESG theory. From that standpoint, I would like Board members to have a strong awareness of the cost of capital. However, just having that awareness is not enough; I would like to participate in bringing this awareness into the Board's deliberations and up to the decision-making process. As a result, for example, the term cost of capital was introduced upon the discussion of the reduction of strategic holdings. During the past year, one issue that came up for discussion was that of listed subsidiaries. However, this issue was properly discussed, and the content of the disclosure was selected as a best practice by the Tokyo Stock Exchange.

From an ESG perspective, I have been paying particular attention to the Task Force on Climate-related Financial Disclosures (TCFD). Amid growing interest in climate change issues globally, I would like to discuss TCFD at Board meetings. As digital transformation (DX) is also gaining traction, I hope to encourage efforts to raise Toray's DX level even higher.

Ito **In fiscal 2020, the number of members of the Board of Directors was reduced and its composition was altered. What changes do you feel this has brought about?**

Noyori With the introduction of the executive officer system, I think the agenda of Board of Directors meetings has become much more organized. On the other hand, I think we should probably have discussions on Toray's long-term vision and future plans for the post-COVID-19 era. There are people of all ages working at Toray, and I see this as our duty to the younger generation.

Ito The reduction in the size of the Board of Directors and the increase in the number of outside directors did not happen overnight, but were the result of the sincere efforts of President Nikkaku and the members of the Governance Committee to address related issues. The smaller scale has made discussions easier. The number of outside directors has increased, but their comments have actually become more frequent, and I feel that outside corporate auditors have also become more active in contributing comments. What I realized very keenly is that while we may say that governance is not about form but about substance, the changes in Toray's Board of Directors show that improving the form enhances the substance.

In addition to deliberations and reports, the Governance Committee discussed the inclusion of Discussion Items, which were promptly agreed to by

President Nikkaku and others.

Rather than just throwing out a proposal like an M&A deal and saying, "let's discuss it and decide," we should hold discussions on agenda items in advance that will be decided later. I think this has really improved the level of the Board of Directors.

Kaminaga I cannot say how things have changed as I did not know how things were last fiscal year. However, I believe I had some understanding of Toray's business from the outside, and I attended all the meetings where participation was voluntary, as did Mr. Futagawa, to confirm my understanding. As a result, my impression was that the Vice Presidents Meetings functioned very well, and also that cross-functional capabilities such as R&D and marketing operated admirably.

To be honest, however, and as Mr. Noyori mentioned, I feel that the Board of Directors has not yet fully discussed Toray's future. I believe this to be an agenda item that should be taken up and discussed at Board of Directors' meetings. I think it is important for the Governance Committee to sort out those issues and bring them to the Board for discussion. The year 2030, which is the target year of VISION 2030, is just around the corner, and I think it is time for us to think more about what exactly we should do.

I also think that the Toray Group Sustainability Vision, envisioned by Toray Group in 2050, is also not that far off considering the theme of the vision. I am raising an issue, rather than stating the rate of change from last fiscal year.

Ito It is certainly hard to discuss things that are not on the agenda at Board meetings. I think it is very important for the effectiveness of the Board of Directors to deliberate on matters including the agenda as much as possible at the Governance Committee. Also, while resolutions need to be decided at the time they arise, Discussion Items do not. There is a lot of flexibility in agenda setting and I would like to see us make better use of the Discussion Items section during Board meetings.

Ito **Moving on, what are your thoughts on Toray's value creation?**

Futagawa It is vital to acquire earnings power to meet the expectations of shareholders and to properly return profits. At the same time, I believe that we cannot create lasting value unless we manage our business from a medium- to long-term perspective while taking into consideration our various stakeholders. In this respect, Toray has an excellent corporate philosophy: of "contributing to society through the creation of new value with innovative ideas, technologies and products." I highly appreciate this philosophy as a corporate culture that motivates all employees to create new value.

Kaminaga Toray has many businesses and its strengths are disseminated in various ways, but they are all derived from its core technologies, and I believe that is its true strength. From what I have seen over the past year, I believe that Toray has established an excellent system to demonstrate its comprehensive strengths through technological fusion. Corporate management means to develop strengths and reduce weaknesses. With that in mind, I would like to see the Company dig deeper into its strengths and further expand them to create new value.

Noyori It is essential that Toray's technological capabilities, which are the lifeline of the Company, remain at the top level globally. All employees of Toray, operating under the banner of leading-edge technologies, must commit themselves to this task. Industrial technologies are destined to continue the process of evolution and transformation through scientific progress. There is no such thing as maintaining the status quo. The fact that Toray has earned a deep trust from society as a technology-based materials company is due to the efforts of successive generations of technology leaders, and the combination of a "pursuit of the ultimate limits" attitude and technological fusion. Toray has identified the Green Innovation (GR) and Life Innovation (LI) businesses as growth areas for the future, and I think this is the right direction. In addition, the Company has accumulated a wide range of technologies and knowledge that will enable it to grow in the medium- and long-term, and I feel that it is maintaining a level of competence that is unrivaled in the world. This is a great accomplishment, and I hope that the Company will continue to develop new technologies that contribute to the world without becoming overconfident.

Ito Toray is a company that specializes in materials and is also very focused on value-added products. It is also a treasure trove of new technologies. I think that "long-term continuity" is also a key feature and strength. The Company also has outstanding materials from the perspective of environmental issues and has affinity with the SDGs. Nowadays, the world is focusing on "ambidextrous management" because it is essential to not only deepen existing technologies but also to explore opportunities for new technologies. I believe that Toray is doing this very well.

However, I am not sure that the Company has done enough to get this across to investors, it seems to be a bit of a waste. Ambidextrous management is a difficult thing to pull off. Toray has been able to monetize its GR and LI businesses, and I hope the Company can communicate more about them in the dialogue with investors.

Ito **Next, what are your views on the risks and issues facing Toray?**

Noyori From the standpoint of risk, while it is easy to become complacent in light of past successes and fall into the trap of merely continuing existing businesses, I think this is an issue that is common to all manufacturing industries in Japan. Again, technologies continue to advance. With the rise of companies from Asia, Japanese companies, including Toray, will not be able to maintain global competitiveness if they are on the defensive. Toray's businesses span the large and small, and have a wide variety of products, but I think there needs to be courage to exit those areas where the Company is not in the top five in the world. And of course, new winning products need to be created.

I believe that in the future, the emphasis will be on functionality rather than the structural properties of materials. We cannot break away from mass production and mass consumption by simply producing versatile structures such as fibers and plastics from petroleum raw materials. Looking to the future, we need materials that contribute to a circular economy, such as those that will lead to a fundamental reduction of plastic waste. At the same time, the physical functions required for electronic materials and the biological functions required for pharmaceutical materials are becoming evermore sophisticated, and highly useful materials that provide these functions are becoming more and more necessary. After all, we cannot create value without new materials. I believe that the world has very high expectations for Toray. I think the idea that materials have the power to fundamentally change society is absolutely true. To meet such expectations, I would like to see all of Toray's people embrace "inner innovation" and focus on inventing innovative materials with a view to the future, as the Company did with carbon fiber in the past. To this end, we need the spirit of a researcher, and I would ask for patience and tolerance on the part of management.

Kaminaga As Mr. Noyori aptly pointed out, I am keenly aware that the "functional" aspects of materials is becoming more important than their "structural" properties. In past business activities, I have been engaged in the microfabrication of new materials. Now, the Company is facing a situation where it needs to think of processing that enhances the functionality of the material itself, rather than just saying, "we invented a new material, please process it." For example, the brightness of LEDs varies considerably depending on how the material is processed as the material itself has its innate properties. This makes us think how we can bring materials to the fore, which is a golden opportunity, or conversely poses a risk if we make one false step.

Also, the business environment is changing at an accelerated pace. To be honest, as we are coexisting with COVID-19, anything can happen in this world. That is why I have often said that companies need to have a medium- to long-term vision, and actions need to be taken swiftly. I have seen Toray facing the COVID-19 pandemic, and I think it has excellent risk tolerance. However, I believe that we should make ourselves more resilient by being prepared for the unexpected to happen again. Also, given the diverse nature of the businesses, I am a little worried about sectionalism. I feel that everyone is very conscious about avoiding this. But I think it can happen before you know it. So, I think this is one of the points that I should monitor as an outside director. One of the issues is that there is a limit to what Toray alone can do, even if it had materials with the power to change society. So when it is better to work with a partner, I think the question is how far we can proceed and still successfully secure commercial application.

Futagawa With carbon fiber, Toray has reaped the fruits of a sustained commitment over 50 years while never giving up. That represents nothing but long-term continuity as most companies gave up halfway through. However, we must not expect the same in all areas of our research. If we do that, the risk of research items not bearing fruit is incalculable. It is important for us to think about a risk-taking approach appropriate for our size, and seek ways to reduce risks in every way possible, while maintaining our long-term continuity.

Meanwhile over the past year, I have had the opportunity to see a variety of research presentations, ranging from laboratory-level talks about how good a product is, to discussions about something that could be ready for commercialization in two to three years. I have been excited and impressed. By the same token, it would be a danger signal if there were only a handful of laboratory-level presentations. In this regard, I think one of the issues and risks is whether we can maintain the motivation of employees who are trying to create something with their unfettered thought.

Ito As I mentioned earlier, I think there is still room for improvement in such areas as the frequency of dialogue with investors. Even though we have had very positive feedback, is it reflected in our corporate value? Frankly, I think there is a gap between the intrinsic value of Toray and the share price as set in the capital markets. I do not think Toray has fallen into a conglomerate discount because of its wide range of businesses, but I think there is room for improvement in ensuring that investors really understand Toray's potential. Even if there is a little negative talk about Toray in the market, investors who believe that Toray has outstanding capabilities will not sell the Company's shares, and even if the stock price drops temporarily, it will soon bounce back. Dialogue is important to increase such supportive investors.

Another issue I see is the need to think more about our strategies regarding the balance between prices and added value. In addition, as is often said, strengths sometimes become risks. How do we deal with the fact that what we identified as value-added products see their potential erode in the face of mass production by price-competitive Chinese companies? Also, I would like the Board of Directors to discuss how to allocate capital across the Company, and in particular how to position the pharmaceutical and medical device fields in the overall business portfolio. Since Toray is engaged in such a wide range of businesses, insufficient resources tend to be allocated to each. How can we apply selection and focus in this context? While focusing on long-term continuity, which is considered a strength, the Company must also renew its business from the perspective of selection and focus. From this standpoint, I believe that how we make management decisions will be a major issue in the future.

Another point I would like to mention is that whereas open innovation with university research institutes has become very advanced, I feel that efforts with startups are lagging. I think Toray needs to learn to be agile in an entrepreneurial way by actively collaborating with startups, and that we have some issues in this area.

Ito **Lastly, what are your expectations for Toray in the future?**

Noyori I only know about research and technology. However, the Company needs to develop not only its individual technological competitiveness, but also the ability to work together with others within and outside the Company, both domestically and globally. I believe that comprehensive "knowledge integration" is essential for sustainable value creation.

A question in point is are there barriers between the technology and business organizations, or are people being held back? I think we need to reevaluate whether Toray's internal organization is sufficiently functional in terms of brainstorming between different fields and agile activities as mentioned by Mr. Ito.

DX should not be seen merely as improvement of business efficiency, but also as something that is important for cultivating co-creation capabilities.

Also, we need to promote more open innovation in Japan and overseas. No matter how outstanding Toray's research or technological capabilities are, its pool of wisdom is too small to realize its global potential. I also believe that the intellectual property and technologies we have accumulated should not be locked up in a vault, but rather used to the fullest extent for the benefit of Toray and the world.

Toray has many technologies that are very attractive to companies inside and outside of Japan. I hope that we can cultivate our technological diplomacy for Toray's further development.

Kaminaga I think that Toray should have more of a spirit of an entrepreneur. Mr. Ito talked about "ambidextrous management." This might mean allocating 80% to profitable current businesses and 20% to businesses with an eye on the future. I would like to see Toray become a world class role model that can demonstrate that this balance is sustainable and leads to the realization of Toray's corporate philosophy. To that end, it is important that each person plays their role with a shared awareness of this. I would like to fulfill my responsibilities as an outside director with that in mind.

Futagawa I believe that Toray has technologies that can change society in the areas of GR and LI, and I would like to see the Company contribute to society by fully exploring such technologies. In addition, just as we improve the function of fibers & textiles for apparel-use every year, I would like to support companies that are always motivated to make improvements in all their activities and work as one to realize their philosophy.

Ito I have often heard CEOs of startups say, "I created my company to solve these social problems." I also recognize the importance of fostering more of the feeling "I developed this new technology." Another aspect of entrepreneurship is speed. Since "long-term continuity" is Toray's strength, it may sound like a contradiction in terms, but I think Toray needs to enhance the ability in terms of "long-term continuity with speed." In other words, I would like the Company to enhance and upgrade what needs to be continued, while speedily reviewing its businesses. I like to use the term "far analogies" when referring to the knowledge integration mentioned by Mr. Noyori. I would like to see Toray produce many people with "far analogies" who can create new technologies to solve social issues by making full use of their knowledge and imagination in seemingly distant fields. I would like Toray to develop its future in the 21st century by promoting a human resources strategy from this perspective.

Noyori Finally, a word of thanks. I would like to add that all of the outside directors here highly appreciate the Chief of Investor Relations' efforts in providing the Board of Directors with frank feedback from outside parties, including investors.

*Kunio Ito, Director, served as the facilitator for this roundtable discussion.

Corporate Governance

Basic Policy

From the outset, one of Toray Group's managerial principles has been that the purpose of a company is to contribute to society. The Group has developed the Toray Philosophy that incorporates this principle. The Group systematizes the Toray Philosophy as a Corporate Philosophy, Corporate Missions, Corporate Guiding Principles, etc. The Corporate Missions clearly enunciate that the Group will practice "sincere and trustworthy management" with regard to its shareholders. The Corporate Guiding Principles stipulate the Group's commitment to "acting with fairness, high ethical standards and a strong sense of responsibility while complying with laws, regulations and social norms to earn trust and meet social expectations." When establishing the corporate governance structure, the Group seeks to realize these philosophies as its basic policy.

Outline of Governance System and Reasons for Adopting the System

Toray operates as a company with a Board of Corporate Auditors and Board of Directors. The Board of Directors, which includes outside directors, decides on the business execution and supervises the execution of duties by the members of the Board. The Board of Corporate Auditors includes outside corporate auditors and independently audits the execution of duties by the members of the Board, separately from the Board of Directors and the executing organization. This framework is designed to secure the transparency and fairness of decision made by the Board of Directors. In addition, there is a Governance Committee, which serves as a voluntary advisory body to the Board of Directors. The Governance Committee deliberates on all matters relating to corporate governance, enhancing the effectiveness of governance by the Board of Directors.

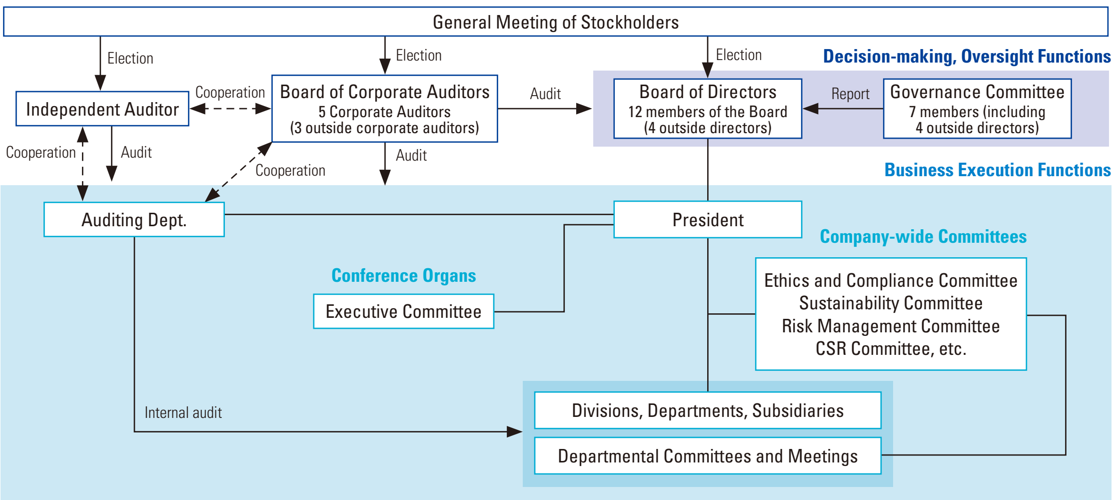
Toray Group operates in a broad spectrum of business fields at a global level. Business management and decision-making, as well as oversight, require assessment of a wide variety of risks from multiple perspectives based on expertise related to the day-to-day operations of the Group's worksites. To that end, the composition of the Board of Directors is designed to ensure that members bring a diverse range of perspectives to management oversight and decision-making. Meanwhile, outside directors are elected to the Board to ensure transparency and fairness, to ensure management oversight from an even broader perspective, and to obtain appropriate managerial advice from a medium- to long-term perspective.

The Board of Corporate Auditors is entirely independent of the Board of Directors. Based on professional expertise in finance, accounting, and law, as well as an understanding of the Group's businesses, the Board of Corporate Auditors exercises oversight over directors' execution of their duties.

Strengthening the Governance Framework

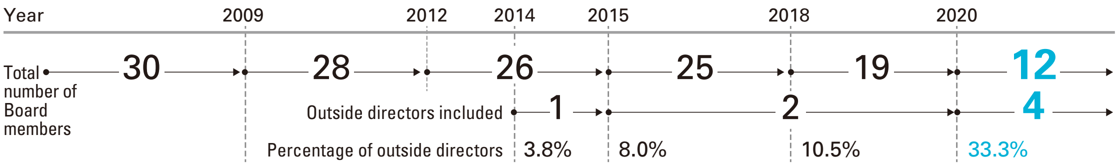
In fiscal 2020, Toray Group set the number of members of the Board of Directors to 12 and the number of outside directors to four in order to improve the effectiveness of the Board of Directors and to strengthen the business execution framework. The Group also introduced an executive officer system for the purpose of flexibly implementing management execution based on quick decision-making that accurately reflects the

Corporate Governance Structures



business environment and changes therein. The Board of Directors both establishes the scope of business execution entrusted to the vice presidents and supervises the execution of their duties. Moreover, the Group increased the number of Governance Committee members, which had consisted of one internal member of the Board and two outside directors until then, to three internal members of the Board and four outside directors (the committee continues to be chaired by an outside director). As a result, this move ensures that discussions and reports by the Committee are made from a variety of perspectives.

Reduction in number of Members of the Board and change in its composition



Status of Outside Directors/ Corporate Auditor Elections

Toray ensures objectivity and transparency of corporate governance by establishing and disclosing standards for independence of outside directors and outside corporate auditors. Based on these standards, the Company elects four outside directors and three outside corporate auditors, and submits notification regarding their status as independent officers to the Tokyo Stock Exchange.

The following table outlines the basis for election of our outside directors/corporate auditors and details of their independence

Kunio Ito Member of the Board	Mr. Ito was elected as an outside director and assigned independent officer status due to his highly specialized expertise in accounting and business administration as a university professor, and his extensive experience as a corporate outside director.
Ryoji Noyori Member of the Board	Mr. Noyori was elected as an outside director and assigned independent officer status due to his extensive experience as a university professor, his highly specialized expertise in organic synthetic chemistry, which is a core Toray technology, and his experience as a corporate outside director.
Susumu Kaminaga Member of the Board	Mr. Kaminaga was elected as an outside director and assigned independent officer status due to his extensive experience as a member of top management, his international perspective, and his experience as a corporate outside director.
Kazuo Futagawa Member of the Board	Mr. Futagawa was elected as an outside director and assigned independent officer status due to his extensive experience, knowledge, and deep expertize as an administrative officer.
Toshio Nagai Corporate Auditor	Mr. Nagai was elected as an outside corporate auditor and assigned independent officer status due to his excellent track record of high standing in the legal profession, his solid character and judgment, and his ability to appropriately audit the Group from an objective standpoint.
Kazuya Jono Corporate Auditor	Mr. Jono was elected as an outside corporate auditor and assigned independent officer status due to his having held key positions in the business world, his solid character and judgment, and his ability to appropriately audit the Group from an objective standpoint.
Hiroyuki Kumasaka Corporate Auditor	Mr. Kumasaka was elected as an outside corporate auditor and assigned independent officer status due to his advanced knowledge in accounting, his wealth of experience and established track record as a certified public accountant, his impeccable character and deep insight, and his ability to appropriately audit the Group from an objective standpoint.

Basic Policy on Internal Control System

To realize the Toray Philosophy, the Company shall establish a structure to execute its business legally and effectively by improving its internal control system according to the following basic policy as a structure to enable it to appropriately establish organization, formulate regulations, communicate information, and monitor the execution of operations.

1. System to ensure that the execution of duties by the members of the Board and employees complies with laws and regulations and the Company's Articles of Incorporation

- Toray shall establish the Ethics and Compliance Committee, as one of the company-wide committees to promote observance of corporate ethics and legal compliance, and shall take other measures to improve the required internal systems, including the establishment of dedicated organizations.

- Toray shall establish the Ethics & Compliance Code of Conduct as specific provisions to be observed by members of the Board and employees, and shall take other measures to improve the required guidelines, etc. Especially with regard to eliminating relations with antisocial forces, the Company shall act as one to stand firmly against them.
- Toray shall establish an internal reporting system (whistle-blowing system) for the reporting of the discovery of violation of laws, regulations, or the Company's Articles of Incorporation.
- Toray shall establish Security Trade Control Program, one of the most important legal compliance issues, and establish an organization dedicated to security export control.

2. System to ensure the efficient execution of duties by the members of the Board and employees

- Toray shall establish the Authority of Top Management to stipulate matters with respect to which decision-making authority is reserved by the Board of Directors and matters with respect to which decision-making is delegated to the President, general managers, etc., from among matters necessary for decision-making.
- Toray shall establish the Executive Committee as deliberative organs for important matters decided by the Board of Directors or the President. The Executive Committee shall deliberate on the general direction of policy or issues related to implementation.

3. System for preserving and managing information pertaining to the execution of duties by the members of the Board and employees

- Toray shall establish regulations for important documents and important information related to management, confidential information and personal information, and appropriately preserve and manage them in accordance with the rules.

4. Regulations and other systems pertaining to controls over risks of loss

- In order to identify potential risks in business activities, strive to mitigate such risks under normal business conditions, and prevent future crises, Toray shall establish the Risk Management Committee as one of the group-wide committees to promote company-wide risk management, and improve regulations to enable immediate implementation in the event of a major crisis.
- Toray shall establish an internal control system for financial reporting that ensures the reliability of financial reporting.

5. System for ensuring appropriate business operations within subsidiaries

- To establish a system under which subsidiaries report to the Company on matters regarding the execution of duties by members of the Board, etc. of the subsidiaries, the Company shall provide regulations on the regular reporting of important management information to the Company and regularly hold conferences at which the Company's management receives direct reports on the status of the management of the subsidiaries.
- To establish regulations and other systems pertaining to controls over risks of loss for subsidiaries, the Company shall provide subsidiaries with guidance to help them to establish risk management systems appropriate for their respective business forms and business environments, and shall receive regular reports on the status of their activities.
- To establish a system for ensuring that members of the Board, etc. of subsidiaries effectively execute their duties, the Company shall provide regulations on the scope under which the Company can reserve its authority over the execution of business operations. In addition, the Company shall endeavor to grasp management information in a unified manner and provide assistance and guidance necessary for subsidiaries by determining divisions, etc. with control over its respective subsidiaries.
- To establish a system for ensuring that the execution of duties by members of the Board, etc. and employees of subsidiaries complies with laws and regulations and the Articles of Incorporation, the Company shall thoroughly familiarize its subsidiaries with the Company's Ethics & Compliance Code of Conduct as a code of conduct in common for Toray Group. At the same time, the Company shall request the subsidiaries to establish their own codes of conduct, guidelines, etc. in consideration of the laws and regulations, business practices, business forms, and other factors in their respective countries. In addition, the Company shall direct its subsidiaries to establish systems under which the status of internal whistle-blowing by members of the Board, etc. and employees of the subsidiaries is appropriately reported to the Company.

6. System for reporting to corporate auditors and systems for ensuring that persons who report to corporate auditors are not treated disadvantageously because of their reporting

- Members of the Board, etc. and employees of Toray Group and corporate auditors of subsidiaries shall report matters regarding the execution of duties to corporate auditors in response to requests from the corporate auditors.

- Department in charge of the internal reporting system (whistle-blowing system) shall regularly report the status of internal whistle-blowing in Toray Group to the corporate auditors.
- Toray shall stipulate regulations to the effect that members of the Board and employees who report to corporate auditors shall not be subjected to any disadvantageous treatment because of the said reporting, and shall provide subsidiaries with guidance to help them stipulate the same regulations.

7. Items pertaining to the handling of expenses and liabilities arising from the execution of duties by corporate auditors

- Toray shall pay expenses, etc. incurred from the execution of duties by corporate auditors.

8. Items pertaining to employees assisting with corporate auditors' duties, items pertaining to the independence of said employees from members of the Board, and items pertaining to the assurance of effectiveness of instructions from the corporate auditors to said employees

- Toray shall assign a full-time employee to provide assistance if and when corporate auditors request assistance. The said employee shall exclusively follow the corporate auditors' commands and instructions, and the Company shall consult with corporate auditors in advance with respect to the personnel arrangements for the said employee.

9. Other systems for ensuring effective implementation of audits by corporate auditors

- Corporate auditors shall attend Board of Directors meetings and other important meetings so that they may ascertain important decision-making processes and the execution of operations.
- Corporate auditors shall hold regular meetings with members of the Board and management and conduct regular visiting audits of Toray offices, plants, and subsidiaries.

Remuneration for Members of the Board

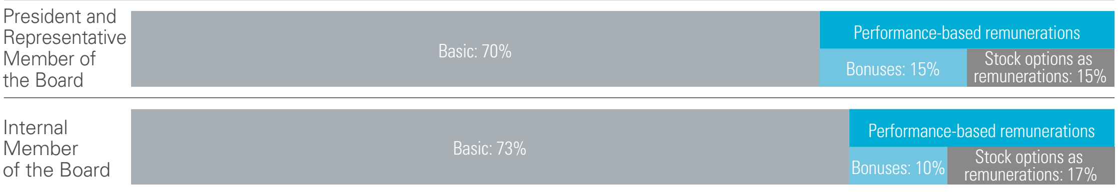
Given their roles, remuneration for internal members of the Board consists of basic remuneration which is a fixed amount as well as a performance-based remuneration, including a bonus which takes into account the consolidated business results for each fiscal year, etc., and stock acquisition rights as stock options, which are linked to medium- to long- term business results. The Company undertakes reviews of the payment ratios of performance-based remuneration and remuneration, etc. other than performance-based remuneration as appropriate, based on the results of a survey of other companies' remuneration and deliberations at the Governance Committee, etc.

Details of Remuneration (April 2020 - March 2021)

Position	Total remuneration (millions of yen)	Total remuneration by type (millions of yen)			Recipients
		Basic	Performance-based remunerations		
			Bonuses	Non-monetary remunerations: Stock options as remunerations	
Members of the Board (excluding outside directors)	722	524	75	123	20
Corporate auditors (excluding outside corporate auditors)	79	79	—	—	3
Outside directors	42	42	—	—	4
Outside corporate auditors	36	36	—	—	3

Notes: 1. Recipients included twelve members of the Board (excluding outside directors) and one corporate auditor (excluding outside auditors) who retired during fiscal 2020.
2. Total amounts of remuneration do not include the ¥21 million paid in salaries to three employee-directors.

Composition of Remuneration (April 2020 - March 2021)



The provision and the total amount of bonuses are determined each time at a general meeting of stockholders, with consideration given to the consolidated core operating income for each fiscal year that best represents the results of the Company's global business operations, plus the historical record, etc. The individual bonus for each member of the Board is determined by the President according to each member's performance based on the Company's internal regulations with a resolution at a Board of Directors' meeting.

The maximum limit of total number of Stock Acquisition Rights as well as the limit of remuneration relating to the granting of the Stock Acquisition Rights as stock options to members of the Board is resolved at the general meeting of stockholders, and within that limit, the total number of Stock Acquisition Rights to be allocated to the members of the Board shall be decided at the Board of Directors meeting based on the Company's internal regulations.

Given their roles, remuneration for corporate auditors consists of basic remuneration only. Remuneration is set at a level that enables the Company to secure superior human resources, referring to the results of a survey of other companies' remuneration by an external third-party organization.

With respect to basic remuneration, the maximum limit of total remuneration is determined at general meetings of stockholders. Within the scope of the maximum limit, basic remuneration to each corporate auditor is determined through consultation by corporate auditors based on the Company's internal regulations.

The Governance Committee continuously reviews the remuneration system for members of the Board and corporate auditors.

Overview of the Results of the Analysis and Evaluation

Toray's Board of Directors conducted a "Questionnaire Survey to Evaluate the Effectiveness of the Board of Directors in the fiscal year ended March 31, 2021" among 17 survey respondents, who comprised all of the Board members and corporate auditors. In addition, the Company conducted interviews with seven outside directors and outside corporate auditors to hear their opinions in relation to their responses to the questionnaire. The collection and tabulation of the questionnaire, and interviews were outsourced to a third-party organization to ensure transparency and objectivity. The survey results were analyzed and evaluated at the Governance Committee held on May 21, 2021, and the results of the analysis and evaluation were deliberated at the Board of Directors' meeting held on June 16, 2021. The overview of the results of the analysis and evaluation shown below describes the contents resolved at the Board of Directors' meeting.

(1) In fiscal 2020, the Board of Directors performed oversight and decision-making based on a deep understanding and sympathy with the Management Philosophy and Corporate Missions. As a result, we believe that the Board of Directors generally fulfilled its roles and responsibilities in indicating the direction of corporate strategies and other major courses of action in an appropriate manner.

(2) In fiscal 2020, the Board of Directors held 14 meetings in total to perform oversight and decision-making in a timely and appropriate manner. Furthermore, it promoted reviews on the scope of delegating decision-making authority. Through these initiatives, we believe that the Board of Directors generally fulfilled its roles and responsibilities in establishing an environment conducive to appropriate risk-taking by the senior management in an appropriate manner.

(3) With respect to the 14 Board of Directors meetings held in fiscal 2020, the attendance rate of the members of the Board was 99.6%. Outside directors made remarks mainly from their respective professional viewpoints. The opinions, etc. at the Board of Directors meetings, including the abovementioned remarks, were appropriately reflected in measures taken by the management. With respect to transactions causing possible conflicts of interest, internal procedures to handle them were appropriately carried out. In light of the above, we believe that the Board of Directors generally fulfilled its roles and responsibilities in carrying out the effective oversight of members of the Board and the management from an independent and objective standpoint in an appropriate manner.

(4) Based on the above, we believe that the Board of Directors generally fulfilled its roles and responsibilities in an effective manner in fiscal 2020. With regard to the matter, "further activating discussions at the Board of Directors meetings," however, continuing from fiscal 2020, specific measures for improvement must be taken in fiscal 2021 and thereafter to further improve the effectiveness of the Board of Directors. In addition, we will promote the provision of opportunities for communication with executives in order to demonstrate the functions of outside directors.

(5) With respect to the opinions, etc. received from the members of the Board and corporate auditors in the course of evaluating the effectiveness of the

Board of Directors, the Governance Committee shall deepen discussions based on those opinions with a view to further improving the effectiveness of the Board of Directors, as necessary.

Measures to ensure the effectiveness of the governance framework for listed subsidiaries

Chori Co., Ltd.

- On March 25, 2020, Chori Co., Ltd. established the Governance Committee, which is a voluntary committee, to strengthen the independence, objectivity, and accountability of the functions performed by its Board of Directors regarding the nomination and remuneration of members of the Board. The subsidiary's Governance Committee also deliberates on matters that become necessary to be addressed from the perspective of protecting the interests of its general shareholders. No former employees, directors, officers, or other personnel of the Company serve as members of the Governance Committee, which is composed mainly of independent outside directors, hence the independence of the subsidiary in exercising authority over the election and dismissal of its directors is guaranteed.
- When exercising authority over the election and dismissal of the subsidiary's independent outside directors, the Company seeks to make an appropriate decision for each agenda item, while serving the interests of the subsidiary's shareholders in general. That decision depends on whether the candidate can oversee management from a broader perspective to further improve the transparency and fairness of management, and can provide appropriate management advice from a mid- to long-term perspective, based on his/her sympathy with the management philosophies of Toray and the subsidiary and understanding of the businesses.
- The transactions between the Company and the subsidiary are entered into based on the negotiations with reference to the market price, etc.

Suido Kiko Kaisha, Ltd.

- The Company's involvement in the appointment of director candidates in Suido Kiko Kaisha, Ltd. is limited to a reasonable extent in the interest of maintaining parent-subsidiary cooperation, to leverage the Company's knowledge and network so that the most suitable candidates can be elected for the enhancement of the subsidiary's corporate value. In addition, the subsidiary shall reserve the power of appointment to ensure the independence of its management.
- When exercising authority over the election and dismissal of the subsidiary's outside and independent directors, the Company seeks to make an appropriate decision for each agenda item, while serving the interests of the subsidiary's shareholders in general. That decision depends on whether the candidate can oversee management from a broader perspective to further improve the transparency and fairness of management, and can provide appropriate management advice from a mid- to long-term perspective, based on his/her sympathy with the management philosophies of Toray and the subsidiary and understanding of the businesses
- The transactions between the Company and the subsidiary are entered into based on the negotiations with reference to the market price, etc.

Compliance

Basic Approach

In order to contribute to society by leveraging innovative technologies and advanced materials in line with its corporate philosophy, as well as by working to resolve major global issues, Toray Group must build and maintain relationships of trust with our various stakeholders. And in order to gain this trust, it is essential to comply with the laws and regulations related to our business activities in each country in which we operate and maintain the highest level of integrity in all our actions. Therefore, top management focuses on its leadership role in making compliance a priority, while both the Group and its suppliers are required to promote ethics and compliance.

Ethics and Compliance Structure

Toray has established an Ethics and Compliance Committee chaired by the President and consisting of vice presidents. At this committee, management and workers come together to consider and discuss policies related to ethics and compliance. Moreover, this Committee reports on the operational status of the whistle-blowing system established by Toray Group, including the number of reports (consultations) and other details, to members of the Board.

During fiscal 2020, this Committee met twice to deliberate and discuss Toray Group's ethics and compliance activity results for fiscal 2019 and the activity plans and progress updates for fiscal 2020. This Committee also discussed individual measures, including revision of the Ethics & Compliance Code of Conduct and implementation of Compliance Month. Acting as leaders, divisional and departmental general managers at each workplace adopt a top-down approach toward promoting initiatives.

In initiatives for group companies around the world, Toray Group has established the Affiliate Companies' Compliance Meeting and the Overseas Affiliate Companies' Compliance Meetings under the Ethics and Compliance Committee. Through these committees, Toray Group is promoting compliance activities in each company, country and region.

Ethics & Compliance Code of Conduct

Toray reviewed the content of the Corporate Ethics and Legal Compliance Code of Conduct, and revised it as the Ethics & Compliance Code of Conduct in May 2020. The revised code summarizes the compliance helpline, the promotion framework for ethics and compliance, and codes of conduct, which serve as a series of core rules that must be observed in different areas of business by Toray group companies and all executives and employees, including contracted, part-time and temporary workers, as a means of fully informing employees of these obligations and tools.

1. Compliance for safety and the environment
   - (1) Building a safe working environment
   - (2) Caring for the environment
2. Compliance for quality
   - (1) Providing safe and satisfactory products to customers
   - (2) Proper quality data management
3. Compliance for human rights
   - (1) Respect for the character and individuality of employees
   - (2) Preventing harassment and discrimination
   - (3) Respect for the human rights of all stakeholders
4. Compliance for fair business activities
   - (1) Competing fairly
   - (2) Fair transaction and asset management
   - (3) International trade control and security trade administration
   - (4) Compliance with applicable laws in general
5. Compliance for intellectual property
   - (1) Respect for intellectual property rights of others
6. Compliance for information management
   - (1) Information management
   - (2) Proper reporting and public disclosures

Corporate Ethics and Legal Compliance Education

Toray posts information on CSR and legal compliance on its corporate intranet. Toray Group circulates important information about legal and compliance matters that are highly relevant to its business in Japan and overseas. Group companies implement workshops to examine these matters and study cases of corporate misconduct in an effort to foster discussion in the workplace.

Since fiscal 2012, Toray has provided e-learning courses on corporate ethics and legal compliance for all executives and employees, including contracted, part-time and temporary workers. In fiscal 2020, the Company covered the Ethics and Compliance Code of Conduct, which had been revised in May 2020, and human rights in training course themes. With regard to human rights issues, the Company used case studies based on actual reports and consultations within Toray Group as models to raise awareness among participants that issues can occur in their own departments. Group companies in Japan are using these materials to implement their own training.

Concerning trading subsidiary's receipt of warning from Ministry of Economy, Trade and Industry's Trade and Economic Cooperation Bureau

Toray International, Inc. (TI) , a trading subsidiary of Toray Group, received a warning, which included a request to implement recurrence prevention measures and strict security export controls, under the name of the director of the Ministry of Economy, Trade and Industry's Trade and Economic Cooperation Bureau. The warning deemed that the carbon fiber for which TI had obtained an export license under the Foreign Exchange and Foreign Trade Act and exported to China had been sold to third parties that TI had not obtained the license for, and that as a background, there were deficiencies such as unproper examinations of transactions. With regard to what caused this situation to arise, Toray Group will thoroughly address the export controls and compliance for the entire group to prevent any recurrence.

Expanding the Whistle-Blowing System

Toray established the Corporate Ethics and Legal Compliance Helpline as a whistle-blowing system in fiscal 2003 and expanded the system to include all group companies in Japan in fiscal 2010. The Company has processed reports received based on internal rules. The number of inquiries (consultations) received through the hotline and the details of the cases are reported to the Board of Directors by the Ethics and Compliance Committee, which convenes twice a year.

Reinforcing Compliance in Product Quality Assurance

Toray Group is pursuing five major issues to reinforce product quality assurance compliance throughout the Group.

1. Reinforcement of structures related to quality assurance systems of the entire Toray Group

The Group provides guidance to each division and group companies regarding their quality assurance system, and audits the effectiveness of these systems and the work done under them. Based on the formulated product quality assurance vision, the organizations design initiatives to close the gap between the vision and actual performance.

2. Development of human resources and creation of workplace culture not allowing any misconduct

Toray has designated November as Quality Month. Coinciding with this initiative, the Company has conducted quality assurance compliance education since fiscal 2020. By providing educational materials to Toray Industries as well as Group companies in and outside Japan, each department and company is taking the initiative in promoting training.

3. Understanding of actual state of agreements with customers and establishment of guidelines related to product quality (assurance)

The Group is preparing guidelines for product quality assurance agreements and will use them to assess agreements and review their provisions as necessary.

4. Appropriate maintenance or control and modernization or fulfillment of measuring equipment

The Group prepared a risk assessment table for judging the necessity of upgrading or conducting maintenance on measuring equipment, and used them to identify devices in need of an upgrade.

5. Improvement of quality data management system to not allow any misconduct

The Group is developing data management systems that minimize human involvement, such as by automating measurement and transfer of measurement data, and issuance of inspection reports.

Improving Security Trade Controls

1. Sharing the Latest Trends and Management Strategies for Security Trade Controls

Concerns about the spread of conventional mass weapons of destruction and changes in the international security balance necessitate risk management addressing security trade controls.

Toray convenes a Security Trade Administration Committee comprising executives of divisions that are involved in exports and technology transfer. In fiscal 2020, the committee decided on measures to implement for the fiscal year after considering pressing risks based on recent international circumstances and regulatory trends. The committee members also convene a Divisional Security Trade Administration Committee that communicates corporate measures and implements supplementary programs, such as precautions to be taken by departments and group companies under its supervision.

2. Practically Addressing Risks

Toray Group performs risk management of security trade controls with regard to the export of all products, devices, materials, and samples, as well as the transfer of technologies outside Japan. Particularly strict management is necessary for TORAYCA™ carbon fiber and its composite materials, semiconductor coating agents, and water treatment membranes, which are listed as restricted items requiring export permission from the Japanese Minister of Economy, Trade and Industry.

The following measures to enhance risk management associated with security trade controls have been implemented based on conditions in and outside of Japan.

(1) Enhanced employees' capacity for accurate judgment within Toray's divisions and group companies

To avoid the risk of COVID-19 infections, Toray reorganized the conventional education system, converting highly specialized on-the-job training to a Web conferencing method and basic level specialized education to an e-learning method, which the Company then implemented. Toray conducted training to provide the necessary practical knowledge to the mid-level employees that play a central role in implementing security trade controls, as well as training to newly appointed managers to encourage appropriate on-site management. (In the total of nine courses, 670 employees participated in Web conferences, and 4,758 via e-learning.)

The Company also conducted a series of advanced courses for employees with specialized expertise. These hands-on courses were designed to better equip them with the skills necessary to conduct classifications, export transactions and technology transfers. (A total of 176 employees participated in Web conferences in four courses.)

In addition, the Company systematically encourages employees to take the exam authorized by the Center for Information on Security Trade Controls in Japan. A total of 166 Toray group employees passed the exam in fiscal 2020, bringing the cumulative number of Toray Group employees who have passed the exam to 4,159 persons.

(2) Conduct regular audits

Toray carried out paper audits and onsite audits of group companies, and provided individualized guidance based on the results to help group companies make improvements.

(3) Enhanced information sharing and reporting

Toray integrated and centralized information on concerns such as suspicious trade inquiries, reported or consulted with the appropriate authorities as required, and took the appropriate measures. The Company also shared suspicious trade information at various company meetings, and took steps to improve its risk management.

(4) Improved inspection systems

Toray established a link between the security trade administration system and the sales backbone system as part of regular operations in order to improve the infrastructure for preventing mistaken shipments due to human error. Moreover, the Company supported innovative initiatives designed to improve the efficiency of administration through the use of these systems, and widely deployed cases that have produced results.

Competition Law Compliance, Anti-Corruption, and Anti-Bribery

1. Competition Law Compliance

The Ethics & Compliance Code of Conduct, revised in May 2020, defines the code of conduct related to competition laws that must be observed by all Toray Group executives and employees. Educational materials related to competition laws have been prepared in Japanese and English for all Toray Group employees. Within Japan, the Group prepares and utilizes compliance training materials and gathers examples of compliance violations related to competition laws. In fiscal 2020, no legal action was taken against Toray Group on the grounds of antitrust law violations.

2. Anti-Corruption and Anti-Bribery

In January 2020, Toray Group formulated the Anti-Bribery Regulations that explicitly prohibit offering and accepting bribes to or from public officials and business partners, and established the rules for approval and reporting when offering or receiving money or other benefits to or from public officials and business partners. Similar rules have also been introduced at both domestic and overseas group companies.

The Ethics & Compliance Code of Conduct defines the code of conduct related to anti-corruption and anti-bribery measures that must be observed by all Toray Group executives and employees. Accompanying guidelines and educational materials covering to the anti-corruption and anti-bribery measures have been prepared in Japanese and English for all Toray group employees and these are shared on a group-wide basis. In March 2020, Toray conducted e-learning training sessions for all executives and employees (including contracted, part-time and temporary workers) that covered the anti-bribery measures. Domestic affiliated companies also use similar teaching materials to provide education. No legal action was taken against Toray Group on anti-corruption or anti-bribery grounds in fiscal 2020.

Protection of Personal Information

In order to comply with Japan's Act on the Protection of Personal Information, Toray has established Regulations for the Management of Personal Information, together with a management framework and practices to ensure each department manages personal information appropriately. Audits are regularly conducted into the management conditions in each department.

In fiscal 2020, the Company received no complaints concerning personal information and there were no data breaches. Major Toray Group companies in and outside Japan appropriately conduct management in accordance with the management systems and methods specified by the internal rules of each company.

Promotion of Mission B.E.A.R. Activities

In fiscal 2018, Toray Group launched a new initiative with the slogan "Have the integrity to do the right thing in the right way." The initiative includes the following four principles for taking more effective action to ensure compliance.

Compliance Action Principles

B: Be fair, be honest and have integrity
E: Encourage respect and communication
A: Adopt a *genba* (workplace) approach – Look to the facts!
R: Responsibility as a member of our excellent company

Under the name "Mission B.E.A.R.," taking its acronym from the first word of each principle, Toray group companies formulate declarations and action plans related to compliance, and implement initiatives that correspond to their individual situations. Toray Group implements periodic follow-ups for the initiatives of each company, shares the effective initiatives of each company within the Group, and encourages each company to take the initiative in evolving their compliance activities.

In fiscal 2020, Toray continued to assist each company's compliance promotion activities. Beginning with Compliance Promotion Month, steps were actively taken to share compliance-related initiatives, new educational tools, and educational materials via video as a part of the Company's remote work endeavors. Through these activities every effort is being made to strengthen risk response that emphasizes factors unique to each region and type of business while reinforcing Toray Group's integrity-driven corporate culture.

Implementing Internal Legal Audits

In fiscal 2016, Toray Group adopted a group-wide system for self-inspections and mutual internal control audits. Designated divisions of Toray and designated group companies in and outside Japan must receive an internal legal and compliance audit once in every three years.

In fiscal 2019, internal legal compliance audits were implemented for the designated departments of Toray and its group companies in Japan. In fiscal 2020, the Company confirmed the improvement status of problems found in the audit, verifying that 100% of the companies had made improvements (including companies under improvement). To increase the effectiveness of audits related to high-priority items—including, antitrust law, bribery regulations, insider trading regulations, and entry into agreements—Toray reviewed the audit methods related to legal affairs and compliance in fiscal 2019 and implemented an internal legal audit in fiscal 2020. Nothing inappropriate was found in any of the items covered.

Tax Compliance

Toray Group is committed to meeting its tax responsibilities in accordance with local and national tax laws and related rules, as well as to meeting international standards such as OECD guidelines. With the growth of international transactions, transfer pricing is increasing in importance. The Group endeavors to suitably allocate its income by calculating transfer pricing based on the arm's length principle. Under the awareness that it is important to fulfill its social responsibilities as a corporation by administering taxes in a highly transparent manner, the Group redefined its basic approach to tax policies with which each employee must comply, and established the Toray Group Tax Policy in order to reliably implement tax compliance related initiatives to a greater extent. This policy has been applied globally starting in May 2020.

Basic Policy

1. Toray Group makes efforts to pay taxes appropriately by complying with the tax laws of each country and international taxation rules.
2. Toray Group makes efforts to enhance corporate value and maximize shareholder value while minimizing tax risks and optimizing tax expenses.
3. Toray Group will not conduct arbitrary tax avoidance using tax havens or other methods.
4. Toray Group establishes good relationships with the tax authorities of each country.

事業概況

Segment Information

Results by Segment for Fiscal 2020

Segments	Summary of Financial Results
Fibers & Textiles	The segment was affected by the stagnation in production activities and consumption behavior caused by the COVID-19 in Japan and overseas. In the apparel applications, demand declined due to lockdown and excessive channel inventory in various countries, while in industrial applications, general purpose materials remained weak and sales volume declined. Demand for nonwoven fabrics increased for the applications of medical gowns and masks and there have been signs of recovery in the automotive applications from the third quarter, but these factors fell short of offsetting the decline in the overall sales volume in the segment.
Performance Chemicals	The resins business was affected by the stagnation in production activities caused by the COVID-19, but demand has been strong since the third quarter with automobile manufacturers operating and the recovery of the Chinese economy. The chemicals business saw a recovery trend in the basic chemicals market. In the films business, battery separator films for lithium-ion secondary batteries were affected by lower market prices, while polyester films for optical applications and electronic components performed strongly. In the electronic & information materials business, OLED-related demand increased.
Carbon Fiber Composite Materials	While the sales of wind turbine blade applications remained strong in industrial applications, aerospace application was affected by the decline in the production rate of commercial aircraft.
Environment & Engineering	In the water treatment business, demand for reverse osmosis membranes and other products grew strongly on the whole, while shipment to some regions were affected by the COVID-19. In the environment and amenity business, demand for air filters was strong. Among domestic subsidiaries in the segment, an engineering subsidiary experienced decreases in the shipment of some electronics related equipment. A construction subsidiary posted profits from completion of a real estate project.
Life Science	In the pharmaceutical business, sales of pruritus treatment REMITCH™* were affected by the introduction of its generic versions as well as by a major NHI drug price revision in April 2020. In the medical devices business, shipment of dialyzers grew strongly in Japan and overseas, despite the impact of medical institutions postponing non-urgent operations due to the spread of the COVID-19. *REMITCH™ is a registered trademark of Torii Pharmaceutical Co., Ltd.

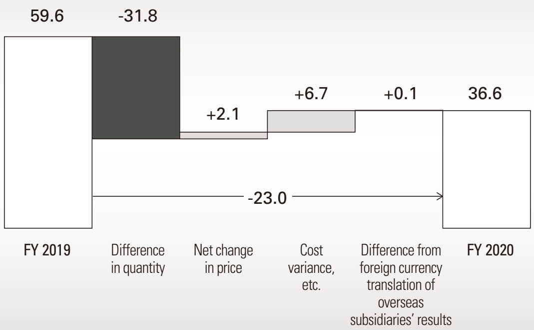
Performance (Billion yen) * The figures in parentheses of each segment are composition ratios by segment.		Main Products
Revenue 719.2 (38%)	Core Operating Income 36.6	• Filament yarns, staple fibers, spun yarns, woven and knitted fabrics of nylon, polyester, acrylic, and others • Nonwoven fabrics • Nonwoven material created using ultra-fine fibers in an “Island in the Sea” configuration • Apparel products, etc.
Revenue 720.4 (38%)	Core Operating Income 67.0	• 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.
Revenue 182.9 (10%)	Core Operating Income ▲7.5	• Carbon fibers, carbon fiber composite materials, and molded products from those materials, etc.
Revenue 193.5 (10%)	Core Operating Income 14.5	• 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.
Revenue 53.0 (3%)	Core Operating Income 1.3	• Pharmaceuticals • Medical devices, etc.

* Excludes other businesses, equivalent to ¥14.6 billion (1%) in revenue and ¥2.9 billion in core operating income, and adjustment of core operating income of -¥24.6 billion. The composition ratio by segment of core operating income is calculated excluding the adjustment amount.

Fibers & Textiles

Fiscal year	2019	**2020**	Changes	2021 (Forecast)
Revenue (Billion yen)	831.0	**719.2**	-13.4%	842.0
Core Operating Income (Billion yen)	59.6	**36.6**	-38.6%	49.0
Core Operating Margin	7.2%	**5.1%**		

Changes in Core Operating Income (Billion yen)



Revenue
(Billion yen)
719.2

Core Operating Income
(Billion yen)
36.6

Core Operating Margin
5.1%

ROA
(Core Operating Income/Assets)
4.5%

TOPICS

Effectiveness of MAKSPEC™ V in Combating COVID-19 Confirmed

Toray has developed the MAKSPEC™ V antiviral textile which delivers exceptional durability when washed and comfort when worn. Having succeeded in absorbing the agent within the polyester fibers by means of our unique immobilization technology, MAKSPEC™ V received antiviral certification for enveloped viruses from the Japan Textile Evaluation Technology Council. It also offers excellent commercial laundry washability. Furthermore, in a test conducted in accordance with the JIS standard antiviral test for textile products, for which COVID-19 (SARS-CoV-2) was used, the virus was attached to the surface. When, after two hours, the concentration of remaining virus was measured, it was confirmed that this had decreased by 99.9% or more, similar to the test results using other enveloped viruses. Taking advantage of these features, we are expanding into a wide range of fields which have high needs for this effect, from uniform applications, such as customer service clothing, nursing, and school uniforms, to sports, casual apparel, fashionwear, and children's clothing.

Fibers & Textiles Business

General Manager,
Fibers & Textiles Division
Kenichiro Miki

As for the business environment, there is a continued recovery trend in the market, mainly in Europe, U.S.A., and China, where progress has been made with anti-COVID-19 measures. In contrast, the demand structure in some fields, for example fibers and textiles for apparel use, has changed significantly compared with prior to COVID-19 due to changes in lifestyles and consumption brought about by the pandemic.

In fiscal 2020, the fibers & textiles business in general had struggled due to the stagnation of the global economy. However, under the Medium-Term Management Program, Project AP-G 2022 (AP-G 2022) basic policies of the Fibers & Textiles Division—continuously strengthen the business structure; expand in growth regions and growth business fields; and enhance profitability by promoting a differentiation strategy and addressing sustainability—in the nonwoven fabric business, we responded to growing demand in the field of masks and protective clothing and also commenced operations at new PP spunbond bases in China and India. Also, we steadily addressed sustainability issues, such as our efforts with the &+™ brand that makes use of recycled polyester (PET) bottles.

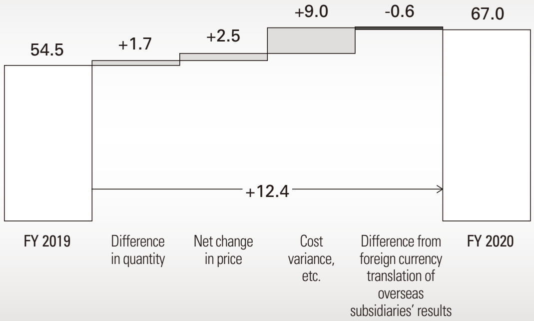
In fiscal 2021, the challenges of the Fibers & Textiles Division are to capture demand that is recovering on a global basis and to return to the growth trajectory that the Division was aiming for under the medium-term management program, by accurately responding to new market needs in an era in which the Company coexists with COVID-19. We will continue to promote AP-G 2022 initiatives such as business expansion in growth business fields and regions and enhancement of profitability by promoting a differentiation strategy, driven by airbags, nonwoven fabrics, nonwoven material created using ultra-fine fibers, and integrated business from fiber to textiles and further to garments. Also, we will promote business expansion by addressing sustainability, by the expansion of the GR businesses, which are centered on energy saving materials, biomass, and recycling, to help address global environmental problems, and the LI businesses centered on the medical and healthcare fields.

To all shareholders and investors: Going forward, by freely utilizing and combining the strengths of Toray's fibers & textiles business of (1) technological development capabilities and variety of products; (2) customer responsiveness in supply chains comprising of fibers, textiles, and garments; and (3) global business network, we will provide solutions to our customers and aim for sustainable growth that adapts to changes in the world through the world's only "three-dimensional business development."

Performance Chemicals

Fiscal year	2019	**2020**	Changes	2021 (Forecast)
Revenue (Billion yen)	761.2	**720.4**	-5.4%	890.0
Core Operating Income (Billion yen)	54.5	**67.0**	+22.8%	89.0
Core Operating Margin	7.2%	**9.3%**		

Changes in Core Operating Income (Billion yen)



Revenue
(Billion yen)
720.4

Core Operating Income
(Billion yen)
67.0

Core Operating Margin
9.3%

ROA
(Core Operating Income/Assets)
6.6%

TOPICS

Sales of Environmentally-Friendly Ecouse™ Series PET Films Launched

Toray has started sales of the Ecouse™ series of environmentally-friendly films, for which polyester (PET) films from electronic component applications are collected and reused. Previously, the films from electronic components had been mainly treated as waste or used in thermal recycling. Now, by combining mechanical recycling* process technology, which removes a wide variety of coating materials and resins from film surfaces, with foreign matter removal technology for each manufacturing process, Toray is able to reuse the material in films without impairing its mechanical characteristics or reliability. Toray then collaborated with supply chain companies, built a system to collect and reuse used PET film from electronic component applications and commenced operations. This series of environmentally-friendly PET films could help to lower the consumption of raw materials derived from fossil fuels and waste plastics while reducing CO_2 emissions by up to 50% compared with conventional Toray products.

* A physical recycling method for recycling after crushing and cleaning plastic.

Resins & Chemicals Business

General Manager,
Resins & Chemicals
Division
Nobuyuki Inohara

Business environment: In addition to changes in social systems and industrial structure due to trends such as moves toward a sustainable society, the promotion of ICT applications, the ever-increasing global population, and aging populations, the prolonged COVID-19 pandemic has caused dramatic changes in people's lifestyles. Major countries have declared that they will become carbon neutral by 2050, and moves toward that end are taking shape. These moves include examining the full-scale introduction of carbon taxes, accelerating the shift to electric vehicles (xEVs) by regulations covering the decarbonizing of automobiles, and installing environmentally-friendly materials in automobiles.

Main initiatives: Our key initiatives concern the global expansion of high-performance products in growth areas (for example, next-generation mobility, 5G communications infrastructure, and the medical field), and our aim is to remain a true solutions provider that maintains an awareness that the success of our customers is of paramount importance. I think that the amount by which the Company contributes to the realization of a sustainable society will be the most important yardstick as an added value from now on.

Medium-term management program: With regard to the progress we have made, in the field of resins, demand for electric vehicles and autonomous driving support systems is rapidly increasing in the burgeoning next-generation mobility industry, and new applications for high-performance resins such as PPS are expanding globally. To strengthen product development tailored to local needs, we opened our fifth overseas resin technical center in Germany. In the case of transparent ABS resins, demand for which continues to grow, we expanded the facilities at Toray Plastics Malaysia Sdn. Berhad (TPM) and started operation in May. Demand for transparent ABS resins is also expanding for medical device applications. In the chemicals business, we are expanding the fine chemicals business and expanding the veterinary medicines business outside of Japan. As for measures to solve global environment issues, we are promoting further expansion of our resin recycling business, the reduction of GHG emissions at our plants, and giving consideration to CO_2 reduction with an eye on the entire supply chain, including raw materials.

To all shareholders and investors: We would like to contribute to the realization of a prosperous and sustainable future for all people through our businesses.

Films Business

General Manager,
Films Division
Satoru Hagiwara

Business environment: The key points of the business environment surrounding the films business are sustainability represented by carbon neutrality, which is a major trend of social change, and digital innovation in information and communication are the key points. In terms of sustainability, there are increasing demands for expanding the use of electric vehicles (xEVs), reducing waste plastics, and recycling. In digitalization, electronic circuit components have become more sophisticated and are of higher density due to the expansion of data communication capacity and the advancement of 5G, and demand for MLCC release films, film capacitors, and battery separator films is expanding also for automobiles, which represents a huge market. Toray's strengths lie in our films, which have continued to hold the top share in the value-added field, and demand in fields where they can be utilized will continue to grow.

Main initiatives: The key initiatives concern the realization of global expansion and the promotion of high added-value in growth business fields. To that end, we will enhance quality and strengthen development in anticipation of market demand, and strengthen our efforts and initiatives in collaboration with our customers with the aim of creating a sustainable society.

Medium-term management program: As part of our capital investment to meet growing demand in growth business fields, we have increased the capacity of our polypropylene (OPP) film manufacturing equipment for automotive capacitors at our Tsuchiura Plant, lithium-ion battery separator manufacturing equipment in Hungary, and OPP film manufacturing equipment for food packaging in the U.S.A., and expanding our market share. On the development side, we installed a dedicated film development machine at the Mishima Plant to strengthen our ability to develop high-performance films. In order to realize a sustainable society, we are also building a recycling system with customers who collect and reuse used PET film, and developing the Ecouse™ series of environmentally-friendly PET films.

To all shareholders and investors: The Films Division will continue to contribute to the sustainability of society and innovation in digitalization by implementing in society in the form of products with the No. 1 technological and development capabilities that have been cultivated over its 60-year history.

Electronic & Information Materials Business

General Manager,
Electronic & Information Materials Division
Hiroshi Enomoto

Business environment: Against the backdrop of the spread of the COVID-19 infections and the prolonged trade friction between the U.S.A. and China, insufficient supplies of semiconductors and peripheral parts became apparent in some areas. However, due to the increase in global demand for electronic products brought about by factors that include the deployment of remote working methods as well as developments in IoT and DX, Toray recorded steady increases in sales of its advanced electronic materials, which support the fields of information, communication, and electronics, including semiconductors, electronic components, and displays.

Main initiatives: In addition to further sales expansion of products that are performing strongly, such as materials for OLED displays and materials for semiconductors and electronic components, one key initiative is to steadily introduce high value-added applications and enter new growth fields. Other key initiatives are the promotion of drastic cost reductions by innovating production processes and the utilization of DX, and rapid and timely new product development that anticipates needs by the putting in place of flexible technological development capabilities.

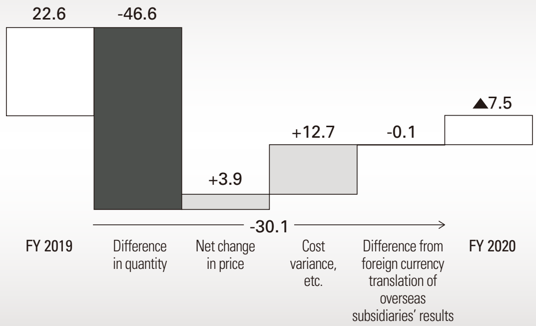
Medium-term management program: With regard to the progress we have made, in addition to materials related to OLED displays, which is a growth business field, sales of semiconductor and electronic component materials centered on the new 5G communications standard are steadily expanding. Also, we are focusing on expansion into the energy-related materials, environmentally-friendly products, and life innovation fields, and will further accelerate these efforts.

To all shareholders and investors: The Electronic & Information Materials Division will utilize Toray Group's advanced core technologies in the creation of high value-added electronic materials that meet new customer requests. Through the supply of these materials, we will strengthen the partnerships with its customers while realizing business expansion that is both sustainable and environmentally friendly.

Carbon Fiber Composite Materials

Fiscal year	2019	**2020**	Changes	2021 (Forecast)
Revenue (Billion yen)	236.9	**182.9**	-22.8%	213.0
Core Operating Income (Billion yen)	22.6	**▲7.5**	—	▲2.0
Core Operating Margin	9.5%	**—**		

Changes in Core Operating Income (Billion yen)



Revenue
(Billion yen)
182.9

Core Operating Income
(Billion yen)
▲7.5

Core Operating Margin

—

ROA
(Core Operating Income/Assets)

—

TOPICS

Concluded Agreements to Supply Carbon Fiber Composite Materials for "Flying Cars"

Toray concluded an agreement to supply carbon fiber composite materials for use in the Lilium Jet, which is under development by Lilium GmbH of Germany. One of the companies spearheading the quest to develop Urban Air Mobility (UAM) vehicles, which are referred to as "flying cars," Lilium is aiming to start commercial operations in 2025. They are promoting the development of the small, all-electric, five-seat, vertical take-off and landing (VTOL) aircraft Lilium Jet that will fly at speeds of 300 km/h or more. Carbon fiber composite materials will be employed for its fuselage, main wings, rotor vanes, and other structural components. In addition, Toray Advanced Composites, a Toray subsidiary, has signed a long-term supply contract for carbon fiber composite materials for the UAM being developed by Joby Aviation, Inc. in the U.S.A. This is also a small, all-electric, five-seat VTOL aircraft that will fly at speeds of 300 km/h or more. Carbon fiber composites are being used, for example, in its structures, propulsion system, and interior parts, with the goal of starting commercial operations in 2023 at the earliest. UAMs are expected to provide a new transportation system that will help to resolve the problems of traffic congestion, noise, and air pollution in urban areas. Toray is working on the development of innovative composite materials to enhance performance, conserve energy, and lower the cost of these "flying cars" while deepening its collaboration with their manufacturers.

Carbon Fiber Composite Materials Business

General Manager,
Torayca & Advanced
Composites Division
Minoru Yoshinaga

Business environment: Due to a significant decrease in demand for commercial aircraft, the business environment has become severe. However, against the backdrop of increasing awareness of sustainability and environmental needs and the mobility revolution, developments in new growth areas, such as wind turbine blades, fuel cell vehicles and "flying cars" or Urban Air Mobility (UAM), are accelerating, and demand for carbon fiber in these areas is expanding. In addition, with increasing health consciousness, demand for sports applications, such as bicycles, fishing rods, and golf shafts, is steadily increasing.

Main initiatives: As recovery in the aircraft market is expected around 2024, the key initiative for the time being will be to actively invest in applications (including wind turbine blades, fuel cell electrodes, pressure vessels, UAM, rockets, and satellites, etc.) for which demand is expanding even during the COVID-19 pandemic. We will also promote strengthening of our business profitability and meeting market needs, through the development of high value-added products, material proposals that extend as far as the molding process for each application, the strengthening of technical services, and further cost reductions, while continuing R&D focusing on next-generation, large-scale growth applications, including aircrafts.

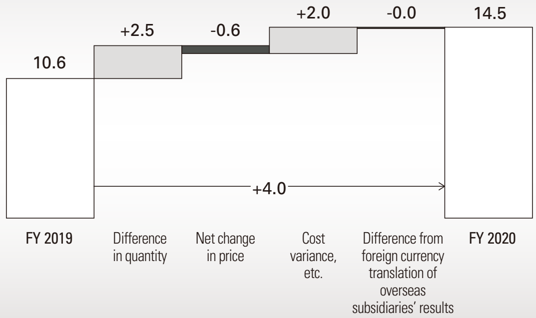
Medium-term management program: Our understanding of the medium- to long-term business environment and the basic strategies have not changed. Having completed facility expansion at the plant in Hungary of Zoltek Companies Inc., the Company is currently promoting the expansion of existing facilities at the company's Mexico plant and will continue to respond to increasing demand in the years to come. In Japan, the production base of a new plant to manufacture fuel cell electrode substrates (carbon paper, gas diffusion layer) has been established. Progress is also being made with performance improvements and cost reductions in other expanding business fields.

To all shareholders and investors: Toward the realization of a sustainable future society and a mobility revolution, Toray will propose and provide the most suitable materials for problem solving by making full use of the comprehensive strengths the Company possesses in regular and large-tow carbon fibers, thermoset and thermoplastic resins, to our customers worldwide.

Environment & Engineering

Fiscal year	2019	**2020**	Changes	2021 (Forecast)
Revenue (Billion yen)	190.8	**193.5**	+1.4%	208.0
Core Operating Income (Billion yen)	10.6	**14.5**	+37.5%	17.0
Core Operating Margin	5.6%	**7.5%**		

Changes in Core Operating Income (Billion yen)



Revenue
(Billion yen)

193.5

Core Operating Income
(Billion yen)

14.5

Core Operating Margin

7.5%

ROA
(Core Operating Income/Assets)

5.2%

TOPICS

Consecutive Orders Received for RO Desalination Plants in the Middle East

Investing extensively in infrastructure against the backdrop of population growth, the Gulf states are in particular moving up their seawater desalination plant construction schedules to secure large amounts of drinking water. When newly constructing a seawater desalination plant, reduction of greenhouse gas emissions is taken into consideration, and there are increasing cases of the reverse osmosis (RO) membrane method being adopted over the distillation method, which consumes large amounts of energy. Under such circumstances, in addition to its track record, Toray was highly evaluated for its technical proposals necessary for stable operation. For the Al Dur 2 Desalination Plant in the Kingdom of Bahrain and the Umm Al Quwain Desalination Plant in the United Arab Emirates, Toray received orders for RO membrane that will generate large-scale water production said to total 911,000 m^3/day. Umm Al Quwain is one of the world's largest seawater desalination plants using the RO membrane method. Product supply and technical services will be provided by Toray Membrane Middle East LLC (TMME), the Toray Group's local subsidiary. The plants are scheduled to commence operations in 2022.

Water Treatment Business

General Manager,
Water Treatment &
Environment Division

Hiroshi Otani

Business environment: The global market for water treatment membranes temporarily shrank by about 5% in fiscal 2020 due to the impact of COVID-19. In the early months of fiscal 2021, market conditions gradually recovered, mainly in China, Europe, and the U.S.A. Although risk factors remain, such as the spread of COVID-19 variants and soaring raw material prices, there is no change in the trend of strong demand for water treatment membranes in the medium- to long- term.

Main initiatives: In our main business, reverse osmosis (RO) membrane business, we will increase our RO membrane production capacity by 1.7 times during the course of the medium-term management program. This increase comes against the backdrop of growing demand in China, where environmental regulations are becoming more stringent, and in the Middle East, where large-scale seawater desalination plants continue to be built. Our aim is to significantly increase revenue and profits and secure the No. 1 share of the global market through full production and maximum sales expansion. At the same time, we will thoroughly strengthen our competitiveness by continuously launching new high-performance products, promoting cost reductions, and building a strong supply chain. In both the Ultrafiltration (UF) membrane and Membrane Bio Reactor (MBR) module businesses, we will expand sales of new high-performance products launched in fiscal 2019 and reinforce our business foundation.

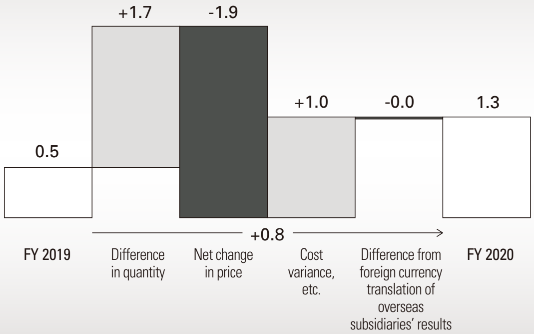
Medium-term management program: We are aggressively operating the business in line with the basic policies and promoting business expansion as planned. In the RO membrane business in fiscal 2020, we achieved significant year-on-year increases in revenue and profits—in an environment in which the global market was shrinking—by making full use of production capacity that had been expanded 1.3 times from the previous fiscal year and by supplying high-performance membranes to large desalination project applications in the Middle East. In the UF and MBR membrane businesses, Toray is further strengthening our global sales structure and promoting sales expansion of new products as planned.

To all shareholders and investors: Toray's water treatment business has been helping to solve water shortages and reduce environmental impact by developing the world's most advanced technologies, which are centered on seawater desalination and wastewater reuse applications. We will continue to expand and meet the diversifying demand for water treatment membranes, while contributing to the realization of a sustainable and prosperous planet Earth by improving water problems.

Life Science

Fiscal year	2019	**2020**	Changes	2021 (Forecast)
Revenue (Billion yen)	53.0	**53.0**	-0.1%	52.0
Core Operating Income (Billion yen)	0.5	**1.3**	+170.9%	1.0
Core Operating Margin	3.8%	**2.5%**		

Changes in Core Operating Income (Billion yen)



Revenue (Billion yen)

53.0

Core Operating Income (Billion yen)

1.3

Core Operating Margin

2.5%

ROA (Core Operating Income/Assets)

1.8%

TOPICS

VR Platform for Catheter Ablation Procedural Training Developed

Toray jointly developed HotBalloon™ Ablation: A VR Tour with Jolly Good Inc. This visual reality (VR) content is a high-definition version of the SATAKE-HotBalloon™ catheter procedure manufactured and sold by Toray for the treatment of paroxysmal atrial fibrillation. An estimated 720,000 patients are said to undergo atrial fibrillation in Japan. The treatment generally necessitates advanced operative procedures. A physician inserts a catheter treatment device into the body and uses X-ray fluoroscopy to visually guide the instrument to the treatment site in the heart. The COVID-19 pandemic has made it difficult to observe the procedure at facilities that use the HotBalloon™. In the medical field, there was a need for a tour tool that did not involve the movement of physicians and avoided people crowding in a clinical environment. Under such circumstances, the VR content developed on this occasion provides an opportunity for hands-on learning with a sense of realism—as if the participants were watching the actual operating procedure right next to the physician—wherever and whenever they want and as many times as they like. The VR content fulfills the role of complementing the traditional on-site training at facilities where the physician uses the HotBalloon™ procedure.

Messages from the General Managers of the Business Divisions

Pharmaceuticals & Medical Products Business

General Manager,
Pharmaceuticals & Medical Products Division
Hirofumi Kobayashi

Business environment: Due to the COVID-19 pandemic, responding to new lifestyles and improving infectious disease controls and medical systems have become major social issues. As the highest priority, we prioritize social contribution through the stable supply of products and services mainly in the dialysis and emergency field and through prompt responses to government requests. For the business as a whole, due to NHI drug price revisions and lower insurance reimbursement prices, the market entry and widespread acceptance of generic products, and the emergence of alternative drugs and treatments, the situation, including that of prices, remains severe. Also, we are promoting business structural reforms and medium- to long-term strategies (overseas business development, applications expansion, new businesses).

Main initiatives: Based on the development of products and services with an eye on the end of the COVID-19 pandemic and for the era of co-existing with COVID-19, the key initiatives are: (1) in the pharmaceutical business, business development of existing products and expansion of indications outside Japan; (2) in the medical devices business, expanding and improving the applications of existing products and reducing costs, launching and expanding sales of improved Hotballoon™ Cathether (HBC) products; (3) sophistication and adding high-value to the dialysis business; and (4) in launching the diagnostic drug business as the next mainstay business, we will implement measures to increase the probability of success. At the same time, we are targeting a total solution business that utilizes DX and AI with the aim of improving the QOL of patients and reducing the burden on medical professionals.

Medium-term management program: The development of our pharmaceutical business in China is progressing steadily amid delays in domestic and overseas clinical trials brought about by the COVID-19 pandemic. We have medical products in four areas—acute blood purification, cardiovascular, cancer and interventional radiology, and optical. We made a contribution amidst the COVID-19 pandemic, expanded the applications of emergency and critical care medicine business, and started clinical trials of new products. The dialysis business is driving the entire business through its advanced dialysis performance and high added-value. In the next mainstay business of diagnostics, we are steadily promoting the measurement of cytokines, which has been attracting attention in the COVID-19 pandemic, and preparing approval applications for cancer diagnostics.

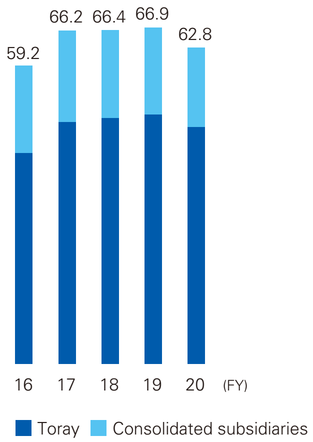
To all shareholders and investors: While making social contributions to medical care with high-quality products and services following the end of the COVID-19 pandemic and for the era of co-existing with COVID-19, we will enhance the pharmaceutical, medical devices, and dialysis businesses and develop our business outside Japan. We will work to expand our business and improve profits over the medium- to long- term by launching our next mainstay diagnostic drug business.

R&D

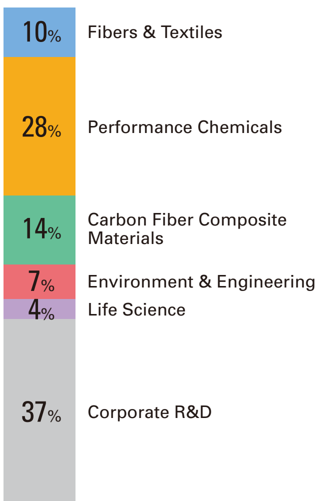
Fiscal 2020 R&D Expenditures
(Billion yen)

62.8

R&D Expenditures (Billion yen)



Percentage Breakdown of Total R&D Expenditures in Fiscal 2020



Fiscal 2020 R&D Achievements

Fibers & Textiles

Using NANODESIGN™, a proprietary conjugate spinning technology that enables free and highly precise control over the cross-sectional geometry of conjugate fibers, Toray developed Camifu™, a polyester filament textile that achieves the warmth and feel of hand-made Japanese paper. Camifu™ is environmentally-friendly, as one of its constituent polymers is made from recycled materials. The Company also developed the antiviral textile MAKSPEC™ V, which delivers exceptional washing durability and wearing comfort. In addition, Toray has developed LIVMOA™4000, a single-use protective clothing that has the breathability to reduce stuffiness inside clothing while protecting wearers from dust and water.

Performance Chemicals

Toray has developed Ultra-Thin and Flexible Tough Polymers which retains the outstanding thermal resistance, elastic modulus and strength of polyamide 6 resin, while delivering an exceptional bending fatigue resistance 15 times higher than that of conventional polymers. The new material is expected to be used in automobiles, home appliances, and sports equipment with its superior bending fatigue resistance.

Toray has also created a non-porous separator for lithium-ion secondary batteries (LiBs) using lithium metal as the anode. By suppressing lithium dendrites formation and maintaining high ionic conductivity, the non-porous separator will increase the capacity and enhance the safety of Lithium Metal Anode Batteries.

Carbon Fiber Composite Materials

Toray has concluded an agreement with Lilium GmbH of Germany to supply carbon fiber composite materials for the Lilium Jet urban air mobility (UAM) vehicle that the company is developing. The development of the UAM, which is also referred to as a “flying car,” is progressing mainly in the small electric motors that will enable vertical takeoff and landing. Toray will help to resolve urban environmental issues by developing carbon fiber composite materials that cater to the unique challenges of UAM applications.

Toray has also jointly developed, with Tokyo-based MODEC, Inc., a carbon fiber reinforced plastic (CFRP)-based repair technology for oil and gas floating production, storage and offloading (FPSO) and floating storage and offloading (FSO) facilities. Approval for the technology as a repair method for sections corroded by rust has been obtained from the American Bureau of Shipping.

Environment & Engineering

Toray developed a new polyvinylidene fluoride (PVDF) ultrafiltration (UF) membrane with exceptional virus removal rate and high water permeability for water treatment. Since the membrane effectively removes viruses and does not reduce water permeability, it can be expected to contribute to safe and economical water supplies—treated with minimal energy at low cost—in a wide range of water treatment fields, from food and beverages to wastewater reuse.

Life Science

A new concept antibody drug that is expected to be effective in treating many types of cancer, TRK-950 started Phase I clinical trials in the U.S.A. and France in March 2017. To date, the drug has been administered to more than 100 patients, and according to reports there have been no safety problems so far. The drug's safety and efficacy is being confirmed and the aim is to apply for approval as a cancer treatment drug at the earliest possible time.

Received Display Component of the Year Award for 2020

At the Society for Information Display (SID*), Toray received Display Industry Awards, the Display Component of the Year Award for its Spectrum Conversion by Organic Phosphor (SCO) sheet. This honor is in recognition of the sheet's significant contribution to the development of the display industry.

Toray has developed an organic luminescent material that exhibits sharp emission spectra and successfully commercialized the product. It is the world first organic luminescent material that helps liquid crystal displays to deliver high color gamuts, enabling colorful displays that cannot be rendered by conventional inorganic phosphors. SID highly appreciated the SCO sheet, because the sheet is composed of organic materials with environmentally-friendly technology and thus free of heavy metals and other toxic substances.

* Founded in 1962, SID is the world's largest academic society for electronic displays.

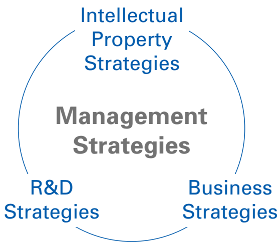
Received JCIA Technology Award for Anti-Thrombogenic Artificial Kidney

Toray received the 53rd JCIA Technology Award from the Japan Chemical Industry Association (JCIA) for developing and commercializing an anti-thrombogenic artificial kidney. This marked the sixth time for the Company to win that award, the previous occasion having been the 49th in fiscal 2016.

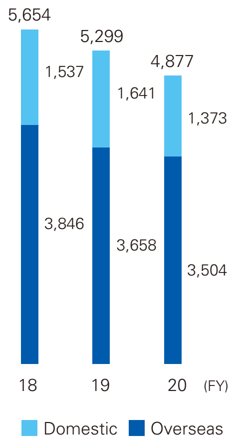
The need to enhance the anti-thrombogenic performance of artificial kidneys in line with advances in dialysis treatment is growing year by year. Given that situation, Toray was acclaimed for having fully drawn on its nanotechnology and computational chemistry capabilities in succeeding in commercializing an artificial kidney, a polysulfone membrane, with significantly improved anti-thrombogenic properties.

This development will lead to the commercialization of artificial kidneys to treat not only chronic but also acute renal failure, thereby contributing to improving patients' quality of life (QOL) and ease burdens on medical professionals.

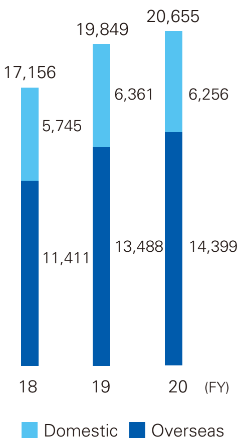
Intellectual Property



Patents Filed



Patents Held



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 are committed to patent rights acquisition made efficient by enhancing the quality of individual patents.

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 Management Strategies

Under Toray Group's Medium-Term Management Program, Project AP-G 2022, a medium-term management program was formulated not only for R&D, but also for intellectual property, and the following five measures are promoted.

1. Strengthening Toray Group's intellectual property capabilities to address global business expansion

Under the guidance of Toray's Executive Vice President in charge, the Group is advancing intellectual property activities through the construction of a framework in which the intellectual property for group companies in and outside of Japan are managed. Particular attention is paid to nurturing group companies that play a central role in respective regions, and to supporting group companies that have newly joined the Group.

2. Strategic patent application and building barriers to entry by protecting knowhow

Considering the risk of imitations that arises following the publication of applications, a scheme where barriers to entry are put in place by creatively leveraging patent applications and the protecting our knowhow is reinforced. Moreover, continuous efforts to further boost the quality of patent specifications are made, as well as promotion of initiatives to strengthen patent applications and patenting of rights outside of Japan.

3. Promoting intellectual property strategies that contribute to the long-term corporate vision

Intellectual property activities are promoted, in order to achieve sound, sustainable growth espoused in the Long-Term Corporate Vision, TORAY VISION 2030.

4. Establishing an environment to support the promotion of efficient intellectual property strategies

By digitizing and streamlining workflow for business tasks, such as internal and external contacts, queries and responses, or the paperwork involved in forms for circular-type consultations, transition to paperless offices and enhancement of efficiency in intellectual property operations are promoted.

5. Developing intellectual property-focused human resources

Experts capable of promoting intellectual property strategies across the Group are being developed, specific to business areas and regions. In particular, the Group is elevating the intellectual property competency and capabilities of human resources at group companies, including national staff at group companies outside of Japan, while pursuing patent applications and patenting of rights across the Group, and promoting effective and efficient infringement prevention activities.

Toray Takes Top Spot on Patent Result's Ranking for Fiber, Paper and Pulp Industry

The "2020 Ranking of Capability to Prevent Other Companies from Obtaining Patent Rights," published annually by Patent Result Co., Ltd., is an advanced patent application index that compiles the number of patents by a company that were cited as reasons for rejection of another company's patent application in the course of the patent deliberation process, in any particular year. Toray was ranked No. 1 in the fiber, paper and pulp category for the eighth consecutive year. As the same index benchmarks are used, if "fiber, paper and pulp," and "chemicals" categories are treated as a single industry, Toray's ranking becomes No. 3.

財務情報

Financial Section

Financial Section

CONTENTS

Selected Consolidated Financial Data

Years ended March 31,

	J-GAAP			
	2012	2013*1	2014	2015
Revenue*5	1,588,604	1,592,279	1,837,778	2,010,734
Fibers & Textiles	638,375	632,150	755,474	856,676
Performance Chemicals	—	—	—	—
Carbon Fiber Composite Materials	69,914	77,620	113,342	158,365
Environment & Engineering	170,247	178,355	180,197	179,988
Life Science	55,554	56,599	58,205	57,039
Other	13,295	14,127	14,277	14,321
Plastics & Chemicals	397,815	395,835	470,542	496,370
IT-related Products	243,404	237,593	245,741	247,975
Core operating income*5	107,721	83,436	105,253	123,481
Profit before tax	101,091	77,828	97,760	114,469
Profit attributable to owners of parent	64,218	48,477	59,608	71,021
Cash flows from operating activities	104,410	100,815	161,455	141,282
Cash flows from investing activities	(104,002)	(107,525)	(214,826)	(140,662)
Free cash flow	408	(6,710)	(53,371)	620
Total assets	1,581,501	1,731,933	2,119,683	2,357,925
Interest-bearing liabilities	481,906	532,002	654,163	700,258
Equity attributable to owners of parent*5	627,111	724,161	859,001	985,668
Per share data:				
Basic earnings per share	39.41	29.75	36.59	44.33
Diluted earnings per share	37.46	28.90	35.70	44.28
Cash dividends per share	10.00	10.00	10.00	11.00
Book value per share	384.90	444.45	527.32	616.70
Ratios:				
Core operating margin*5	6.8	5.2	5.7	6.1
Return on assets	6.8	5.0	5.5	5.5
Return on equity	10.5	7.2	7.5	7.7
Equity ratio	39.7	41.8	40.5	41.8
D/E ratio (times)	0.77	0.73	0.76	0.71
Stock price range:				
High	631	654	786	1,057.5
Low	511	421	584	626
Number of employees	40,227	42,584	45,881	45,789

*1 Certain overseas subsidiaries adopted IAS 19 "Employee Benefits" (revised on June 16, 2011) effective from the year ended March 31, 2014. The related figures for the year ended March 31, 2013 are retrospectively restated accordingly.

*2 Toray Group changed the reportable segments effective from the year ended March 31, 2018. The related figures for the year ended March 31, 2017 are retrospectively restated accordingly.

*3 "Partial Amendments to Accounting Standard for Tax Effect Accounting" (Accounting Standards Board of Japan (ASBJ) Statement No. 28, February 16, 2018) is applied from the year ended March 31, 2019 and onward. The related figures for the year ended March 31, 2018 are retrospectively restated accordingly.

Millions of yen

J-GAAP					IFRS	
2016	2017*2	2018*3	2019	2020	2020*4	2021
2,104,430	2,026,470	2,204,858	2,388,848	2,214,633	2,091,166	**1,883,600**
892,039	856,124	913,610	974,265	883,137	830,963	**719,239**
—	724,648	803,310	868,847	770,814	761,208	**720,418**
186,196	161,608	177,949	215,913	236,922	236,885	**182,884**
183,324	212,548	238,256	257,673	252,282	190,846	**193,524**
55,841	54,150	53,803	53,653	53,250	53,023	**52,965**
14,720	17,392	17,930	18,497	18,228	18,241	**14,570**
521,238	—	—	—	—	—	—
251,072	—	—	—	—	—	—
154,480	146,893	156,464	141,469	131,186	125,532	**90,265**
137,808	139,012	136,612	127,419	94,046	123,304	**65,566**
90,132	99,418	95,915	79,373	55,725	84,230	**45,794**
196,142	173,958	129,180	176,239	225,767	238,262	**211,591**
(154,414)	(135,242)	(186,685)	(260,247)	(142,364)	(142,875)	**(97,872)**
41,728	38,716	(57,505)	(84,008)	83,403	95,387	**113,719**
2,278,386	2,396,785	2,575,910	2,788,351	2,650,687	2,733,520	**2,848,839**
704,253	716,399	816,325	976,251	938,913	991,024	**973,927**
945,568	1,021,272	1,090,695	1,131,033	1,093,748	1,116,075	**1,237,851**

Yen

56.38	62.17	59.97	49.61	34.83	52.65	**28.61**
56.31	62.10	59.90	49.56	34.58	52.26	**28.57**
13.00	14.00	15.00	16.00	16.00	16.00	**9.00**
591.50	638.64	681.92	706.95	683.61	697.57	**773.44**

%

7.3	7.2	7.1	5.9	5.9	6.0	**4.8**
6.7	6.3	6.3	5.3	4.8	4.5	**3.2**
9.3	10.1	9.1	7.1	5.0	7.5	**3.9**
41.5	42.6	42.3	40.6	41.3	40.8	**43.5**
0.74	0.70	0.75	0.86	0.86	0.89	**0.79**

Yen

1,146.0	1,027.5	1,208.0	1,035.5	848.5	848.5	**756.5**
871.7	854.0	903.1	705.1	397.4	397.4	**425.2**

45,839	46,248	45,762	48,320	48,031	48,031	**46,267**

*4 Toray Group has adopted International Financial Reporting Standards (IFRS) instead of generally accepted accounting principles in Japan (J-GAAP) since the year ended March 31, 2021. Comparative information in accordance with IFRS is also presented for the year ended March 31, 2020.

*5 For the figures prepared under J-GAAP, "Net sales," "Operating income," "Net assets less non-controlling interests and share acquisition rights" and "Operating income to net sales" are presented in place of "Revenue," "Core operating income," "Equity attributable to owners of parent" and "Core operating margin," respectively.

Management Discussion and Analysis

Toray Group has adopted International Financial Reporting Standards (IFRS) instead of generally accepted accounting principles in Japan (J-GAAP) since the year ended March 31, 2021. The figures for the year ended March 31, 2020 are restated in accordance with IFRS for comparison and analysis in the following analysis of financial performance, financial position and cash flows.

1. Financial performance

During the year ended March 31, 2021, the global economy was hit hard by the novel coronavirus (COVID-19) pandemic. The stagnation in production and consumption activities as well as the disruption to supply chains caused by the restrictions on international movement of people and goods resulted in chaos in both Japanese and overseas economies, causing a record-setting drop in the economy. Subsequently, the global economy rebounded around July, as economic activities resumed, initially in China and followed by the U.S. and Europe. There were times when growth rate slowed, depending on the country, due to restrictions on economic activities caused by the resurgence of COVID-19 infections, but the global economy has been maintaining a recovery trend in general.

Under such circumstances, Toray Group in May 2020 launched the new medium-term management program "Project AP-G 2022" aimed at achieving sound, sustainable growth through the implementation of basic strategies such as global expansion in growth business fields, strengthening competitiveness, and strengthening the management foundation.

As a result, consolidated revenue for the year ended March 31, 2021, declined 9.9% compared with the previous year to ¥1,883.6 billion, and core operating income fell 28.1% to ¥90.3 billion. Operating income declined 51.3% to ¥55.9 billion and profit attributable to owners of parent declined by 45.6% to ¥45.8 billion as a U.S. subsidiary recorded an impairment loss.

Billions of yen

	2020	2021	Year-over-year (%)
Revenue	2,091.2	**1,883.6**	(9.9)
Core operating income*	125.5	**90.3**	(28.1)
Operating income	114.7	**55.9**	(51.3)
Profit attributable to owners of parent	84.2	**45.8**	(45.6)

* Core operating income is calculated by excluding income and expenses due to non-recurring factors from operating income.

Revenue for the year ended March 31, 2021 dropped in all the reportable segments except Environment & Engineering segment compared with the previous year. Core operating income increased in Performance Chemicals, Environment & Engineering and Life Science segments whereas it decreased in Fibers & Textiles and Carbon Fiber Composite Materials segments.

The following tables summarize revenue and core operating income by segment and analysis of changes in core operating income.

Billions of yen

Revenue	2020	2021	Change
Fibers & Textiles	831.0	**719.2**	(111.7)
Performance Chemicals	761.2	**720.4**	(40.8)
Carbon Fiber Composite Materials	236.9	**182.9**	(54.0)
Environment & Engineering	190.8	**193.5**	2.7
Life Science	53.0	**53.0**	(0.1)
Other*1	18.2	**14.6**	(3.7)
Consolidated total	2,091.2	**1,883.6**	(207.6)

Billions of yen

Core Operating Income	2020	2021	Change				
			Total	Difference in quantity	Net change in price	Cost variance and other	Translation of foreign subsidiaries
Fibers & Textiles	59.6	**36.6**	(23.0)	(31.8)	2.1	6.7	0.1
Performance Chemicals	54.5	**67.0**	12.4	1.7	2.5	9.0	(0.6)
Carbon Fiber Composite Materials	22.6	**(7.5)**	(30.1)	(46.6)	3.9	12.7	(0.1)
Environment & Engineering	10.6	**14.5**	4.0	2.5	(0.6)	2.0	(0.0)
Life Science	0.5	**1.3**	0.8	1.7	(1.9)	1.0	(0.0)
Other and Reconciliations*1, 2	(22.2)	**(21.6)**	0.6	(1.9)	—	2.5	(0.0)
Consolidated total	125.5	**90.3**	(35.3)	(74.4)	5.9	33.9	(0.7)

*1 "Other" represents service-related businesses such as analysis, physical evaluation and research.
*2 "Reconciliations" include intersegment eliminations and corporate expenses.

- "Difference in quantity" caused a decrease of ¥74.4 billion in core operating income due to a decrease in sales and production with the impact of COVID-19.
- "Net change in price" caused an increase of ¥5.9 billion because of the decline in raw material prices compared with the year ended March 31, 2020.
- "Cost variance and other" caused an increase of ¥33.9 billion as a result of efforts to reduce operating expenses, production fixed costs and other expenses.

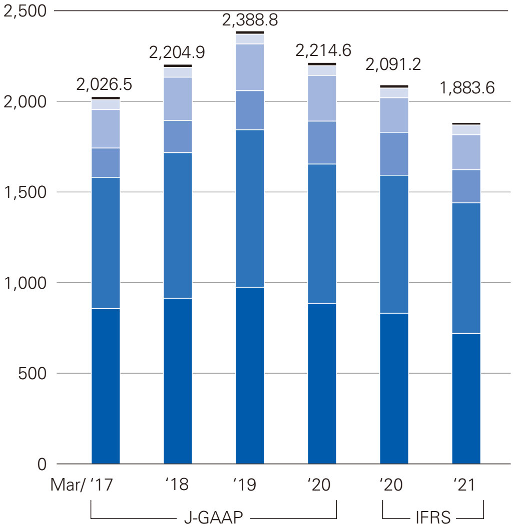
Detailed discussion on the financial performance by segment is as follows.

(1) Fibers & Textiles

The segment was affected by the stagnation in production activities and consumption behavior caused by the COVID-19 in Japan and overseas. In the apparel applications, demand declined due to lockdown and excessive channel inventory in various countries, while in industrial applications, general purpose materials remained weak and sales volume declined. Demand for nonwoven fabrics increased for the applications of medical gowns and masks and there have been signs of recovery in the automotive applications from the third quarter, but these factors fell short of offsetting the decline in the overall sales volume in the segment.

Revenue by Segment

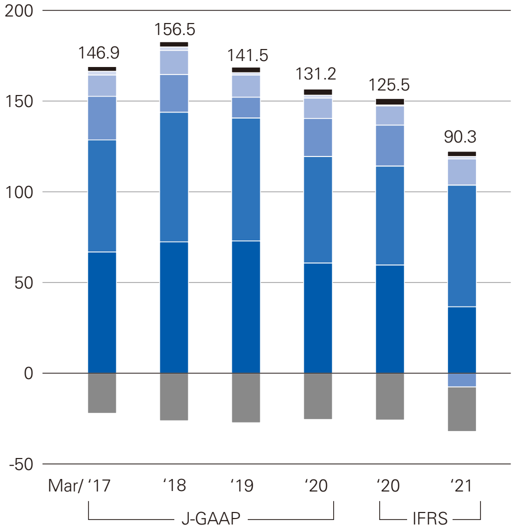
(Billions of yen)



■ Fibers & Textiles ■ Performance Chemicals
■ Carbon Fiber Composite Materials ■ Environment & Engineering
■ Life Science ■ Other

Core Operating Income by Segment

(Billions of yen)



■ Fibers & Textiles ■ Performance Chemicals
■ Carbon Fiber Composite Materials ■ Environment & Engineering
■ Life Science ■ Other ■ Reconciliations

* For the J-GAAP periods, net sales and operating income are presented in place of revenue and core operating income, respectively.

As a result, revenue of overall Fibers & Textiles segment declined 13.4% to ¥719.2 billion compared with the previous year and core operating income fell 38.6% to ¥36.6 billion.

(2) Performance Chemicals

The resins business was affected by the stagnation in production activities caused by the COVID-19, but demand has been strong since the third quarter with automobile manufacturers operating and the recovery of the Chinese economy. The chemicals business saw a recovery trend in the basic chemicals market. In the films business, battery separator films for lithium-ion secondary batteries were affected by lower market prices, while polyester films for optical applications and electronic components performed strongly. In the electronic & information materials business, OLED-related demand increased.

As a result, revenue of overall Performance Chemicals segment declined 5.4% to ¥720.4 billion compared with the previous year while core operating income rose 22.8% to ¥67.0 billion.

(3) Carbon Fiber Composite Materials

While the sales of wind turbine blade applications remained strong in industrial applications, aerospace application was affected by the decline in the production rate of commercial aircraft.

As a result, revenue of overall Carbon Fiber Composite Materials segment declined 22.8% to ¥182.9 billion compared with the previous year. The segment posted core operating loss of ¥7.5 billion, a decline of ¥30.1 billion from the previous year.

(4) Environment & Engineering

In the water treatment business, demand for reverse osmosis membranes and other products grew strongly on the whole, while shipment to some regions were affected by the COVID-19. In the environment and amenity business, demand for air filters was strong.

Among domestic subsidiaries in the segment, an engineering subsidiary experienced decreases in the shipment of some electronics related equipment. A construction subsidiary posted profits from completion of a real estate project.

As a result, revenue of overall Environment & Engineering segment increased 1.4% to ¥193.5 billion compared with the previous year and core operating income rose 37.5% to ¥14.5 billion.

(5) Life Science

In the pharmaceutical business, sales of pruritus treatment REMITCH®* were affected by the introduction of its generic versions as well as by a major NHI drug price revision in April 2020.

In the medical devices business, shipment of dialyzers grew strongly in Japan and overseas, despite the impact of medical institutions postponing non-urgent operations due to the spread of the COVID-19.

As a result, revenue of overall Life Science segment remained at the same level compared with the previous year, at ¥53.0 billion, and core operating income rose by ¥0.8 billion to ¥1.3 billion.

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

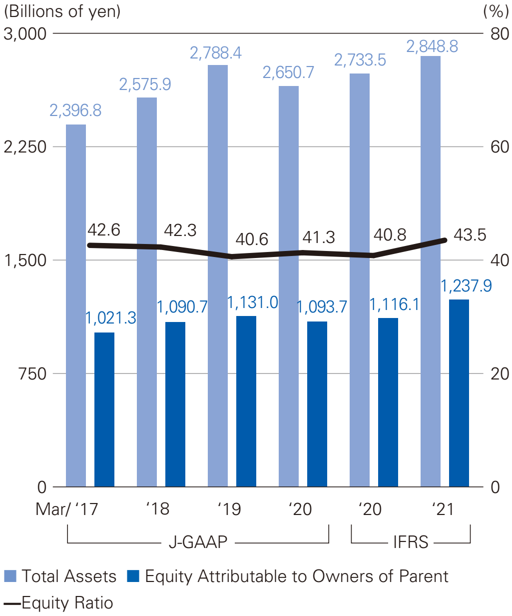
(6) Other

Revenue from other businesses declined 20.1% to ¥14.6 billion compared with the previous year and core operating income fell 18.2% to ¥2.9 billion.

2. Financial position

As of March 31, 2021, Toray Group's total assets stood at ¥2,848.8 billion, up ¥115.3 billion from March 31, 2020. Current assets increased ¥29.1 billion as cash

Total Assets and Equity Attributable to Owners of Parent



*1 "Partial Amendments to Accounting Standard for Tax Effect Accounting" (ASBJ Statement No. 28, February 16, 2018) is applied from the year ended March 31, 2019 and onward. The related figures for the year ended March 31, 2018 are retrospectively restated accordingly.

*2 For the J-GAAP periods, net assets less non-controlling interests and share acquisition rights are presented in place of equity attributable to owners of parent.

and cash equivalents rose, and non-current assets also rose ¥86.2 billion due primarily to increases in property, plant and equipment as well as other financial assets.

Total liabilities declined ¥6.1 billion from March 31, 2020 to ¥1,526.6 billion, owing mainly to declines in bonds and borrowings.

Total equity rose by ¥121.4 billion compared with March 31, 2020 to ¥1,322.3 billion, reflecting an increase in other components of equity. Equity attributable to owners of parent stood at ¥1,237.9 billion. Equity ratio at March 31, 2021 came to 43.5%, a 2.6 percentage-point increase compared with the level at March 31, 2020. D/E ratio declined 0.10 compared with the level at March 31, 2020 to 0.79.

3. Cash flows

For the year ended March 31, 2021, net cash provided by operating activities exceeded net cash used in investing activities by ¥113.7 billion while net cash used in financing activities came to ¥69.4 billion due mainly to a decrease in interest-bearing liabilities. As a result, cash and cash equivalents as of March 31, 2021 amounted to ¥236.4 billion, up by ¥52.7 billion compared with March 31, 2020.

(1) Cash flows from operating activities

Net cash provided by operating activities decreased by ¥26.7 billion (11.2%) compared with the previous year to ¥211.6 billion. This was primarily because profit before tax decreased by ¥57.7 billion compared with the previous year while decrease in inventories increased by ¥27.4 billion.

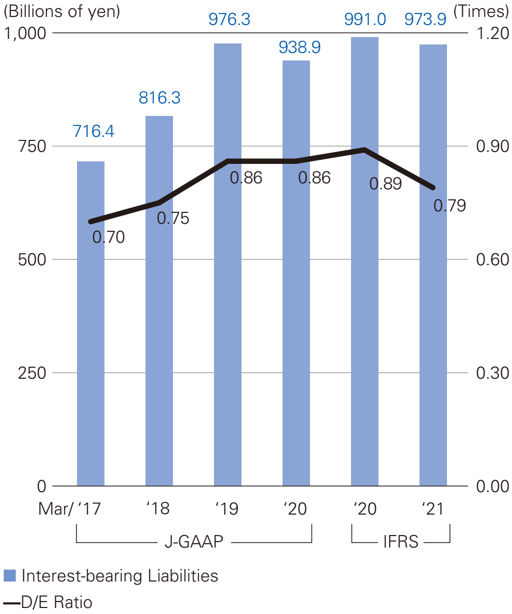
(2) Cash flows from investing activities

Net cash used in investing activities decreased by ¥45.0 billion (31.5%) compared with the previous year to ¥97.9 billion mainly because of decrease in purchase of property, plant and equipment and intangible assets by ¥18.3 billion compared with the previous year and increase in proceeds from sale and redemption of investments by ¥12.5 billion.

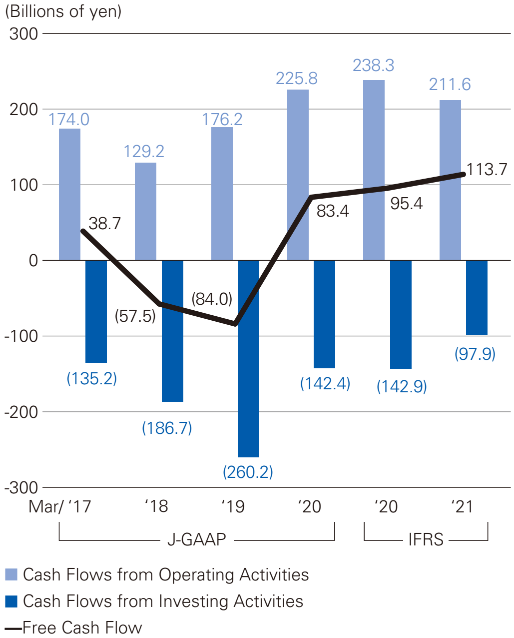
(3) Cash flows from financing activities

Net cash used in financing activities came to ¥69.4 billion, down by ¥4.4 billion (6.0%) compared with the previous year. Net increase in short-term borrowings increased by ¥33.6 billion compared with the previous year while redemption of bonds and repayments of long-term borrowings increased by ¥23.3 billion.

Interest-bearing Liabilities and D/E Ratio



Cash Flows



Consolidated Statement of Financial Position

Date of Transition to IFRS (April 1, 2019) and March 31, 2020 and 2021

Millions of yen

Assets	Note	April 1, 2019	March 31, 2020	**March 31, 2021**
Current assets				
Cash and cash equivalents	7	167,435	183,703	**236,354**
Trade and other receivables	8	561,106	496,064	**522,259**
Inventories	9	431,928	405,269	**369,110**
Other financial assets	15	5,658	19,505	**6,136**
Other current assets	16	48,167	47,350	**47,180**
Total current assets		1,214,294	1,151,891	**1,181,039**
Non-current assets				
Property, plant and equipment	10	974,219	969,196	**998,358**
Right-of-use assets	11	55,829	47,095	**50,481**
Goodwill	12	85,712	83,406	**85,565**
Intangible assets	12	85,095	79,502	**78,305**
Investments accounted for using equity method	14	165,286	171,176	**174,142**
Other financial assets	15	231,940	183,984	**217,341**
Deferred tax assets	17	17,917	16,844	**14,414**
Retirement benefit asset	21	19,608	15,806	**34,879**
Other non-current assets	16	19,457	14,620	**14,315**
Total non-current assets		1,655,063	1,581,629	**1,667,800**
Total assets		2,869,357	2,733,520	**2,848,839**

Millions of yen

Liabilities and Equity	Note	April 1, 2019	March 31, 2020	**March 31, 2021**
Current liabilities				
Trade and other payables	18	325,569	285,702	**282,812**
Bonds and borrowings	19	290,976	278,962	**278,678**
Lease liabilities	11	10,449	9,884	**10,635**
Other financial liabilities	20	17,585	13,911	**12,872**
Income taxes payable	17	11,939	10,155	**11,956**
Other current liabilities	22	88,925	77,344	**84,425**
Total current liabilities		745,443	675,958	**681,378**
Non-current liabilities				
Bonds and borrowings	19	713,028	674,701	**654,608**
Lease liabilities	11	33,889	27,477	**30,006**
Other financial liabilities	20	8,839	7,606	**6,699**
Deferred tax liabilities	17	45,370	32,123	**41,516**
Retirement benefit liability	21	103,223	101,979	**100,852**
Other non-current liabilities	22	13,435	12,830	**11,505**
Total non-current liabilities		917,784	856,716	**845,186**
Total liabilities		1,663,227	1,532,674	**1,526,564**
Equity	23			
Equity attributable to owners of parent				
Share capital		147,873	147,873	**147,873**
Capital surplus		121,429	121,987	**120,493**
Retained earnings		803,209	860,128	**899,994**
Treasury shares		(20,358)	(20,308)	**(19,985)**
Other components of equity		72,137	6,395	**89,476**
Total equity attributable to owners of parent		1,124,290	1,116,075	**1,237,851**
Non-controlling interests		81,840	84,771	**84,424**
Total equity		1,206,130	1,200,846	**1,322,275**
Total liabilities and equity		2,869,357	2,733,520	**2,848,839**

Consolidated Statement of Profit or Loss

Years ended March 31, 2020 and 2021

Millions of yen

	Note	2020	2021
Revenue	25	2,091,166	**1,883,600**
Cost of sales		(1,661,879)	**(1,506,100)**
Gross profit		429,287	**377,500**
Selling, general and administrative expenses		(300,651)	**(286,981)**
Other income	26	7,533	**5,388**
Other expenses	27	(21,469)	**(40,028)**
Operating income		114,700	**55,879**
Finance income	28	7,065	**6,099**
Finance costs	28	(9,166)	**(9,224)**
Share of profit of investments accounted for using equity method	14	10,705	**12,812**
Profit before tax		123,304	**65,566**
Income tax expense	17	(29,461)	**(18,227)**
Profit		93,843	**47,339**
Profit attributable to:			
Owners of parent		84,230	**45,794**
Non-controlling interests		9,613	**1,545**
		93,843	**47,339**
Earnings per share:	30		
Basic (Yen)		52.65	**28.61**
Diluted (Yen)		52.26	**28.57**

Consolidated Statement of Comprehensive Income

Years ended March 31, 2020 and 2021

Millions of yen

	Note	2020	2021
Profit		93,843	**47,339**
Other comprehensive income	29		
Items that will not be reclassified to profit or loss			
Investments in equity instruments		(19,933)	**35,002**
Remeasurements of defined benefit plans		(4,922)	**10,249**
Share of other comprehensive income of investments accounted for using equity method		(532)	**663**
		(25,387)	**45,914**
Items that may be reclassified to profit or loss			
Cash flow hedges		404	**(389)**
Deferred costs of hedging		(602)	**613**
Exchange differences on translation		(44,650)	**54,941**
Share of other comprehensive income of investments accounted for using equity method		2	**2**
		(44,846)	**55,167**
Total other comprehensive income		(70,233)	**101,081**
Comprehensive income		23,610	**148,420**
Comprehensive income attributable to:			
Owners of parent		16,810	**143,039**
Non-controlling interests		6,800	**5,381**
		23,610	**148,420**

Consolidated Statement of Changes in Equity

Years ended March 31, 2020 and 2021

Millions of yen

	Note	2020												
		Equity attributable to owners of parent												
						Other components of equity								
		Share capital	Capital surplus	Retained earnings	Treasury shares	Investments in equity instruments	Cash flow hedges	Deferred costs of hedging	Exchange differences on translation	Remeasurements of defined benefit plans	Total other components of equity	Total equity attributable to owners of parent	Non-controlling interests	Total equity
At April 1, 2019		147,873	121,429	803,209	(20,358)	72,351	(602)	388	—	—	72,137	1,124,290	81,840	1,206,130
Profit		—	—	84,230	—	—	—	—	—	—	—	84,230	9,613	93,843
Other comprehensive income		—	—	—	—	(19,886)	406	(602)	(42,434)	(4,904)	(67,420)	(67,420)	(2,813)	(70,233)
Comprehensive income		—	—	84,230	—	(19,886)	406	(602)	(42,434)	(4,904)	(67,420)	16,810	6,800	23,610
Exercise of share acquisition rights		—	(51)	—	51	—	—	—	—	—	—	0	—	0
Share-based payment transactions	31	—	325	—	—	—	—	—	—	—	—	325	—	325
Dividends	24	—	—	(25,612)	—	—	—	—	—	—	—	(25,612)	(3,312)	(28,924)
Changes in ownership interest in subsidiaries		—	284	—	—	—	—	—	—	—	—	284	(557)	(273)
Transfer from other components of equity to retained earnings		—	—	(1,699)	—	(3,205)	—	—	—	4,904	1,699	—	—	—
Other changes		—	0	—	(1)	—	(21)	—	—	—	(21)	(22)	—	(22)
Total transactions with owners and other		—	558	(27,311)	50	(3,205)	(21)	—	—	4,904	1,678	(25,025)	(3,869)	(28,894)
At March 31, 2020		147,873	121,987	860,128	(20,308)	49,260	(217)	(214)	(42,434)	—	6,395	1,116,075	84,771	1,200,846

Millions of yen

	Note	2021												
		Equity attributable to owners of parent												
						Other components of equity								
		Share capital	Capital surplus	Retained earnings	Treasury shares	Investments in equity instruments	Cash flow hedges	Deferred costs of hedging	Exchange differences on translation	Remeasurements of defined benefit plans	Total other components of equity	Total equity attributable to owners of parent	Non-controlling interests	Total equity
At April 1, 2020		**147,873**	**121,987**	**860,128**	**(20,308)**	**49,260**	**(217)**	**(214)**	**(42,434)**	**—**	**6,395**	**1,116,075**	**84,771**	**1,200,846**
Profit		**—**	**—**	**45,794**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**45,794**	**1,545**	**47,339**
Other comprehensive income		**—**	**—**	**—**	**—**	**34,806**	**(387)**	**613**	**52,113**	**10,100**	**97,245**	**97,245**	**3,836**	**101,081**
Comprehensive income		**—**	**—**	**45,794**	**—**	**34,806**	**(387)**	**613**	**52,113**	**10,100**	**97,245**	**143,039**	**5,381**	**148,420**
Exercise of share acquisition rights		**—**	**(323)**	**—**	**323**	**—**	**—**	**—**	**—**	**—**	**—**	**0**	**—**	**0**
Share-based payment transactions	31	**—**	**355**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**355**	**—**	**355**
Dividends	24	**—**	**—**	**(20,012)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(20,012)**	**(3,532)**	**(23,544)**
Changes in ownership interest in subsidiaries		**—**	**(1,696)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(1,696)**	**(2,196)**	**(3,892)**
Transfer from other components of equity to retained earnings		**—**	**—**	**14,084**	**—**	**(3,984)**	**—**	**—**	**—**	**(10,100)**	**(14,084)**	**—**	**—**	**—**
Other changes		**—**	**170**	**—**	**(0)**	**—**	**(80)**	**—**	**—**	**—**	**(80)**	**90**	**—**	**90**
Total transactions with owners and other		**—**	**(1,494)**	**(5,928)**	**323**	**(3,984)**	**(80)**	**—**	**—**	**(10,100)**	**(14,164)**	**(21,263)**	**(5,728)**	**(26,991)**
At March 31, 2021		**147,873**	**120,493**	**899,994**	**(19,985)**	**80,082**	**(684)**	**399**	**9,679**	**—**	**89,476**	**1,237,851**	**84,424**	**1,322,275**

Consolidated Statement of Cash Flows

Years ended March 31, 2020 and 2021

Millions of yen

	Note	2020	2021
Cash flows from operating activities			
Profit before tax		123,304	**65,566**
Depreciation and amortization		114,725	**115,819**
Impairment losses (reversal of impairment losses)		7,569	**28,867**
Share of loss (profit) of investments accounted for using equity method		(10,705)	**(12,812)**
Finance income and finance costs		2,149	**2,264**
Decrease (increase) in trade and other receivables		54,081	**(13,916)**
Decrease (increase) in inventories		19,270	**46,702**
Increase (decrease) in trade and other payables		(30,724)	**(7,247)**
Changes in retirement benefit asset and liability		(4,104)	**(7,467)**
Other adjustments		(18,144)	**9,819**
Subtotal		257,421	**227,595**
Interest received		2,389	**1,538**
Dividends received		14,031	**14,669**
Interest paid		(5,970)	**(5,738)**
Income taxes refund (paid)		(29,609)	**(26,473)**
Net cash provided by operating activities		238,262	**211,591**
Cash flows from investing activities			
Purchase of property, plant and equipment, and intangible assets		(140,738)	**(122,483)**
Proceeds from sale of property, plant and equipment, and intangible assets		6,018	**1,459**
Payments for acquisition of subsidiaries		(3,466)	**—**
Purchase of investments		(7,405)	**(2,126)**
Proceeds from sale and redemption of investments		8,603	**21,129**
Other inflows (outflows) of cash		(5,887)	**4,149**
Net cash used in investing activities		(142,875)	**(97,872)**
Cash flows from financing activities	33		
Net increase (decrease) in short-term borrowings		(28,863)	**4,731**
Proceeds from issuance of bonds and long-term borrowings		87,024	**75,042**
Redemption of bonds and repayments of long-term borrowings		(91,581)	**(114,916)**
Repayments of lease liabilities		(11,166)	**(11,615)**
Dividends paid to owners of parent		(25,612)	**(20,018)**
Dividends paid to non-controlling interests		(3,322)	**(3,532)**
Other inflows (outflows) of cash		(275)	**905**
Net cash provided by (used in) financing activities		(73,795)	**(69,403)**
Effect of exchange rate changes on cash and cash equivalents		(5,324)	**8,335**
Net increase (decrease) in cash and cash equivalents		16,268	**52,651**
Cash and cash equivalents at beginning of period		167,435	**183,703**
Cash and cash equivalents at end of period	7	183,703	**236,354**

Notes to the Consolidated Financial Statements

Date of Transition to IFRS (April 1, 2019) and Years ended March 31, 2020 and 2021

Note 1. Reporting Entity

Toray Industries, Inc. (the Company) is a stock company domiciled in Japan and the registered address of its head office is Chuo-ku, Tokyo. The consolidated financial statements for the year ended March 31, 2021 (from April 1, 2020 to March 31, 2021) include the accounts of the Company and its subsidiaries (the Group) and the Group's interests in associates and joint arrangements. The ultimate parent of the Group is the Company.

The Group's main businesses include "Fibers & Textiles," "Performance Chemicals," "Carbon Fiber Composite Materials," "Environment & Engineering" and "Life Science" businesses (see "Note 6. Segment Information").

Note 2. Basis of Preparation

1. Statement of compliance with IFRS and matters related to first-time adoption

The consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) pursuant to Article 93 of the Regulation on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements (Ministry of Finance Order No. 28 of 1976), as the Group meets the requirements for a "specified company complying with designated international accounting standards" set forth in Article 1-2 of the regulation. The Group has adopted IFRS starting from the year ended March 31, 2021, and the date of transition to IFRS is April 1, 2019.

Upon transition to IFRS, the Group has applied IFRS 1 "First-time Adoption of International Financial Reporting Standards" (IFRS 1). The impact of the transition to IFRS on the Group's financial position, financial performance and cash flows is stated in "Note 38. First-time Adoption."

2. Approval of consolidated financial statements

The Group's consolidated financial statements were authorized for issue on June 22, 2021 by Akihiro Nikkaku, President and Representative Member of the Board.

3. Basis of measurement

The Group's consolidated financial statements have been prepared on a historical cost basis, except for certain items including financial instruments measured at fair value.

4. Presentation currency

The Group's consolidated financial statements are presented in Japanese yen (millions of yen, rounded off to the nearest million yen), which is the Company's functional currency.

Note 3. Significant Accounting Policies

The following accounting policies have been applied consistently to all periods presented in these consolidated financial statements (including the consolidated statement of financial position at the date of transition to IFRS).

1. Basis of consolidation

The consolidated financial statements of the Group are prepared based on uniform accounting policies.

(1) Subsidiaries

A subsidiary is an entity that is controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The financial statements of subsidiaries are included in the consolidated financial statements of the Group from the date on which the Company obtains control over the subsidiaries until the date on which the Company loses that control.

All intragroup balances and transactions and any unrealized gains or losses arising from intragroup transactions are eliminated in preparing the consolidated financial statements.

Any changes in the Company's ownership interests in the consolidated subsidiaries that do not result in loss of control are accounted for as equity transactions. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity as equity attributable to owners of parent.

If the Company loses control of a subsidiary, the Group measures and recognizes any investment retained at its fair value at the date when control is lost. Any gain or loss resulting from loss of control is recognized in profit or loss.

Non-controlling interests in subsidiaries are identified separately from the Group's interests. Total comprehensive income of subsidiaries is attributed to owners of parent and to non-controlling interests, even if this results in the non-controlling interests having a deficit balance.

If the fiscal year-end of a subsidiary is not the same as that of the consolidated financial statements, the subsidiary provisionally closes its accounts for consolidation purposes at the fiscal year-end of the consolidated financial statements.

(2) Associates

An associate is an entity over which the Group has significant influence but does not have control or joint control in the entity's decision-making on the financial and operating policies. If the Group holds 20 to 50 percent of the voting power of an entity, it is usually presumed that the Group has significant influence.

Investments in associates are recognized at cost at the date of acquisition and accounted for using the equity method from the date on which the Group obtains significant influence over the associates to the date on which the Group loses that influence.

Investments in associates include goodwill recognized upon acquisition.

(3) Joint arrangements

A joint arrangement is an arrangement where decisions about the relevant activities require the unanimous consent of the parties sharing control.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Investments in joint ventures are accounted for using the equity method.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. For investments in joint operations, the Group recognizes assets, liabilities, revenues and expenses according to the Group's shares in the assets, liabilities, revenues and expenses of the joint operation.

2. Business combinations

Business combinations are accounted for using the acquisition method. The consideration for an acquisition is measured as the sum of the acquisition-date fair values of the assets transferred in exchange for control of the acquiree, the liabilities incurred by former owners of the acquiree and the equity interests issued by the Group.

When the Group acquires a business, the Group classifies and designates the identifiable assets acquired and liabilities assumed on the basis of the contractual terms, economic conditions and other pertinent conditions as they exist at the acquisition date. Those assets and liabilities are, in principle, measured at their acquisition-date fair values.

Non-controlling interests in an acquiree are measured at the non-controlling interests' proportionate share in the recognized amounts of the acquiree's identifiable net assets.

The excess of (a) the aggregate of the consideration for an acquisition, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of the Group's previously held equity interest in the acquiree over (b) the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed is recognized as goodwill. If (b) is in excess of (a), the gain is recognized in profit or loss.

Acquisition-related costs incurred in a business combination are recognized as expenses in the periods in which the costs are incurred.

3. Foreign currency translation

(1) Foreign currency transactions

Each individual entity within the Group has its own functional currency, and their transactions are measured at their own functional currencies.

Foreign currency transactions are translated into the functional currency at the spot exchange rate at the date of the transaction or at the rate that approximates the spot exchange rate.

Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate at the end of the reporting period. Non-monetary assets and liabilities that are denominated in foreign currencies and measured at cost are translated to the functional currency using the spot exchange rate at the date of the transaction. Non-monetary assets and liabilities that are denominated in foreign currencies and measured at fair value are translated into the functional currency at the spot exchange rate at the date when the fair value is determined.

Exchange differences arising from the translation or settlement are recognized in profit or loss. However, exchange differences arising from equity instruments measured at fair value through other comprehensive income and cash flow hedges are recognized in other comprehensive income.

(2) Foreign operations

The assets and liabilities of foreign operations are translated into Japanese yen using the exchange rate at the end of the reporting period, and the income and expenses of foreign operations are translated into Japanese yen using the average exchange rate for the reporting period, except in cases where the exchange rate fluctuates significantly. Exchange differences arising from the translation of a foreign operation's financial statements are recognized in other comprehensive income.

On the disposal of a foreign operation, the cumulative exchange differences relating to the foreign operation are reclassified to profit or loss for the period of disposal.

4. Financial instruments

(1) Non-derivative financial assets

(a) Initial recognition and measurement

The Group initially recognizes trade and other receivables on the date when they arise and other financial assets on the trade date when the Group becomes a party to the contract.

Financial assets are classified as either of the followings at initial recognition:

(i) Financial assets measured at amortized cost

The Group classifies a financial asset as those measured at amortized cost only if both of the following conditions are met:

- the financial asset is held within a business model with an objective of collecting contractual cash flows, and
- the contractual terms of the financial asset give rise on specific dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

(ii) Debt instruments measured at fair value through other comprehensive income

The Group classifies a financial asset as a debt instrument measured at fair value through other comprehensive income only if both of the following conditions are met:

- the financial asset is held within a business model with an objective of both collecting contractual cash flows and selling financial assets, and
- the contractual terms of the financial asset give rise on specific dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

(iii) Equity instruments measured at fair value through other comprehensive income

Equity instruments such as shares held primarily for the purposes of strengthening business relationships with customers and expanding businesses are designated as those measured at fair value through other comprehensive income. This designation is applied consistently.

(iv) Financial assets measured at fair value through profit or loss

Financial assets that are not classified as any of the above are classified as those measured at fair value through profit or loss.

Except for financial assets measured at fair value through profit or loss, financial assets are initially measured at fair value plus transaction costs. Transaction costs of financial assets measured at fair value through profit or loss are recognized as profit or loss.

(b) Subsequent measurement

After initial recognition, financial assets are measured based on their classification as follows:

(i) Financial assets measured at amortized cost

Such assets are measured at amortized cost using the effective interest method.

(ii) Debt instruments measured at fair value through other comprehensive income

Such debt instruments are measured at fair value and subsequent changes in the fair value are recognized in other comprehensive income, except that foreign exchange gains or losses, impairment losses, and finance income based on the effective interest method are recognized in profit or loss. When these debt instruments are derecognized, cumulative gains or losses recognized in other comprehensive income are reclassified to profit or loss as reclassification adjustments.

(iii) Equity instruments measured at fair value through other comprehensive income

Such equity instruments are measured at fair value and subsequent changes in the fair value are recognized in other comprehensive income.

When these equity instruments are derecognized, cumulative gains or losses recognized through other comprehensive income are reclassified from other components of equity to retained earnings. Dividends and interest income from these equity instruments are recognized as finance income in profit or loss.

(iv) Financial assets measured at fair value through profit or loss

Such financial assets are measured at fair value and subsequent changes in the fair value are recognized in profit or loss.

(c) Derecognition

The Group derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire or when the Group transfers substantially all the risks and rewards of ownership of the financial asset.

(d) Impairment of financial assets

Allowance for doubtful accounts is recognized for expected credit losses in respect of financial assets measured at amortized cost. Accordingly, the Group assesses whether the credit risk on these financial assets has increased significantly since initial recognition at the end of each reporting period. If the credit risk on a financial asset has not increased significantly since initial recognition, the allowance for doubtful accounts for the financial asset is measured at an amount equal to the 12-month expected credit losses. If the credit risk on a financial asset has increased significantly since initial recognition, the allowance for doubtful accounts for the financial asset is measured at an amount equal to the lifetime expected credit losses. However, an allowance for doubtful accounts for trade receivables without any significant financing components is always measured at an amount equal to the lifetime expected credit losses.

Whether the credit risk has increased significantly or not is determined mainly based on past due information and credit ratings. A financial asset is considered credit-impaired primarily when there is a substantial delay in payment or a significant financial difficulty of the borrower.

The expected credit loss is measured by reflecting the time value of money on the difference between the total contractual cash flows that are due to the Group and the total cash flows that the Group expects to receive, and is recognized in profit or loss.

(2) Non-derivative financial liabilities

(a) Initial recognition and measurement

Non-derivative financial liabilities are classified, at initial recognition, as financial liabilities measured at amortized cost and financial liabilities measured at fair value through profit or loss. All financial liabilities are initially measured at fair value, except for financial liabilities measured at amortized cost, which are measured at fair value less directly attributable transaction costs.

(b) Subsequent measurement

(i) Financial liabilities measured at amortized cost

Such liabilities are measured at amortized cost using the effective interest method. Amortization using the effective interest method and gains or losses on derecognition are recognized in profit or loss.

(ii) Financial liabilities measured at fair value through profit or loss

Such financial liabilities are measured at fair value and subsequent changes in the fair value are recognized in profit or loss.

(c) Derecognition

The Group derecognizes a financial liability when it is extinguished, i.e., when the obligation specified in the contract is performed, discharged, cancelled or expired.

(3) Hedge accounting and derivatives

(a) Qualifying hedging instruments and hedged items

The Group enters into derivative transactions, including forward exchange contracts, cross-currency swaps and interest rate swaps, to manage currency risk and interest rate risk. As the prerequisite for application of hedge accounting, at the inception of a hedge, the Group formally designates and documents the relationships between the hedging instruments and hedged items, and its risk management objectives and strategies. The documentation includes concrete items or transactions of hedging instruments and hedged items, the nature of the risks being hedged, and methods to assess effectiveness of hedging relationships. Furthermore, the Group evaluates on an ongoing basis whether a hedging instrument is highly effective during its term in offsetting changes in fair values or cash flows of the relevant hedged item.

Derivatives for which hedge accounting is not applied are classified as "financial assets measured at fair value through profit or loss" or "financial liabilities measured at fair value through profit or loss" and accounted for based on their classification.

(b) Cash flow hedges

The effective portion of the gain or loss on hedging instruments is recognized in other comprehensive income as cash flow hedges and the cumulative gain or loss is included in other components of equity. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss. The portion of the foreign currency basis spread related to cross-currency swaps is excluded from hedging instruments and recognized in other comprehensive income as deferred costs of hedging, and the cumulative amount is included in other components of equity.

The amount accumulated in other components of equity is reclassified to profit or loss as a reclassification adjustment in the same period when the hedged items affect profit or loss. However, if a hedged forecast transaction subsequently results in the recognition of a non-financial asset or non-financial liability, the amount accumulated in other components of equity is accounted for as an adjustment to the initial carrying amount of the asset or liability.

If a hedging instrument expires or is sold, terminated or exercised, or ceases to meet the hedge accounting criteria, the application of hedge accounting is discontinued prospectively. If a forecast transaction is no longer expected to occur, the accumulated gain or loss recognized through other comprehensive income is immediately reclassified to profit or loss.

(c) Fair value hedges

A gain or loss on a hedging instrument is recognized in profit or loss. Changes in the fair value of a hedged item attributable to the hedged risk is recognized in profit or loss after adjusting the carrying amount of the hedged item. If the hedged item is a financial instrument measured at amortized cost, amortization of the cumulative adjustment to the carrying amount of the hedged item begins when the application of hedge accounting is discontinued.

5. Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, demand deposits and short-term investments with a maturity of three months or less from the date of acquisition that are readily convertible to cash and which are subject to an insignificant risk of changes in value.

6. Inventories

Inventories are measured at the lower of cost and net realizable value. Costs of inventories comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition, and are mainly determined using the moving-average cost method. Net realizable value is determined by the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

7. Property, plant and equipment

The Group applies the cost model for measurement of property, plant and equipment. Property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment losses.

Costs of property, plant and equipment include costs directly attributable to the acquisition of the asset, costs of dismantling and removing the asset and restoring the site on which it is located, and borrowing costs eligible for capitalization.

Property, plant and equipment, except for land and construction in progress, are depreciated mainly using the straight-line method over the estimated useful lives. The estimated useful lives of major items of property, plant and equipment are as follows:

- Buildings and structures: 3-60 years
- Machinery and vehicles: 2-20 years

The depreciation method, useful life and residual value of property, plant and equipment are reviewed at each fiscal year-end, and any changes, if necessary, are accounted for prospectively as changes in accounting estimates.

8. Goodwill and intangible assets

(1) Goodwill

The measurement of goodwill at initial recognition is described in "2. Business combinations." Goodwill is stated at cost less accumulated impairment losses.

Goodwill is not amortized and is tested for impairment annually and whenever there is an indication of impairment.

(2) Intangible assets

The Group applies the cost model for measurement of intangible assets. Intangible assets are stated at cost less accumulated amortization and accumulated impairment losses.

Intangible assets acquired separately are measured at cost at initial recognition and those acquired in a business combination are measured at their fair value at the acquisition date.

Expenditures generated internally at a research phase are recognized as expenses as incurred. Expenditures generated internally at a development phase are recognized as intangible assets only if all of the requirements for capitalization are met.

Intangible assets with finite useful lives are amortized by the straight-line method over their estimated useful lives. The estimated useful lives of major intangible assets are as follows:

- Customer-related intangible assets: 14-21 years
- Technology-based intangible assets: 8-24 years
- Software: Mainly 5 years

The amortization method, useful life and residual value of an intangible asset are reviewed at each fiscal year-end, and any changes, if necessary, are accounted for prospectively as changes in accounting estimates.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are not amortized, and are tested for impairment annually and whenever there is an indication of impairment.

9. Leases

The Group assesses whether a contract is, or contains, a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

At the commencement date, a lease liability is measured at the present value of the lease payments that are not paid at that date. An incremental borrowing rate is used for a discount rate unless the interest rate implicit in the lease can be readily determined. A right-of-use asset is measured at the amount of the initial measurement of the lease liability, adjusted by initial direct costs and prepaid lease payments, plus an estimated cost of dismantling and removing the asset and restoring the site on which the asset is located.

Right-of-use assets are depreciated mainly over the lease term after the commencement date of the lease. The lease term is determined by adding a period when it is reasonably certain to exercise an option to extend a lease, or not to exercise an option to terminate a lease, to the non-cancellable period of the lease. Lease payments are apportioned between finance costs and repayments of lease liabilities based on the effective interest method.

For leases with a lease term of 12 months or less and leases for which the underlying asset is of low value, the related lease payments are recognized as expenses on a systematic basis over the lease term.

10. Impairment of non-financial assets

At the end of each reporting period, the Group assesses whether there is any indication that non-financial assets, including property, plant and equipment, intangible assets and goodwill, may be impaired. If any such indication exists, the recoverable amount of the asset is estimated. For goodwill, intangible assets with indefinite useful lives and intangible assets not yet available for use, their recoverable amounts are estimated annually and whenever there is any indication of impairment.

The recoverable amount is the higher of the asset's fair value less costs of disposal or its value in use. When the recoverable amount of an individual asset cannot be estimated, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. The value in use is determined as the discounted present value of future cash flows to be derived from continuing use of the asset and from its ultimate disposal. The discount rate used for determining the value in use is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the asset.

If the recoverable amount of an asset, a cash-generating unit or a group of cash-generating units is less than its carrying amount, an impairment loss is recognized in profit or loss. An impairment loss recognized for a cash-generating unit (group of units) is first allocated to reduce the carrying amount of any goodwill allocated to the cash-generating unit (group of units) and is then allocated to the other assets pro rata on the basis of the carrying amount of each asset.

At the end of each reporting period, the Group assesses whether there is any indication that an impairment loss recognized in prior periods for an asset other than goodwill may no longer exist or may have decreased. If any such indication exists, the recoverable amount of the individual asset or cash-generating unit is estimated. If the estimated recoverable amount exceeds the carrying amount of the asset, impairment losses are reversed to the extent that the carrying amount of the asset does not exceed the lower of its recoverable amount determined and the carrying amount that would have been determined (net of amortization or depreciation) had no impairment loss been recognized for the asset in prior periods. The amount of reversal of impairment losses is recognized in profit or loss.

Impairment losses recognized for goodwill are not reversed.

11. Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the end of the reporting period. When the effect of the time value of money is material, a provision is measured at the present value of the expenditure expected to be required to settle the obligation. The discount rate used for determining the present value is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

12. Employee benefits

(1) Post-employment benefits

The Group has defined contribution plans and defined benefit plans as retirement benefit plans for employees.

(a) Defined contribution plans

Contributions to defined contribution plans are recognized as expenses when services are rendered by employees.

(b) Defined benefit plans

The present value of defined benefit obligations and current service cost, as well as past service costs are determined using the projected unit credit method. The discount rate is determined based on market yields at the end of the reporting period on high quality corporate bonds for the corresponding period up to the estimated date of future benefit payments.

The net defined benefit liability (asset) is recognized at the present value of defined benefit obligations net of the fair value of plan assets.

Service costs and net interest on the net defined benefit liability (asset) are recognized in profit or loss. Remeasurements of the net defined benefit liability (asset) are recognized in other comprehensive income in the period when they occur and transferred immediately to retained earnings. Past service cost is recognized in profit or loss in the period when they are incurred.

(2) Other employee benefits

Short-term employee benefits are recognized as expenses when the associated services are rendered by employees at undiscounted amounts.

When the Group has a legal or constructive obligation to make payments of bonuses and paid leave expenses and a reliable estimate can be made of the obligation, a liability is recognized for the estimated amount to be paid based on the respective programs.

13. Equity

Common shares are recorded at issue value in share capital and capital surplus.

Treasury shares are valued at cost and deducted from equity. When treasury shares are disposed of, the difference between the carrying amount and the consideration received is recognized as capital surplus.

14. Share-based payments

The Company has adopted a share option plan as an equity-settled share-based remuneration plan. The grant-date fair value of share options is recognized as an expense over the vesting period, and the corresponding amount is recognized as an increase in equity. The fair value of options granted is determined using the Black-Scholes model.

15. Revenue recognition

The Group's revenue is recognized based on the following five-step model:

Step 1: Identify the contract(s) with a customer

Step 2: Identify the performance obligations in the contract

Step 3: Determine the transaction price

Step 4: Allocate the transaction price to the performance obligations in the contract

Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

The Group operates Fibers & Textiles, Performance Chemicals, Carbon Fiber Composite Materials, Environment & Engineering, Life Science and other businesses and, with regard to sales of products of these businesses, the Group determines that its performance obligation is satisfied typically when a customer obtains control of the product upon the delivery. Accordingly, revenue is mainly recognized when the product is delivered. For engineering and other service contracts at certain subsidiaries operating the Environment & Engineering business, revenue is recognized over time based on the progress in satisfying the performance obligation because control of a product or service is transferred over time. The progress is measured by a ratio of the actual cost to the total estimated cost.

Revenue is recognized at the consideration promised in a contract with a customer, less discounts, rebates, returned products and other items, and only to the extent that it is highly probable that a significant reversal will not occur. In addition, contracts do not contain a significant financing component because consideration is normally collected about within one year from the time when the performance obligation is satisfied.

16. Income taxes

Income taxes consist of current taxes and deferred taxes. They are recognized in profit or loss, except for those related to business combinations and items recognized in other comprehensive income or directly in equity.

Current taxes are measured at the amount expected to be paid to or recovered from the taxation authorities, using the tax rates and tax laws that have been enacted or substantively enacted by the end of the reporting period.

Deferred taxes are recognized for temporary differences between the accounting carrying amount and the tax base of assets and liabilities and for the carryforward of unused tax credits and unused tax losses at the end of the reporting period. Deferred tax liabilities are, in principle, recognized for all taxable temporary differences. Deferred tax assets are recognized for deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized, and the recoverability of deferred tax assets is reassessed each period.

Deferred tax assets and liabilities are not recognized for the following temporary differences:

- temporary differences arising from the initial recognition of goodwill;
- temporary differences arising from the initial recognition of assets and liabilities in transactions (excluding business combinations) which affect neither accounting profit nor taxable profit;
- taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint arrangements, to the extent that the timing of the reversal of the temporary difference can be controlled and it is probable that the temporary difference will not reverse in the foreseeable future; and
- deductible temporary differences associated with investments in subsidiaries and associates, and interests in joint arrangements, to the extent that it is not probable that the temporary difference will reverse in the foreseeable future or it is not probable that taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax assets and liabilities are offset if the Group has a legally enforceable right to set off current tax assets against current tax liabilities, and income taxes are levied by the same taxation authority on the same taxable entity.

The Company and some of its subsidiaries file consolidated tax returns.

17. Earnings per share

Basic earnings per share are calculated by dividing profit or loss attributable to common shareholders of the parent entity by the weighted average number of common shares outstanding, adjusted for treasury shares, during the period. Diluted earnings per share are calculated by adjusting for the effects of all dilutive potential common shares.

Note 4. Significant Accounting Estimates and Judgements

In preparing the consolidated financial statements, management is required to make judgements, estimates and assumptions that affect the application of accounting policies and the amounts of assets, liabilities, income and expenses. These estimates and assumptions are based on management's best judgements, but may differ from actual results.

The estimates and underlying assumptions are reviewed on an ongoing basis. The effects of revisions to accounting estimates are recognized in the period in which the estimates are revised and in future periods.

Accounting judgements, estimates and assumptions that have a significant impact on the amounts recognized in the Group's consolidated financial statements are principally as follows:

1. Impairment of non-financial assets

At the end of each reporting period, the Group assesses whether there is any indication that non-financial assets, including property, plant and equipment, intangible assets and goodwill, may be impaired. If any such indication exists, the recoverable amount of the asset is estimated. For goodwill, intangible assets with indefinite useful lives and intangible assets not yet available for use, their recoverable amounts are estimated annually and whenever there is any indication of impairment.

In determining the recoverable amount, certain assumptions are established for future cash flows, discount rates and other items. These assumptions are determined by management's best estimates and judgements but may be affected by changes in future economic conditions and business plans. If it becomes necessary to review the assumptions, the consolidated financial statements may be materially affected.

The relevant details are described in "Note 10. Property, Plant and Equipment" and "Note 12. Goodwill and Intangible Assets."

2. Recoverability of deferred tax assets

Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized, and their recoverability is reviewed every period. In determining the recoverability, the amount and timing of taxable profit generated are estimated based on business plans. These assumptions are determined by management's best estimates and judgements but may be affected by changes in future economic conditions and other events. If it becomes necessary to review the assumptions, the consolidated financial statements may be materially affected.

The relevant details are described in "Note 17. Income Taxes."

3. Measurement of defined benefit obligations

The net defined benefit liability (asset) is recognized at the present value of defined benefit obligations net of the fair value of plan assets. Defined benefit obligations are calculated based on actuarial assumptions, which include estimates of discount rates, employee turnover, mortality and future increases in salaries. These actuarial assumptions may be affected by changes in future economic climates or social conditions. If it becomes necessary to review the assumptions, the consolidated financial statements may be materially affected.

The relevant details are described in "Note 21. Employee Benefits."

The Group makes accounting estimates, including valuation of non-financial assets, assuming that the global economy will maintain a recovery trend backed by large-scale additional economic measures implemented by the U.S. and the rollout of coronavirus vaccines, but a full-scale recovery will be achieved in the year ending March 31, 2022 or thereafter due to the slow pace of recovery.

Note 5. New Standards Not Yet Applied

None of the new standards or interpretations that have been established or revised by the date of authorization for issue of the consolidated financial statements have a significant impact on the Group's consolidated financial statements.

Note 6. Segment Information

1. Overview of reportable segments

The reportable segments of the Group are the components of the Group for which discrete financial information is available and which are subject to periodic review by the Board of Directors and other relevant bodies to determine the allocation of management resources and evaluate business performance.

The Company identifies five reportable segments based on the product's nature and market similarity: "Fibers & Textiles," "Performance Chemicals," "Carbon Fiber Composite Materials," "Environment & Engineering" and "Life Science." The main products belonging to each reportable segment are as follows:

Reportable segment	Main products
Fibers & Textiles	Filament yarns, staple fibers, spun yarns, woven and knitted fabrics of nylon, polyester, acrylic and others; nonwoven fabrics; nonwoven material created using ultra-fine fibers in an "Island in the Sea" configuration; apparel products
Performance Chemicals	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
Carbon Fiber Composite Materials	Carbon fibers, carbon fiber composite materials and their molded products
Environment & Engineering	Comprehensive engineering; condominiums; industrial equipment and machinery; IT-related equipment; water treatment membranes and related equipment; materials for housing, building and civil engineering applications
Life Science	Pharmaceuticals, medical devices, etc.

The accounting policies for each reportable segment are the same as described in "Note 3. Significant Accounting Policies." Intersegment revenue is determined based mainly on market prices.

2. Information on reportable segments

Millions of yen

	2020								
	Reportable segments					Other*1	Total	Reconciliations*2, 3	Consolidated total
	Fibers & Textiles	Performance Chemicals	Carbon Fiber Composite Materials	Environment & Engineering	Life Science				
Revenue									
Revenue from external customers	830,963	761,208	236,885	190,846	53,023	18,241	2,091,166	—	2,091,166
Intersegment revenue	1,215	15,485	848	60,466	1	26,785	104,800	(104,800)	—
Total	832,178	776,693	237,733	251,312	53,024	45,026	2,195,966	(104,800)	2,091,166
Core operating income*4	59,589	54,523	22,598	10,567	478	3,593	151,348	(25,816)	125,532
Segment assets	800,830	959,550	613,893	261,796	68,437	86,270	2,790,776	(57,256)	2,733,520
(Other items)									
Depreciation and amortization	30,790	46,255	27,631	5,143	3,136	2,053	115,008	(283)	114,725
Impairment losses	901	3,844	1,779	5	9	—	6,538	1,031	7,569
Capital expenditures*5	38,020	64,659	22,432	11,317	2,887	2,026	141,341	804	142,145

*1 "Other" represents service-related businesses such as analysis, physical evaluation and research.
*2 "Reconciliations" of core operating income of ¥(25,816) million include intersegment eliminations of ¥(152) million and corporate expenses of ¥(25,664) million. The corporate expenses consist of the headquarters' research expenses that are not allocated to each reportable segment.
*3 "Reconciliations" of segment assets of ¥(57,256) million include intersegment eliminations of ¥(82,584) million and corporate assets of ¥25,328 million. The corporate assets consist of the headquarters' research assets that are not allocated to each reportable segment.
*4 Core operating income is calculated by excluding income and expenses due to non-recurring factors from operating income.
*5 Capital expenditures do not include the increase in assets resulting from business combinations.

Millions of yen

	2021								
	Reportable segments					Other*1	Total	Reconciliations*2, 3	Consolidated total
	Fibers & Textiles	Performance Chemicals	Carbon Fiber Composite Materials	Environment & Engineering	Life Science				
Revenue									
Revenue from external customers	**719,239**	**720,418**	**182,884**	**193,524**	**52,965**	**14,570**	**1,883,600**	—	**1,883,600**
Intersegment revenue	**1,045**	**11,185**	**712**	**56,724**	**1**	**24,891**	**94,558**	**(94,558)**	—
Total	**720,284**	**731,603**	**183,596**	**250,248**	**52,966**	**39,461**	**1,978,158**	**(94,558)**	**1,883,600**
Core operating income (loss)*4	**36,565**	**66,963**	**(7,476)**	**14,532**	**1,295**	**2,939**	**114,818**	**(24,553)**	**90,265**
Segment assets	**808,565**	**1,075,600**	**564,046**	**297,697**	**72,943**	**86,689**	**2,905,540**	**(56,701)**	**2,848,839**
(Other items)									
Depreciation and amortization	**30,729**	**44,982**	**28,765**	**5,871**	**3,328**	**2,401**	**116,076**	**(257)**	**115,819**
Impairment losses	**2,903**	**864**	**25,100**	—	—	—	**28,867**	—	**28,867**
Capital expenditures*5	**23,240**	**74,905**	**19,899**	**11,104**	**2,787**	**2,434**	**134,369**	**(1,169)**	**133,200**

*1 "Other" represents service-related businesses such as analysis, physical evaluation and research.
*2 "Reconciliations" of core operating income of ¥(24,553) million include intersegment eliminations of ¥310 million and corporate expenses of ¥(24,863) million. The corporate expenses consist of the headquarters' research expenses that are not allocated to each reportable segment.
*3 "Reconciliations" of segment assets of ¥(56,701) million include intersegment eliminations of ¥(77,905) million and corporate assets of ¥21,204 million. The corporate assets consist of the headquarters' research assets that are not allocated to each reportable segment.
*4 Core operating income is calculated by excluding income and expenses due to non-recurring factors from operating income.
*5 Capital expenditures do not include the increase in assets resulting from business combinations.

Reconciliation of core operating income to profit before tax is as follows:

Millions of yen

	2020	2021
Core operating income	125,532	**90,265**
Gain on sale or disposal of fixed assets	3,031	**288**
Loss on sale or disposal of fixed assets	(6,195)	**(5,807)**
Impairment losses	(7,569)	**(28,867)**
Other	(99)	**—**
Operating income	114,700	**55,879**
Finance income	7,065	**6,099**
Finance costs	(9,166)	**(9,224)**
Share of profit of investments accounted for using equity method	10,705	**12,812**
Profit before tax	123,304	**65,566**

3. Information about geographical areas

The breakdown of revenue from external customers and non-current assets by geographical area is as follows:

(1) Revenue from external customers

Millions of yen

	2020	2021
Japan	922,860	**829,191**
Asia		
China	368,008	**367,856**
Other	424,443	**373,514**
North America, Europe and other	375,855	**313,039**
Total	2,091,166	**1,883,600**

* Revenue is attributed to each area based on the location of customers.

(2) Non-current assets (excluding financial instruments, deferred tax assets and retirement benefit asset)

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
Japan	373,750	364,703	**355,817**
Asia			
Republic of Korea	230,429	213,901	**234,735**
Other	180,642	173,802	**183,300**
North America, Europe and other			
U.S.A.	277,723	268,438	**245,105**
Europe and other	157,768	172,975	**208,067**
Total	1,220,312	1,193,819	**1,227,024**

Note 7. Cash and Cash Equivalents

The breakdown of cash and cash equivalents is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Cash on hand and demand deposits	135,058	142,518	**177,697**
Time deposits and other short-term investments	32,377	41,185	**58,657**
Total	167,435	183,703	**236,354**

Note 8. Trade and Other Receivables

The breakdown of trade and other receivables is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Trade receivables	530,095	470,067	**489,070**
Contract assets	16,518	16,125	**24,195**
Other receivables	16,590	12,240	**11,264**
Allowance for doubtful accounts	(2,097)	(2,368)	**(2,270)**
Total	561,106	496,064	**522,259**

* Trade and other receivables, excluding contract assets, are classified as financial assets measured at amortized cost.

Note 9. Inventories

The breakdown of inventories is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Merchandise and finished goods	237,811	219,906	**195,221**
Work in process	88,372	86,332	**76,093**
Raw materials and supplies	105,745	99,031	**97,796**
Total	431,928	405,269	**369,110**

* The amounts of write-down of inventories recognized as expenses for the years ended March 31, 2020 and 2021 were ¥4,714 million and ¥2,567 million, respectively.

Note 10. Property, Plant and Equipment

1. Changes in property, plant and equipment

Changes in carrying amount, acquisition cost, and accumulated depreciation and accumulated impairment losses are as follows:

(1) Carrying amount

Millions of yen

	Land	Buildings and structures	Machinery and vehicles	Construction in progress	Other	Total
At April 1, 2019	67,682	279,767	456,542	145,043	25,185	974,219
Additions	105	31,499	95,990	(3,973)	9,140	132,761
Depreciation	—	(14,785)	(72,001)	—	(7,432)	(94,218)
Impairment losses	—	(99)	(6,222)	(546)	(701)	(7,568)
Disposal	(39)	(670)	(1,346)	(5)	(156)	(2,216)
Exchange differences on translation	(2,185)	(8,882)	(18,828)	(4,832)	(649)	(35,376)
Other	550	2,003	(1,486)	561	(34)	1,594
At March 31, 2020	**66,113**	**288,833**	**452,649**	**136,248**	**25,353**	**969,196**
Additions	**39**	**18,784**	**92,159**	**(4,782)**	**7,528**	**113,728**
Depreciation	**—**	**(15,038)**	**(72,627)**	**—**	**(7,503)**	**(95,168)**
Impairment losses	**—**	**(10,218)**	**(17,581)**	**(366)**	**(589)**	**(28,754)**
Disposal	**(190)**	**(450)**	**(1,489)**	**(553)**	**(179)**	**(2,861)**
Exchange differences on translation	**2,319**	**10,351**	**23,144**	**5,009**	**780**	**41,603**
Other	**(446)**	**(255)**	**696**	**363**	**256**	**614**
At March 31, 2021	**67,835**	**292,007**	**476,951**	**135,919**	**25,646**	**998,358**

*1 Additions include the transfer from construction in progress to other accounts of property, plant and equipment.
*2 Depreciation is included in "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statement of profit or loss, and impairment losses are included in "Other expenses" in the consolidated statement of profit or loss.

(2) Acquisition cost

Millions of yen

	Land	Buildings and structures	Machinery and vehicles	Construction in progress	Other	Total
At April 1, 2019	67,941	645,113	2,044,822	147,605	111,644	3,017,125
At March 31, 2020	66,373	661,816	2,051,461	139,266	113,339	3,032,255
At March 31, 2021	**67,883**	**693,912**	**2,181,505**	**139,257**	**119,282**	**3,201,839**

(3) Accumulated depreciation and accumulated impairment losses

Millions of yen

	Land	Buildings and structures	Machinery and vehicles	Construction in progress	Other	Total
At April 1, 2019	259	365,346	1,588,280	2,562	86,459	2,042,906
At March 31, 2020	260	372,983	1,598,812	3,018	87,986	2,063,059
At March 31, 2021	**48**	**401,905**	**1,704,554**	**3,338**	**93,636**	**2,203,481**

Note 11. Leases

The Group leases land, buildings, production facilities and other assets. Some of the lease contracts contain extension options and termination options. Amounts recognized in profit or loss and cash outflows related to leases and the breakdown of the carrying amount of right-of-use assets are as follows:

1. Amounts recognized in profit or loss and cash outflows related to leases

Millions of yen

	2020	2021
Depreciation charge for right-of-use assets		
Land	398	**455**
Buildings and structures	8,391	**8,579**
Machinery and vehicles	2,218	**2,266**
Other	663	**609**
Total	11,670	**11,909**
Interest expense on lease liabilities	510	**470**
Expense relating to short-term leases	1,233	**1,362**
Expense relating to leases of low-value assets	1,231	**881**
Total cash outflow for leases	14,140	**14,328**

2. Breakdown of carrying amount of right-of-use assets

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
Land	11,102	10,551	**10,847**
Buildings and structures	29,532	22,769	**27,602**
Machinery and vehicles	13,067	11,923	**10,694**
Other	2,128	1,852	**1,338**
Total	55,829	47,095	**50,481**

Additions to right-of-use assets for the years ended March 31, 2020 and 2021 were ¥4,832 million and ¥14,464 million, respectively.

The maturity analysis of lease liabilities is presented in "Note 32. Financial Instruments."

Note 12. Goodwill and Intangible Assets

1. Changes in goodwill and intangible assets

Changes in carrying amount, acquisition cost, and accumulated amortization and accumulated impairment losses are as follows:

(1) Carrying amount

Millions of yen

	Goodwill	Intangible assets			
		Customer-related intangible assets	Technology-based intangible assets	Other	Total
At April 1, 2019	85,712	42,822	26,810	15,463	85,095
Additions	—	—	—	4,389	4,389
Amortization	—	(2,764)	(1,339)	(4,455)	(8,558)
Exchange differences on translation	(2,306)	(942)	(566)	(420)	(1,928)
Other	—	—	—	504	504
At March 31, 2020	**83,406**	**39,116**	**24,905**	**15,481**	**79,502**
Additions	**—**	**—**	**—**	**4,854**	**4,854**
Amortization	**—**	**(2,246)**	**(1,320)**	**(4,926)**	**(8,492)**
Exchange differences on translation	**2,159**	**655**	**393**	**408**	**1,456**
Other	**—**	**—**	**—**	**985**	**985**
At March 31, 2021	**85,565**	**37,525**	**23,978**	**16,802**	**78,305**

*1 There were no significant internally generated intangible assets at April 1, 2019, March 31, 2020 and March 31, 2021.
*2 Amortization of intangible assets is included in "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statement of profit or loss.
*3 Research and development expenses recognized as expenses for the years ended March 31, 2020 and 2021 were ¥66,798 million and ¥62,818 million, respectively.

(2) Acquisition cost

Millions of yen

	Goodwill	Intangible assets			
		Customer-related intangible assets	Technology-based intangible assets	Other	Total
At April 1, 2019	85,712	52,001	34,693	57,008	143,702
At March 31, 2020	83,406	49,630	33,508	57,994	141,132
At March 31, 2021	**85,565**	**50,879**	**34,609**	**65,720**	**151,208**

(3) Accumulated amortization and accumulated impairment losses

Millions of yen

	Goodwill	Intangible assets			
		Customer-related intangible assets	Technology-based intangible assets	Other	Total
At April 1, 2019	—	9,179	7,883	41,545	58,607
At March 31, 2020	—	10,514	8,603	42,513	61,630
At March 31, 2021	**—**	**13,354**	**10,631**	**48,918**	**72,903**

2. Material intangible assets

The material intangible assets recorded in the consolidated statement of financial position are the customer-related intangible assets and technology-based intangible assets of TenCate Advanced Composites Holding B.V. (currently Toray TCAC Holding B.V.), which were acquired in July 2018. The carrying amounts of these assets are as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Customer-related intangible assets	38,192	35,161	**33,932**
Technology-based intangible assets	24,881	23,357	**22,706**

* The remaining useful life at March 31, 2021 was 19 to 22 years.

3. Impairment tests for goodwill

Cash-generating units or groups of cash-generating units to which goodwill has been allocated are tested for impairment annually and whenever there is an indication of impairment. The carrying amounts of material goodwill are as follows:

Millions of yen

Reportable segment	Cash-generating unit or group of cash-generating units	April 1, 2019	March 31, 2020	**March 31, 2021**
Carbon Fiber Composite Materials	Toray TCAC Holding B.V.	60,459	59,285	**60,309**
Carbon Fiber Composite Materials	Zoltek Companies, Inc.	11,610	11,384	**11,580**

The recoverable amount of each cash-generating unit was measured at value in use. The value in use was determined based on the business plan for the next five years approved by management combined with a terminal value, reflecting past experience and external information. The business plan is primarily affected by changes in sales volumes and sales prices. The terminal value was calculated using the growth rate based on the expected inflation rate of the country to which the cash-generating unit belonged (2.2 to 2.3% at April 1, 2019, March 31, 2020 and March 31, 2021). The discount rate used in the measurement of value in use was 8.1 to 8.3% at April 1, 2019, March 31, 2020 and March 31, 2021.

As the recoverable amount is sufficiently higher than the carrying amount, it is considered unlikely that a significant impairment loss would be incurred even if the key assumptions used in the impairment test were to change within a reasonably foreseeable range.

Note 13. Impairment Losses

The Group generally identifies cash-generating units on the basis of management accounting segmentation.

The major assets for which impairment losses were recognized for the years ended March 31, 2020 and 2021 are as follows. The impairment losses are recorded in "Other expenses" in the consolidated statement of profit or loss.

2020				
Reportable segment	Location	Use	Class of asset	Impairment losses (Millions of yen)
Carbon Fiber Composite Materials	Markgröningen, Germany and other	Carbon fiber composite materials production facilities	Machinery and vehicles Construction in progress Other	905 180 645
Performance Chemicals	Gyeongsangbuk-do, Republic of Korea	Film production facilities	Machinery and vehicles Other	1,331 4
Performance Chemicals	Saint-Maurice-de-Beynost, France	Film production facilities	Machinery and vehicles	1,266
—	Tokai, Aichi, Japan	Research and development facilities	Machinery and vehicles	1,031

The carrying amounts of, mainly, operating assets with declining profitability and assets to be disposed of were reduced to their recoverable amounts. The recoverable amount was measured at fair value less costs of disposal or at value in use. The fair value less costs of disposal was estimated at appraisal value or by other valuation techniques for those available for sale, and was assumed to be zero for those that were difficult to convert to other uses or sell. The value in use was calculated by discounting the future cash flows at discount rates of 7.4 to 10.2%.

2021				
Reportable segment	Location	Use	Class of asset	Impairment losses (Millions of yen)
Carbon Fiber Composite Materials	**Washington, U.S.A. and other**	**Carbon fiber composite materials production facilities**	**Buildings and structures**	**9,844**
			Machinery and vehicles	**14,275**
			Construction in progress	**313**
			Other	**536**
Fibers & Textiles	**Penang, Malaysia**	**Fiber production facilities**	**Buildings and structures**	**225**
			Machinery and vehicles	**1,589**
			Other	**21**

The carrying amounts of, mainly, operating assets with declining profitability were reduced to their recoverable amounts. The recoverable amount was measured at value in use. The value in use was calculated by discounting the future cash flows at discount rates of 7.8 to 9.0%.

The carrying amount of the carbon fiber composite materials production facilities in Washington, U.S.A. and other was reduced to the recoverable amount due to a decline in profitability caused by sluggish demand for aircraft, and the recoverable amount was measured at value in use of ¥53,192 million. The value in use was calculated by discounting the future cash flows at a discount rate of 7.8%. The future cash flows were estimated based on the business plan for the next five years approved by management, reflecting past experience and external information, and for the years after the five years, estimated using the growth rate based on the expected inflation rate of the country to which the cash-generating unit belongs. The business plan is primarily affected by changes in sales volumes and sales prices.

Note 14. Investments Accounted for Using Equity Method

1. Investments in joint ventures

The aggregate information about the carrying amount of investments in joint ventures and the share of profit, other comprehensive income and comprehensive income is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Carrying amount of investments in joint ventures	30,012	31,278	**32,564**

Millions of yen

	2020	**2021**
Share of profit	2,566	**5,123**
Share of other comprehensive income	96	**(15)**
Share of comprehensive income	2,662	**5,108**

2. Investments in associates

The aggregate information about the carrying amount of investments in associates and the share of profit, other comprehensive income and comprehensive income is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Carrying amount of investments in associates	135,274	139,898	**141,578**

Millions of yen

	2020	**2021**
Share of profit	8,139	**7,689**
Share of other comprehensive income	(626)	**680**
Share of comprehensive income	7,513	**8,369**

Note 15. Other Financial Assets

1. Breakdown

The breakdown of other financial assets is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Financial assets measured at amortized cost			
Time deposits and other short-term investments	2,841	7,071	**3,390**
Leasehold and guarantee deposits	9,697	9,175	**9,311**
Other	8,977	12,591	**10,689**
Financial assets measured at fair value through profit or loss			
Derivative assets	16,127	12,488	**7,363**
Other	300	300	**411**
Financial assets measured at fair value through other comprehensive income			
Shares and investments in capital	199,656	161,864	**192,313**
Total	237,598	203,489	**223,477**
Current assets	5,658	19,505	**6,136**
Non-current assets	231,940	183,984	**217,341**
Total	237,598	203,489	**223,477**

2. Equity instruments measured at fair value through other comprehensive income

The Group designates equity securities held mainly for the purpose of strengthening business relationships, facilitating business alliances, and enhancing joint research and technological development as equity instruments measured at fair value through other comprehensive income.

The fair values of major equity instruments measured at fair value through other comprehensive income are as follows:

Millions of yen

	April 1, 2019
Issue	Fair value
Mitsui Fudosan Co., Ltd.	13,596
Kaken Pharmaceutical Co., Ltd.	11,543
FUJIFILM Holdings Corp.	11,150
Daiichi Sankyo Co., Ltd.	10,199
Mitsui Chemicals, Inc.	7,973
United Therapeutics Corp.	7,816
Toyota Industries Corp.	6,342
Sumitomo Mitsui Financial Group, Inc.	5,855
Mitsubishi Heavy Industries, Ltd.	5,772
Mitsui & Co., Ltd.	5,388

Millions of yen

	March 31, 2020
Issue	Fair value
Daiichi Sankyo Co., Ltd.	12,637
FUJIFILM Holdings Corp.	12,047
Kaken Pharmaceutical Co., Ltd.	11,543
Mitsui Fudosan Co., Ltd.	9,140
Toyota Industries Corp.	5,919
Mitsui Chemicals, Inc.	5,840
Daikin Industries, Ltd.	4,791
Mitsui & Co., Ltd.	4,714
MS&AD Insurance Group Holdings, Inc.	4,471
Sumitomo Mitsui Financial Group, Inc.	3,963

Millions of yen

	March 31, 2021
Issue	Fair value
FUJIFILM Holdings Corp.	**14,555**
Daiichi Sankyo Co., Ltd.	**13,544**
Mitsui Fudosan Co., Ltd.	**12,282**
Toyota Industries Corp.	**11,267**
Kaken Pharmaceutical Co., Ltd.	**9,948**
Daikin Industries, Ltd.	**8,120**
Mitsui & Co., Ltd.	**7,217**
Sumitomo Mitsui Financial Group, Inc.	**6,052**
TBS Holdings, Inc.	**5,038**
MS&AD Insurance Group Holdings, Inc.	**4,802**

3. Derecognition of equity instruments measured at fair value through other comprehensive income

The Group sells (derecognizes) equity instruments measured at fair value through other comprehensive income mainly as a result of streamlining its assets and reviewing its business relationships. The fair value at the time of sale and the cumulative gain or loss (before tax) on the sale are as follows. The cumulative gain or loss (net of tax) recognized as other components of equity was reclassified to retained earnings upon sale.

Millions of yen

	2020	**2021**
Fair value at time of sale	8,405	**20,667**
Cumulative gain (loss)	4,531	**5,116**

Note 16. Other Assets

The breakdown of other current assets and other non-current assets is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Prepayments	18,685	19,861	**18,360**
Value-added taxes receivable	17,771	16,733	**18,560**
Investment property	17,761	12,186	**11,943**
Other	13,407	13,190	**12,632**
Total	67,624	61,970	**61,495**
Current assets	48,167	47,350	**47,180**
Non-current assets	19,457	14,620	**14,315**
Total	67,624	61,970	**61,495**

Note 17. Income Taxes

1. Deferred tax assets and deferred tax liabilities

The breakdown of and changes in deferred tax assets and deferred tax liabilities by major cause are as follows:

Millions of yen

	2020				
	At beginning of period	Recognized in profit or loss	Recognized in other comprehensive income	Other	At end of period
Deferred tax assets					
Property, plant and equipment and intangible assets	11,941	734	—	(505)	12,170
Employee benefits	45,635	642	145	(264)	46,158
Lease liabilities	11,525	(1,610)	—	(107)	9,808
Other	32,528	(1,561)	1,568	(201)	32,334
Total	101,629	(1,795)	1,713	(1,077)	100,470
Deferred tax liabilities					
Property, plant and equipment and intangible assets	(47,486)	1,419	—	1,212	(44,855)
Right-of-use assets	(11,309)	1,332	—	111	(9,866)
Investments in subsidiaries, associates and joint arrangements	(19,847)	(1,397)	793	(1)	(20,452)
Financial assets measured at fair value through other comprehensive income	(38,304)	—	8,468	(87)	(29,923)
Other	(12,136)	(987)	2,566	(96)	(10,653)
Total	(129,082)	367	11,827	1,139	(115,749)

Millions of yen

	2021				
	At beginning of period	Recognized in profit or loss	Recognized in other comprehensive income	Other	At end of period
Deferred tax assets					
Property, plant and equipment and intangible assets	**12,170**	**(98)**	**—**	**182**	**12,254**
Employee benefits	**46,158**	**(110)**	**(400)**	**133**	**45,781**
Lease liabilities	**9,808**	**(35)**	**—**	**143**	**9,916**
Other	**32,334**	**2,147**	**(4,007)**	**519**	**30,993**
Total	**100,470**	**1,904**	**(4,407)**	**977**	**98,944**
Deferred tax liabilities					
Property, plant and equipment and intangible assets	**(44,855)**	**5,823**	**—**	**(981)**	**(40,013)**
Right-of-use assets	**(9,866)**	**(44)**	**—**	**(143)**	**(10,053)**
Investments in subsidiaries, associates and joint arrangements	**(20,452)**	**(2,752)**	**(1,026)**	**(2)**	**(24,232)**
Financial assets measured at fair value through other comprehensive income	**(29,923)**	**—**	**(8,658)**	**(3)**	**(38,584)**
Other	**(10,653)**	**282**	**(2,805)**	**12**	**(13,164)**
Total	**(115,749)**	**3,309**	**(12,489)**	**(1,117)**	**(126,046)**

2. Deductible temporary differences, unused tax losses and unused tax credits for which no deferred tax asset is recognized

The amounts (in income tax terms) of deductible temporary differences, unused tax losses and unused tax credits for which no deferred tax asset is recognized are as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Deductible temporary differences*1	13,524	12,446	**13,807**
Unused tax losses and unused tax credits*2	15,178	15,302	**20,383**

*1 Deductible temporary differences related to investments in subsidiaries, associates and joint arrangements are not included. The aggregate amount (in taxable income terms) of deductible temporary differences associated with investments in subsidiaries, associates and joint arrangements for which no deferred tax asset was recognized were ¥113,116 million, ¥133,488 million and ¥125,673 million at April 1, 2019, March 31, 2020 and March 31, 2021, respectively.
*2 The amounts by expiry date are as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
1 year or less	1,138	329	**478**
Over 1 year to 5 years	2,686	2,453	**3,189**
Over 5 years	11,354	12,520	**16,716**
Total	15,178	15,302	**20,383**

3. Taxable temporary differences for which deferred tax liabilities have not been recognized

The aggregate amount (in taxable income terms) of taxable temporary differences associated with investments in subsidiaries, associates and joint arrangements for which deferred tax liabilities had not been recognized was ¥28,771 million, ¥27,208 million and ¥41,883 million at April 1, 2019, March 31, 2020 and March 31, 2021, respectively. Deferred tax liabilities are not recognized for these temporary differences because the Group is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

4. Breakdown of income tax expense

The breakdown of income tax expense is as follows:

Millions of yen

	2020	**2021**
Current tax expense	28,033	**23,440**
Deferred tax expense	1,428	**(5,213)**
Total	29,461	**18,227**

5. Reconciliation of effective tax rate

Reconciliation between the statutory effective tax rate and the actual average effective tax rate is as follows:

%

	2020	**2021**
Statutory effective tax rate	30.6	**30.6**
Share of profit (loss) of investments accounted for using equity method	(2.7)	**(6.0)**
Tax rate differences with foreign subsidiaries	(4.6)	**(3.6)**
Changes in unrecognized deferred tax assets	1.3	**6.2**
Other	(0.7)	**0.6**
Actual average effective tax rate	23.9	**27.8**

Note 18. Trade and Other Payables

The breakdown of trade and other payables is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Trade payables	243,945	213,541	**209,343**
Other payables and accrued expenses	81,624	72,161	**73,469**
Total	325,569	285,702	**282,812**

* Trade and other payables are classified as financial liabilities measured at amortized cost.

Note 19. Bonds and Borrowings

1. Breakdown

The breakdown of bonds and borrowings is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**	Average interest rate (%) *2	Maturity
Short-term borrowings	196,980	154,888	**143,135**	0.34	—
Commercial papers	—	10,000	**30,000**	(0.06)	—
Long-term borrowings	466,917	498,588	**469,993**	0.81	2021 - 2032
Bonds payable*3	340,107	290,187	**290,158**	—	—
Total	1,004,004	953,663	**933,286**		
Current liabilities	290,976	278,962	**278,678**		
Non-current liabilities	713,028	674,701	**654,608**		
Total	1,004,004	953,663	**933,286**		

*1 Bonds and borrowings are classified as financial liabilities measured at amortized cost.
*2 The average interest rate represents the weighted average interest rate on the balance at March 31, 2021.
*3 The schedule of bonds payable is as follows:

Millions of yen

Issuer	Issue	Issue date	April 1, 2019	March 31, 2020	**March 31, 2021**	Interest rate (%)	Collateral	Maturity
Toray Industries, Inc.	28th unsecured straight bonds	July 20, 2012	20,606	20,408	**20,231**	0.925	None	July 20, 2022
Toray Industries, Inc.	29th unsecured straight bonds	July 17, 2013	21,054	20,831	**20,578**	1.012	None	July 14, 2023
Toray Industries, Inc.	30th unsecured straight bonds	July 19, 2017	59,801	59,825	**59,849**	0.375	None	July 16, 2027
Toray Industries, Inc.	31st unsecured straight bonds	July 19, 2017	39,890	39,911	**39,932**	0.250	None	July 19, 2024
Toray Industries, Inc.	32nd unsecured straight bonds	July 18, 2018	39,871	39,892	**39,912**	0.240	None	July 18, 2025
Toray Industries, Inc.	33rd unsecured straight bonds	July 18, 2018	39,848	39,865	**39,881**	0.380	None	July 18, 2028
Toray Industries, Inc.	34th unsecured straight bonds	July 18, 2018	19,895	19,901	**19,906**	0.830	None	July 16, 2038
Toray Industries, Inc.	Zero coupon convertible bonds due 2019	June 9, 2014	49,902	—	**—**	—	—	—
Toray Industries, Inc.	Zero coupon convertible bonds due 2021	June 9, 2014	49,240	49,554	**49,869**	—	None	August 31, 2021
	Total		340,107	290,187	**290,158**			

2. Assets pledged as collateral and liabilities with collateral

Assets pledged as collateral are as follows:

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
Property, plant and equipment	1,191	247	**183**
Other financial assets	2,548	2,799	**3,718**
Total	3,739	3,046	**3,901**

Liabilities with collateral are as follows:

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
Trade and other payables	8,279	4,547	**5,345**
Bonds and borrowings	1,853	1,339	**1,279**
Total	10,132	5,886	**6,624**

Note 20. Other Financial Liabilities

The breakdown of other financial liabilities is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
Financial liabilities measured at amortized cost			
Deposits received	16,094	12,385	**9,571**
Other	6,493	4,832	**5,197**
Financial liabilities measured at fair value through profit or loss			
Derivative liabilities	3,837	4,300	**4,803**
Total	26,424	21,517	**19,571**
Current liabilities	17,585	13,911	**12,872**
Non-current liabilities	8,839	7,606	**6,699**
Total	26,424	21,517	**19,571**

Note 21. Employee Benefits

1. Post-employment benefits

The Company and some of its subsidiaries have defined benefit corporate pension plans, lump-sum retirement benefit plans and defined contribution pension plans.

The Company's defined benefit corporate pension plan is managed by a corporate pension fund (the Fund), which is legally separated from the Company in accordance with laws and regulations. The directors of the Fund and the pension fund trustee are required by laws and regulations to faithfully perform their duties for the Fund, and are responsible for managing the plan assets based on the prescribed policies. The amount of contributions to the defined benefit plan is reviewed regularly through financial recalculations to ensure that the pension plan maintains financial balance into the future. With respect to the investment of plan assets in the Fund, it seeks to secure the required total return over the long term with the aim of ensuring the payment of pension benefits and lump-sum benefits to the participants into the future. In addition, the Fund gives full consideration to the medium- to long-term trends in the ratio of income, including contributions, to expenditure, including benefit payments, as well as the impact of uncertainty in the plan assets on the financial balance of the pension plan and the degree of acceptable uncertainty in the rate of return on the plan assets.

(1) Defined benefit plans

(a) Amounts recognized in the consolidated statement of financial position

The relationship of the net defined benefit liability (asset) recognized in the consolidated statement of financial position with the defined benefit obligations and plan assets is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Present value of defined benefit obligations	191,464	184,417	**182,154**
Fair value of plan assets	(107,849)	(98,244)	**(116,181)**
Net defined benefit liability (asset)	83,615	86,173	**65,973**
Amounts on the consolidated statement of financial position			
Retirement benefit liability	103,223	101,979	**100,852**
Retirement benefit asset	(19,608)	(15,806)	**(34,879)**
Net defined benefit liability (asset)	83,615	86,173	**65,973**

(b) Reconciliation of present value of defined benefit obligations

Changes in the present value of defined benefit obligations are as follows:

Millions of yen

	2020	**2021**
At beginning of period	191,464	**184,417**
Current service cost	7,139	**7,131**
Interest expense	1,193	**1,382**
Remeasurements		
Actuarial gains and losses arising from changes in demographic assumptions	(186)	**—**
Actuarial gains and losses arising from changes in financial assumptions	(789)	**1**
Actuarial gains and losses arising from experience adjustments	409	**465**
Past service cost	285	**202**
Benefits paid	(12,764)	**(12,771)**
Other	(2,334)	**1,327**
At end of period	184,417	**182,154**

* The weighted average durations of the defined benefit obligations at April 1, 2019, March 31, 2020 and March 31, 2021 were 8.9 years, 8.6 years and 8.5 years, respectively.

(c) Reconciliation of fair value of plan assets

Changes in the fair value of plan assets are as follows:

Millions of yen

	2020	**2021**
At beginning of period	107,849	**98,244**
Interest income	617	**691**
Remeasurements		
Return on plan assets	(7,554)	**15,253**
Contributions by employer	7,039	**7,296**
Benefits paid	(7,958)	**(6,907)**
Other	(1,749)	**1,604**
At end of period	98,244	**116,181**

* The amount of expected contributions to the defined benefit plans for the year ending March 31, 2022 is ¥7,696 million.

(d) Breakdown by type of fair value of plan assets

The breakdown by type of the fair value of plan assets is as follows:

Millions of yen

	April 1, 2019			March 31, 2020			**March 31, 2021**		
	Quoted market prices in active markets			Quoted market prices in active markets			Quoted market prices in active markets		
	Available	Not available	Total	Available	Not available	Total	Available	Not available	Total
Cash and cash equivalents	17,003	—	17,003	14,833	—	14,833	**15,603**	**—**	**15,603**
Equity securities (mainly Japanese equity securities)	48,635	—	48,635	38,892	—	38,892	**53,330**	**—**	**53,330**
Debt securities (mainly Japanese debt securities)	9,286	—	9,286	13,398	—	13,398	**15,926**	**—**	**15,926**
General accounts of life insurance companies	—	29,086	29,086	—	30,912	30,912	**—**	**31,026**	**31,026**
Other	730	3,109	3,839	112	97	209	**195**	**101**	**296**
Total	75,654	32,195	107,849	67,235	31,009	98,244	**85,054**	**31,127**	**116,181**

(e) Significant actuarial assumptions

The significant assumptions used in the actuarial calculations are as follows:

	April 1, 2019	March 31, 2020	**March 31, 2021**
Discount rate	Mainly 0.4%	Mainly 0.5%	**Mainly 0.5%**

(f) Sensitivity analysis

The effect of changes in discount rates, which are the significant actuarial assumptions, on the present value of defined benefit obligations is as follows. This sensitivity analysis assumes that all actuarial assumptions other than those subject to the analysis remain constant.

Millions of yen

		March 31, 2020	**March 31, 2021**
Discount rate	Increase by 0.5%	(7,354)	**(7,075)**
	Decrease by 0.5%	6,562	**5,860**

(2) Defined contribution plans

The amounts of expenses for the defined contribution plans recognized for the years ended March 31, 2020 and 2021 were ¥20,287 million and ¥20,763 million, respectively.

2. Employee benefit expenses

Employee benefit expenses for the years ended March 31, 2020 and 2021 totaled ¥294,053 million and ¥285,945 million, respectively, and are included in "Cost of sales," "Selling, general and administrative expenses" and "Other expenses" in the consolidated statement of profit or loss.

Note 22. Other Liabilities

The breakdown of other current liabilities and other non-current liabilities is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Short-term employee benefits	47,451	45,335	**50,901**
Contract liabilities	24,031	14,799	**17,189**
Value-added taxes payable	7,899	8,609	**9,874**
Other	22,979	21,431	**17,966**
Total	102,360	90,174	**95,930**
Current liabilities	88,925	77,344	**84,425**
Non-current liabilities	13,435	12,830	**11,505**
Total	102,360	90,174	**95,930**

Note 23. Share Capital and Other Equity Items

1. Share capital

Changes in the number of authorized shares and the number of issued shares are as follows:

Thousands of shares

	2020	**2021**
Number of authorized shares	4,000,000	**4,000,000**
Number of issued shares		
At beginning of period	1,631,481	**1,631,481**
Changes during period	—	**—**
At end of period	1,631,481	**1,631,481**

* All shares the Company is authorized to issue are common shares that have no par value. All issued shares are fully paid up.

2. Capital surplus and retained earnings

(1) Capital surplus

Capital surplus consists of amounts arising from equity transactions that are not included in share capital. The Companies Act of Japan stipulates that at least one-half of the amount paid or delivered for the issuance of shares shall be incorporated into share capital, and the remainder shall be recorded as legal capital reserve included in capital surplus. In addition, the amount of share acquisition rights issued under the Company's share option plan and the amount classified as an equity element of bonds with share acquisition rights at the time of issuance are recorded in capital surplus.

(2) Retained earnings

Retained earnings consist of items recognized in profit or loss and items reclassified from other comprehensive income in the current year and prior years. The Company's distributable retained earnings under the Companies Act is calculated based on the surpluses in the Company's accounting books prepared in accordance with generally accepted accounting principles in Japan. Accordingly, adjustments to the consolidated financial statements in accordance with IFRS do not affect the calculation of the distributable amount under the Companies Act.

3. Treasury shares

Changes in treasury shares are as follows:

Thousands of shares

	2020	2021
At beginning of period	31,610	**31,532**
Exercise of share acquisition rights	(80)	**(503)**
Other	2	**1**
At end of period	31,532	**31,030**

* 824 thousand shares in the Company held by its associates were included in the balances at March 31, 2020 and 2021.

Note 24. Dividends

1. Dividends paid

2020

Resolution	Class of shares	Total amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
Ordinary general meeting of stockholders held on June 25, 2019	Common stock	12,806	8.00	March 31, 2019	June 26, 2019
Board of directors meeting held on November 7, 2019	Common stock	12,806	8.00	September 30, 2019	December 2, 2019

2021

Resolution	Class of shares	Total amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
Ordinary general meeting of stockholders held on June 23, 2020	**Common stock**	**12,806**	**8.00**	**March 31, 2020**	**June 24, 2020**
Board of directors meeting held on November 6, 2020	**Common stock**	**7,206**	**4.50**	**September 30, 2020**	**December 1, 2020**

2. Dividends whose record dates fall in the year ended March 31, 2021 and whose effective dates fall in the year ending March 31, 2022

2021

Resolution	Class of shares	Total amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
Ordinary general meeting of stockholders held on June 22, 2021	**Common stock**	**7,206**	**4.50**	**March 31, 2021**	**June 23, 2021**

Note 25. Revenue

1. Disaggregation of revenue

As described in "Note 6. Segment Information," the Group has five reportable segments: "Fibers & Textiles," "Performance Chemicals," "Carbon Fiber Composite Materials," "Environment & Engineering" and "Life Science." In addition, revenue is disaggregated by geographical area based on the location of the Group entities. The relationship between the disaggregated revenue and the revenue (revenue from external customers) of each reportable segment is as follows:

Millions of yen

	2020						
	Fibers & Textiles	Performance Chemicals	Carbon Fiber Composite Materials	Environment & Engineering	Life Science	Other	Total
Japan	494,378	422,568	66,322	165,012	44,633	17,645	1,210,558
Asia	286,407	248,075	16,525	18,587	5,212	544	575,350
North America, Europe and other	50,178	90,565	154,038	7,247	3,178	52	305,258
Total	830,963	761,208	236,885	190,846	53,023	18,241	2,091,166

Millions of yen

	2021						
	Fibers & Textiles	Performance Chemicals	Carbon Fiber Composite Materials	Environment & Engineering	Life Science	Other	Total
Japan	**422,351**	**388,992**	**47,890**	**166,583**	**45,596**	**14,389**	**1,085,801**
Asia	**257,425**	**240,866**	**14,251**	**20,637**	**5,144**	**135**	**538,458**
North America, Europe and other	**39,463**	**90,560**	**120,743**	**6,304**	**2,225**	**46**	**259,341**
Total	**719,239**	**720,418**	**182,884**	**193,524**	**52,965**	**14,570**	**1,883,600**

2. Contract balances

The balances of receivables, contract assets and contract liabilities from contracts with customers are as follows:

Millions of yen

	Receivables from contracts with customers	Contract assets	Contract liabilities
At April 1, 2019	528,187	16,329	24,031
At March 31, 2020	467,897	15,927	14,799
At March 31, 2021	**487,078**	**23,917**	**17,189**

*1 The amount of revenue recognized that was included in the contract liabilities at the beginning of the period was ¥23,270 million and ¥13,667 million for the years ended March 31, 2020 and 2021, respectively.

*2 The amount of revenue recognized from performance obligations satisfied in the prior years was not material for the years ended March 31, 2020 and 2021.

3. Transaction prices allocated to the remaining performance obligations

The transaction prices allocated to the remaining performance obligations and the expected timing of revenue recognition are as follows. The Group applies the practical expedient in paragraph C5(d) of IFRS 15 "Revenue from Contracts with Customers" in accordance with the exemption in paragraph D34 of IFRS 1, and does not disclose the transaction prices allocated to the remaining performance obligations and the expected timing of revenue recognition at March 31, 2020.

Millions of yen

	March 31, 2021
1 year or less	**39,201**
Over 1 year	**35,722**

*1 The Group has adopted the practical expedient and therefore the transactions that have an original expected duration of one year or less are not included in the table.
*2 There is no significant amount of consideration from contracts with customers that is not included in the transaction prices.

Note 26. Other Income

The breakdown of other income is as follows:

Millions of yen

	2020	2021
Gain on sale or disposal of fixed assets	3,031	**288**
Other	4,502	**5,100**
Total	7,533	**5,388**

Note 27. Other Expenses

The breakdown of other expenses is as follows:

Millions of yen

	2020	2021
Loss on sale or disposal of fixed assets	6,195	**5,807**
Impairment losses	7,569	**28,867**
Other	7,705	**5,354**
Total	21,469	**40,028**

Note 28. Finance Income and Finance Costs

1. Finance income

The breakdown of finance income is as follows:

Millions of yen

	2020	2021
Interest income		
Financial assets measured at amortized cost	2,152	**1,537**
Dividend income		
Equity instruments measured at fair value through other comprehensive income		
Derecognized during period	42	**613**
Held at end of period	4,837	**3,770**
Other	34	**179**
Total	7,065	**6,099**

2. Finance costs

The breakdown of finance costs is as follows:

Millions of yen

	2020	2021
Interest expenses		
Financial liabilities measured at amortized cost	7,256	**5,209**
Lease liabilities	510	**470**
Foreign exchange loss	973	**1,348**
Other	427	**2,197**
Total	9,166	**9,224**

Note 29. Other Comprehensive Income

Reclassification adjustments and income taxes for each component of other comprehensive income are as follows:

Millions of yen

	2020	2021
Investments in equity instruments		
Gains (losses) for the period	(29,889)	**50,194**
Income taxes	9,956	**(15,192)**
Net of tax	(19,933)	**35,002**
Cash flow hedges		
Gains (losses) for the period	992	**(4,042)**
Reclassification adjustments	(409)	**3,474**
Income taxes	(179)	**179**
Net of tax	404	**(389)**
Deferred costs of hedging		
Gains (losses) for the period	(232)	**1,374**
Reclassification adjustments	(636)	**(491)**
Income taxes	266	**(270)**
Net of tax	(602)	**613**
Exchange differences on translation		
Gains (losses) for the period	(45,443)	**55,967**
Income taxes	793	**(1,026)**
Net of tax	(44,650)	**54,941**
Remeasurements of defined benefit plans		
Gains (losses) for the period	(6,988)	**14,787**
Income taxes	2,066	**(4,538)**
Net of tax	(4,922)	**10,249**
Share of other comprehensive income of investments accounted for using equity method	(530)	**665**
Total other comprehensive income	(70,233)	**101,081**

Note 30. Earnings per Share

1. Basis for calculation of basic earnings per share

Millions of yen

	2020	2021
Profit attributable to common shareholders of parent		
Profit attributable to owners of parent	84,230	**45,794**
Profit not attributable to common shareholders of parent	—	**—**
Profit used for calculation of basic earnings per share	84,230	**45,794**
Average number of common shares for the period (Thousands of shares)	1,599,937	**1,600,360**
Basic earnings per share (Yen)	52.65	**28.61**

2. Basis for calculation of diluted earnings per share

Millions of yen

	2020	2021
Diluted profit attributable to common shareholders		
Profit used for calculation of basic earnings per share	84,230	**45,794**
Adjustments to profit	—	**—**
Profit used for calculation of diluted earnings per share	84,230	**45,794**
Average number of common shares for the period (Thousands of shares)	1,599,937	**1,600,360**
Increase in common shares		
Bonds with share acquisition rights (Thousands of shares)	9,549	**—**
Share acquisition rights (Thousands of shares)	2,154	**2,445**
Average number of diluted common shares for the period (Thousands of shares)	1,611,640	**1,602,804**
Diluted earnings per share (Yen)	52.26	**28.57**
Summary of potential shares not included in the calculation of diluted earnings per share because they were antidilutive for the period	The Company's Zero coupon convertible bonds due 2021 61,721 thousand shares	**The Company's Zero coupon convertible bonds due 2021 62,282 thousand shares**

Note 31. Share-based Payments

1. Overview of share option plan

The Company has introduced a share compensation-type share option plan (share acquisition rights) for the Company's members of the Board, vice presidents, executive fellows and directors to enhance their motivation and willingness to improve the Group's performance and to promote sharing of share price benefits with the shareholders.

The share acquisition rights allocated under this plan are vested depending on the number of months in office during the specified service period. Holders of share acquisition rights may exercise their rights only within ten days after the day on which they lose any of their positions as a member of the Board, vice president, executive fellow or director of the Company.

The Company's share option plan is accounted for as an equity-settled share-based payment transaction. The amounts of expenses recognized for the plan were ¥325 million and ¥355 million for the years ended March 31, 2020 and 2021, respectively.

2. Number and weighted average exercise price of share options

The number and weighted average exercise price of share options granted during the period are as follows. The number of share options is presented in terms of the number of shares to be issued upon exercise of the options.

	2020		2021	
	Number of options (Thousands of shares)	Weighted average exercise price (Yen)	Number of options (Thousands of shares)	Weighted average exercise price (Yen)
Outstanding at beginning of period	1,969	1	**2,389**	**1**
Granted	500	1	**863**	**1**
Exercised	(80)	1	**(503)**	**1**
Forfeited	—	—	**(10)**	**—**
Outstanding at end of period	2,389	1	**2,739**	**1**
Exercisable at end of period	2,237	1	**2,502**	**1**

*1 The weighted average share prices at the date of exercise of share options exercised were ¥824 and ¥508.1 for the years ended March 31, 2020 and 2021, respectively.
*2 The exercise price of issued options remaining at the end of the period was ¥1 for both the years ended March 31, 2020 and 2021, and the weighted average remaining contractual years were 26.3 years and 26.5 years at March 31, 2020 and 2021, respectively.

3. Fair value and method of fair value measurement of share options granted during period

The fair value of share options was measured using the Black-Scholes model with the following input assumptions:

	2020	2021
Name	Toray Industries, Inc. 9th share acquisition rights	**Toray Industries, Inc. 10th share acquisition rights**
Fair value	684 yen/share	**421 yen/share**
Share price at grant date	775.2 yen	**509.4 yen**
Exercise price	1 yen/share	**1 yen/share**
Expected volatility*1	24.079%	**27.382%**
Expected remaining life of the option*2	6 years	**6 years**
Expected dividend*3	16 yen/share	**16 yen/share**
Risk-free interest rate*4	(0.347)%	**(0.070)%**

*1 The expected volatility is determined as a historical volatility based on the share price over the past 6 years.
*2 The expected remaining life is determined based on the number of years past officers were in office, due to difficulty in making other reasonable estimations.
*3 The expected dividends for the years ended March 31, 2020 and 2021 are determined using the actual dividends in the years ended March 31, 2019 and 2020, respectively.
*4 The risk-free interest rate is determined as the interest rate of the Japanese government bond with a remaining maturity corresponding to the expected remaining life of the option.

Note 32. Financial Instruments

1. Capital management

The Group's basic capital management policy is to secure and maintain financial soundness in order to achieve sustainable growth. The Group monitors the debt-to-equity (D/E) ratio as the management indicator for capital management, and the status at April 1, 2019, March 31, 2020 and March 31, 2021 was as follows.

The Company is not subject to any significant capital requirements (other than the general provisions of the Companies Act, etc.).

	April 1, 2019	March 31, 2020	March 31, 2021
Interest-bearing liabilities (Millions of yen)	1,048,342	991,024	**973,927**
Owner's equity (Millions of yen)	1,124,290	1,116,075	**1,237,851**
D/E ratio	0.93	0.89	**0.79**

* Interest-bearing liabilities: Bonds and borrowings + Lease liabilities
Owner's equity: Equity attributable to owners of parent
D/E ratio: Interest-bearing liabilities / Owner's equity

2. Risks arising from financial instruments

The Group conducts risk management based on the following policies to respond to credit risk, liquidity risk and market risk arising from financial instruments.

(1) Credit risk management

Trade receivables of the Group are exposed to customer credit risk. In order to mitigate the risk, under its internal regulations, the Company carefully manages the due dates and outstanding balances of receivables from each customer and regularly monitors the credit standing of major customers. Consolidated subsidiaries also monitor and manage the credit standings of their customers. The Group is not exposed to any credit risk that is excessively concentrated on particular counterparties.

(a) Maximum exposure to credit risk

The maximum exposure to credit risk at each fiscal year-end is the carrying amount of financial assets, net of impairment. With regard to guarantee obligations, the Group's maximum exposure to credit risk is the balance of guarantee obligations shown in "Note 36. Commitments and Contingent Liabilities."

(b) Changes in allowance for doubtful accounts

Changes in allowance for doubtful accounts are as follows. There was no significant change in the gross carrying amounts of financial assets that would affect the changes in allowance for doubtful accounts for the years ended March 31, 2020 and 2021.

Millions of yen

	Allowance for financial assets not credit-impaired	Allowance for credit-impaired financial assets	Total
At April 1, 2019	1,457	3,705	5,162
Net provision (reversal)	248	94	342
Write-off	(42)	(251)	(293)
Other	(81)	(20)	(101)
At March 31, 2020	**1,582**	**3,528**	**5,110**
Net provision (reversal)	**5,292**	**1,778**	**7,070**
Write-off	**(278)**	**(1,115)**	**(1,393)**
Transfer to credit-impaired financial assets	**(5,223)**	**5,223**	**—**
Other	**14**	**407**	**421**
At March 31, 2021	**1,387**	**9,821**	**11,208**

*1 The allowance for financial assets that are not credit-impaired mainly relates to trade receivables, etc. to which the simplified approach is applied.
*2 The net provision (reversal) related to trade receivables, etc. from contracts with customers was ¥5,181 million for the year ended March 31, 2021 and is included in "Selling, general and administrative expenses" in the consolidated statement of profit or loss. Other provisions and reversals mainly relate to loans receivable and are included in "Finance income" and "Finance costs" in the consolidated statement of profit or loss.

(2) Liquidity risk management

The Group raises funds by borrowing from banks and issuing corporate bonds and is accordingly exposed to the risk of facing difficulty in the repayment due to deterioration in the business climates and funding environment. To mitigate the risk, the Group procures funds by determining the best timing, size and instruments after comprehensively taking into consideration the projected fund needs and the financial market trends. The Group also takes measures for effective use of excess cash within the Group by using the cash management system. In addition, the liquidity risk is managed by monitoring projected and actual cash flows. At the same time, to prepare for the urgent fund needs due to deterioration in operating results and cash flows and for the financial market turmoil, the Group secures liquidity by concluding overdraft agreements and other credit facilities with domestic and overseas financial institutions.

The analysis of undiscounted contractual cash flows of financial liabilities by maturity is as follows:

Millions of yen

	April 1, 2019						
	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years	Total
Non-derivative financial liabilities							
Trade and other payables	325,569	—	—	—	—	—	325,569
Bonds and borrowings	306,215	132,468	82,112	88,301	112,362	319,086	1,040,544
Lease liabilities	10,940	9,034	7,600	4,500	2,570	11,774	46,418
Other financial liabilities							
Deposits received	16,094	—	—	—	—	—	16,094
Derivative financial liabilities							
Other financial liabilities							
Derivative liabilities	7	(138)	(485)	(483)	(488)	5,381	3,794

Millions of yen

	March 31, 2020						
	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years	Total
Non-derivative financial liabilities							
Trade and other payables	285,702	—	—	—	—	—	285,702
Bonds and borrowings	285,890	104,966	99,172	110,805	51,970	326,477	979,280
Lease liabilities	10,525	8,695	4,995	2,811	2,322	10,005	39,353
Other financial liabilities							
Deposits received	12,385	—	—	—	—	—	12,385
Derivative financial liabilities							
Other financial liabilities							
Derivative liabilities	781	(89)	(100)	(136)	(172)	4,289	4,573

Millions of yen

	March 31, 2021						
	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years	Total
Non-derivative financial liabilities							
Trade and other payables	**282,812**	**—**	**—**	**—**	**—**	**—**	**282,812**
Bonds and borrowings	**283,643**	**123,263**	**127,250**	**67,863**	**72,827**	**276,004**	**950,850**
Lease liabilities	**11,114**	**8,937**	**7,241**	**4,253**	**2,258**	**9,414**	**43,217**
Other financial liabilities							
Deposits received	**9,571**	**—**	**—**	**—**	**—**	**—**	**9,571**
Derivative financial liabilities							
Other financial liabilities							
Derivative liabilities	**2,269**	**(96)**	**(239)**	**(405)**	**3,260**	**—**	**4,789**

* Contractual cash flows of derivative financial liabilities are presented on a net basis, as net cash inflow or outflow.

(3) Market risk management

The Group is exposed to the risk of fluctuations in fair value and future cash flows of financial instruments due to changes in market prices. Major market risks that the Group is exposed to include currency risk, interest rate risk and equity price risk. In order to mitigate these risks, the Group uses derivative transactions such as forward exchange contracts and interest rate swaps as necessary. Derivative transactions are executed and managed in accordance with internal regulations prescribing the authorizations for transactions. In addition, the Group carries out derivative transactions only with financial institutions with a high credit rating in order to mitigate the credit risk associated with derivative transactions. The Group uses derivatives only for hedging market risks and does not enter into derivative transactions for speculative purposes.

(a) Currency risk

Trade receivables and payables denominated in foreign currencies that arise from the Group's global business operations are exposed to the foreign currency exchange rate risk. The Group hedges this risk mainly through the use of forward exchange contracts against net positions of receivables and payables denominated in the same foreign currencies. Likewise, the Group mainly uses cross-currency swaps to hedge the foreign currency exchange rate risk of borrowings denominated in foreign currencies.

For financial instruments held by the Group at March 31, 2020 and 2021, the impact of a 1% appreciation of each currency against the functional currencies on “Profit before tax” in the consolidated statement of profit or loss is as follows. The effects of translating financial instruments denominated in the functional currencies and the assets, liabilities, income and expenses of foreign operations into yen are not included. In addition, it is assumed that currencies other than that used in the calculation do not fluctuate and assumed that other variable factors remain constant.

Millions of yen

	March 31, 2020	March 31, 2021
Impact on profit before tax	68	**16**

(b) Interest rate risk

The Group's interest-bearing liabilities are exposed to the risk of market interest rate fluctuation. Those with floating rates bear the risk of higher nominal interest expenses when market interest rates rise, whereas those with fixed rates bear the risk of higher real interest expenses when market interest rates fall. The Group uses interest rate swaps as necessary to mitigate the risk of interest rate fluctuation, taking into consideration the balance between fixed-rate liabilities and floating-rate liabilities.

For interest-bearing liabilities with floating interest rates held by the Group at March 31, 2020 and 2021, the impact of a 1% increase in interest rates at the end of the period on "Profit before tax" in the consolidated statement of profit or loss is as follows. It is assumed that all other variables remain constant.

Millions of yen

	March 31, 2020	**March 31, 2021**
Impact on profit before tax	(2,318)	**(2,363)**

(c) Equity price risk

The Group holds shares not for trading purposes but mainly for the purposes of strengthening business relationships, smoothing business alliances and reinforcing joint research and technology development activities. These shares are exposed to stock price fluctuation risk. The Group regularly monitors the financial positions of the issuing entities and reviews holding status by taking into consideration the relationships with customers. These are designated as equity instruments measured at fair value through other comprehensive income, and therefore there is no impact on profit or loss arising from stock price fluctuations.

3. Fair value of financial instruments

(1) Fair value hierarchy of financial instruments

The fair value hierarchy of financial instruments is categorized from Level 1 to Level 3 as follows:
Level 1: Fair value measured by quoted prices in active markets
Level 2: Fair value calculated, directly or indirectly, using observable prices other than Level 1
Level 3: Fair value calculated using valuation techniques including inputs not based on observable market data

Transfers between levels of the fair value hierarchy are recognized as if they have occurred at the end of each reporting period. There were no transfers between Level 1 and Level 2 for the years ended March 31, 2020 and 2021.

(2) Fair value of financial instruments measured at amortized cost

The following table compares the fair value and the carrying amount of financial instruments measured at amortized cost. Financial instruments whose carrying amount is a reasonable approximation of the fair value and financial instruments with low materiality are not included in the following table.

Millions of yen

	April 1, 2019		March 31, 2020		**March 31, 2021**	
	Carrying amount	Fair value	Carrying amount	Fair value	Carrying amount	Fair value
Financial liabilities						
Bonds and borrowings						
Bonds payable	340,107	342,788	290,187	290,682	**290,158**	**291,255**
Long-term borrowings	466,917	466,645	498,588	500,227	**469,993**	**468,489**
Total	807,024	809,433	788,775	790,909	**760,151**	**759,744**

* The fair value of the above financial instruments is categorized within Level 2.

The fair value of major financial instruments measured at amortized cost is determined as follows:

(a) Cash and cash equivalents, trade and other receivables

Since these are settled in the short term, the fair value reasonably approximates the carrying amount.

(b) Trade and other payables, short-term borrowings, commercial papers

Since these are settled in the short term, the fair value reasonably approximates the carrying amount.

(c) Bonds payable

The fair value of a bond is determined based on the market price, if available. If a market price is not available, the fair value is determined as the present value of total principal and interest amount discounted using an estimated interest rate reflecting the bond's remaining term and credit risk. Such fair value is categorized within Level 2.

(d) Long-term borrowings

The fair value of a long-term borrowing is determined as the present value of total principal and interest amount discounted using an estimated interest rate of hypothetical, equivalent new borrowings. Such fair value is categorized within Level 2.

(3) Financial instruments measured at fair value

The breakdown of financial assets and liabilities measured at fair value on a recurring basis that are categorized by level of the fair value hierarchy is as follows:

Millions of yen

	April 1, 2019			
	Level 1	Level 2	Level 3	Total
Financial assets				
Other financial assets				
Shares and investments in capital	180,446	—	19,210	199,656
Derivative assets	—	16,127	—	16,127
Other	—	—	300	300
Total	180,446	16,127	19,510	216,083
Financial liabilities				
Other financial liabilities				
Derivative liabilities	—	3,837	—	3,837
Total	—	3,837	—	3,837

Millions of yen

	March 31, 2020			
	Level 1	Level 2	Level 3	Total
Financial assets				
Other financial assets				
Shares and investments in capital	145,365	—	16,499	161,864
Derivative assets	—	12,488	—	12,488
Other	—	—	300	300
Total	145,365	12,488	16,799	174,652
Financial liabilities				
Other financial liabilities				
Derivative liabilities	—	4,300	—	4,300
Total	—	4,300	—	4,300

Millions of yen

	March 31, 2021			
	Level 1	Level 2	Level 3	Total
Financial assets				
Other financial assets				
Shares and investments in capital	**174,614**	**—**	**17,810**	**192,424**
Derivative assets	**—**	**7,363**	**—**	**7,363**
Other	**—**	**—**	**300**	**300**
Total	**174,614**	**7,363**	**18,110**	**200,087**
Financial liabilities				
Other financial liabilities				
Derivative liabilities	**—**	**4,803**	**—**	**4,803**
Total	**—**	**4,803**	**—**	**4,803**

The fair value of major financial instruments measured at fair value is determined as follows:

(a) Shares and investments in capital

The fair value of shares whose market prices in active markets are available is measured using market prices and is categorized within Level 1. The fair value of shares and investments in capital whose market prices in active markets are not available is measured using appropriate valuation techniques, such as the comparable company method, and is categorized within Level 3. Adjustments including certain illiquidity discounts are taken into account as necessary.

(b) Derivative assets and derivative liabilities

The fair value of forward exchange contracts is determined based on forward exchange rates or prices quoted by financial institutions, and the fair value of cross-currency swaps and interest rate swaps is determined based on prices quoted by financial institutions. Both are categorized within Level 2.

Reconciliation of the balance at the beginning and end of the period for recurring fair value measurement categorized within Level 3 of the fair value hierarchy is as follows:

Millions of yen

	2020	2021
At beginning of period	19,510	**16,799**
Gains (losses) recognized in profit or loss	—	**7**
Gains (losses) recognized in other comprehensive income	(2,820)	**3,699**
Purchases	462	**766**
Sales	(263)	**(641)**
Transfer to Level 1 due to listing	—	**(2,614)**
Other	(90)	**94**
At end of period	16,799	**18,110**

*1 Gains (losses) recognized in profit or loss is included in “Finance income” and “Finance costs” in the consolidated statement of profit or loss, and gains (losses) recognized in other comprehensive income is included in “Investments in equity instruments” in the consolidated statement of comprehensive income.

*2 The method of measurement of financial instruments categorized within Level 3 is determined by the department in charge in accordance with the valuation policies and procedures for the fair value measurement approved by the appropriate authority. Fair value is measured by the said department and the results of the fair value measurement are approved by the appropriate persons in charge.

4. Hedge accounting

(1) Overview of hedges

The Group enters into derivative transactions to reduce currency risk and interest rate risk, and applies hedge accounting to those that qualify as cash flow hedges or fair value hedges. Cash flow hedges are used primarily to reduce the risk of fluctuations in future cash flows related to forecast transactions and borrowings denominated in foreign currencies and borrowings with floating interest rates. Fair value hedges are used to convert the interest rates on borrowings to floating interest rates and accordingly reduce the risk of changes in the fair value of such borrowings.

The currency basis spread of a cross-currency swap used to reduce currency risk is excluded from the hedging instrument and recognized as a deferred cost of hedging in other comprehensive income. In addition, in applying hedge accounting, in principle, since the important conditions such as the quantity, term, and benchmark interest rate for the hedged items and the hedging instruments are made almost the same, the ineffective portion of hedging is immaterial.

(2) Information on items designated as hedging instruments

The nominal amount and its timing and the carrying amount of hedging instruments are as follows:

Millions of yen

	April 1, 2019			
	Nominal amount	Of which due over 1 year	Carrying amount (fair value)	
			Assets	Liabilities
Cash flow hedges				
Currency risk				
Forward exchange contracts	30,334	40	186	99
Cross-currency swaps	142,071	138,425	13,102	2,827
Interest rate risk				
Interest rate swaps	40,504	40,000	29	—
Fair value hedges				
Interest rate risk				
Interest rate swaps	66,900	66,900	1,975	—

Millions of yen

	March 31, 2020			
	Nominal amount	Of which due over 1 year	Carrying amount (fair value)	
			Assets	Liabilities
Cash flow hedges				
Currency risk				
Forward exchange contracts	52,471	—	300	81
Cross-currency swaps*1	137,269	87,618	10,953	3,319
Interest rate risk				
Interest rate swaps*2	100,271	59,785	223	—
Fair value hedges				
Interest rate risk				
Interest rate swaps	26,900	26,900	186	—

Millions of yen

	March 31, 2021			
	Nominal amount	Of which due over 1 year	Carrying amount (fair value)	
			Assets	Liabilities
Cash flow hedges				
Currency risk				
Forward exchange contracts	**37,421**	**299**	**246**	**840**
Cross-currency swaps[*1]	**87,647**	**86,870**	**5,418**	**2,439**
Interest rate risk				
Interest rate swaps[*2]	**59,785**	**59,785**	**196**	**—**
Fair value hedges				
Interest rate risk				
Interest rate swaps	**26,900**	**26,900**	**130**	**—**

*1 These are mainly contracts to borrow yen principal in exchange for U.S. dollar principal. The average rates of the contracts at March 31, 2020 and 2021 were ¥102.9 and ¥107.2 per U.S. dollar, respectively.
*2 The average paying fixed interest rates at March 31, 2020 and 2021 were (0.17)% and (0.18)%, respectively, and the receiving floating interest rates were mainly yen LIBOR.
*3 Derivatives used as hedging instruments are included in "Other financial assets" and "Other financial liabilities" in the consolidated statement of financial position.

(3) Information on items designated as hedged items

The impact of items designated as hedged items on the consolidated statement of financial position is as follows:

(a) Cash flow hedges

Millions of yen

	April 1, 2019	March 31, 2020	March 31, 2021
	Cash flow hedge reserve (net of tax)	Cash flow hedge reserve (net of tax)	Cash flow hedge reserve (net of tax)
Currency risk			
Principal and interest on bonds and borrowings	(594)	(504)	**(364)**
Forecast operating transactions and other	11	162	**(436)**
Interest rate risk			
Interest on bonds and borrowings	(19)	125	**116**

* The amount of cash flow hedge reserve related to hedging relationships for which hedge accounting was discontinued is immaterial.

(b) Fair value hedges

Millions of yen

	April 1, 2019			
	Carrying amount of hedged items		Accumulated fair value hedge adjustments included in carrying amount of hedged items	
	Assets	Liabilities	Assets	Liabilities
Interest rate risk				
Bonds and borrowings	—	68,781	—	1,975

Millions of yen

	March 31, 2020			
	Carrying amount of hedged items		Accumulated fair value hedge adjustments included in carrying amount of hedged items	
	Assets	Liabilities	Assets	Liabilities
Interest rate risk				
Bonds and borrowings	—	27,078	—	186
Discontinued hedge (bonds and borrowings)	—	41,240	—	1,291

Millions of yen

	March 31, 2021			
	Carrying amount of hedged items		Accumulated fair value hedge adjustments included in carrying amount of hedged items	
	Assets	Liabilities	Assets	Liabilities
Interest rate risk				
Bonds and borrowings	**—**	**27,018**	**—**	**130**
Discontinued hedge (bonds and borrowings)	**—**	**40,809**	**—**	**843**

(4) Impact of hedge accounting on the consolidated statement of profit or loss and the consolidated statement of comprehensive income

The impact (before tax) of hedge accounting on the consolidated statement of profit or loss and the consolidated statement of comprehensive income is as follows:

Millions of yen

	2020		**2021**	
	Changes in value of hedging instruments recognized in other comprehensive income	Reclassification adjustments to profit or loss	Changes in value of hedging instruments recognized in other comprehensive income	Reclassification adjustments to profit or loss
Cash flow hedges				
Currency risk*1	735	(359)	**(4,092)**	**3,537**
Interest rate risk*2	257	(50)	**50**	**(63)**

*1 Reclassification adjustments related to currency risk are included in "Revenue," "Finance income" and "Finance costs" in the consolidated statement of profit or loss.
*2 Reclassification adjustments related to interest rate risk are included in "Finance income" and "Finance costs" in the consolidated statement of profit or loss.
*3 The amount recognized in profit or loss for the ineffective portion of hedges was immaterial for the years ended March 31, 2020 and 2021.

(5) Uncertainty arising from interest rate benchmark reform

The Group has floating interest rate liabilities linked to yen LIBOR or U.S. dollar LIBOR, which are hedged by interest rate swaps or cross-currency swaps. Of these hedging relationships, those with maturity dates subsequent to the date of cessation of LIBOR publication are subject to uncertainties arising from the interest rate benchmark reform. The Group assumes that uncertainties will exist until an alternative benchmark rate is determined and the cash flows based on the benchmark rate are confirmed. The nominal amount of the hedging instruments related to the affected hedging relationships was ¥172,585 million at March 31, 2020 and 2021.

The Group is working with the financial institutions involved in such floating rate liabilities and hedging transactions to prepare for the transition to an alternative benchmark rate.

5. Transfers of financial assets that do not qualify for derecognition

The Group converts a portion of trade receivables into cash before the due date through such methods as discounting trade notes and liquidating accounts receivable. If these transferred receivables become uncollectible, the Group will be obligated to make payments to financial institutions. Therefore, the transferred receivables continue to be included in "Trade and other receivables" in the consolidated statement of financial position, and the amount received for the transfer is included in "Bonds and borrowings."

The carrying amount of transferred receivables that do not qualify for derecognition and related liabilities is as follows:

Millions of yen

	April 1, 2019	March 31, 2020	**March 31, 2021**
Trade and other receivables	13,852	13,080	**12,920**
Bonds and borrowings	13,852	13,080	**12,920**

Note 33. Cash Flow Information

Reconciliation of liabilities arising from financing activities is as follows:

Millions of yen

	2020						
			Non-cash changes				
	At beginning of period	Changes from financing cash flows	Changes in foreign exchange rates	Changes in fair value	New leases	Other	At end of period
Short-term borrowings	196,980	(38,863)	(3,229)	—	—	—	154,888
Commercial papers	—	10,000	—	—	—	—	10,000
Long-term borrowings	466,917	45,443	(13,825)	—	—	53	498,588
Bonds payable	340,107	(50,000)	—	—	—	80	290,187
Lease liabilities	44,338	(11,166)	(539)	—	4,299	429	37,361
Derivatives used to hedge liabilities	(12,052)	—	—	4,079	—	—	(7,973)
Total	1,036,290	(44,586)	(17,593)	4,079	4,299	562	983,051

Millions of yen

	2021						
			Non-cash changes				
	At beginning of period	Changes from financing cash flows	Changes in foreign exchange rates	Changes in fair value	New leases	Other	At end of period
Short-term borrowings	**154,888**	**(15,269)**	**3,516**	**—**	**—**	**—**	**143,135**
Commercial papers	**10,000**	**20,000**	**—**	**—**	**—**	**—**	**30,000**
Long-term borrowings	**498,588**	**(39,874)**	**11,246**	**—**	**—**	**33**	**469,993**
Bonds payable	**290,187**	**—**	**—**	**—**	**—**	**(29)**	**290,158**
Lease liabilities	**37,361**	**(11,615)**	**675**	**—**	**14,550**	**(330)**	**40,641**
Derivatives used to hedge liabilities	**(7,973)**	**4,906**	**—**	**(205)**	**—**	**—**	**(3,272)**
Total	**983,051**	**(41,852)**	**15,437**	**(205)**	**14,550**	**(326)**	**970,655**

Note 34. Subsidiaries

The major subsidiaries at March 31, 2021 were as follows:

			March 31, 2021
Company name	Main business*	Location	Ownership percentage of voting rights (%)
Toray International, Inc.	Trading	Japan	**100.0**
Chori Co., Ltd.	Trading	Japan	**52.8**
Toray Engineering Co., Ltd.	Environment & Engineering	Japan	**100.0**
Toray Composite Materials America, Inc.	Carbon Fiber Composite Materials	U.S.A.	**100.0**
Toray Plastics (America), Inc.	Performance Chemicals	U.S.A.	**100.0**
Toray Carbon Fibers Europe S.A.	Carbon Fiber Composite Materials	France	**100.0**
P.T. Indonesia Toray Synthetics	Fibers & Textiles, Performance Chemicals	Indonesia	**100.0**
Thai Toray Synthetics Co., Ltd.	Fibers & Textiles, Performance Chemicals	Thailand	**90.0**
Toray Plastics (Malaysia) Sdn. Berhad	Performance Chemicals	Malaysia	**100.0**
Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.	Fibers & Textiles	China	**84.8**
Toray Advanced Materials Korea Inc.	Fibers & Textiles, Performance Chemicals, Carbon Fiber Composite Materials, Environment & Engineering	Republic of Korea	**100.0**

* "Main business" shows segment names except for trading companies.

Note 35. Related Parties

Total key management personnel compensation of the Group is as follows:

Millions of yen

	2020	2021
Basic remuneration and bonus	1,105	**777**
Share compensation-type share option plan	188	**123**
Total	1,293	**900**

Note 36. Commitments and Contingent Liabilities

1. Commitments for the acquisition of assets

Commitments for the acquisition of assets are as follows:

Millions of yen

	March 31, 2020	**March 31, 2021**
Property, plant and equipment	8,925	**6,275**
Intangible assets	562	**468**
Total	9,487	**6,743**

2. Guarantee obligations

The amount of guarantee obligations related to bank loans, etc. of joint ventures, associates and third parties is as follows:

Millions of yen

	March 31, 2020	**March 31, 2021**
Joint ventures and associates	5,106	**4,232**
Customers in housing business and other	2,791	**1,180**
Total	7,897	**5,412**

Note 37. Subsequent Events

Not applicable.

Note 38. First-time Adoption

The Group started disclosing the consolidated financial statements in accordance with IFRS from the year ended March 31, 2021. The most recent consolidated financial statements prepared in accordance with generally accepted accounting principles in Japan (J-GAAP) are for the year ended March 31, 2020, and the date of transition to IFRS is April 1, 2019.

1. Exemptions from retrospective application

IFRS 1 requires in principle that first-time adopters retrospectively apply IFRS, but exceptionally permits exemptions from retrospective application for certain standards. The exemptions that the Group has adopted are as follows:

(1) Business combinations

Under IFRS 1, first-time adopters may elect not to apply IFRS 3 "Business Combinations" (IFRS 3) retrospectively to business combinations that occurred before the date of transition to IFRS. Adopting this exemption, the Group has elected not to apply IFRS 3 retrospectively to business combinations that occurred before April 1, 2019. As a result, the carrying amount of goodwill arising in business combinations that occurred before April 1, 2019 is based on the carrying amount in accordance with J-GAAP at that date. The goodwill was tested for impairment at April 1, 2019 regardless of whether there was an indication of impairment.

(2) Exchange differences on translation of foreign operations

Under IFRS 1, first-time adopters may elect to deem the cumulative exchange differences on translation of foreign operations to be zero at the date of transition to IFRS. The Group has elected to deem the cumulative exchange differences on translation of foreign operations to be zero at April 1, 2019.

(3) Leases

Under IFRS 1, first-time adopters may assess whether a contract existing at the date of transition to IFRS contains a lease on the basis of facts and circumstances existing at that date. In addition, when recognizing lease liabilities and right-of-use assets, first-time adopters may measure the lease liabilities and right-of-use assets at the date of transition to IFRS.

Adopting this exemption, the Group has assessed whether a contract existing at April 1, 2019 contains a lease on the basis of facts and circumstances existing at that date. In addition, except for short-term leases and leases for which the underlying asset is of low value, the Group has measured the lease liability at the present value of the remaining lease payments at April 1, 2019, discounted using the lessee's incremental borrowing rate at that date, and the right-of-use asset at an amount equal to the lease liability.

(4) Designation of financial instruments recognized before the date of transition to IFRS

Under IFRS 1, first-time adopters should determine the classification under IFRS 9 "Financial Instruments" (IFRS 9) on the basis of the facts and circumstances that exist at the date of transition to IFRS rather than at the date of initial recognition, and may designate investments in equity instruments as financial assets measured at fair value through other comprehensive income on the basis of the facts and circumstances that exist at that date. The Group has determined the classification under IFRS 9 on the basis of the facts and circumstances that exist at April 1, 2019, and has designated investments in equity instruments as financial assets measured at fair value through other comprehensive income.

2. Reconciliations

The effects of the transition from J-GAAP to IFRS on the Group's financial position, financial performance and cash flows are as follows. In these reconciliations, "Reclassification" mainly includes items that affect neither retained earnings nor comprehensive income, and "Recognition and measurement difference" mainly includes items that affect retained earnings and comprehensive income.

I. Reconciliation of equity

Millions of yen

Item presented under J-GAAP	April 1, 2019 J-GAAP	Reclassification (11)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
Assets						Assets
Current assets						Current assets
Cash and time deposits	168,507	4,571	(5,643)	167,435	(6)	Cash and cash equivalents
Notes and accounts receivable - trade	531,058	13,666	16,382	561,106	(1)(6)	Trade and other receivables
Merchandise and finished goods	228,480	191,047	12,401	431,928	(1)	Inventories
Work in process	85,880	(85,880)	—	—		
Raw materials and supplies	105,167	(105,167)	—	—		
	—	5,148	510	5,658	(6)	Other financial assets
Other current assets	74,517	(25,576)	(774)	48,167		Other current assets
Allowance for doubtful accounts	(2,280)	2,280	—	—		
Total current assets	1,191,329	89	22,876	1,214,294		Total current assets
Non-current assets						Non-current assets
Property, plant and equipment	996,876	(21,871)	(786)	974,219		Property, plant and equipment
	—	16,137	39,692	55,829	(2)	Right-of-use assets
Intangible assets						
Goodwill	85,712	—	—	85,712		Goodwill
Other	85,537	(438)	(4)	85,095		Intangible assets
Investments and other assets						
Investment securities	333,670	(333,670)	—	—		
Long-term loans receivable	2,477	(2,477)	—	—		
	—	163,052	2,234	165,286	(7)	Investments accounted for using equity method
	—	205,978	25,962	231,940	(6)	Other financial assets
Deferred tax assets	21,978	—	(4,061)	17,917	(8)	Deferred tax assets
Retirement benefit asset	24,440	—	(4,832)	19,608	(4)	Retirement benefit asset
Other	49,113	(29,581)	(75)	19,457		Other non-current assets
Allowance for doubtful accounts	(2,781)	2,781	—	—		
Total non-current assets	1,597,022	(89)	58,130	1,655,063		Total non-current assets
Total assets	2,788,351	—	81,006	2,869,357		Total assets

Millions of yen

Item presented under J-GAAP	April 1, 2019 J-GAAP	Reclassification (11)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
Liabilities						Liabilities and equity
						Liabilities
Current liabilities						Current liabilities
Notes and accounts payable - trade	240,554	77,243	7,772	325,569	(6)	Trade and other payables
Short-term borrowings	175,567	101,602	13,807	290,976	(6)	Bonds and borrowings
Long-term borrowings due within one year	44,094	(44,094)	—	—		
Bonds due within one year	50,000	(50,000)	—	—		
	—	380	10,069	10,449	(2)	Lease liabilities
	—	13,307	4,278	17,585	(1)	Other financial liabilities
Income taxes payable	13,578	(1,639)	—	11,939		Income taxes payable
Reserve for employees' bonuses	22,029	(22,029)	—	—		
Reserve for officers' bonuses	179	(179)	—	—		
Other current liabilities	150,492	(74,475)	12,908	88,925	(5)	Other current liabilities
Total current liabilities	696,493	116	48,834	745,443		Total current liabilities
Non-current liabilities						Non-current liabilities
Bonds	290,000	412,761	10,267	713,028	(6)	Bonds and borrowings
Long-term borrowings	412,761	(412,761)	—	—		
	—	3,379	30,510	33,889	(2)	Lease liabilities
	—	6,018	2,821	8,839	(6)	Other financial liabilities
Deferred tax liabilities	48,758	—	(3,388)	45,370	(8)	Deferred tax liabilities
Reserve for retirement benefits for officers	1,337	(1,337)	—	—		
Retirement benefit liability	100,730	—	2,493	103,223	(4)	Retirement benefit liability
Other non-current liabilities	24,328	(8,176)	(2,717)	13,435		Other non-current liabilities
Total non-current liabilities	877,914	(116)	39,986	917,784		Total non-current liabilities
Total liabilities	1,574,407	—	88,820	1,663,227		Total liabilities
Net assets						Equity
Shareholders' equity						Equity attributable to owners of parent
Share capital	147,873	—	—	147,873		Share capital
Capital surplus	117,760	1,338	2,331	121,429	(6)	Capital surplus
Retained earnings	817,263	—	(14,054)	803,209	(10)	Retained earnings
Treasury shares	(20,358)	—	—	(20,358)		Treasury shares
Accumulated other comprehensive income	68,495	—	3,642	72,137	(4)(6)(9)	Other components of equity
Share acquisition rights	1,338	(1,338)	—	—		
Non-controlling interests	81,573	—	267	81,840		Non-controlling interests
Total net assets	1,213,944	—	(7,814)	1,206,130		Total equity
Total liabilities and net assets	2,788,351	—	81,006	2,869,357		Total liabilities and equity

Millions of yen

	March 31, 2020					
Item presented under J-GAAP	J-GAAP	Reclassification (11)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
Assets						Assets
Current assets						Current assets
Cash and time deposits	173,698	9,983	22	183,703		Cash and cash equivalents
Notes and accounts receivable - trade	483,761	8,151	4,152	496,064	(1)(6)	Trade and other receivables
Merchandise and finished goods	214,957	178,698	11,614	405,269	(1)	Inventories
Work in process	79,520	(79,520)	—	—		
Raw materials and supplies	99,178	(99,178)	—	—		
	—	13,017	6,488	19,505	(6)	Other financial assets
Other current assets	79,907	(30,721)	(1,836)	47,350		Other current assets
Allowance for doubtful accounts	(2,569)	2,569	—	—		
Total current assets	1,128,452	2,999	20,440	1,151,891		Total current assets
Non-current assets						Non-current assets
Property, plant and equipment	1,006,509	(36,386)	(927)	969,196		Property, plant and equipment
	—	26,054	21,041	47,095	(2)	Right-of-use assets
Intangible assets						
Goodwill	71,950	—	11,456	83,406	(3)	Goodwill
Other	78,741	(476)	1,237	79,502		Intangible assets
Investments and other assets						
Investment securities	284,696	(284,696)	—	—		
Long-term loans receivable	5,579	(5,579)	—	—		
	—	149,339	21,837	171,176	(7)	Investments accounted for using equity method
	—	171,547	12,437	183,984	(6)	Other financial assets
Deferred tax assets	18,215	—	(1,371)	16,844	(8)	Deferred tax assets
Retirement benefit asset	19,783	—	(3,977)	15,806	(4)	Retirement benefit asset
Other	39,253	(25,293)	660	14,620		Other non-current assets
Allowance for doubtful accounts	(2,491)	2,491	—	—		
Total non-current assets	1,522,235	(2,999)	62,393	1,581,629		Total non-current assets
Total assets	2,650,687	—	82,833	2,733,520		Total assets

Millions of yen

Item presented under J-GAAP	J-GAAP	Reclassification (11)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
	March 31, 2020					
Liabilities						Liabilities and equity
						Liabilities
Current liabilities						Current liabilities
Notes and accounts payable - trade	212,323	70,918	2,461	285,702		Trade and other payables
Short-term borrowings	132,358	127,362	19,242	278,962	(6)	Bonds and borrowings
Long-term borrowings due within one year	108,131	(108,131)	—	—		
	—	3,106	6,778	9,884	(2)	Lease liabilities
	—	11,265	2,646	13,911	(1)	Other financial liabilities
Income taxes payable	11,185	(1,043)	13	10,155		Income taxes payable
Reserve for employees' bonuses	21,362	(21,362)	—	—		
Reserve for officers' bonuses	166	(166)	—	—		
Other current liabilities	145,250	(81,949)	14,043	77,344	(5)	Other current liabilities
Total current liabilities	630,775	—	45,183	675,958		Total current liabilities
Non-current liabilities						Non-current liabilities
Bonds	290,000	383,068	1,633	674,701	(6)	Bonds and borrowings
Long-term borrowings	383,068	(383,068)	—	—		
	—	12,200	15,277	27,477	(2)	Lease liabilities
	—	4,287	3,319	7,606	(6)	Other financial liabilities
Deferred tax liabilities	33,916	—	(1,793)	32,123	(8)	Deferred tax liabilities
Reserve for retirement benefits for officers	1,407	(1,407)	—	—		
Retirement benefit liability	100,575	—	1,404	101,979	(4)	Retirement benefit liability
Other non-current liabilities	31,374	(15,080)	(3,464)	12,830		Other non-current liabilities
Total non-current liabilities	840,340	—	16,376	856,716		Total non-current liabilities
Total liabilities	1,471,115	—	61,559	1,532,674		Total liabilities
Net assets						Equity
Shareholders' equity						Equity attributable to owners of parent
Share capital	147,873	—	—	147,873		Share capital
Capital surplus	118,062	1,602	2,323	121,987	(6)	Capital surplus
Retained earnings	849,268	—	10,860	860,128	(10)	Retained earnings
Treasury shares	(20,308)	—	—	(20,308)		Treasury shares
Accumulated other comprehensive income	(1,147)	—	7,542	6,395	(4)(6)(9)	Other components of equity
Share acquisition rights	1,602	(1,602)	—	—		
Non-controlling interests	84,222	—	549	84,771		Non-controlling interests
Total net assets	1,179,572	—	21,274	1,200,846		Total equity
Total liabilities and net assets	2,650,687	—	82,833	2,733,520		Total liabilities and equity

Notes on reconciliation of equity

(1) Revenue recognition

(a) Change in timing of revenue recognition

Revenue from sale of goods transactions that was recognized upon shipment under J-GAAP is recognized upon delivery of goods under IFRS. As a result of this change, "Trade and other receivables" have decreased, and "Inventories" have increased.

(b) Repurchase agreements in processing contracts

Under J-GAAP, products and materials (inventories) supplied to contractors for a fee in a contract where the goods supplied are processed and sold back to the Group were derecognized at the time of supply to the processors. Under IFRS, such transactions are deemed as financing transactions, under which "Inventories" continue to be recognized and "Other financial liabilities" (current liabilities) are recognized.

(c) Construction contracts

Construction contracts that were accounted for using the completed contract method under J-GAAP are accounted for using the cost recovery method under IFRS. Accordingly, "Inventories" have decreased, and "Trade and other receivables" have increased.

(2) Leases

Under J-GAAP, a lessee classified leases as either a finance lease or an operating lease and accounted for operating leases using the accounting method similar to that for ordinary rental transactions. Under IFRS, instead of making such classification, a lessee recognizes "Right-of-use assets" and "Lease liabilities" for all leases except for short-term leases and leases for which the underlying asset is of low value.

(3) Goodwill

Under J-GAAP, goodwill was amortized on a straight-line basis over a period for which goodwill is expected to have an effect with a maximum period of 20 years after recognition. Under IFRS, goodwill is not amortized. Accordingly, "Goodwill" increased at March 31, 2020.

(4) Retirement benefits

As a result of remeasuring defined benefit obligations based on the discount rate and other assumptions in accordance with IFRS, "Retirement benefit asset" has decreased, and "Retirement benefit liability" has increased. Under J-GAAP, actuarial gains and losses were recognized in other comprehensive income as incurred and subsequently expensed over a certain number of years within the average remaining service period of employees. Under IFRS, remeasurements of defined benefit plans including actuarial gains and losses are recognized in other comprehensive income as incurred and immediately reclassified to retained earnings.

(5) Unused paid absences

Unused paid absences of employees, which were not required to be recognized as liabilities under J-GAAP, are recognized as liabilities under IFRS. As a result, "Other current liabilities" have increased.

(6) Financial instruments

(a) Notes maturing at the fiscal year end and cash settlements due on the fiscal year end

Under J-GAAP, notes maturing at the fiscal year end and cash settlements (limited to those settled on the same terms and conditions as notes) due on the fiscal year end were accounted for as if they had been settled at the maturity date even when the fiscal year end fell on a bank holiday. Under IFRS, they are derecognized on the actual clearing or settlement date. As a result of this change, "Cash and cash equivalents" have decreased, and "Trade and other receivables" and "Trade and other payables" have increased.

(b) Accounts receivable factoring and securitization

Of factored or securitized receivables that were derecognized at the time of transfer under J-GAAP, those that do not qualify for derecognition under IFRS are not derecognized and the considerations received are recognized as borrowings. As a result, "Trade and other receivables" and "Bonds and borrowings" (current liabilities) have increased.

(c) Valuation of unlisted equity securities

Unlisted equity securities were stated at cost using the moving-average cost method under J-GAAP, but are stated at fair value under IFRS. As a result, "Other financial assets" (non-current assets) and "Other components of equity" have increased.

(d) Cross-currency swaps and interest rate swaps

In applying hedge accounting, cross-currency swaps were accounted for using the allocation method and interest rate swaps were accounted for using the special accounting method under J-GAAP. Under IFRS, cross-currency swaps and interest rate swaps are accounted for using the cash flow hedge method or the fair value hedge method. Accordingly, "Other financial assets" (current assets and non-current assets), "Bonds and borrowings" and "Other financial liabilities" (non-current liabilities) have increased.

(e) Bonds payable (bond issuance costs, convertible bonds)

Bond issuance costs, which were expensed as incurred under J-GAAP, are deducted from the carrying amount of the bonds and expensed using the effective interest method under IFRS. Convertible bonds, which were recognized as liabilities in their entirety under J-GAAP, are separated into the bond component, which is recognized as a liability, and the share acquisition right component, which is recognized as an equity, under IFRS. As a result, "Bonds and borrowings" have decreased, and "Capital surplus" has increased.

(7) Equity method

(a) Change in scope of application of equity method

Certain entities that were excluded from the scope of equity method in view of their immateriality at March 31, 2019 under J-GAAP are included in the scope of equity method effective from the date of transition to IFRS. As a result, "Investments accounted for using equity method" have increased at April 1, 2019. These entities are also included in the scope of equity method effective from the beginning of the year ended March 31, 2020 under J-GAAP.

(b) Equity method goodwill

Equity method goodwill, which was amortized under J-GAAP, is not amortized under IFRS. Accordingly, "Investments accounted for using equity method" have increased at March 31, 2020.

(8) Tax effects

Tax effects of the elimination of unrealized gains and losses were determined using the tax rates of sellers under J-GAAP, but are determined using the tax rates of buyers under IFRS. The recoverability is also reassessed under IFRS. In addition, the amounts of "Deferred tax assets" and "Deferred tax liabilities" have been adjusted for temporary differences as a result of the reconciliation from J-GAAP to IFRS.

(9) Exchange differences on translation of foreign operations

As a result of applying the exemptions provided in IFRS 1, the cumulative exchange differences on translation of foreign operations were all reclassified to retained earnings at April 1, 2019.

(10) Retained earnings

The effects of adjustments on retained earnings upon application of IFRS are as follows:

Millions of yen

	April 1, 2019	March 31, 2020
Change in timing of revenue recognition (see (1))	(1,622)	(1,906)
Goodwill (see (3))	—	10,942
Retirement benefits (see (4))	(2,229)	(5,489)
Unused paid absences (see (5))	(12,007)	(12,784)
Bonds payable (see (6))	(1,571)	(2,123)
Change in scope of application of equity method (see (7))	2,027	—
Equity method goodwill (see (7))	—	21,599
Tax effects (see (8))	1,024	972
Exchange differences on translation of foreign operations (see (9))	896	896
Other	(572)	(1,247)
Total	(14,054)	10,860

(11) Reclassifications

In addition to the above, the Group has made certain reclassifications to comply with the provisions of IFRS. The major items of the reclassifications are as follows:

- Time deposits with deposit terms exceeding three months, which were included in "Cash and time deposits" under J-GAAP, are reclassified and presented in "Other financial assets" (current assets) under IFRS. Short-term investments with a maturity of three months or less, which were included in "Other current assets" under J-GAAP, are reclassified and presented in "Cash and cash equivalents" under IFRS.
- Other receivables included in "Other current assets" under J-GAAP are reclassified and presented in "Trade and other receivables" under IFRS.
- Leased assets, which were included in "Property, plant and equipment" under J-GAAP, are separately presented as "Right-of-use assets" under IFRS. Investment property, which was included in "Property, plant and equipment" under J-GAAP, is reclassified and presented in "Other non-current assets" under IFRS.
- Of "Investment securities," which were separately presented under J-GAAP, and investments in capital, which were included in "Other" of "Investments and other assets" under J-GAAP, investments subject to the equity method are separately presented as "Investments accounted for using equity method" and other items are presented in "Other financial assets" (non-current assets) under IFRS.
- Other payables and accrued expenses included in "Other current liabilities" under J-GAAP are reclassified and presented in "Trade and other payables" under IFRS.
- "Reserve for employees' bonuses" and "Reserve for officers' bonuses," which were separately presented under J-GAAP, are reclassified and presented in "Other current liabilities" under IFRS.
- "Short-term borrowings," "Long-term borrowings due within one year" and "Bonds due within one year," which were separately presented in current liabilities under J-GAAP, are reclassified and presented in "Bonds and borrowings" (current liabilities) under IFRS. "Bonds" and "Long-term borrowings," which were separately presented in non-current liabilities under J-GAAP, are reclassified and presented in "Bonds and borrowings" (non-current liabilities) under IFRS.
- Lease liabilities, which were included in "Other current liabilities" and "Other non-current liabilities" under J-GAAP, are separately presented as "Lease liabilities" in current and non-current liabilities, respectively, under IFRS.

II. Reconciliation of profit or loss and comprehensive income

Millions of yen

	2020					
Item presented under J-GAAP	J-GAAP	Reclassification (7)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
Net sales	2,214,633	—	(123,467)	2,091,166	(1)	Revenue
Cost of sales	(1,776,276)	(9,451)	123,848	(1,661,879)	(1)(3)	Cost of sales
Gross profit	438,357	(9,451)	381	429,287		Gross profit
Selling, general and administrative expenses	(307,171)	(4,144)	10,664	(300,651)	(2)(3)	Selling, general and administrative expenses
	—	7,147	386	7,533		Other income
	—	(21,205)	(264)	(21,469)		Other expenses
Operating income	131,186	(27,653)	11,167	114,700		Operating income
Non-operating income	11,237	(11,237)	—	—		
Non-operating expenses	(39,068)	39,068	—	—		
Special gains	7,691	(7,691)	—	—		
Special losses	(17,000)	17,000	—	—		
	—	11,218	(4,153)	7,065	(4)	Finance income
	—	(10,172)	1,006	(9,166)	(4)	Finance costs
	—	(10,805)	21,510	10,705	(5)	Share of profit of investments accounted for using equity method
Income before income taxes	94,046	(272)	29,530	123,304		Profit before tax
Income taxes	(29,131)	272	(602)	(29,461)	(6)	Income tax expense
Net income	64,915	—	28,928	93,843		Profit

Millions of yen

	2020					
Item presented under J-GAAP	J-GAAP	Reclassification (7)	Recognition and measurement difference	IFRS	Note	Item presented under IFRS
Net income	64,915	—	28,928	93,843		Profit
Other comprehensive income						Other comprehensive income
						Items that will not be reclassified to profit or loss
Net unrealized gains (losses) on securities	(20,488)	—	555	(19,933)	(4)	Investments in equity instruments
Remeasurements of defined benefit plans	(5,083)	—	161	(4,922)	(3)	Remeasurements of defined benefit plans
	—	(520)	(12)	(532)		Share of other comprehensive income of investments accounted for using equity method
						Items that may be reclassified to profit or loss
Net deferred gains (losses) on hedges	1,037	—	(633)	404		Cash flow hedges
	—	—	(602)	(602)		Deferred costs of hedging
Foreign currency translation adjustments	(44,857)	—	207	(44,650)		Exchange differences on translation
Share of other comprehensive income of investments accounted for using equity method	(2,904)	520	2,386	2		Share of other comprehensive income of investments accounted for using equity method
Total other comprehensive income	(72,295)	—	2,062	(70,233)		Total other comprehensive income
Comprehensive income	(7,380)	—	30,990	23,610		Comprehensive income

Notes on reconciliation of profit or loss and comprehensive income

(1) Revenue recognition

For transactions undertaken as an agent, “Net sales” and “Cost of sales” were presented on a gross basis under J-GAAP, whereas they are presented on a net basis under IFRS. In addition, revenue from sale of goods transactions that was recognized upon shipment under J-GAAP is recognized upon delivery of goods under IFRS. As a result of these adjustments, “Revenue” has decreased.

(2) Goodwill

Under J-GAAP, goodwill was amortized on a straight-line basis over a period for which goodwill is expected to have an effect with a maximum period of 20 years after recognition. Under IFRS, goodwill is not amortized. Accordingly, “Selling, general and administrative expenses” have decreased.

(3) Retirement benefits

Under J-GAAP, actuarial gains and losses were recognized in other comprehensive income as incurred, subsequently amortized over a certain number of years within the average remaining service period of employees and recognized in profit or loss. Under IFRS, remeasurements of defined benefit plans including actuarial gains and losses are recognized in other comprehensive income as incurred and immediately reclassified to retained earnings. As a result, "Cost of sales" and "Selling, general and administrative expenses" have been adjusted.

(4) Financial instruments

Under J-GAAP, gains and losses on sale and impairment losses of investments in equity instruments were recognized in profit or loss. Under IFRS, for investments in equity instruments designated as measured at fair value through other comprehensive income, the amount of changes in the fair value is recognized in other comprehensive income, and reclassified to retained earnings at the time of sale. Accordingly, "Finance income" and "Finance costs" have decreased.

(5) Equity method goodwill

Equity method goodwill, which was amortized under J-GAAP, is not amortized under IFRS. Accordingly, "Share of profit of investments accounted for using equity method" has increased.

(6) Tax effects

As a result of temporary differences arising from the reconciliation from J-GAAP to IFRS, the amount of income taxes has been adjusted.

Tax effects of the elimination of unrealized gains and losses, which were determined using the tax rates of sellers under J-GAAP, are determined using the tax rates of buyers under IFRS.

(7) Reclassifications

In addition to the above, the Group has made certain reclassifications to comply with the provisions of IFRS. The major items of the reclassifications are as follows:

- "Expenses related to start-up of new facilities" and "Expenses related to idle facilities," which were presented in "Non-operating expenses" under J-GAAP, are included in "Selling, general and administrative expenses" and "Cost of sales," respectively, under IFRS. Of the other items that were presented in "Non-operating income," "Non-operating expenses," "Special gains" and "Special losses" under J-GAAP, finance-related items and foreign exchange gains and losses are presented in "Finance income" or "Finance costs," gains and losses related to the equity method in "Share of profit of investments accounted for using equity method" and other items in "Other income" or "Other expenses."

III. Reconciliation of cash flows

Main differences between the consolidated statement of cash flows in accordance with J-GAAP and that in accordance with IFRS for the year ended March 31, 2020 are as follows:

- Under J-GAAP, notes maturing at the fiscal year end and cash settlements (limited to those settled on the same terms and conditions as notes) due on the fiscal year end were accounted for as if they had been settled at the maturity date even when the fiscal year end fell on a bank holiday. Under IFRS, they are derecognized on the actual clearing or settlement date. As a result of this change, "Cash and cash equivalents at beginning of period" have decreased, and "Cash flows from operating activities" have increased.
- Lease payments for operating leases, which were classified in "Cash flows from operating activities" under J-GAAP, are classified in "Cash flows from financing activities" as repayments of lease liabilities under IFRS.

Independent Auditor's Report

The Board of Directors
Toray Industries, Inc.

Opinion

We have audited the accompanying consolidated financial statements of Toray Industries, Inc. and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at March 31, 2021, and the consolidated statements of profit or loss, comprehensive income, changes in equity, and cash flows for the year then ended, and notes to the consolidated financial statements.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at March 31, 2021, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of the audit of the consolidated financial statements as a whole, and in forming the auditor's opinion thereon, and we do not provide a separate opinion on these matters.

Valuation of goodwill in the Carbon Fiber Composite Materials segment

Description of Key Audit Matter	Auditor's Response
As described in "Note 12. Goodwill and Intangible Assets" in the notes to the consolidated financial statements, the Company recorded goodwill of 85,565 million yen (3.0% of total assets) as of March 31, 2021. Of this amount, in the Carbon Fiber Composite Materials segment, 60,309 million yen (70.5% of total goodwill) was recorded for Toray TCAC Holding B.V. and 11,580 million yen (13.5% of total goodwill) was recorded for Zoltek Companies, Inc. The Company tests cash-generating units or groups of cash-generating units to which goodwill has been allocated for impairment annually and whenever there is an indication of impairment, and measures the recoverable amount of each cash-generating unit at its value in use. The value in use was determined by combining the discounted present value of the future cash flows based on the business plan for the next five years approved by management with a terminal value, reflecting past experience and external information. The business plan is primarily affected by	We performed the following audit procedures in considering the valuation of goodwill in the Carbon Fiber Composite Materials segment, among others: • We verified the valuation method used in calculating value in use by involving valuation specialists of our network firms. • For sales volumes and sales prices set forth in business plans, we held discussions with management and analyzed the figures by comparing them with past actual results. • We compared the Company's demand outlook for its products, which is a premise used in estimating sales volumes, with market forecasts and available external data. • We evaluated the effectiveness of the estimation process that management uses for the business plan by comparing business plans from prior fiscal years with the corresponding actual results. • We verified the consistency between future cash flows and the business plan approved

changes in sales volumes and sales prices. The terminal value was calculated using the growth rate based on the expected inflation rate of the country to which the cash-generating unit belonged. The key assumptions used in estimating value in use are sales volumes and sales prices set forth in the business plan, as well as the growth rate and discount rate used in calculating the terminal value. Given that sales volumes and sales prices set forth in the business plan as well as the growth rate and discount rate, which are key assumptions underlying estimates of the aforementioned goodwill, are subject to uncertainty and thus require management's judgment and, further, considering that the balance of the goodwill is also material to the consolidated financial statements, we determined the valuation of goodwill in the Carbon Fiber Composite Materials segment to be a key audit matter.	by management. • We compared the growth rate and discount rate with estimates that were prepared by valuation specialists of our network firms using available external data. • We performed a sensitivity analysis with regards to changes in key assumptions.

Valuation of production facilities in the Carbon Fiber Composite Materials segment

Description of Key Audit Matter	Auditor's Response
As described in "Note 13. Impairment Losses" in the notes to the consolidated financial statements, the Company recorded impairment loss of 24,968 million yen on production facilities in the Carbon Fiber Composite Materials segment located in Washington, U.S.A. and other areas for the fiscal year ended March 31, 2021 due to a decline in profitability caused by sluggish demand for aircraft. The carrying amount after recording impairment loss is 53,192 million yen, which is included in property, plant and equipment and intangible assets. The Company estimates the recoverable amounts of property, plant and equipment and intangible assets when there is any indication that they may be impaired and records impairment loss when the estimated recoverable amounts of these assets are less than its carrying amounts. In considering the amount to record for impairment loss on production facilities in the Carbon Fiber Composite Materials segment located in Washington, U.S.A. and other areas, the Company measures the recoverable amounts of cash-generating units at their value in use. The value in use was calculated by discounting the future cash flows at a discount rate of 7.8%. The future cash flows were estimated based on the business plan for the next five years approved	We involved component auditors and performed the following audit procedures in considering impairment loss on production facilities in the Carbon Fiber Composite Materials segment located in Washington, U.S.A. and other areas, among others: • We verified the valuation method used in calculating value in use by involving valuation specialists of our network firms. • For sales volumes and sales prices set forth in the business plan, we held discussions with management and analyzed the figures by comparing them with past actual results. • We compared the Company's demand outlook for its products, which is a premise used in estimating sales volumes, with available external data. • We evaluated the effectiveness of the estimation process that management uses for the business plan by comparing business plans from prior fiscal years with the corresponding actual results. • We verified the consistency between future cash flows and the business plan approved by management. • We compared growth rate and discount rate with estimates that were prepared by valuation

by management, reflecting past experience and external information, and for years after the five years, estimated using the growth rate based on the expected inflation rate of U.S.A., the country to which the cash-generating unit belonged. The business plan is primarily affected by changes in sales volumes and sales prices. The key assumptions used in estimating value in use are sales volumes and sales prices set forth in the business plan, as well as the growth rate and discount rate used in calculating future cash flows after the five years. Given that sales volumes and sales prices set forth in the business plan as well as the growth rate and discount rate, which are key assumptions underlying estimates of the aforementioned property, plant and equipment and intangible assets, are subject to uncertainty and thus require management's judgment and, further, considering that the balances of the property, plant and equipment and intangible assets are also material to the consolidated financial statements, we determined that the valuation of production facilities in the Carbon Fiber Composite Materials segment to be a key audit matter.	specialists of our network firms using available external data. • We performed a sensitivity analysis with regards to changes in key assumptions.

Responsibilities of Management, the Corporate Auditor and the Board of Corporate Auditors for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern and disclosing, as required by IFRSs, matters related to going concern.

The Corporate Auditor and the Board of Corporate Auditors are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Consider internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances for our risk assessments, while the purpose of the audit of the consolidated financial statements is not expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation in accordance with IFRSs.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Corporate Auditor and the Board of Corporate Auditors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Corporate Auditor and the Board of Corporate Auditors with a statement that we have complied with the ethical requirements regarding independence that are relevant to our audit of the financial statements in Japan, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Corporate Auditor and the Board of Corporate Auditors, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Ernst & Young ShinNihon LLC
Tokyo, Japan

June 22, 2021

/s/ Kazuhiro Suzuki
Designated Engagement Partner
Certified Public Accountant

/s/ Takeshi Isogai
Designated Engagement Partner
Certified Public Accountant

/s/ Tsuyoshi Nakano
Designated Engagement Partner
Certified Public Accountant

Stakeholder Engagement

Toray Group has established the Basic Policies to Promote Dialogue with Stakeholders. The Group is communicating proactively with various stakeholders in all aspects of its corporate activities, and periodically report on and discuss the content of these activities with its management. With the goal of strengthening the system for engaging with stakeholders, a new organization was established to supervise communications in general in April 2018, and efforts are being made on centralizing the function of information transmission, both internally and externally.

Engaging with Stockholders and Investors

The Group actively communicates with institutional investors and securities company analysts by providing information materials when requested and holding same-day results briefings when quarterly earnings are announced. In addition to IR materials, including integrated annual reports, the Group also provides a wide range of information on management policies and strategies, as well as financial and earnings information in the Investor Relations section of the Toray website.

Briefings on business for stockholders are held in order to deepen their understanding of Toray Group.

In fiscal 2020, Toray held four results briefings and held 468 meetings with investors and analysts.

Engaging with Customers

Toray Group believes that the customer comes first. Communication is carried out closely with the customers, mainly through the marketing and sales departments, and periodic customer satisfaction surveys. The results of these surveys are shared internally at Board meetings and through in-house newsletters as the Group strives to provide even higher quality customer service.

Showrooms were established at a number of locations, including the head office in Tokyo, the Toray Shiga Plant, and the Toray Human Resources Development Center in Mishima, Shizuoka Prefecture, showing our businesses and product applications in an easy-to-understand manner to the public so as to deepen their understanding of Toray Group's stance toward contributing to solving various problems by creating and providing innovative technologies and cutting-edge materials.

Engaging with Business Partners

While providing materials and products as a manufacturer of advanced materials, Toray Group must engage in upstream management of its supply chains to better fulfill the needs of its customers, including the areas of production facilities and procured raw materials and resources. Accordingly, the Group has established its Basic Purchasing Policies and Basic Distribution Policies to emphasize this approach and ensure fair business activities. Throughout the Group, proper and fair transactions, adherence to laws, environmental preservation, respect for human rights, improvements in quality and other policies in initiatives with regard to corporate responsibility in procurement, purchasing, and distribution are promoted.

Engaging with Employees

As one of the group-wide efforts in the Medium-Term Management Program, Project AP-G 2022, the Group promotes the Toray Philosophy Project (TP Project). In working to instill understanding of the Toray Philosophy among Toray Group employees, *Toray Philosophy Book* and the mini booklet version were published, and a range of activities were developed, such as the holding of in-house lectures by management and roundtable discussions at each workplace.

Using in-house newsletters, the group intranet, and company-wide bulletin boards, Toray Group actively promotes communication with its employees to not only disseminate information on company policies and issues, but to improve cohesion of the Toray brand and heighten each employee's sense of belonging.

Engaging with the Mass Media

Toray recognizes that public relations and corporate communication activities have a role in fulfilling responsibilities for information disclosure as well as influencing public opinion. Accordingly, Toray's Corporate Communications Department actively engages with a wide range of media organizations, acting as the public's point of contact with the Company.

Based on Toray's Information Disclosure Principles, the department provides fair and impartial information, even if it may cast the Company in a bad light, in a timely and appropriate manner. In fiscal 2020, the Company issued 152 press releases and responded to 236 media requests for information.

Engaging with Local Communities

In addition to holding informal gatherings for discussion regularly, Toray Group strives to engage in more active dialogue with nearby residents in a variety of other settings, including by participating in events sponsored by local governments and inviting local residents onto plant grounds for summer festivals.

In fiscal 2020, the various events that would previously have been held were largely canceled due to the impact of COVID-19 infections. However, the Group actively engaged in activities to assist local communities in combating COVID-19 infections, by donating items such as masks and protective clothing.

External Evaluation

Toray was included in the following SRI indices.

Included in the Dow Jones Sustainability Index Asia Pacific

Toray is included in the Asia Pacific Index of the Dow Jones Sustainability Indices (DJSI), an SRI index administered by U.S.-based S&P Dow Jones Indices and Switzerland-based RobecoSAM.

AAA Evaluation Obtained from MSCI ESG Ratings

Having obtained the highest AAA evaluation in the ESG ratings released by MSCI, which provides institutional investors (from pension funds to hedge funds) across the globe with various tools to support investment decisions, Toray was also selected for inclusion in the MSCI Japan Select Leaders Index.

Selected for Inclusion in the FTSE4Good Index Series

Toray was selected for inclusion in the FTSE4Good Index Series. The FTSE4Good Index Series was developed by UK-based FTSE Russell. Those companies that implement outstanding ESG practices are selected for this index series.

Selected as Constituent of S&P/JPX Carbon Efficient Index

Toray has been selected as a constituent of the environmental stock index presented by S&P Dow Jones and the Tokyo Stock Exchange.

Selected as S&P Global Sustainability Yearbook Member

Toray has been selected for inclusion in The Sustainability Yearbook, by which S&P Global (USA), in cooperation with RobecoSAM (Switzerland), evaluates the sustainability of companies from three aspects—the economy, the environment, and society—and lists the top companies.

Selected as CDP “Water Security A List Company”

In a survey conducted by the Carbon Disclosure Project (CDP), an international non-profit organization, Toray was selected as an A list company with the highest evaluation in the water security category. Toray also received a B evaluation in the climate change category.

Integrated Annual Report Award List

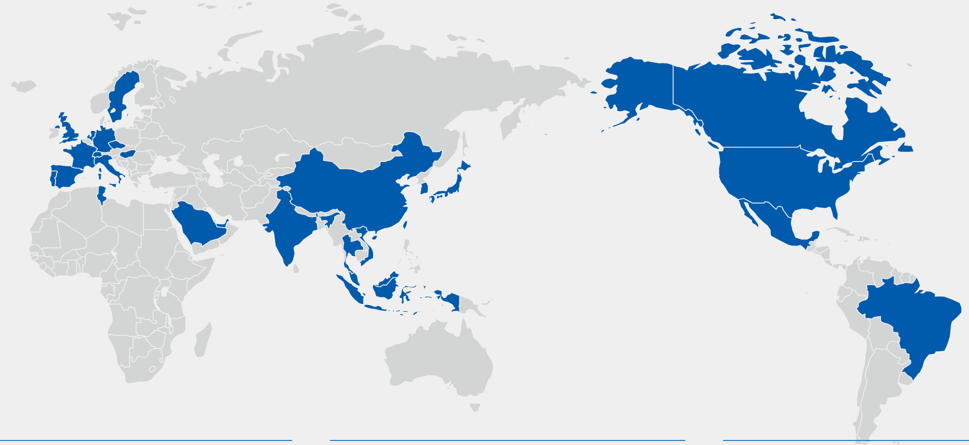
TORAY REPORT 2020 received the Silver Award during the 2021 International ARC Awards, the world’s largest annual report competition.

TORAY REPORT 2020 received the Gold Award during the 2019/2020 Vision Awards, one of the U.S.’s two major report competitions.

Toray Group Worldwide Network

Toray Group operates businesses in 29 countries and regions including Japan.

308 subsidiaries and affiliates (267 subsidiaries and 41 affiliates, etc.)



Japan

Consolidated Subsidiaries

- Ichimura Sangyo, Co., Ltd.
- Toray Plastics Precision Co., Ltd.
- Toray Fine Chemicals Co., Ltd.
- Soda Aromatic Co., Ltd.
- Toray Advanced Film Co., Ltd.
- Suido Kiko Kaisha, Ltd.
- Toray Construction Co., Ltd.
- Toray Engineering Co., Ltd.
- Toray Medical Co., Ltd.
- Toray Systems Center, Inc.
- Toray Enterprise Corp.
- Toray International, Inc.
- Chori Co., Ltd.

Affiliates Accounted for by Equity Method

- Du Pont-Toray Co., Ltd.
- Toray Opelontex Co., Ltd.
- Japan Vilene Company, Ltd.
- Dow Toray Co., Ltd.
- Sanyo Chemical Industries, Ltd.

United Kingdom

Consolidated Subsidiaries

- Toray Textiles Europe Ltd.

Italy

Consolidated Subsidiaries

- Alcantara S.p.A.

France

Consolidated Subsidiaries

- Toray Films Europe S.A.S.
- Toray Carbon Fibers Europe S.A.

China

Consolidated Subsidiaries

- Toray Fibers (Nantong) Co., Ltd.
- Toray Sakai Weaving & Dyeing (Nantong) Co., Ltd.
- Toray Polytech (Nantong) Co., Ltd.
- Toray Industries (H.K.) Ltd.
- Toray Plastics (China) Co., Ltd.
- Toray Industries (China) Co., Ltd.

Affiliates Accounted for by Equity Method

- Pacific Textiles Holdings Ltd.

Republic of Korea

Consolidated Subsidiaries

- Toray Advanced Materials Korea Inc.
- Toray Battery Separator Film Korea Limited
- STEMCO, Ltd.

Affiliates Accounted for by Equity Method

- STECO, Ltd.

Malaysia

Consolidated Subsidiaries

- Penfabric Sdn. Berhad
- Penfibre Sdn. Berhad
- Toray Plastics (Malaysia) Sdn. Berhad

Indonesia

Consolidated Subsidiaries

- P.T. Indonesia Toray Synthetics
- P.T. Toray Polytech Jakarta

Thailand

Consolidated Subsidiaries

- Toray Textiles (Thailand) Public Company Limited
- Thai Toray Synthetics Co., Ltd.

U.S.A.

Consolidated Subsidiaries

- Toray Plastics (America), Inc.
- Toray Resin Co.
- Toray Composite Materials America, Inc.
- Zoltek Companies, Inc.
- Toray Advanced Composites USA Inc.

Others

- Fibers & Textiles
- Performance Chemicals
- Carbon Fiber Composite Materials
- Environment & Engineering
- Life Science
- Others
- Trading

Major Offices and Plants in Japan

Osaka Head Office

Branches
Nagoya, Hokuriku, Kyushu, Tohoku, Chugoku & Shikoku

Plants
Shiga, Seta, Ehime, Nagoya, Tokai, Aichi, Okazaki, Mishima, Chiba, Tsuchiura, Gifu, Ishikawa, Nasu

Overseas Offices

U.S.A.
Toray Industries (America), Inc.

Germany
Toray Industries Europe GmbH

China
Toray Industries, Inc., Beijing Office

Republic of Korea
Toray Industries Korea Inc.

India
Toray Industries (India) Private Limited

Brazil
Toray do Brasil Ltda.

Investor Information (As of March 31, 2021)

Common Stock:
Issued: 1,631,481,403 shares
(including treasury stock)
Number of Stockholders: 215,278

Annual General Meeting:
The annual general meeting of stockholders is normally held in June in Tokyo.

Listings:
Common stock is listed on the Tokyo Stock Exchange.

Independent Auditor:
Ernst & Young ShinNihon LLC

Transfer Agent:
Sumitomo Mitsui Trust Bank, Limited
1-4-1, Marunouchi Chiyoda-ku, Tokyo
100-0005, Japan

Cash Dividends Per Share

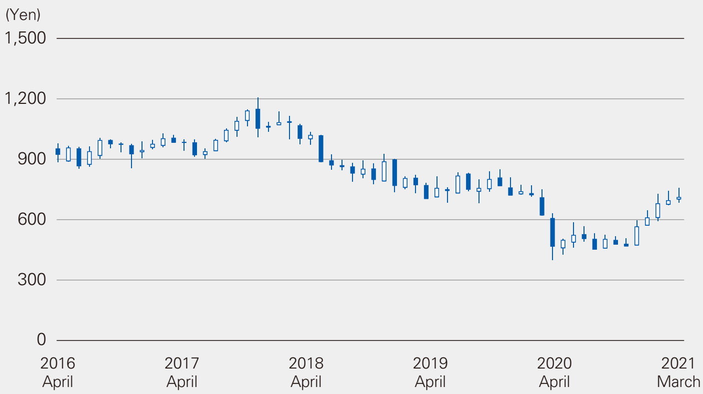
	FY 2020	FY 2019
Total for the year	¥9.00	¥16.00
Interim	4.50	8.00

Principal Stockholders

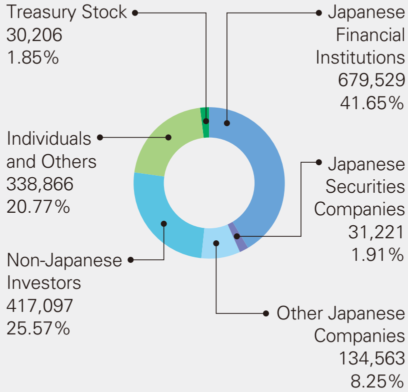
	Shares held	Percentage of shares held*
The Master Trust Bank of Japan, Ltd. (Trust Account)	154,224,000	9.63
Custody Bank of Japan, Ltd. (Trust Account)	113,317,100	7.08
Nippon Life Insurance Co.	71,212,250	4.45
Taiju Life Insurance Co., Ltd.	35,961,000	2.25
Custody Bank of Japan, Ltd. (Trust 7 Account)	26,932,100	1.68
National Mutual Insurance Federation of Agricultural Cooperatives	26,593,000	1.66
Custody Bank of Japan, Ltd. (Trust 4 Account)	24,420,300	1.53
Sumitomo Mitsui Banking Corporation	24,022,000	1.50
State Street Bank West Client-Treaty 505234	22,033,714	1.38
Custody Bank of Japan, Ltd. (Trust 5 Account)	21,759,800	1.36

* Percentage of shares held is calculated excluding 30,205,694 shares of treasury stock.

Stock Price Range



Composition of Stockholders
(Thousands of shares)



Corporate Data (As of March 31, 2021)

Toray Industries, Inc.

Head Office
Nihonbashi Mitsui Tower, 1-1,
Nihonbashi-Muromachi 2-chome,
Chuo-ku, Tokyo 103-8666, Japan
Telephone: 81 (3) 3245-5111
Facsimile: 81 (3) 3245-5054
URL: www.toray.com

Established:
January 1926

Paid-in Capital:
¥147,873,030,771

Number of Employees:
46,267

Parent company:	7,420
Japanese subsidiaries:	10,246
Overseas subsidiaries:	28,601

Toray Industries, Inc.

1-1, Nihonbashi-Muromachi 2-chome,
Chuo-ku, Tokyo 103-8666, Japan
Telephone: 81(3)3245-5111
URL: www.toray.com

For questions about this report:
IR Dept.
Telephone: 81(3)3245-5113

Environment Social Governance
Guidance for Collaborative Value Creation

VEGETABLE OIL INK

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