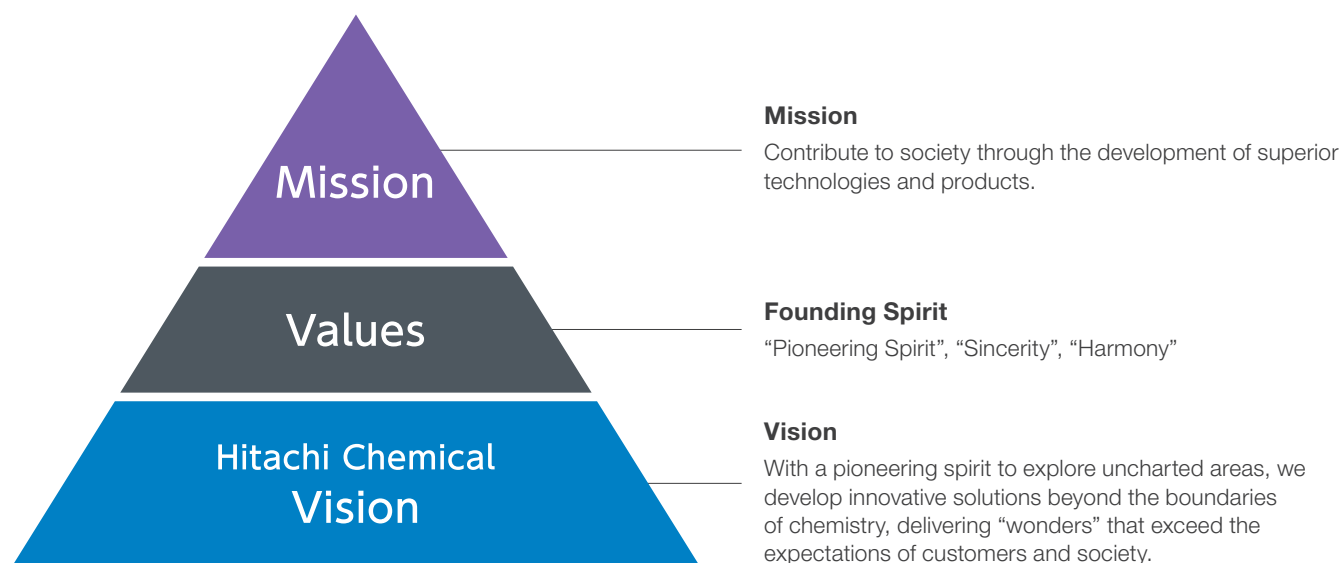


# ANNUAL REPORT 2019

Hitachi Chemical Co., Ltd. | 2018.4.1 ▶ 2019.3.31 |



## The Hitachi Chemical Group Identity



# *Working On Wonders*

## CONTENTS

**Introduction**   **03** Hitachi Chemical's Challenges and History

**At a Glance**   **05** Highlights of Fiscal Year 2018  
                    **07** Trends in Management Indicators

**Top Message**   **09** Management Strategy

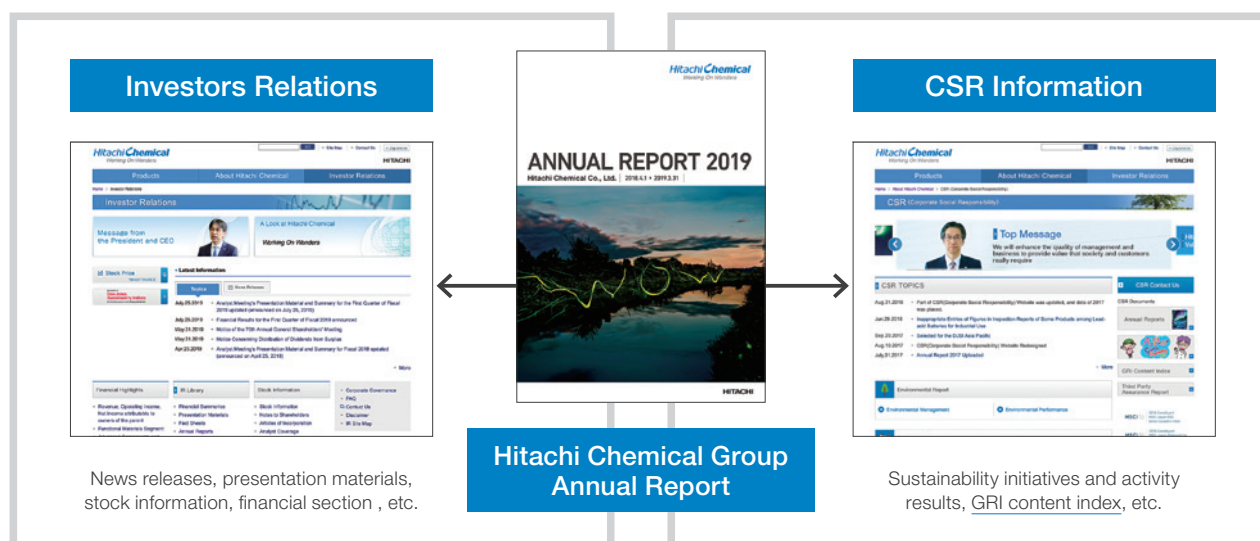
**Our Strategy**   **15** Value Creation Process  
                    **17** Strategy Development Process  
                    **19** Materiality  
                    **21** 10-year Strategy  
                    **23** Review of the 2018 Medium-term Management Plan  
                    **25** Formulation of the 2021 Medium-term Management Plan

**Our Initiatives**   **29** Initiatives of Key Businesses  
                            **29** Information and Communication  
                            **31** Mobility  
                            **33** Energy  
                            **35** Life Sciences  
                    **37** Environment  
                    **38** Diversity & Inclusion

**Governance**   **39** Corporate Governance  
                    **43** Compliance / Risk Management  
                    **45** Board of Directors

Please refer to the corporate website for additional information not contained in this Annual Report.

[www.hitachi-chem.co.jp/english](http://www.hitachi-chem.co.jp/english)



Surpassing conventional common sense and going beyond the field of conventional chemistry, our quest to create new “wonders” will be continued to fulfill the dreams of customers and society.

“Working On Wonders” is Hitachi Chemical’s declaration to continue creating wonders through the development of innovative technologies and products for customers, shareholders, business partners, and local community members.

## Organizations Covered

Hitachi Chemical Co., Ltd., its 89 consolidated subsidiaries and 2 equity-method associates and joint ventures (a total of 92 Hitachi Chemical Group companies). (As of the end of March 2019) When referring to Hitachi Chemical Group as a whole, the terms “Hitachi Chemical,” “the Hitachi Chemical Group,” “the Group,” and “consolidated” are used. The terms “the Company” and “non-consolidated” refer to Hitachi Chemical Co., Ltd.

## Reporting Period

Fiscal year 2018 (April 1, 2018 to March 31, 2019)

This report also contains information regarding events of particular importance that have occurred prior to or after fiscal year 2018. Please note that “fiscal year” and “FY” refer to accounting years starting on April 1st and ending on March 31st of the following year.

## Guidelines Consulted

International Integrated Reporting Council (IIRC) Integrated Reporting Framework  
Ministry of the Economy, Trade and Industry Guidance for Collaborative Value Creation  
GRI Sustainability Reporting Standards  
Ministry of the Environment of Japan Environmental Reporting Guidelines (2012 edition)



## Forward-looking Statements

In addition to information of material fact regarding the past and present activities of Hitachi Chemical, this report contains forward-looking statements concerning future plans and forecasts. Forward-looking statements are assumptions and judgments based on information available at the time of publication. Therefore, future results of business activities and events may differ from forward-looking statements due to changes in a variety of factors.

## Editorial Policy

This report is published to help various stakeholders, including shareholders and investors, understand our activities aimed at fulfilling the Hitachi Chemical Group Vision. It is an integrated report covering mainly information from the year under review, such as our management strategy and business activities including initiatives for sustainability.

We are progressing with activities based on a new medium-term management plan from fiscal year 2019 to its end in fiscal year 2021. Upon formulating the 2021 Medium-term Management Plan, we conducted another materiality analysis, reviewed the 10-year Strategy targeting fiscal year 2025, and looked back on the 2018 Medium-term Management Plan that we had been working on since fiscal year 2016. This report will introduce Hitachi Chemical’s thoughts behind the strategy to provide value to society and stakeholders on a medium-to long-term basis and how the results of this were used in formulating the 2021 Medium-term Management Plan.

We would be delighted to hear your opinions after reading this report.

For GRI content index, refer to [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [GRI Content Index](#)

For a third-party assurance report, refer to [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [Third Party Assurance Report](#)

## Third-party Assurance of Environmental and Social data

In order to enhance the credibility of the environmental and social data we disclose on our CSR website, we have engaged KPMG AZSA Sustainability Co., Ltd. to provide assurance as a third party in respect to some environmental and social data (energy consumption, greenhouse gas emissions, water consumption, VOC emissions, accident frequency rate, accident severity rate, and number and proportion of female managerial positions).

# Hitachi Chemical's Challenges and History

(billion yen)  
600

Since its foundation in 1912, Hitachi Chemical has created numerous products and technologies that have solved problems for customers and the society and has continued taking on the challenge of cutting a path for the age. Hitachi Chemical creates new value through innovation in its four key business domains, seeks to realize its vision for 2025, and to contribute to the development of society.



1912

Founded

1962

Independent

1970

1980

• 1912

## Started researching electrical insulating varnishes

Hitachi Chemical started research to become the first domestic producer of insulating varnishes for motors indispensable for electronic products. Became one of Hitachi Chemical's upstream products. Currently, widely in use, including in motors for electronic vehicles.



• 1933

## Trial manufacture of carbon brushes

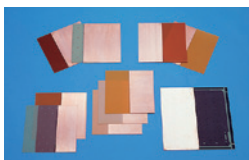
Following insulating varnishes, led to the development of carbon brushes used to deliver electricity into motors, a mass production system was established three years after trial production. Used in bullet trains, vehicles, and wind power generators among others.



• 1955

## Started manufacturing copper-clad laminates for multilayer PWBs

Hitachi Chemical succeeded in integrating complex wiring into a copper-clad laminate by utilizing the printed wiring method as a replacement for manual wiring and soldering of copper wires. This enabled the mass production of electronic circuits and contributed to the spread of TV and radio sets.



• 1974

## Started manufacturing pharmaceutical, MS-antigen

Hitachi Chemical started pharmaceutical R&D as a new division in 1967. In 1972, it acquired approval to produce MS-antigen, an agent for allergic diseases, and entered the pharmaceuticals sector. Later, successor drug MS-antigen 40 contributed to the treatment for tens of thousands of people each year.



• 1978

## Started selling photosensitive dry film of alkali-based solvents

A printed wiring board material for PCs, mobile devices, etc. At the time, organic solvents developers were the main type of photosensitive film but Hitachi Chemical developed alkaline development photosensitive film as it was more friendly on the environment. The development method was highly regarded for its ability to provide highly detailed wiring patterns and greater safety.



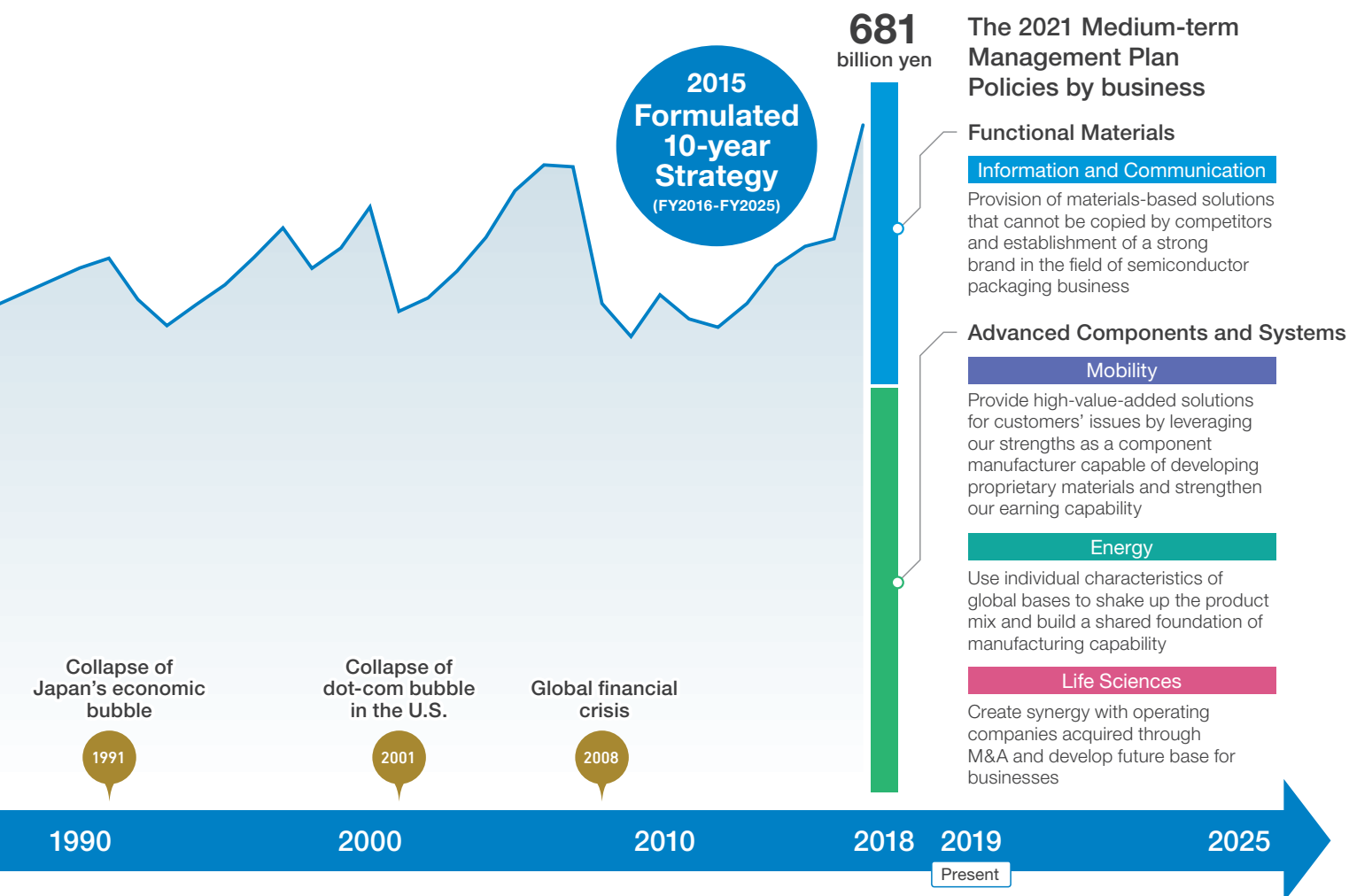
• 1984

## Started manufacturing anisotropic conductive films for displays

Hitachi Chemical developed anisotropic conductive films with the then revolutionary characteristics of anisotropic conductive film for LCD circuit conduction where solder was used. This enabled the high-volume production of LCDs with high picture quality.







For Hitachi Chemical Group's history, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Brief History](#)

## 1998

### Started high-volume production of carbon anode materials for lithium-ion batteries

As demand for mobile devices grew significantly, Hitachi Chemical developed anode materials using artificial graphite at a time when expectations of greater performance for lithium-ion batteries were arising. This made accelerated charging and discharging and longer battery life possible.



## 1998

### Started manufacturing CMP slurry for STI (shallow trench isolation)

Hitachi Chemical developed original cerium oxide particles that self-destruct while polishing and an auto-collapse mechanism that appears in a process following high planarization used in concave-convex polishing of wafers in the semiconductor production process.



## 2001

### Started manufacturing molded plastic rear door modules

Hitachi Chemical succeeded in manufacturing molded plastic rear door modules for the first time in Japan, where such modules had been conventionally made of metal. Reduced burden on the environment by making the doors lighter and enabled support for various designs by improving material flexibility.



\* Sample of molded plastic rear door

## 2008

### Started manufacturing allergy diagnostic reagents for simultaneous measurement of 33 items

Hitachi Chemical made it possible to perform a simultaneous test for many allergens from a single blood sample. This reduced burden on patients to provide blood samples, visiting hospitals for treatment, and shortened diagnosis time.



## 2010

### Started operating lead-acid batteries for wind power generation

Hitachi Chemical developed a lead-acid battery with a long life that can handle sudden fluctuations in electricity output due to strong or weak wind speed and endure irregular and frequent charging and discharging cycles. This contributed to the successful operation of Japan's first wind power station with output-power stabilization control.



## 2017

### Started production development and contract manufacturing of regenerative medicine products

Hitachi Chemical started production development and production of regenerative medicines in a sterile manufacturing facility with a quality control system on contract from pharmaceutical companies and research organizations. This has contributed to the progress of constructing a global supply system and the spread of regenerative medicine.



# Highlights of Fiscal Year 2018

## Established JOINT Consortium Providing Comprehensive Solutions for Semiconductor Packaging

Hitachi Chemical established the Jisso Open Innovation Network of Tops (JOINT) in fiscal year 2018 with 15 companies involved in development of semiconductor packaging, materials, and equipments, starting activities with the Packaging Solution Center as its base.

Speed is required in semiconductor development, and this consortium\* helps customers cut workload and time by providing comprehensive solutions from the development of cutting-edge packaging technologies through to the packaging process by using the materials and equipments possessed by the participating companies.

JOINT enables Hitachi Chemical and other companies to work together by pooling their technologies and information for use in accordance with the development theme. By promptly providing comprehensive solutions such as optimal combinations of the various types of materials and processes needed for the



the logo mark of JOINT consortium



Packaging Solution Center

production of semiconductor packaging, and by promoting open innovation among the companies participating in the consortium, we will solve customers' issues and contribute to technological innovations in semiconductor packaging development.

\* Generally, a consortium involves participating companies, organizations, and other actors to jointly act towards a specified theme or objective by providing each participant's assets. JOINT, though, is managed by Hitachi Chemical and uses our Packaging Solution Center while promoting projects that utilize materials and devices from the participating companies.

## Securing Top Position Among Japanese Companies for the Highest Share of Women Named as Inventors in International Patent Applications

According to an announcement by the World Intellectual Property Organization Japan Office in April 2018, Hitachi Chemical had the highest ratio of women named as inventors in international patent applications by Japanese companies\* at 43.6%.

Hitachi Chemical has long systemized education about intellectual property, strived to enhance employees' IP mindset and literacy, advanced active application for patents, and acquisition of rights to enhance our competitive edge. Moreover, diversity and inclusion are positioned as important management strategies, and structures have been set up to enable diverse human resources to thrive. Going forward, we will increase the Group's competitiveness through these initiatives to achieve sustainable growth in global markets.

\* Applicable period: 3 years between 2015-2017  
Eligibility: Top 100 Japanese companies, universities, and other organizations with the largest number of international patent applications

## FY2018 Revenue and number of employees by segment

Advanced  
Components and  
Systems Segment

**57.0%**

388.2 billion yen  
104% of previous  
year's level

Operating income  
△0.5 billion yen  
△83% of previous  
year's level



Functional  
Materials Segment

**43.0%**

292.8 billion yen  
99% of previous  
year's level

Operating income  
36.9 billion yen  
79% of previous  
year's level

Advanced  
Components and  
Systems Segment

**65.8%**

15,130 people  
101% of previous  
year's level



Functional  
Materials Segment

**34.2%**

7,859 people  
104% of previous  
year's level

## Main products and the overview of fiscal year 2018 of each segment

Segment	Major Products	Revenue	Segment	Major Products	Revenue
Functional Materials	<b>Electronic Materials</b> Epoxy molding compounds, die bonding materials, CMP slurry	<b>92.5 billion yen</b> (96% of previous year's level)	Advanced Components and Systems	<b>Automotive Components</b> Plastic modeled products, friction materials, powder metal products	<b>141.7 billion yen</b> (100% of previous year's level)
	<b>Inorganic Materials</b> Carbon anode materials and anode material for lithium ion batteries	<b>34.3 billion yen</b> (112% of previous year's level)		<b>Energy Storage Devices and Systems</b> Automotive batteries, industrial batteries	<b>180.2 billion yen</b> (102% of previous year's level)
	<b>Resin Materials</b> Functional resin, anisotropic conductive films for displays	<b>58.5 billion yen</b> (94% of previous year's level)		<b>Electronic Components</b> Printed wiring boards	<b>41.9 billion yen</b> (99% of previous year's level)
	<b>Printed Wiring Board Materials</b> Copper-clad laminates, photosensitive dry films	<b>80.0 billion yen</b> (96% of previous year's level)		<b>Others</b> Diagnostic reagents and devices	<b>24.4 billion yen</b> (199% of previous year's level)
	<b>Others</b> Sales and services	<b>27.5 billion yen</b> (110% of previous year's level)			

## The Stock Acquisition of apceth Biopharma GmbH, a Contract Manufacturer of Regenerative Medicine Products

Hitachi Chemical concluded a contract in January 2019 to acquire all the shares of apceth Biopharma GmbH in Germany. apceth Biopharma, which has made regenerative medicine products on contract for European and American pharmaceutical manufacturers, has a track record of manufacturing various regenerative medicine products for investigation, including cancer immunotherapy cell, iPS cell, and mesenchymal stem cell. This stock acquisition allowed Hitachi Chemical Group to construct a framework for manufacturing and sales of regenerative medicine products in Europe in addition to its existing businesses in Japan and the United States.



A cleanroom at apceth Biopharma GmbH

Hitachi Chemical will also construct a framework that assures the timely manufacture and shipment of uniform quality products in each region to our pharmaceutical manufacturing customers who, in turn, sell their products globally.

## Building a New Factory in Taiwan to Manufacture Advanced Functional Laminate Materials for Printed Wiring Boards

Hitachi Chemical is building a new factory in Taiwan that will start the manufacture of advanced functional laminate materials for printed wiring boards in April 2020. Advanced functional laminate materials for semiconductor packaging substrates are used in various fields, including next-generation wireless communication technology(5G), advanced driver-assistance systems (ADAS)\* and artificial intelligence (AI), and their demand is expected to grow going forward. Hitachi Chemical decided to invest approximately 7.5 billion yen in establishing a supply system in Taiwan, the biggest demand center for its products.

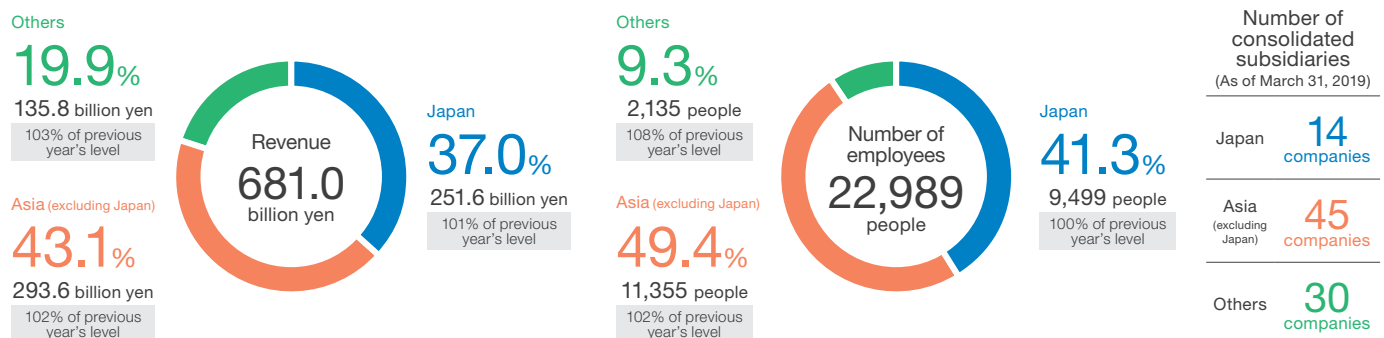
\* Systems that prevent accidents by detecting the vehicle's surroundings through sensors mounted on its front, sides and rear.

## In Regards to Inappropriate Product Testing of Hitachi Chemical Products

▶ P.43-44

Hitachi Chemical offers its deepest apologies for having caused considerable inconvenience and concern to our customers, shareholders, and all other persons concerned after it was came to light during fiscal year 2018 that inappropriate product testing, etc., of certain products had taken place. Hitachi Chemical will strengthen the Group's governance and strive to improve its quality control system while doing everything in its power to regain the trust of stakeholders.

## FY2018 Revenue and number of employees by region



### Revision of main products in business segments

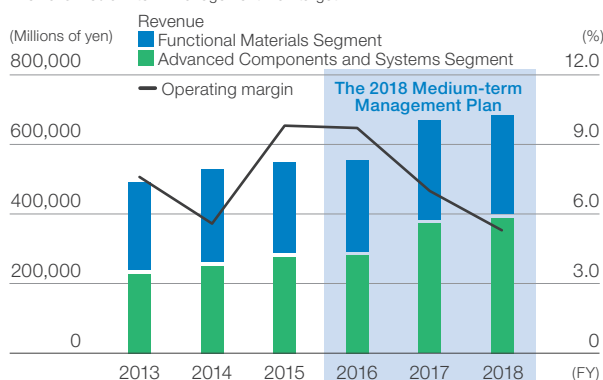
Hitachi Chemical reorganized its business headquarters on April 1, 2019 for management structure corresponding to its key business domains. This resulted in a revision of the segments to which some products belong. This report categorizes these products by using actual results from original categories until fiscal year 2018 and changes to use the revised segment targets from fiscal year 2019 onward.

Before the review		After the review	
Segment		Business Category	
Functional Materials	Electronic Materials	Electronic Materials	Information and Communication
	Inorganic Materials	Printed Wiring Board Materials	
	Resin Materials	Electronic Components	
	Printed Wiring Board Materials		
Advanced Components and Systems	Automotive Components	Mobility	Mobility
	Energy Storage Devices and Systems	Energy Storage Devices and Systems	Energy
	Electronic Components		
	Others	Life Sciences	Life Sciences

# Trends in Management Indicators

## Revenue / Operating margin

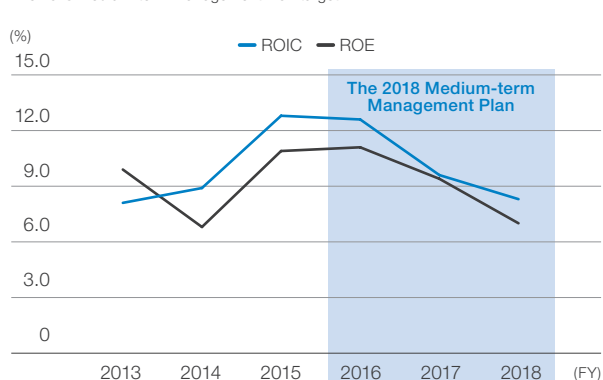
The 2018 Medium-term Management Plan target



Revenue increased slightly due to a higher demand for slurry for chemical mechanical planarization and carbon anode materials for lithium ion batteries as well as the benefits of new mergers and acquisitions. Operating income decreased significantly due to factors that include the deterioration of our sales mix stemming from sluggish growth of products used for smartphone applications, higher fixed costs due to the launch of our regenerative medicine business, and expenses associated with the inappropriate testing of Hitachi Chemical products, an issue that came to light in fiscal year 2018.

## ROIC\*1 / ROE

The 2018 Medium-term Management Plan target



ROIC declined from 9.6% to 8.3% due to a decrease in income before taxes caused by factors such as sluggish growth of products used for smartphone applications. ROE also declined from 9.4% to 7.0% due to insufficient synergic effects with newly consolidated subsidiaries and expenses associated with the inappropriate testing of Hitachi Chemical products. Under the 2021 Medium-term Management Plan, we are emphasizing asset efficiency and returns on assets with the target of strengthening ROIC management to improve ROIC by 5% over three years.

\*1 Percentage of adjusted operating income after tax against working capital and the balance of fixed assets

## Financial Data

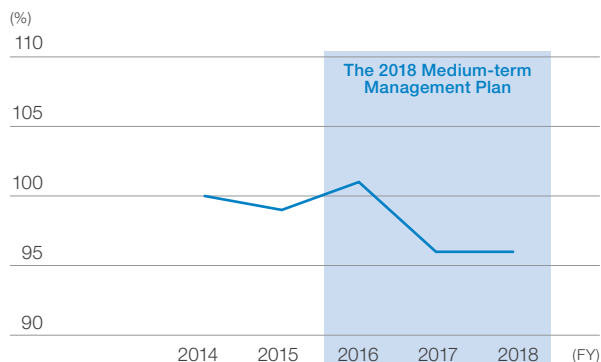
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Revenue (Millions of yen)	488,725	526,687	546,468	554,144	669,234	681,025
Functional Materials Segment (Millions of yen) *2	261,179	277,127	269,769	272,994	297,051	292,845
Advanced Components and Systems Segment (Millions of yen) *2	227,546	249,560	276,699	281,150	372,183	388,180
Overseas share of revenue (%)	51.1	53.6	58.3	58.0	62.9	63.1
Operating income (Millions of yen)	36,569	29,226	53,036	53,152	46,219	36,353
Operating margin (%)	7.5	5.5	9.7	9.6	6.9	5.3
Functional Materials Segment (%) *2	9.8	8.5	14.3	16.2	15.8	12.6
Advanced Components and Systems Segment (%) *2	4.8	2.3	5.2	3.1	△ 0.2	△ 0.1
Net income attributable to owners of the parent (Millions of yen)	29,464	22,587	38,512	40,186	36,324	28,723
Net income attributable to owners of the parent to revenue (%)	6.0	4.3	7.0	7.3	5.4	4.2
Return on equity (ROE) (%)	9.9	6.8	10.9	11.0	9.4	7.0
Return on invested capital (ROIC) (%)	8.1	8.9	12.8	12.6	9.6	8.3
Return on assets (ROA) (%)	6.2	4.4	7.1	7.0	5.5	4.1
Debt/Equity attributable to owners of the parent ratio (DER) (Times)	0.2	0.2	0.2	0.1	0.3	0.2
Dividend payout ratio (%)	25.4	33.2	27.0	28.5	34.4	43.5
R&D expenses (Millions of yen)	26,234	26,920	27,816	28,164	30,839	32,608
R&D expenses to revenue (%)	5.4	5.1	5.1	5.1	4.6	4.8
Capital expenditures (Millions of yen)	31,935	26,643	32,022	39,859	42,589	52,517
Dividends per share (yen)	36	36	50	55	60	60
Cash flows from operating activities (Millions of yen)	50,357	34,009	95,069	60,819	34,916	77,159
Cash flows from investing activities (Millions of yen)	△ 37,099	△ 22,258	△ 35,663	△ 34,606	△ 87,802	△ 47,397
Cash flows from financing activities (Millions of yen)	△ 2,374	△ 16,874	△ 22,123	△ 36,476	28,932	△ 12,664
Cash and cash equivalents at fiscal year-end (Millions of yen)	87,652	88,997	119,988	107,649	84,037	101,292

2: For detailed information on both segments, refer to p.05.



CO<sub>2</sub> emissions per unit of sales (relative to FY2014)<sup>\*3</sup>

The 2018 Medium-term Management Plan target

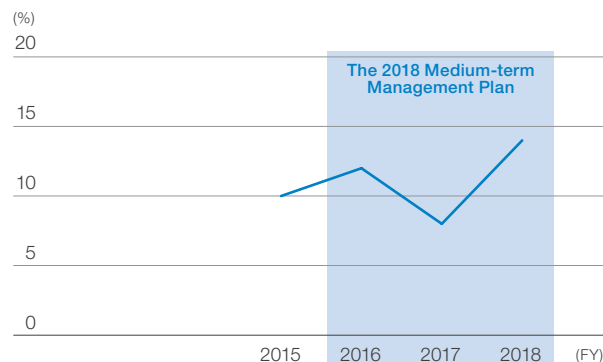


The Hitachi Chemical Group achieved its fiscal year 2018 target of CO<sub>2</sub> emissions of 96% (4% reduction relative to fiscal year 2014) by promoting continued energy-saving activities Group wide. Under the 2021 Medium-term Management Plan, the Hitachi Chemical Group will work together to further reduce CO<sub>2</sub> emissions based on Hitachi Environmental Innovation 2050, adopted as the Hitachi Group's common framework to envisage a low-carbon society, and to achieve long-term targets and expand activities from within Japan to global scale.

\*3 Data covers major production sites in Japan.

Proportion of female managerial positions (under age of 45)<sup>\*4</sup>

The 2018 Medium-term Management Plan target



Hitachi Chemical achieved its fiscal year 2018 goal for the proportion of females in managerial positions as a result of the promotion of diversity and inclusion being positioned as a management strategy to build a competitive edge in addition to departmental training plans through strong management leadership and proactively advancing career recruitment. Mindsets about female employees and management are changing. In April 2019, Hitachi Chemical appointed its first female executive officer. From fiscal year 2019 onward, we will strengthen initiatives to raise the ratio of women and non-Japanese nationals in management as a management target.

\*4 Non-consolidated, under age of 45

ESG Data <sup>*5</sup>	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Revenue of Environmental Conscious Products (Billions of yen)	324.7	364.9	404.3	381.6	387.0	390.5
Environmental investment (Billions of yen) (major production sites in Japan)	0.62	0.61	0.50	0.67	0.56	0.69
Energy consumption (TJ) <sup>*6</sup>	8,630	9,369	8,497	10,312	10,446	10,276
Greenhouse gas emissions (1,000 tons CO <sub>2</sub> e) <sup>*6</sup>	495	541	482	590	592	578
Greenhouse gas emissions per production unit (Tons CO <sub>2</sub> e per million yen) <sup>*6</sup>	1.43	1.40	1.32	1.41	1.23	1.25
CO <sub>2</sub> emissions per unit of sales (Percentage relative to FY2014) (%) <sup>*3</sup>	-	100	99	101	96	96
Water consumption (1,000m <sup>3</sup> ) <sup>*6</sup>	10,970	10,672	9,311	9,725	9,652	9,566
Volatile organic compound (VOC) emissions (Tons) <sup>*6</sup>	506	577	519	725 <sup>*7</sup>	793 <sup>*7</sup>	789 <sup>*7</sup>
Number of participants in chemical substance management training (Persons)	710	374	400	460	304	1,095
Number of supplier audits (non-consolidated) (Companies) <sup>*8</sup>	89	73	137	162	147	215
Number of employees (outside Japan) (Persons)	18,149 (7,530)	19,499 (10,207)	19,117 (9,920)	20,043 (10,922)	22,623 (13,158)	22,989 (13,490)
Proportion of female managerial positions (%) <sup>*8</sup>	1.9	2.0	2.7	3.1	3.1	4.5
Proportion of female managerial positions (under age of 45) <sup>*8</sup>	-	-	10	12	8	14
Proportion of female assistant managers (%) <sup>*8</sup>	2.6	3.8	2.9	2.6	4.2	3.7
Proportion of employees with disabilities (Japan, consolidated)	2.27	2.39	2.44	2.45	2.50	2.46
Accident frequency rate (Japan, consolidated)	0.34	0.09	0.10	0.15	0.20	0.24
Accident severity rate (Japan, consolidated)	0.003	0.001	0.007	0.001	0.012	0.010
Number of participants in compliance drill (Persons)	2,072	3,137	3,350	4,110	4,491	4,606
Number of patent applications (outside Japan) (Applications)	1,392 (727)	1,452 (651)	1,493 (576)	1,557 (642)	1,635 (860)	1,721 (990)
Number of patents held (outside Japan) (Patents)	4,988 (2,406)	5,501 (2,518)	6,429 (2,999)	6,870 (3,082)	6,710 (3,122)	6,800 (3,197)
Social contribution expenditure (Millions of yen)	103	107	138	159	263	171
Number of Directors (including Outside/ Female/Foreign Directors) (Persons) <sup>*9</sup>	8 (5/1/0)	9 (6/1/1)	9 (6/1/1)	11 (5/1/2)	11 (5/1/2)	10 (5/1/2)

\*5: For the scope of the third-party assurance of environmental and social data, refer to p.02.

\*6: Applies to major production sites (43 sites at 24 companies in FY2018). [www.hitachi-chem.co.jp/english/csr/stakeholder/environment/plan-3rd.html](http://www.hitachi-chem.co.jp/english/csr/stakeholder/environment/plan-3rd.html)

\*7: The surveyed substances have been expanded from 41 substances to 77 substances.

\*8: Non-consolidated basis.

\*9: Non-consolidated basis. As of the end of July of every fiscal year, 9 persons (4/1/2) as of the end of July 2019.



## We will enhance the quality of management and business to provide value that society and customers really require

President and Chief  
Executive Officer



For an explanation of measures to prevent recurrence of inappropriate product testing at Hitachi Chemical, refer to [P.43-44](#)



For information on the 2018 Medium-term Management Plan, refer to [P.23-24](#)



For details on where we want to be in 10 years' time, "A global innovation provider that goes beyond the boundaries of chemistry, with advanced functional materials as core and extending to devices, systems and services" refer to [P.21-22](#)

In fiscal year 2018, it has come to light that inappropriate testing has been conducted on Hitachi Chemical products. I would like to take this opportunity to offer my sincere apologies once again to all our stakeholders, including our shareholders, for the inconvenience and concern that this may have caused.

Our mission at Hitachi Chemical is "Contribute to society through the development of superior technologies and products." We have stated the value of "Sincerity" as one of our founding spirits, and we have maintained that this is the origin of our management based on basics and ethics. The fact that an incident has occurred in spite of this is a cause for deep reflection, and we will take decisive action on measures to prevent its recurrence and to ensure that same kind of situations does not happen again. These include a companywide change in awareness,

eliminating compromises through a quality assurance system that is independent of business divisions, and establishment of a product testing-related systems that removes human involvement as much as possible.

### Overview of the 2018 Medium-term Management Plan

#### Main Results of the 2018 Medium-term Management Plan

#### Achieved global expansion and strengthening of strategic businesses

Under the [2018 Medium-term Management Plan](#) (FY2016–FY2018) we adopted two basic policies: "strengthen global business" and "strengthen management base," toward realizing [where we want to be in 10 years' time](#) (FY2025).

Looking at our results under the first policy, "strengthen global business,"

we have three main achievements. We strengthened and expanded the semiconductor packaging materials business based on the niche and cluster strategy, we promoted the open innovation strategy, and we achieved dynamic, non-continuous growth through M&A.

With regard to the first achievement—the niche and cluster strategy—we exercised our comprehensive strength by forming groupings of several product families. This positioned us to promote the cluster strategy for expanding our global, top market share businesses and the niche strategy, where we promote businesses that have high profitability and a strong growth rate despite a small scale, enabling them to contribute to earnings. To start with the cluster strategy, in January 2019 we relocated and opened the [Packaging Solution Center](#) in Kawasaki City. Using this as a base, we developed comprehensive solutions in the field of semiconductor packaging materials by collaborating with other companies and succeeded in expanding our market share. With regard to the niche strategy, our CMP slurry (nanoceria) which can achieve fine circuit formation in semiconductor devices has ridden on top of a semiconductor technology innovation wave and increased its market share, while anisotropic conductive films for displays has also maintained a high market share due to its technological capabilities.

For the second achievement—Open Innovation strategy—in addition to the Packaging Solution Center mentioned above, we have also established a new [Innovation Center](#) in a building adjacent the Tokyo Head Office. Through the Center, we promote communication with customers and other people outside the company, explore new innovation themes, and work to realize them. We also have an existing partnership with a US venture capital company, under which we acquire and evaluate information on the latest technologies and products. A notable result of this was the 2016 in-licensing of [quantum dot \(QD\) film technology](#), which enables vivid, colorful images to be shown on displays, from US [Nanosys Inc.](#) Based on this technology, we developed QD film, which was adopted last year by a US manufacturer for 4K TV displays. This has started to contribute to sales expansion.

This example shows how collaboration with external companies enabled us to achieve commercialization of a cutting-edge technology in a shorter time. We believe it will lead to further developments in Open Innovation.

In our third achievement—M&A—we conducted several M&A, primarily in the field of Advanced Components and Systems. This has enabled us to expand our business scale globally. In particular, a long-cherished ambition of the Group has been the acquisition of a business base for development and manufacturing in Europe. Fulfilling this ambition is a big step toward raising the global position of our business. In the life science-related field, where growth on a long-term perspective is expected, we have managed to enter regenerative medicine field as a new business in addition to the diagnostic reagent and system business.

Looking at our achievements in regard to the other basic policy, “strengthen management base,” in the Group’s business activities, we introduced a system for conducting financial analysis by product, region, and customer, along with a system for sharing human resource information throughout the entire Group. This has enabled us to visualize our management information globally and to carry out detailed data analysis. As the diversity of management decision-making becomes increases, the speed of decision making has also accelerated. We have also strengthened internal controls at regional headquarters in the US and China. Furthermore, in the 2018 Medium-term Management Plan, we set numerical targets for reduction of CO<sub>2</sub> emissions and promotion of career opportunities for women, both of which we achieved.

#### Points for Reflection in the 2018 Medium-term Management Plan

##### Delayed response to the external environment caused profitability to fall short of the target

Looking at points for reflection, the first is that we were too slow to respond to the external environment. In particular, in the Functional Materials Segment, we were too slow to breakaway our reliance on the smartphone business and profitability deteriorated significantly due to a sharp downturn in demand during the second



For details about the Packaging Solutions Center, refer to [Hitachi Chemicals website](#) > [About Hitachi Chemical](#) > [News release](#)

**Jan. 12, 2017:**

Relocating and Upgrading the Open Laboratory that Promotes Open Innovation for Semiconductor Packaging Materials and Processes



For details about the Innovation Center, refer to [Hitachi Chemicals website](#) > [About Hitachi Chemical](#) > [News release](#)

**Jan. 27, 2017:**

Opening of the Innovation Center  
A place to identify new themes and approaches to drive innovation with partners

#### Nanosys, Inc.

Jason Hartlove, CEO, Nanosys, Inc.  
(Head Office: California, U.S.)



For details on quantum dot (QD) film technology, refer to [Hitachi Chemicals website](#) > [About Hitachi Chemical](#) > [News release](#)

**Dec. 26, 2016:**

Launching mass production and sales of quantum dot film that realizes a wider color gamut in 4K and 8K TVs



For information on the 2021 Medium-term Management Plan, refer to

**P.25-28**

For the 10-year Strategy, refer to

**P.21-22.**

For information on Materiality, refer to

**P.19-20.**

half of fiscal year 2018. Internally, we had a sense of caution regarding our dependence on smartphones for some time, and we had been strengthening our initiatives in growth markets such as next-generation wireless communication technology (5G) and electric vehicles (EVs). However, the deceleration of the smartphone market was sharper than we had expected, and our response lagged. Hitachi Chemical has adopted strategies to stabilize its earnings capability, in which we provide wide range of products with different business cycles to form an earnings base that is not susceptible to economic fluctuations. However, under the 2018 Medium-term Management Plan we were unable to make these strategies work effectively. Also we were slow to respond to increasing prices for raw materials, particularly in the energy storage devices business.

On the management front, as I mentioned at the start, the revelation of inappropriate product testing has greatly damaged the trust that stakeholders placed in us, and this is the largest point for reflection. Reliably implementing measures to prevent its recurrence is our top priority. Furthermore, in the 2018 Medium-term Plan, we set a policy of realigning our business portfolio in light of rapid advances in commoditization of products, and we aimed to make a shift to a business structure with higher profitability. However, the creation of new high value-added products has been delayed, and the results have been lower than expected.

While we achieved good results in expanding our business scale under the 2018 Medium-term Plan, we were unable to keep pace with the rapid changes in the market environment, and in the final fiscal year of the plan our operating margin, ROIC (return on invested capital), and

ROE (return on equity) were all significantly lower than our targets. The management team and I have a real sense of crisis in this regard, and in the 2021 Medium-term Management Plan, we will act decisively with determination.

## The 2021 Medium-term Management Plan

### Basic Policies of the 2021 Medium-term Management Plan

#### Improve the quality of management and business

For the 2021 Medium-term Management Plan (FY2019–FY2021) we reviewed the 10-Year Strategy formulated in 2015, based on the reflection points for the 2018 Medium-term Management Plan and added materiality (key issues for sustainable growth with society), merging these together to formulate basic policies. The first basic policy is to “strengthen governance at the global level,” which consists of rebuilding the compliance system based on the incidences of misconduct and strengthening Group governance. The second is to “establish a high-profit base,” which consists of expansion of top market share businesses, accelerated creation of new businesses and products, and a new challenge to rebuild a globally advanced cost structure.

Under the 2018 Medium-term Management Plan, we achieved an expansion in scale (revenue), but we missed our profit target by a large margin, and we need to steadily increase our earning capability. Therefore, we will position the 2021 Medium-term Management Plan as a stage for improving the quality of the management and business bases that we expanded under the 2018 Medium-term Management Plan. In line with this, we will work to pave the way for achieving the goals of the 10-Year Strategy.

### Strengthening Governance at the Global Level

#### We will become a company trusted by the society and our customers, that never repeat incidences of misconduct

The top priority in “strengthening governance at the global level” is to regain the trust of our customers and society. With regard to the misconduct of inappropriate product testing and preventing its

### The 2018 Medium-term Management Plan Key Performance Indicators

\*1 Numerator: Revenue minus cost of sales and selling, general and administrative costs; Denominator: Revenue

\*2 Ratio of adjusted operating income after tax to working capital and fixed assets

\*3 Per unit of revenue compared to FY2014 results (for major production sites in Japan, including Group companies)

\*4 Non-consolidated, among employees aged up to 45

	FY2018 target	FY2018 result
Revenue	<b>CAGR 7-8 % (FYs2015-2018)</b>	<b>CAGR 7.6 %</b>
Adjusted operating income ratio*1	<b>11 %</b>	<b>7.1 %</b>
ROIC*2	<b>15 %</b>	<b>8.3 %</b>
ROE	<b>12 %</b>	<b>7.0 %</b>
CO <sub>2</sub> emissions*3	<b>96 %</b>	<b>96 %</b>
Proportion of female managerial positions*4	<b>12 %</b>	<b>14 %</b>



recurrences, all our employees are working as one, steadily executing measures in both hard and soft aspects to ensure that such an incident never happens again. In the same way, the entire Company is making a concerted effort on measures to protect employees' safety and health.

Regarding the strengthening of Group governance, we are promoting countermeasures since risks increase with the growth in the number of Group companies. By expanding the Group business scale through M&A during the 2018 Medium-term Management Plan, the number of subsidiaries has expanded to 89, out of which 75 locate overseas. We aim to reduce the risk by discerning the role of each company and appropriately reorganizing them.

Furthermore, we will continue to establish a structure that enables risk controls of the Group companies by their respective regions. In North America and China, we will strengthen our auditing system based on the regional headquarter functions that we have put in place and reinforce the structure for autonomous risk management by Group companies. In ASEAN and the newly entered European region, over the next three years, we will build the same kinds of systems that we have in North America and China.

#### Establish a High-profit Base

**We will apply our core technologies, namely materials, process, and evaluation technologies, in high growth markets to establish a high-profit base**

Based on the falling profit level in fiscal 2018, we see the rebuilding of a high-profit base as our top priority. As a result of much internal discussion, we have concluded that we need a business strengthening strategy that is based on our strengths in business.

Hitachi Chemical's strengths lie in its materials technologies, process technologies, and evaluation technologies, which have been developed over its long history and have been used to create new functions from either organic or inorganic materials. We have grown by applying these functions to the growth markets of each period. The growth markets over the coming years are expected to include 5G and EVs. We will establish systems that enable Hitachi Chemical to apply its diverse technologies

#### Basic Policies of the 2021 Medium-term Management Plan

##### Strengthen governance at the global level

Rebuild compliance systems  
Strengthen Group governance

##### Establish a high-profit base

Expansion of de facto top share business  
Accelerated creation of new businesses and products  
New challenge to rebuild globally-advanced cost structure

#### Policies for Individual Business Fields

Information and Communications	Provision of materials-based solutions that cannot be copied by competitors and establishment of a strong brand in the field of packaging solution business
Mobility	Provide high-value-added solutions for customers' issues by leveraging our strengths as "a component manufacturer capable of developing proprietary materials" and strengthen our profitability.
Energy	Use individual characteristics of global bases to shake up the product mix and build a shared foundation of manufacturing capability
Life Sciences	Create integrated synergy with operating companies acquired through M&A and develop future base for businesses

to arising growth markets with the changes in the times. By becoming a company that can provide solutions to any materials-related issue when customers or society consults with us, Hitachi Chemical will be recognized as a company that plays a vital role in society. It is this recognition that will underpin the establishment of a high-profit base, and I believe it is essential to our continued growth going forward.

Based on this thoughts, we will steadily execute three strategies: "Expansion of de facto, top share business", "Accelerating the creation of new businesses and products", "New challenge to rebuild globally-advanced cost structure".

#### Expansion of De Facto, Top Share Business

**We will aim to expand market share by providing proprietary solutions that are aligned with market needs**

Under the 2021 Medium-term Management Plan, we will continue to pursue the policies of the niche & cluster strategy that we worked on during the 2018 Medium-term Management Plan.

In terms of the cluster strategy, we have established a consortium called "JOINT," based in the aforementioned Packaging Solution Center. By collaborating with customers, equipment manufacturers related to development of semiconductor packaging materials and equipment, and material manufacturers, the consortium will achieve optimal combinations of the



For policies, performance, and plans of each business, refer to [P.29-36](#).

various materials and processes needed for manufacturing semiconductor packaging and rapidly provide total solutions, such as new semiconductor packing, to customers. Furthermore, in the automotive field, where “CASE” (Connected, Autonomous, Shared, and Electric) has become an important theme for the future of the automotive industry, we will provide solutions that incorporate differentiation in materials, process technologies, analysis and design technologies, and modularization.

Meanwhile, under the niche Strategy, we will consolidate the unrivalled position of our high-value-added products in each industry, aiming to achieve an even stronger de facto standard status for them. These products, such as CMP slurry, QD film, and circuit-connecting film for displays, have high profit margins and growth rates that can be expected to contribute to earnings.

#### Accelerated Creation of New Businesses and Products

**We will create new businesses and products in fields where strengths can be leveraged**

With regard to the creation of new businesses and products, under the 2018 Medium-term Management Plan, we achieved a certain degree of diversification through operationalization of regenerative medicine among other activities. However, we were unable to achieve the expected results in new fields where we have less experience. Therefore, under the 2021 Medium-term Management Plan, we will focus even more intensely on fields related to existing products and markets, where Hitachi Chemical can leverage its strengths, and accelerate creation of new

businesses and products. Among the Group’s businesses, the fields that show especially strong promise for high growth are 5G, EV, new batteries, and medical. We can contribute Hitachi Chemical’s material technologies to the technologies that are needed in these growth fields. In addition, we will search for development themes where we can achieve both advanced functions and high added value, and concentrate management resources in these. Moreover, we will continue to use open innovation through cooperation with external organizations to accelerate operationalization of the new businesses.

#### New Challenge to Rebuild Globally-advanced Cost Structure

**We will reinforce our business structure in terms of both stock and flow by realigning business and customer portfolios**

With regard to cost structure reforms, we will begin by reorganizing businesses that have an operating margin of less than 5% in order to realign our business portfolio. To deal with products that have low profitability, under the 2018 Medium-term Management Plan, products that did not meet internal criteria for revenue scale, growth potential, and profitability were placed on watch, and those that showed no potential for improvement after a certain time were withdrawn or sold. However, to date, this approach has only applied to products with a small business scale, so it has not made a big impact in terms of improving the Group’s overall product composition. Under the 2021 Medium-term Management Plan, we will lift the borderline operating margin for products subject to low profitability countermeasures from 3% to 5%, and decisively accelerate our actions. Furthermore, as shown in the achievements during the 2018 Medium-term Management Plan, we have made progress on visualizing global management information and enabling detailed analysis of marketing information. Therefore, we will also proceed with realignment of our customer portfolio.

Through these initiatives, we will improve our operating margin, bringing it up to the 10% level. In addition, by reforming back-office operations and reducing the number of Group companies, we will strengthen our management structure and

#### The 2021 Medium-term Management Plan Key Performance Indicators

	FY2018 result		FY2021 target
Adjusted operating income ratio* <sup>1</sup>	7.1%	>	over 10%
ROIC* <sup>2</sup>	8.3%	>	over 13%
CO <sub>2</sub> emissions* <sup>3</sup> (Compared to FY2010, per unit of revenue)	13% reduction	>	over 15% reduction
Ratio of diversity in management* <sup>4</sup>	20%	>	over 30%

\*<sup>1</sup> Numerator: Revenue minus cost of sales and selling, general and administrative costs; Denominator: Revenue

\*<sup>2</sup> The ratio of operating capital and the balance of property, plant and equipment to adjusted operating income after deducting tax

\*<sup>3</sup> (1) Aggregation scope: Major production sites in Japan and overseas (including Group companies)

(2) CO<sub>2</sub> emissions (compared to FY2010, per unit of revenue): FY2018 result 87% → The 2021 Medium-term Management Plan target 85% or lower

\*<sup>4</sup> Numerator: Total number of foreign nationals and women in management within Hitachi Chemical Co., Ltd. and major Group companies Denominator: Total number of management personnel within Hitachi Chemical Co., Ltd. and major Group companies.

achieve further increases in profitability and capital efficiency. Furthermore, under the 2021 Medium-term Management Plan, we will move away from management-based income statement, which focuses excessively on sales and profits, and adopt ROIC as our key performance indicator. ROIC shows whether the capital received from shareholders is being converted efficiently into profit. We will also strive to increase our asset efficiency even more, aiming for a target of 13% or higher.

#### Investment Plan for Growth

#### We will focus investment in the information and communications field

The level of capital investment at Hitachi Chemical remained between 30 billion yen and 40 billion yen during the 2000s. In the 2018 Medium-term Management Plan, however, we announced cumulative investments of 150 billion yen over the three-year period, in addition investments in M&A. The result was capital investments of 135 billion yen, and the addition of five new consolidated subsidiaries through M&A.

Under the 2021 Medium-term Management Plan, we aim to increase cumulative capital investment over the three-year period to 155 billion yen, and to focus our investments mainly in the information and communications field. With regard to M&A, we will continue examining investment options with a focus on the information and communications field, in which we made no investments over the past three years, and will look for the best opportunity to make an investment. In other fields, we will prioritize reinforcing the positions of the companies that have already joined the Group and taking advantage of their synergies.

#### Sustainability Initiatives

#### Through our initiatives for materiality, we aim to contribute to the SDGs and increase our corporate value

In undertaking sustainability initiatives, I believe that the operations of Hitachi Chemical must be environmentally friendly and contribute to society. Hitachi Chemical has advocated sustainable engineering, and has actively worked to contribute to society and the environment through its business processes and the products it creates based on the technologies it has developed throughout its long history. Under the 10-

Year Strategy that we formulated in 2015, we have also considered our contribution to society and the environment and clearly demonstrated our intention to increase corporate value over the long term by promoting businesses that solve social issues. The key performance indicators in our medium-term management plan also include sustainability-related targets: under the 2021 Medium-term Management Plan we aim to achieve a reduction of at least 15% in CO<sub>2</sub> emissions (compared to FY2010, per unit of revenue) and to achieve a ratio of diversity in management position at least 30%.

In formulating the 2021 Medium-term Management Plan, Hitachi Chemical conducted a revision of its materiality — priority issues for the mutual sustainable growth of the Group and society. After revising our materiality, we set programs and key performance indicators for each issue which we will incorporate into specific measures to be carried out.

We have connected our business development based on materiality to the SDGs, and reconfirmed that this will lead to improvement in business profitability and increase of corporate value. By promoting this concept throughout the Group, we will gain a real sense of our work contributing to society, leading to fulfillment, motivation, and happiness of the Group's employee. We believe that sustainability initiatives are also integral to the growth of our employees, who are the source of corporate value creation.

#### To Our Stakeholders

In fiscal year 2018, inappropriate product testing has come to light, and the profit has slumped as demand declined in our main business fields. The management of Hitachi Chemical has entered fiscal year 2019 with a sense of crisis. The 2021 Medium-term Management Plan is a stage for increasing the quality of management and business towards achieving the future we envisage for the Group, and for steadily realizing results. We will diligently carry out measures starting in fiscal year 2019, the first year of the Medium-term Plan, working to achieve the goals of “strengthen governance at the global level” and “establish a high-profit base.” As we do so, we ask for your continued guidance and support.



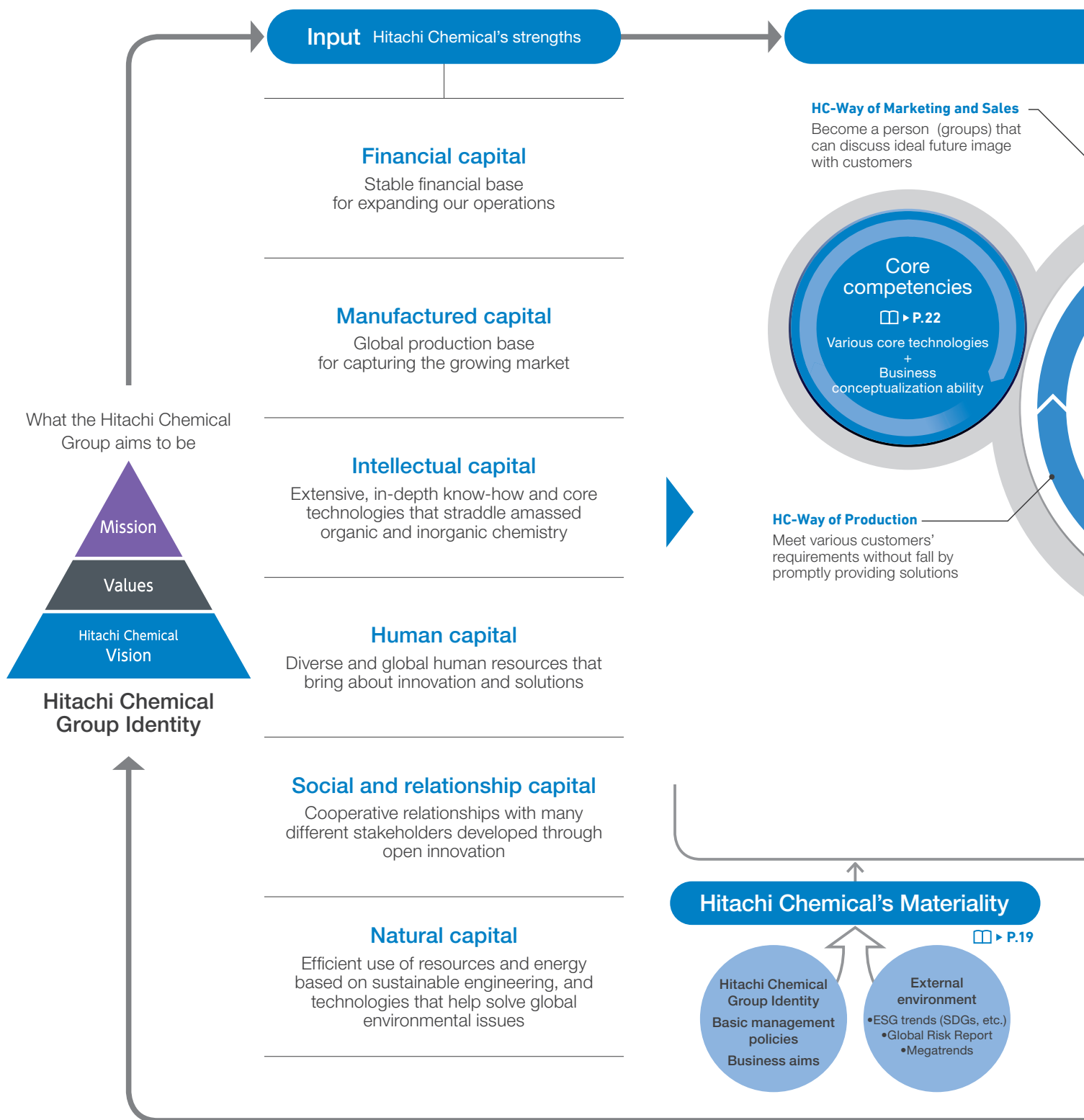
#### SDGs

The Sustainable Development Goals (SDGs) are international goals stated in The Agenda for Sustainable Development adopted by 193 countries at the United Nations General Assembly, to be achieved in the 15 years from 2016 to 2030. The SDGs comprise 17 goals and 169 targets to realize a sustainable world.

#### Sustainable Engineering

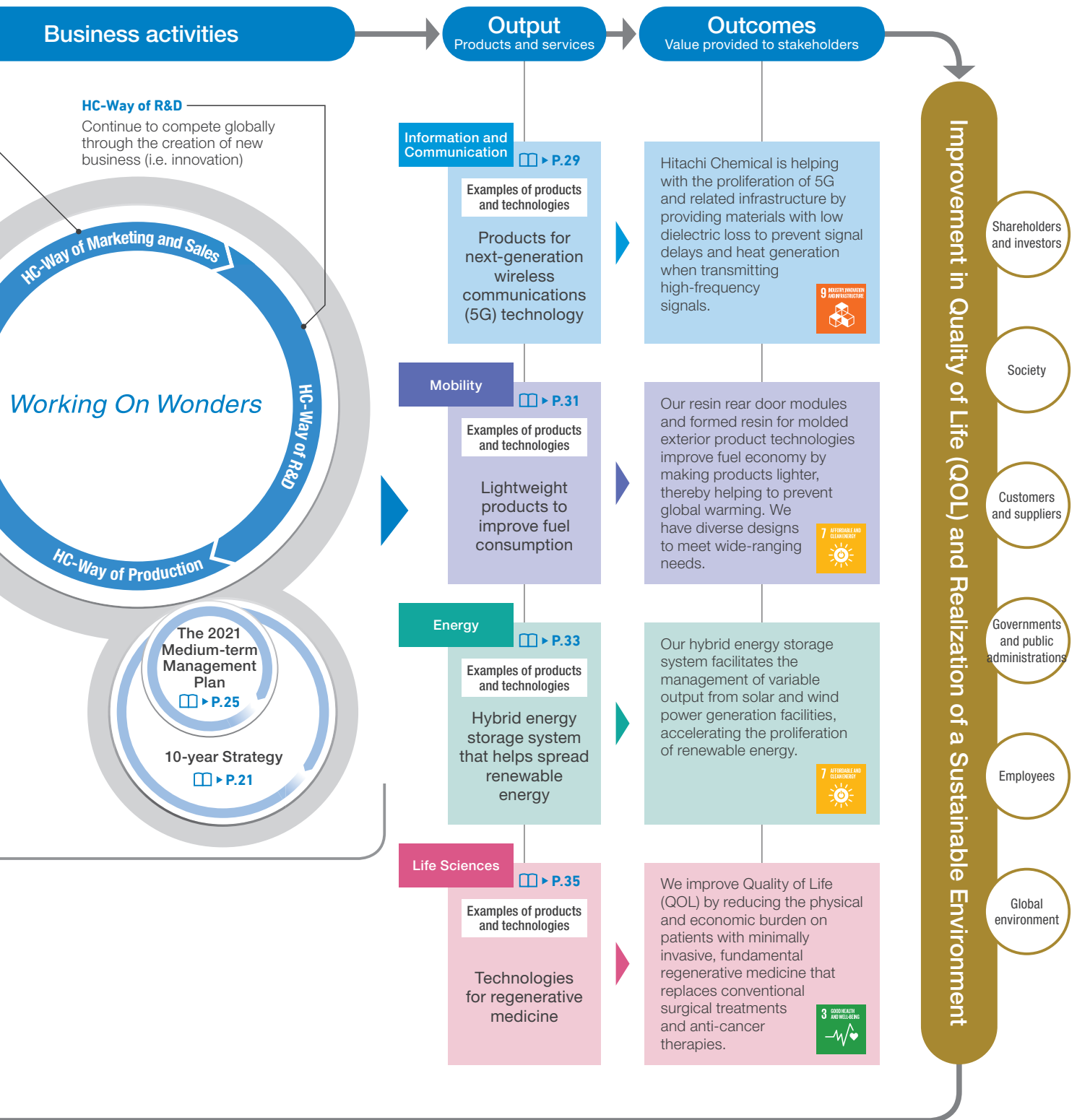
Sustainable Engineering is an accumulation of Hitachi Chemical's technologies involving the minimization of adverse effects and environmental burden from the stages of R&D, product planning and design through the combination of technologies with an aim to contribute to society and the environment as well as to enhance our corporate value.

# Value Creation Process





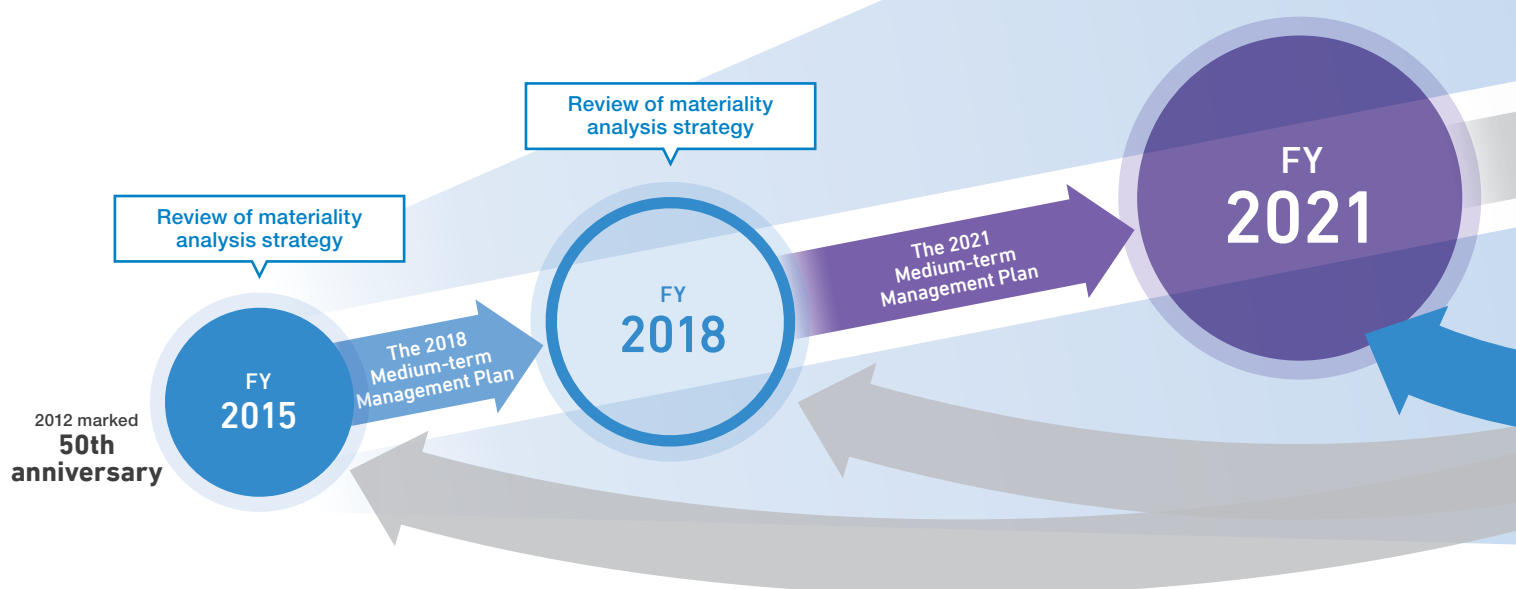
To realize the Hitachi Chemical Group Vision, Hitachi Chemical creates a wide variety of products with its core competencies in materials technologies, process technologies and evaluation technologies, in addition to its business conceptualization ability. Driven by this, we will implement “Working On Wonders” through our four key businesses and provide value to stakeholders in terms of “improvement in Quality of Life (QOL)” and “realization of a sustainable environment”.



# Strategy Development Process

## Backcasting from “where we want to be in 10 years’ time”

In fiscal year 2015, as a first step towards the next 50 years, we outlined our “where we want to be in ten years’ time” and settled on the 10-year Strategy to implement it. Backcasting from fiscal year 2025, the final year of our 10-year Strategy, we formulate our Medium-term Management Plan. Hitachi Chemical conducted a materiality analysis to identify priority issues for sustainability to incorporate into its business strategies for the 2021 Medium-term Management Plan, and reflected these priorities in measures for each division.



### Fiscal years 2012-2013

#### Formulating a “Management Message Looks to the Future”

When we celebrated our 50th anniversary in 2012, we held a communication workshop attended by all staff members of the Hitachi Chemical Group. We formulated a “Management Message Looks to the Future” by asking ourselves what we aim to achieve over the next 50 years, and how to achieve it. The message was shared among all staff members.

#### Establishment of the Hitachi Chemical Group Identity and start of WOW-BB activities.

We repeated discussions by anticipating 50 years in the future. The Hitachi Chemical Group Identity, consisting of our corporate philosophy (Mission), founding spirit (Values), and the Hitachi Chemical Group Vision (Vision), was established in fiscal year 2013. To embody the Hitachi Chemical Group Vision, we have started WOW-BB activities in which the entire Group workforce can participate to take on new challenges.



The Team that received the Gold Award for the WOW Global Awards in fiscal year 2018 (982 teams from around the world participated)

### Fiscal year 2015

#### Formulation of our 10-year Strategy

With the aim of delivering the Hitachi Chemical Group Vision, we drew a blueprint for “where we want to be in 10 years’ time” and formulated our 10-year Strategy for making the blueprint come true. The values that Hitachi Chemical should deliver through its operations is defined as “the improvement of Quality of Life (QOL)” and “the realization of a sustainable environment.” In this way, we pursue growth that goes beyond simply an extension of our existing growth. Backcasting from “where we want to be in 10 years’ time,” we drew up the Medium-term Management Plan.

### Fiscal year 2018

#### Formulation of the 2021 Medium-term Management Plan

Key measures in the 2021 Medium-term Management Plan entail reviewing materiality, the priority issues for Hitachi Chemical to sustain growth alongside society, and reviewing the 10-year Strategy, its targets for fiscal year 2025. In addition, the 2021 Medium-term Management Plan was drawn up after a series of discussions held by the Executive Officers and Directors on issues and measures that Hitachi Chemical should address and undertake over the next three years while looking back at the 2018 Medium-term Management Plan (fiscal years 2016–2018).

# 10-year Strategy

(FYs 2016–2025)

FY  
**2025**

Where we want to be in  
ten years' time

A global innovation provider that  
goes beyond the boundaries of  
chemistry,

with advanced functional materials  
as core and extending to devices,  
systems and services

**Realization of the  
Hitachi Chemical  
Group Vision**

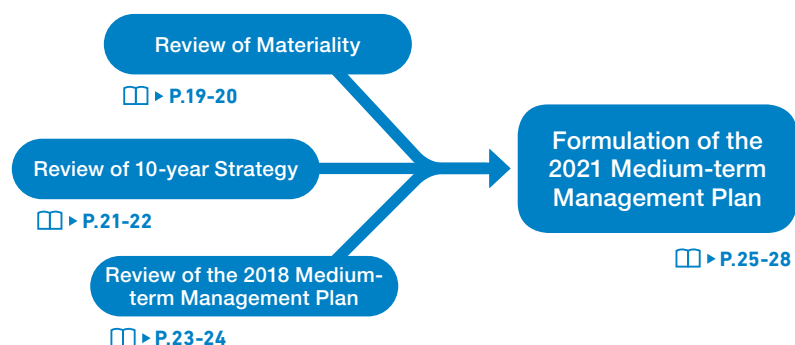
Backcasting

## Review of Materiality

When reviewing materiality, Hitachi Chemical (1) referred to the six classifications of capital (financial, manufactured, intellectual, human, social and relationship, and natural capital) in the IIRC's International <IR> Framework, (2) envisioned changes in the business environment based on an analysis of SDGs, the Global Risk Report, and Megatrends, and (3) looked back at our activities and changes in conditions over the past three years. The opinions of experts were also reflected in (2) and (3) above.

## Review of 10-year Strategy

In the context of changes in the external environment, more progress was made than anticipated in electric vehicles (EVs), self-driving cars and advanced driver-assistance systems (ADAS). Hitachi Chemical expects more advances to be made in AI, Society 5.0, and next-generation wireless communications technology (5G), while growth looks likely to slow on the smartphone market. Although there is no need to change our vision for "where we want to be in 10 years' time," we saw a need to more quickly implement measures to get there.



## Review of the 2018 Medium-term Management Plan

Under the 2018 Medium-term Management Plan, Hitachi Chemical mainly implemented measures to strengthen global business and the management base, but did not finish measures to improve profitability, even though business scale was expanded. In particular, we still need to advance the niche & cluster strategies and open innovation, establish cost structure as a global business leader, and promote global management.

Based on these key measures, we examined measures with each division and came up with the 2021 Medium-term Management Plan.

# Materiality (Key issues for sustainable growth with society)

To sustain growth along with society, Hitachi Chemical conducts a materiality analysis to identify priority issues and measures to undertake for the three years of its next Medium-term Management Plan. After identifying materiality, Hitachi Chemical sets key measures and KPIs for the Medium-term Management Plan.

## Objectives of materiality analysis

In pursuit of long-term, sustainable growth with society, Hitachi Chemical identified the priority issues that it should undertake over the three-year period of the next Medium-term Management Plan. Hitachi Chemical conducted its first materiality analysis in 2013. This marks the second time that Hitachi Chemical has reviewed materiality, the first being in 2015.

## Key points of analysis (revisions)

We specified “Hitachi Chemical’s 10 Material Issues” by looking back at changes in conditions at the Hitachi Chemical Group since the previous materiality analysis, while also anticipating changes in the business environment in light of SDGs, the World Economic Forum’s Global Risk Report, and analysis of Megatrends.

## Analysis (revision) process



### Identify issues

- Our analysis of materiality in 2015 was classified using the six types of capital defined by the International Integrated Reporting Council (IIRC) in its International <IR> Framework report, namely intellectual, manufactured, financial, human, social and relationships, and natural capital.
- We ascertained the rate of achievement in measures tied to the 2018 Medium-term Management Plan, based on the materiality analysis in 2015.
- We created basic management policies as commitments that managers should make to realize the Hitachi Chemical Group Identity and Vision. In addition to business aims, we also identified social issues with a significant impact on Hitachi Chemical, in light of external conditions encompassing SDGs, the Global Risk Report and an analysis of Megatrends.
- On this basis, we formulated proposals for materiality and had them reviewed by external experts.



### Approval by management

- The materiality proposal created in Step 1 was examined in an Executive Officers’ study group.
- The Executive Officers’ Meeting decided on materiality in light of the outcome of the discussions.
- The Board of Directors approved the “Hitachi Chemical’s 10 Material Issues”



### Incorporation into Medium-term Management Plan

- We examined key policies for the 2021 Medium-term Management Plan based on issues raised after reviewing materiality, the 10-year Strategy, and the 2018 Medium-term Management Plan.
- We then defined the main measures and KPIs for each materiality, and reflected them in initiatives for sustained growth in the 2021 Medium-term Management Plan.





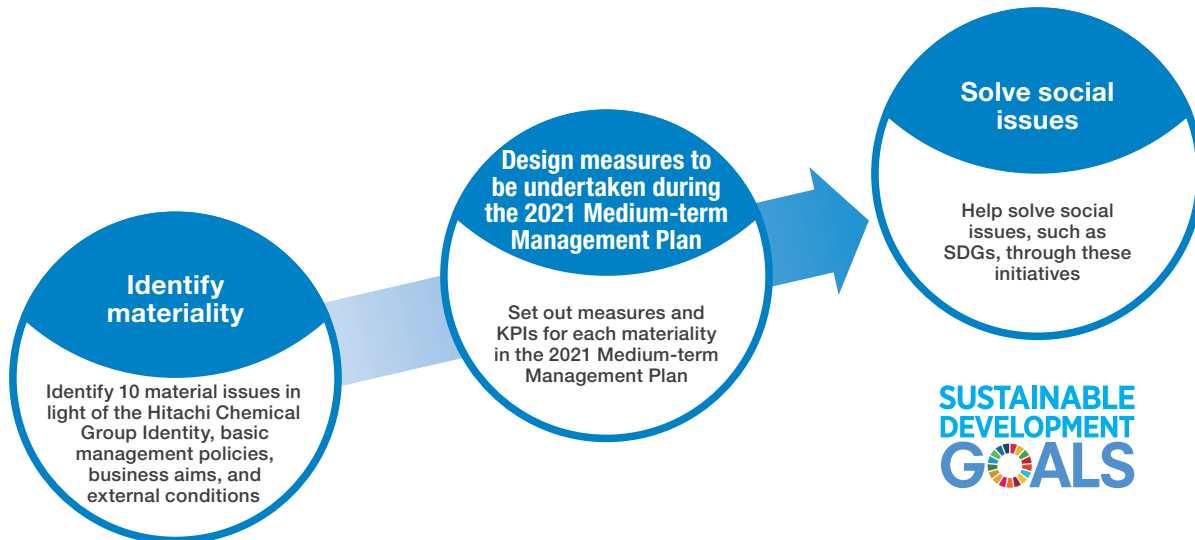
For more information about materiality, refer to Hitachi Chemical's website >  
About Hitachi Chemical > CSR >  
Governance and CSR Management >  
Hitachi Chemical's Value Creation and Materiality

#### Review of Materiality

Review of 10-year Strategy

Review of the 2018 Medium-term Management Plan

Formulation of the 2021 Medium-term Management Plan



Hitachi Chemical's 10 Material Issues	Reasoning behind identification of materiality	Key measures in the 2021 Medium-term Management Plan	SDGs to which Hitachi Chemical contributes
<b>01</b> Strengthening ability to discern true needs <b>02</b> Strengthening business designing ability to enhance business value-added <b>03</b> Strengthening technology platform <b>04</b> Improving productivity globally <b>05</b> Strengthening financial standing <b>06</b> Promoting diversity & Inclusion to strengthen corporate competitiveness <b>07</b> Strengthening group governance <b>08</b> Timely and appropriate communication with stakeholders <b>09</b> Implementation of social responsibility in the entire value chain <b>10</b> Pursuing businesses that offer solutions to environmental and social issues	<p>We must further strengthen its core technologies (materials, process, and evaluation technologies) while expanding its business domains and addressing technological innovation in IoT and AI, as well as advancing its materials technologies.</p> <p>We must have diverse human resources with different nationalities, genders, skills, backgrounds, and experiences in order to continue innovating and reinforcing its competitiveness. We intends to enhance its management base with diversity and create a corporate culture where all employees can work together and improve their abilities.</p> <p>We must identify and properly address risks related to socially unacceptable behavior in the value chain while also addressing risks caused by internal behavior in the Group.</p> <p>We must advance business that creates economic value while also solving issues affecting society and the global environment, such as by working towards SDGs.</p>	<p>Development of new materials technologies, etc.</p> <p>Promote diversity at decision-making layer, etc.</p> <p>Realize a low-carbon society by reducing CO<sub>2</sub> emissions, etc.</p> <p>Create technologies and products that contribute to SDGs, etc.</p>	<p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> <p><b>4</b> QUALITY EDUCATION, <b>5</b> GENDER EQUALITY, <b>8</b> DECENT WORK AND ECONOMIC GROWTH, <b>10</b> REDUCED INEQUALITIES, <b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION, <b>13</b> CLIMATE ACTION, <b>3</b> GOOD HEALTH AND WELL-BEING, <b>7</b> AFFORDABLE AND CLEAN ENERGY, <b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>

# 10-year Strategy

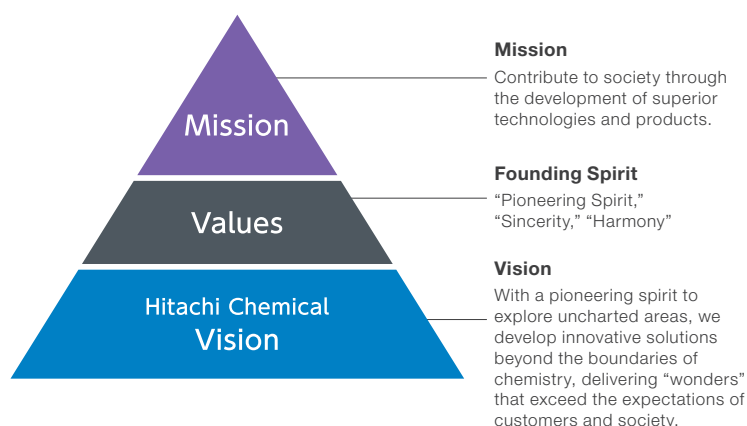
In order to realize the Hitachi Chemical Group Vision, we conceived a hypothetical future with a long-term outlook in our “where we want to be in ten years’ time,” then in fiscal year 2015 formulated the 10-year Strategy for its actualization.

As we prepared to formulate our 2021 Medium-term Management Plan, we undertook a reevaluation of the 10-year Strategy based on changes in the internal and external conditions.

## Realizing the Hitachi Chemical Group Vision

## Working On Wonders

### Hitachi Chemical Group Identity



#### Hitachi Chemical's Five Challenges

1. Discovering potential needs
2. Designing future scenarios
3. Developing the next core technology
4. Becoming a globally competitive firm
5. Building a co-creative work style

On the occasion of our 50th anniversary in 2012, we looked ahead 50 years to formulate our “Management Message Looks to the Future” which was shared with all employees. This was the base for numerous discussions that resulted in the establishment of the Hitachi Chemical Group Vision, which describes what kind of Group we want to be going forward. Combined with our Mission and our Founding Spirit, these became the Hitachi Chemical Group Identity. By sharing this Identity—a system embodying the Group’s mission and values—globally, we will exert our strengths as a team across regional boundaries and business fields, moving our business forward toward the goal of achieving our vision.

Under the Hitachi Chemical Group Identity, we have formulated our 10-year Strategy and a corresponding 3-year Medium-term Management Plan. We have also established WOW Marketing, designed to offer clients proposals filled with “wonders.” Along with including it in our 10-year Strategy, we are working to accelerate the practice of WOW Marketing by identifying individual issues from among Hitachi Chemical’s Five Challenges, and the entire Group is engaged in WOW-BB activities aimed at solving those issues.

## Where We Want to Be in Ten Years’ Time (FY2025)

### A global innovation provider that goes beyond the boundaries of chemistry,

with advanced functional materials as core and extending to devices, systems and services

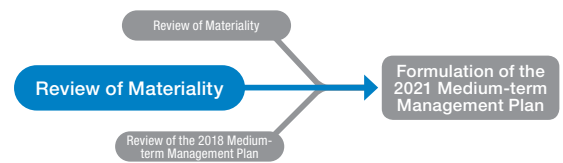
#### Prevailing in global competition

As a provider of innovation, work to achieve an operating margin of **14%** or greater.

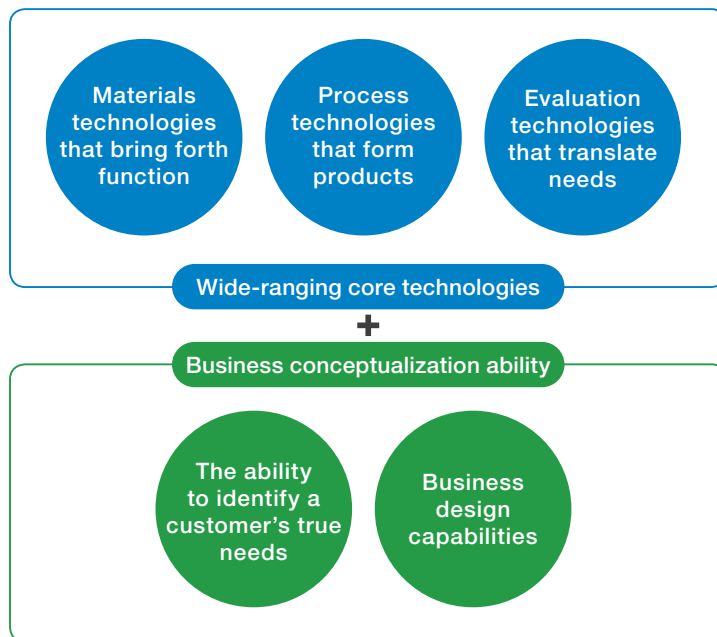
#### To contribute to society and continue to grow sustainably

as a company by practicing management that emphasize

**the environment, society and governance (ESG).**

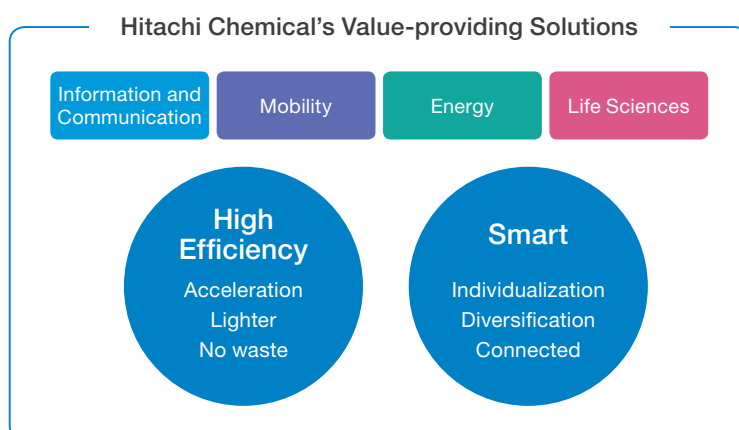


## Strengthening Core Competencies



Hitachi Chemical's strength lies in its wide-ranging core technologies, including materials, process and evaluation technologies. Based on this strength, we are working to further strengthen our ability to conceptualize business—to identify a customer's true needs and design businesses—by asking ourselves where and how profit will be generated, and how we can continue to maintain our strengths. This will require providing solutions more closely aligned with the customer needs, whether in the form of materials, components and devices, or even systems and services.

## 10-year Strategy Execution



### *Working On Wonders*



In fiscal year 2018, we conducted a study of changes in external conditions in fields including electronics, automobiles, energy and the environment, social infrastructure, agriculture, and life sciences. Advances in the shift to electric vehicles and in automated driving and advanced driver assistance systems were greater than expected. While AI, Society 5.0, and 5G next-generation wireless communications technologies have expanded, growth in the smartphone market has slowed. While these changes will not require altering our vision for where we want to be in 10 years, we recognize that they will require the early execution of measures aimed at achieving that vision.

We will continue to generate new business in our key areas of information and communication, mobility, energy, and life sciences; change the way our existing businesses work; and work to expand our business in areas where we have the top share of the global market.

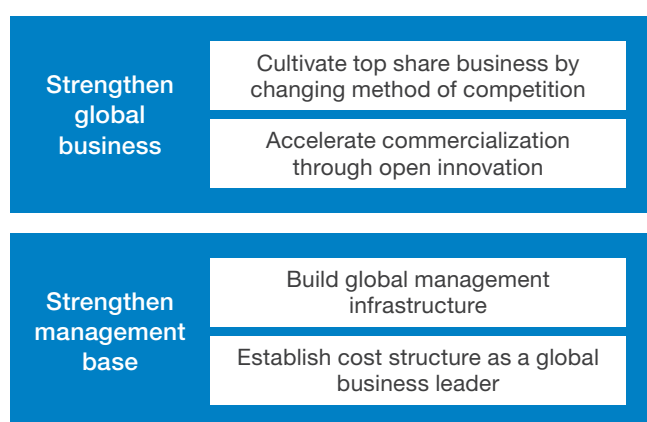
# Review of the 2018 Medium-term Management Plan

Since 2016, Hitachi Chemical has been engaged in a variety of initiatives under our 2018 Medium-term Management Plan formulated to address the first three years of our 10-year Strategy.

In formulating our 2021 Medium-term Management Plan, we reviewed the outcomes and issues of the initial three-year plan.

## Outline of the 2018 Medium-term Management Plan

### The 2018 Medium-term Management Plan



Under the 2018 Medium-term Management Plan (for fiscal years 2016 through 2018), we set forth two basic policies designed to achieve our vision for where we want to be in 10 years: strengthening global business and strengthening the management base.

Based on these two policies, we formulated a number of key strategies, including: (1) expansion of global top-share businesses through reforms to the niche and cluster business structures; (2) accelerate commercialization through collaborative creation by using outside resources; and (3) acquire technologies and business platforms from outside the Group and accelerate growth. At the same time, we promoted ESG management by reducing CO<sub>2</sub> emissions on the environmental side and by focusing particularly on efforts to promote career opportunities for female employees on the social side. We also made advanced efforts on the governance side by reinforcing corporate governance based on efficacy evaluations.

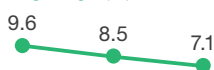
## Outcomes of the 2018 Medium-term Management Plan

### Results

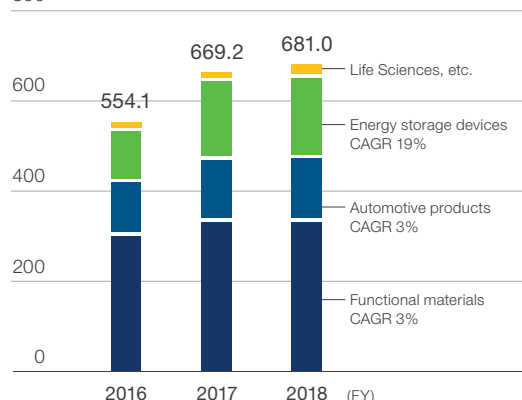
Overseas share of revenue (%)



Adjusted operating margin (%)



Revenue (Billions of yen)



### Key management indicators

	FY2018 target	FY2018 result
Revenue	CAGR 7-8% (FYs2015-2018)	CAGR 7.6%
Adjusted operating income ratio <sup>*1</sup>	11%	7.1%
ROIC <sup>*2</sup>	15%	8.3%
ROE	12%	7.0%
CO <sub>2</sub> emissions <sup>*3</sup>	96%	96%
Proportion of female managerial positions <sup>*4</sup>	12%	14%

<sup>\*1</sup> Numerator: Amount derived by subtracting the cost of sales and selling, general and administrative expenses from revenue; Denominator: Revenue

<sup>\*2</sup> Operating income after taxes and adjustments as a percentage of working capital and balance of fixed assets

<sup>\*3</sup> Per unit of sales versus FY2014 results Scope: Major production sites in Japan (including Group companies)

<sup>\*4</sup> Non-consolidated, under the age of 45





## The 2018 Medium-term Management Plan Outcomes and Areas for Improvement

### Key Outcomes

**Expanded and strengthened strategic business globally: 7.6% sales growth rate**

#### Implemented and progressed the niche and cluster strategy

- Grew market share of semiconductor packaging materials approximately from 30% to 40%, relocated and expanded Packaging Solutions Center in Shin Kawasaki
- Launched CMP slurry (nanocerium) business (growing market share from approximately 50% to 60%) and expanded production capacity

#### Achieved commercialization through Open Innovation

- Launched quantum dot (QD) business and increased sales

#### Achieved dynamic growth through M&A

- Launched new business in thermal management materials, diagnostic reagents and regenerative medicine
- Built global business foundation for energy storage devices (the U.S., Europe, and ASEAN)

### Strengthened Our Management Foundation

#### Visualization of global management information (HR & financial)

#### Strengthen internal controls at regional headquarters in the U.S. and China

#### Reduced CO<sub>2</sub> emissions; reinforced promotion of career opportunities for women

Under the 2018 Medium-term Management Plan, we moved forward with our niche and cluster strategy, and successfully expanded our market share in CMP slurry (nanocerium) and semiconductor packaging materials. Through open innovation, we also launched our quantum dot (QD) film business, while M&A enabled us to launch businesses in thermal management materials, diagnostic reagents, and regenerative medicine, thus achieving our revenue target.

Acquisition of production sites in Europe for thermal management materials, regenerative medicine, and energy storage devices was also a major achievement.

In terms of strengthening our management foundation, we worked toward visualizing global management information, including skills, experience and other HR data as well as financial information. We also made progress in strengthening internal controls at our regional headquarters in the U.S. and China. In ESG management, a target for reducing CO<sub>2</sub> emissions was established with the goal of contributing to the prevention of global warming. We achieved that target, reducing CO<sub>2</sub> emission to 96% of fiscal year 2014 levels on per unit of sales basis. The proportion of females in managerial positions, a target established to promote career opportunities for women, was 14% on a non-consolidated basis for those under the age of 45, exceeding the target of 12%.

Areas for Improvement	Revelation of inappropriate product testing and missed targets for both operating margin and ROIC	
	<p>Inappropriate product testing and other issues came to light in fiscal year 2018, causing significant loss of trust among our customers and the general public. We are taking this very important problem seriously.</p> <p>In terms of performance, we missed both our operating margin and ROIC targets. This was due to delays in changing</p>	
Response to External Conditions	· Delay in breakaway our reliance on the smartphone business	Market development and operationalization targeting new growth markets, including next-generation (5G) wireless communications technology, electric vehicles, and industrial applications.
	· Inadequate price adjustments in response to rising material prices	Revise contracts to reflect the changes in materials markets around energy storage devices
Management Issues	· Regaining trust lost due to inappropriate product testing and other issues	Ensure execution of measures to prevent a recurrence
	· Insufficient transformation of business structure	Act decisively to realign business portfolio
	· Failure to achieve development and launch of new fields and products	Focus development in fields where Hitachi Chemical can make the most of its strengths in material technologies
	· Deterioration in asset efficiency and return on assets	Improve PMI and ROIC-based management for companies acquired via M&A

# Formulation of the 2021 Medium-term Management Plan

In fiscal year 2018, Hitachi Chemical formulated its 2021 Medium-term Management Plan, a framework for its efforts in the fiscal years 2019 through 2021, the second stage of our 10-year Strategy. Working together as a Group, we are engaged in a variety of initiatives designed to improve the quality of our management and our business.

## The 2021 Medium-term Management Plan Basic Policies and Numerical Targets

### Stage to Improve Quality of Management and Business

#### The 2021 Medium-term Management Plan

Strengthen governance at the global level	Rebuild compliance systems
	Strengthen group governance
Establish a high-profit base	Expansion of de facto, top share businesses
	Accelerated creation of new businesses and products
	New challenge to rebuild globally-advanced cost structure

In formulating the 2021 Medium-term Management Plan, which begins in fiscal year 2019 and runs through fiscal year 2021, we reviewed the 2018 Medium-term Management Plan and also reviewed our 10-year Strategy formulated in fiscal year 2015. We also reviewed materiality aimed at achieving sustainable growth along with society. Based on these results, we then established the basic policies for the 2021 Medium-term Management Plan, which we have designated in the 10-year Strategy as the stage for improving the quality of our management and business base which we successfully expanded over the course of the 2018 Medium-term Management Plan. Those basic policies address efforts in two areas: strengthening governance at the global level, and establishing a high-profit base.

#### Key Management Indicators

	FY2018 result		FY2021 target	
Adjusted operating income ratio <sup>*1</sup>	7.1%	>	over 10%	
ROIC <sup>*2</sup>	8.3%	>	over 13%	
CO <sub>2</sub> emissions <sup>*3</sup> (intensity reduction rate compared to FY2010)	13% reduction	>	over 15% reduction	
Proportion of diversity in management <sup>*4</sup>	20%	>	over 30%	

<sup>\*1</sup> Numerator: Amount derived by subtracting cost of sales and selling, general and administrative expenses from revenue; Denominator: Revenue

<sup>\*2</sup> Operating income after taxes and adjustments as a percentage of working capital and balance of fixed assets

<sup>\*3</sup> (1) Aggregation scope: Major production site in Japan and overseas (including Group companies); (2) CO<sub>2</sub> emissions (intensity reduction rate compared to FY2010) : FY2018 results 87% the 2021 Medium-term Management Plan target 85% or lower.

<sup>\*4</sup> Numerator: Total number of non-Japanese and women in management within Hitachi Chemical Co., Ltd. and main Group companies; Denominator: Total number of management personnel within Hitachi Chemical Co., Ltd. and main Group companies

#### Basic Policy 1

### Strengthen governance at the global level

## Stop repeated compliance issues and earn the trust of society and customers

#### Basic Policy 1-1

#### Rebuild compliance systems

Steadily implement measures to prevent recurrence of inappropriate product testing

Reduce compliance risk by decreasing the number of companies

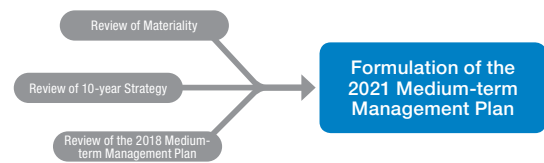
Continually enhance employees' education and communication with employees, particularly by managers

#### Basic Policy 1-2

#### Strengthen group governance

Intra-regional audit structures developed in the U.S. and China regions to undertake independent risk management

Build frameworks in ASEAN and Europe regions



## Basic Policy 2

## Establish a high-profit base

Concentrate management resources on existing semiconductor, smartphone, and automotive parts businesses as well as on 5G, EV, new batteries and life sciences fields

Market size growth estimates for major industries\*

	Sector	Unit	2018	2021	CAGR
Telecommunications	Semiconductor silicon wafers	MS (Million square inches)/year	12,445	13,778	3%
	Smartphones	Million/year	2,109	2,250	2%
	Next-generation (5G) wireless communication technology base stations	Billion yen/year	0	10,000	202%
Automobiles	Automobiles (engines)	Ten thousand/year	8,746	9,268	2%
	Automobiles (EV)	Ten thousand/year	607	1,970	48%
Secondary batteries	Lithium-ion batteries	Trillion yen/year	2.8	4.0	13%
	Other secondary batteries	Trillion yen/year	4.0	5.0	7%
Regenerative medicine	CDMO (Contract development and manufacturing)	M\$/year	529	805	15%

\*Estimates by Hitachi Chemical based on forecasts from an external research agency

## Basic Policy 2-1

## Expansion of de facto, top share business

Provide proprietary solutions and make them the de facto standards, based on our technology platform comprising material, process, and evaluation technologies

We are working to share a globally competitive strategy by grouping semiconductor packaging materials and other products and businesses together, thus advancing the cluster strategy that aims for a global top share and the niche strategy that aims to expand revenue through high-profit, high-added-value products. Based on a technology platform comprising material, process, and evaluation technologies, we will achieve de facto status and expand our top-share businesses by offering proprietary solutions.

## Policies by business

- **Information and Communications:** Provision of materials-based solutions that cannot be copied by competitors and establishment of a strong brand in the field of semiconductor packaging business
- **Mobility:** Provide high-value-added solutions for customers' issues by leveraging our strengths as a component manufacturer capable of developing proprietary materials and strengthen our earning capability
- **Energy:** Use individual characteristics of global bases to shake up the product mix and build a shared foundation of manufacturing capability
- **Life Sciences:** Create synergy with operating companies acquired through M&A and develop future base for businesses

▶ P.29-36

	Category	Market needs	Solutions
Cluster	Semiconductor packaging materials	Speed pace of package design and evaluation	Provide one-stop solutions for advanced packaging via JOINT *1
	CASE *2	Respond to new demands for connectivity, automated driving, and EVs	Provide solutions combining material/process differentiation, analysis/design technologies, and modularization
Niche	CMP Slurry	Enhance total performance in terms of functionality and the polishing process	Provide technical services in each market using material technologies, implement services with speed
	Quantum dot (QD) film	Achieve both higher-definition displays and lower environmental loads	Pursue collaborative creation with QD manufacturers to improve optical properties and reduce cadmium content improve
	ACF for displays	Respond to increasing density of high-definition display components	Bolster technical services utilizing the Integration Lab. in Suzhou, China

\*1 JOINT (Jisso Open Innovation Network of Tops): Consortium providing comprehensive solutions for semiconductor packaging

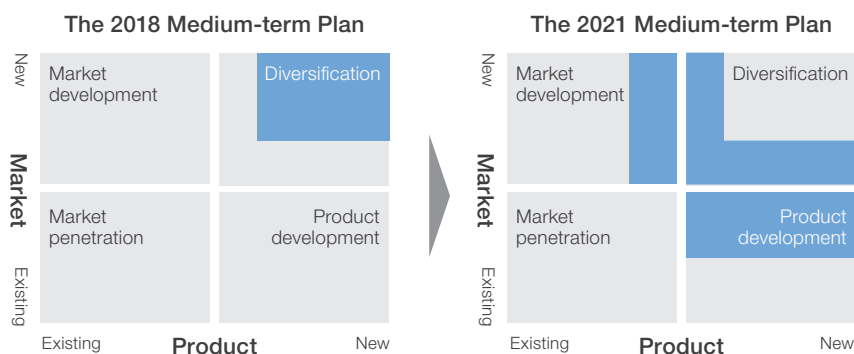
\*2 CASE: Connected, Autonomous, Shared, Electric

## Basic Policy 2-2

## Accelerate creation of new businesses and products

Change target from fields where insight is lacking to fields  
**where strengths can be leveraged**

Key areas for new products and businesses



- Classify responsibilities and authority of, and step up coordination between, business divisions and research divisions
- Use U.S. venture capital companies to expedite results from the use of open innovation

Under the 2018 Medium-term Management Plan, we worked to target new customers and new markets. As a result, while we succeeded in entering the regenerative medicine field, other success stories are few. In the 2021 Medium-term Management Plan, we will, thus, focus on the main business fields of information and communications, mobility, energy, and life sciences. We will work to create new businesses and products in fields in which the Hitachi Chemical Group can leverage its strengths and insights, including improved rather than completely new products, and developing business with group companies of existing customers. We will also accelerate efforts to generate results from open innovation following the pattern of quantum dot (QD) film.

	Key areas	Policy	Market scale in 2025 (billions of yen)	
Expand new businesses and products in fields where strengths can be leveraged	Information and Communication	Development of new materials and solution-oriented business models for 5G/IoT devices	Low dielectric material	120
			Materials for IoT	100
	Mobility	Proposals for the development of new materials and usable technologies to support electric, lightweight and connected vehicles	Motorized/lightweight Sensors	2,330 3,000
	Energy	Propose solutions using materials for new energy and environmental issues	New energy Environment	70 90
	Life Sciences	Support regenerative medicine and other clinical research by supplying highly functional, high-value-added consumable goods	Consumable goods for regenerative medicine	600

## Basic Policy 2-3

## New challenge to rebuild globally-advanced cost structure

**Reinforce business structure in terms of both stock and flow by realigning business and customer portfolios**

Improve adjusted operating income ratio by 3%  
 Improve ROIC by 5%

**Business Portfolio Realignment**

Implement prompt restructuring measures, including the selling off or withdrawal from low-profit businesses with operating income margins below 5%

**Review of Individual Contract Terms**

Improve customer portfolio through portfolio analysis of individual customers' sales amounts and profit levels  
 (Targeting approx. 3% on a sales basis)

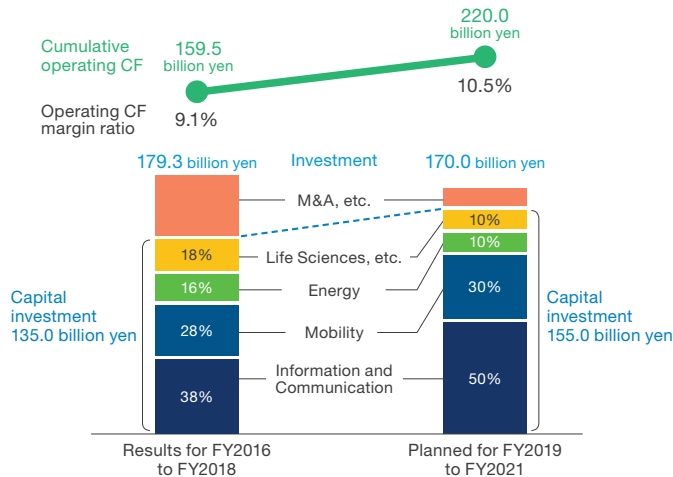
**Reforms of indirect operations (10% cost reduction)**  
**Decrease in number of Group companies (25% reduction)**

As part of working to establish a high-profit base under the 2021 Medium-term Management Plan, we have positioned ROIC, a component of capital efficiency, as a key management indicator, and will be implementing even more aggressive efforts in that area.

Increasing operating margins and asset efficiency are both important to improving ROIC, but under the 2021 Medium-term Management Plan, we will work not only to improve operating margins and reduce costs by streamlining indirect operations, but also to improve asset efficiency through asset reduction by cutting back on the number of Group companies. At the same time, we will improve ROIC by selling off or withdrawing from low-profit businesses in an effort to strengthen our business structure.

## Investment plan for growth

**Focused investment in the information and communications field**  
**Asset sales to provide basic funding for M&A**



## Basic shareholder returns policy

**Implement a stable per-share dividend aimed at a payout ratio of approximately 30%**

Hitachi Chemical determines distribution of our profits to shareholders through comprehensive consideration of factors including business environment, performance, future business expansion, payout ratio, and an appropriate amount of internal reserves.

Distribution of profits to shareholders is based on stable dividend growth. Internal reserve funds will be invested in R&D in high-value-added products with strong growth prospects and in building a global supply structure. They will also be applied to strengthening our operating base and expanding growth. At the same time, we will make effective use of these funds to establish a resilient financial structure.

Acquisitions of treasury stock are a means of returning profits to shareholders that complement the dividend, and it is conducted dynamically and consistent with the scope of our dividend policy.

## Sustainability initiatives

**As a member of the global community, we contribute to achieving a sustainable society**

### Hitachi Chemical's 10 Material Issues

(Key issues for sustainable growth with society)

▶ P.19-20

- 01 Strengthening ability to discern true needs
- 02 Strengthening business designing ability to enhance business value-added
- 03 Strengthening technology platform
- 04 Improving productivity globally
- 05 Strengthening financial standing
- 06 Promoting diversity & Inclusion to strengthen corporate competitiveness
- 07 Strengthening group governance
- 08 Timely and appropriate communication with stakeholders
- 09 Implementation of social responsibility in the entire value chain
- 10 Pursuing business that offer solutions to environmental and social issues

To grow sustainably along with society, Hitachi Chemical has conducted a materiality analysis aimed at identifying priority issues to be addressed over the three years of our next medium-term management plan. These issues have been reflected in the plan and KPIs have been established to measure progress.

In fiscal year 2018 we defined 10 material issues. These are reflected in the 2021 Medium-term Management Plan, which sets out measures and KPIs for achieving each of them. Each of our employees will work to address the material issues in their respective divisions and to achieve the KPIs, as we aim to realize sustainable growth both for Hitachi Chemical and for society as a whole and contribute to achieving the sustainable development goals (SDGs).

We have also announced numerical targets for CO<sub>2</sub> emissions and diversity in management and will be working toward achieving them as part of the 2021 Medium-term Management Plan.

#### Key SDGs to which we contribute through ESG management

Main Measures	Related SDGs
Promote diversity at decision-making layer, etc.	4 QUALITY EDUCATION, 5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES
Conduct training & auditing to prevent inappropriate behavior, etc.	10 PEACE, JUSTICE AND STRONG INSTITUTIONS
Disclosure of ESG information through website, etc.	17 PARTNERSHIPS FOR THE GOALS
Realize a low-carbon society by reducing CO <sub>2</sub> emissions, etc.	12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION

#### Key SDGs to which we contribute through our products and services







Representative Executive Officer, Senior Vice President and Executive Officer,  
General Manager of Information and Communication Business Headquarters

**Hiroyuki Yamashita**

The 2021  
Medium-term  
Management  
Plan Targets

**ROIC** **29.0%**

### Progress on the 2018 Medium-term Management Plan

Under the 2018 Medium-term Management Plan, Hitachi Chemical strengthened key businesses through the niche and cluster strategies, and improved its ability to create customer-tailored proposals with the Packaging Solution Center. The Group also reinforced its business foundation with the view that considerable opportunities for business growth are on the horizon amid technological innovation in the automobile field (self-driving cars and electrification) and in the development of next-generation wireless communications technology (5G) in the information communications field.

Under the niche strategy, sales steadily increased following the release of CMP slurry (nanoceria) as a new product that facilitates high-density circuit formation in the semiconductor wafer polishing process. Additionally, sales expanded from the launch of quantum dot (QD) film that widens the color gamut on high-resolution 4K and 8K display, and particle dispersion anisotropic conductive films.

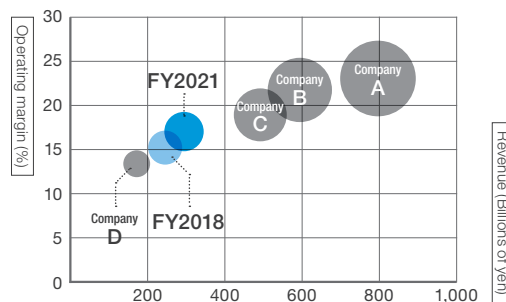
Under our cluster strategy for semiconductor packaging, we made steady progress in the electronic materials and the printed wiring board materials business with several new products being adopted by our customers, including photosensitive dry films for fine circuit formation and semiconductor packaging materials for high-density mounting,

## Information and Communication

### Policies of Key Businesses

Provision of materials-based solutions that cannot be copied by competitors and establishment of a strong brand in the field of semiconductor packaging business

#### Positioning of Hitachi Chemical



1. The Packaging Solution Center, which was moved to Kawasaki City, Kanagawa, Japan and expanded, is at the core of our Open Laboratory strategy to provide a one-stop solution for semiconductor packaging materials. We aim for a 50% market share.
2. Discover latent needs in 5G and EV markets, and improve operating margin and revenue by providing solutions for these needs.

\* Bubble chart created based on research carried out by Hitachi Chemical

which are used to manufacture semiconductor devices used in the cloud storage and wearable device fields.

The Packaging Solution Center, which has an Open Laboratory to facilitate the development of cutting-edge semiconductor packaging technologies, was moved to Kawasaki city in Kanagawa prefecture, Japan to take advantage of its better transportation access from overseas. This puts in place a structure for creating next-generation semiconductor packaging technology through open innovation with customers, equipment manufacturers, and materials makers.

Over these three years, we have increased our efforts on the earnings side by making major capital investments to expand production capacity and advanced other preparations to tap into robust demand for products in the future. Specifically, Hitachi Chemical expanded production capacity for semiconductor CMP slurry in Taiwan and Japan and constructed a new factory in Taiwan for copper-clad laminates used in printed wiring boards on the expectation that these two products will drive earnings growth.

### Key Measures for the 2021 Medium-term Management Plan

During the 2021 Medium-term Management Plan, Hitachi Chemical will advance its niche and cluster strategies while taking a conservative view of the business environment, which has become increasingly uncertain in terms of trade policies of various countries and market conditions for semiconductors and smartphones. At the same time, Hitachi Chemical aims to sharpen its global business competitiveness by further strengthening its ability to propose customer-tailored solutions through its Open Laboratory. Hitachi Chemical will contribute to the proliferation of 5G communications and automobiles

## Progress in Fiscal Year 2018 and Roadmap for Going Where We Want to Be

FY2018 Progress	Key Measures for FY2019	Goals for the 2021 Medium-term Management Plan	Vision for the 10-year Strategy (FY2025)
<b>Business Overview</b> <ul style="list-style-type: none"> <li>Launched JOINT consortium with semiconductor packaging and device manufacturers</li> </ul>	<ul style="list-style-type: none"> <li>Business activities in tune with “Basics and Ethics” for restoring customers trust</li> <li>Reassess product portfolio</li> </ul>		
<b>Electronics Materials</b> <ul style="list-style-type: none"> <li>Expanded production capacity fivefold for CMP slurry (nanoceria)</li> <li>VIZIO, Inc. adopted our QD films in its new 4K TVs</li> </ul>	<ul style="list-style-type: none"> <li>Expand sales and cross-develop advanced technology materials in the semiconductor field</li> <li>Expand market share in anisotropic conductive films for displays (new product)</li> <li>Expand quantum dot (QD) film items for mass production</li> </ul>	<ul style="list-style-type: none"> <li>With solutions based on materials that competitors cannot imitate, Hitachi Chemical will transform into a high-earnings business model by providing “functional value” that is highly praised by markets and customers around the world.</li> </ul>	<b>Leveraging its advanced functional materials technologies, Hitachi Chemical aims to be an essential player, recognized by markets and customers around the world, in providing “functions” that spur innovations associated with people, products and the environment.</b>
<b>Printed Wiring Board Materials</b> <ul style="list-style-type: none"> <li>Constructed a new factory in Taiwan for highly functional laminate materials for use in printed wiring boards</li> <li>Opened the Technology Center in Malaysia for evaluating the properties of photosensitive dry films</li> </ul>	<ul style="list-style-type: none"> <li>Transform business structure to achieve top market share in high-value-added products (improve capacity utilization at the new factory in Taiwan, promote diverse alliances)</li> </ul>		
<b>Electronic Components</b> <ul style="list-style-type: none"> <li>Launched new products for module substrates</li> </ul>	<ul style="list-style-type: none"> <li>Increase profitability by expanding high-value-added products and strengthening manufacturing capabilities</li> </ul>		

with advanced electronics by honing in on solutions based on its unique materials and process technologies.

While coordinating closely with its customers, Hitachi Chemical aims to rapidly solve problems in response to customer requests by building out support systems for each stage of product design, prototyping, production and logistics, by leveraging its globally strengthened and expanded production capacity as well as management resources in technology services and analysis and evaluation centers.

In the surrounding business environment, supply chain structures are changing and merging together in various industries, and future business growth will require open innovation through alliances and other means. With this in mind, Hitachi Chemical is advancing strategic alliances while seeking out partners who share the same vision with Hitachi Chemical.

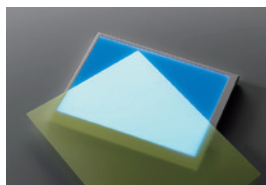
Over medium and long term, Hitachi Chemical is focusing on the development of new business fields with an eye firmly on new markets and technologies that will give rise to innovative technologies like artificial intelligence (AI). Centered on the Packaging Solution Center, which has an Open Laboratory, Hitachi Chemical will maximize the utilization of JOINT, a consortium to develop semiconductor packaging technology, to bring together the knowledge of Hitachi Chemical and other participating companies with the objective of establishing groundbreaking semiconductor packaging technology and process technology unheard of today. Through these initiatives, Hitachi Chemical will contribute to the development and advancement of the information communications field, and realize sustainable growth in global business.

**SOCIAL  
VALUE**

### Providing Value to Society Through Products and Technologies

#### Quantum dot (QD) film

To show brighter images on 4K and 8K LCDs, quantum dot (QD) films developed by Hitachi Chemical are used to widen the color gamut without increasing power consumption. We offer a lineup of products with reduced environmental impact in compliance with the RoHS Directive in the European Union.



Quantum dot (QD) film

#### CMP slurry (nanoceria)

CMP slurry (nanoceria) is polishing materials used in the circuit formation process for semiconductor devices. They are better able to reduce the polishing flaws on the semiconductor substrate than their conventional counterparts. Cracks and the disconnection of the circuit, which may result from such flaws, can also be prevented.



CMP slurry (nanoceria)

#### Anisotropic conductive films for displays

These films are fine anisotropic conductive materials for displays. These films connect batches of very small electrodes in the order of micrometers while achieving both electrical conductivity and insulation properties. These films enable the production of higher definition images in smaller, thinner devices, and are widely used in smart phones, LCDs and other devices.



Anisotropic conductive films for displays





Vice President and Executive Officer,  
General Manager of Mobility Business Headquarters

**Hiroyuki Morishima**

The 2021  
Medium-term  
Management  
Plan Targets

**ROIC** 13.0%

### Progress on the 2018 Medium-term Management Plan

Under the 2018 Medium-term Management Plan, Hitachi Chemical created a foundation for building a top-level position globally in each product field of the mobility business. As a result, we achieved our sales targets. Moreover, by turning ISOLITE GmbH into a consolidated subsidiary, Hitachi Chemical acquired a base in Europe, which was an important issue for global development. However, we did not reach our target for operating income, as we were unable to reduce fixed costs at the same pace that production volume declined amid changes in market conditions and political affairs, in addition to the impact from the improper testing came to light in fiscal year 2018. We are taking measures to address this issue as an important priority under the 2021 Medium-term Management Plan.

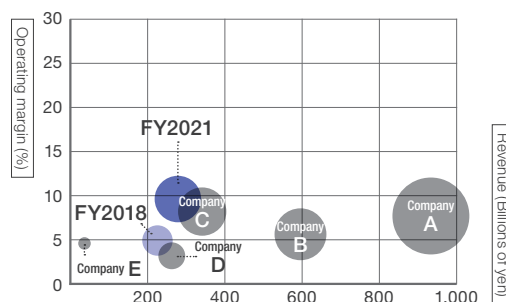
In the plastic components business, our product lines that address the needs of automakers for lighter weight vehicles performed well, with Toyota Motor Corporation adopting our high-strength molded plastic gears for use in its next-generation engines, and Subaru Corporation utilizing our exterior plastic molded foam technology for automotive side garnishes. We will continue establishing basis for future growth in global business during the 2021 Medium-term Management Plan. In the powder metal products business, Hitachi Chemical launched mass production of differentiated products, such

# Mobility

## Policies of Key Businesses

Provide high-value-added solutions for customers' issues by leveraging our strengths as a component manufacturer capable of developing proprietary materials and strengthen our earning capability

### Positioning of Hitachi Chemical



For the CASE era, Hitachi Chemical aims to create new products and technologies while satisfying emerging needs, augmenting its bases in Europe, and expanding its EV business in China. Hitachi Chemical is keen to improve its operating margin and revenue by reviewing its manufacturing bases with an eye on expanding global business and working to further improve development efficiency by using MI.

\* Bubble chart created based on research carried out by Hitachi Chemical

as turbo products that use materials able to maintain wear resistance under high temperatures, and magnetic products that use proprietary materials with high magnetic properties and impact strength. Hitachi Chemical received high praise for these unique products from its customers. In carbon anode materials for lithium-ion battery (LiB), operating income was lower than targeted due to tougher price competition with raw material costs increase and emerging of rival manufacturers in China. In formulating the 2021 Medium-term Management Plan, management has drawn up strategic policies in reaction to these changes in the external management conditions, and is aggressively advancing initiatives to expand business.

### Key Measures for the 2021 Medium-term Management Plan

In the mobility business sector, Hitachi Chemical reviewed its 10-year Strategy in 2018 in response to the advent of the CASE era. While honing its materials technologies, Hitachi Chemical ultimately aims to help create an abundant society through the realization of comfortable mobility spaces by globally providing comprehensive solutions to problems in next-generation automobiles. Hitachi Chemical intends to strengthen its presence in the weight-saving, electrification, and heat management fields, and then create business opportunities with these strengths during the transition to the CASE era. Amid the electrification of automobiles, we are confident that both our materials and molding technologies will provide advantages in the fields of motors, batteries, and inverters connecting the two, as electric vehicles will require functions that are different from conventional automobiles.

Meanwhile, Hitachi Chemical has identified the risk that the electrification of automobiles may reduce the volume of some



## Progress in Fiscal Year 2018 and Roadmap for Going Where We Want to Be

FY2018 Progress	Key Measures for FY2019	Goals for the 2021 Medium-term Management Plan	Vision for the 10-year Strategy (FY2025)
<b>Molding Materials Business</b> <ul style="list-style-type: none"> <li>Expanded mass production of unique exterior plastic products using lightweight foam technology</li> <li>High-strength plastic gears adopted in next-generation engines</li> </ul>	<ul style="list-style-type: none"> <li>Create global supply structure (Optimization including alliances as well)</li> </ul>	<ul style="list-style-type: none"> <li>Hitachi Chemical will build a robust earnings foundation by improving safety, quality, and production efficiency.</li> <li>We aim to pioneer the CASE era in lightweight structural materials through materials, molding, and shaping technologies.</li> </ul>	<ul style="list-style-type: none"> <li>While honing its materials technologies, Hitachi Chemical aims to contribute to the creation of an abundant society through the realization of comfortable mobility spaces by globally providing comprehensive solutions to issues in next-generation automobiles.</li> </ul>
<b>Powder Metal Products Business</b> <ul style="list-style-type: none"> <li>Mass production of turbo and magnetic products that improve fuel consumption and environmental performance</li> </ul>	<ul style="list-style-type: none"> <li>Develop key products for CASE era, win orders</li> </ul>		
<b>Friction Materials Business</b> <ul style="list-style-type: none"> <li>Expanded business by strengthening relationships with alliance partners</li> <li>Products adopted by Ford Motor Company after strengthening operations in North America</li> </ul>	<ul style="list-style-type: none"> <li>Expand environmentally friendly, copper-free friction materials</li> </ul>		
<b>Carbon Anode Materials for Lithium-ion Batteries</b> <ul style="list-style-type: none"> <li>Tapped into demand from growing xEV market</li> <li>Stricter environmental regulations in China created a bottleneck in materials</li> </ul>	<ul style="list-style-type: none"> <li>Augment global supply chain</li> <li>Develop high value-added anode materials</li> <li>Strengthen sales channels to customers in Europe</li> </ul>		
<b>Functional Resin Materials Business, Electrical Insulating Varnishes</b> <ul style="list-style-type: none"> <li>Tapped into regional demand by establishing a resin development center in Malaysia (Johor)</li> <li>Kept up with global business development of automakers with a three-region manufacturing structure based in Japan, China, and Asia</li> </ul>	<ul style="list-style-type: none"> <li>Create high value-added molded products for automobiles</li> <li>Discover and nurture new needs for molded by investing resources to create new businesses</li> </ul>		

engine-related products. However, we aim to sustain growth in the business by developing solutions for new functions.

In order to fulfill the requests of customers in each country and region, Hitachi Chemical is advancing global development based on strategies for each region, an issue that was thoroughly examined during the 2018 Medium-term Management Plan. Along with global development, reinforcing the earnings foundation is another issue of paramount importance. Hitachi Chemical aims to optimize fixed costs by reassessing the positioning of its bases, expanding automated production lines and inspection processes, in addition to reviewing the product portfolio.

#### CASE

CASE stands for Connected, Autonomous, Shared and Electric, key words that describe changes underway in the automobile industry.

#### MI (Materials Informatics)

This methodology shortens the time required to develop new materials by utilizing Big Data analysis and simulations in material development.

#### Automotive Side Garnishes

These decorative panels are attached to the bottom of the side doors of an automobile.

#### Product Lineup for the CASE Era

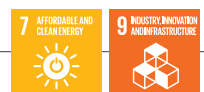
<b>Electrification</b>			<b>Heat management</b>
 Epoxy molding compounds for semiconductors	 Composite resin molded products	 Anode material for lithium-ion batteries	 High heat-resistant varnishes
			 Turbo bushing
<b>Weight savings</b>			 High-temperature insulation materials
 Molded plastic rear door module	 Plastic gears	 Interior molded products	

**SOCIAL  
VALUE**

#### Providing Value to Society Through Products and Technologies

##### Exterior plastic molded foam products

Hitachi Chemical was the first company in the world to develop plastic molded foam technology suitable for the exterior components of automobiles. This technology is currently being used to make plastic components attached to the lower part of the side doors of the Toyota Lexus. This exterior plastic molded foam technology was newly developed to satisfy rigidity needs while maintaining appearance quality for exterior components, the coalescence of existing plastic molded foam technology with proprietary material design technology, mold design technology, and molding technology accumulated over many years. By using these technologies, the exterior plastic molded foam products adopted in the Toyota Lexus UX are about 30% lighter than previous plastic molded components, while maintaining the same level of rigidity and external appearance quality.





Vice President and Executive Officer,  
General Manager of Energy Storage Business Headquarters

**Misao Nakagawa**

The 2021  
Medium-term  
Management  
Plan Targets

**ROIC**

**9.0%**

### Progress on the 2018 Medium-term Management Plan

Under the 2018 Medium-term Management Plan, Hitachi Chemical aggressively advanced M&A activities with the objective of establishing a position in global markets by expanding scale. Hitachi Chemical acquired new bases via HCEN in Taiwan, FET in Europe, and HCBT in Thailand. As a result, revenue increased largely in line with forecasts. However, operating income was lower than expected. This reflected insufficient improvement in product quality, delays passing higher lead raw material costs onto prices for lead-acid batteries, and fewer-than-anticipated synergies with consolidated subsidiaries acquired through M&A activities.

In the industrial battery systems business, sales increased thanks to stronger demand for UPS batteries and forklift lead-acid batteries, key sources of revenue. To prepare for stronger demand in the future, Hitachi Chemical invested in new production lines and other facilities. Although growth looks likely, the emergence of rivals overseas has increased price competition, and so it has become necessary to reduce basic costs and introduce new products. Under NEDO's demonstration projects in Europe, the smart community demonstration project in Speyer, Germany, was wrapped up in 2017, and the large-scale hybrid storage battery system was finished in Niedersachsen, Germany in November 2018.

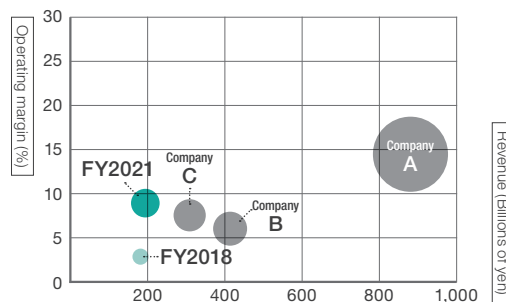
In the automotive battery business, sales were lifted by the

# Energy

## Policies of Key Businesses

Use individual characteristics of global bases to shake up the product mix and build a shared foundation of manufacturing capability

### Positioning of Hitachi Chemical



Hitachi Chemical aims to rank in the world's top three in terms of profitability in the industry by creating synergies globally through the development of shared platforms for manufacturing capabilities and the acceleration of post-merger integration (PMI) after M&A as well as by increasing sales of high-value-added advanced environmental products and expanding the product lineup.

\* Bubble chart created based on research carried out by Hitachi Chemical

addition of FET and HCBT to the scope of consolidation through M&A. In Japan, sales increased for ISS vehicle batteries, which have superior technologies. In addition to expanding business scale, we must further reinforce our manufacturing capabilities, including improvements in quality and production efficiency.

In the capacitor business, Hitachi Chemical successfully increased productivity by shifting to OEM production overseas and integrating production bases for film capacitors. We also worked on the development of highly performed products in Japan.

### Key Measures for the 2021 Medium-term Management Plan

During the 2021 Medium-term Management Plan, our basic aim is to increase efficiency and create a shared platform for manufacturing capabilities, while making a comprehensive, bold shakeup of the product line by leveraging the advantages of our global bases, with lead acid batteries that address environmental issues as a core business. In addition to overseas production bases, we are unifying global operations in development, marketing, and procurement, concentrating resources on reducing the defect rate and improving quality, and optimizing global manufacturing bases in a bid to rank in the world's top three in terms of profitability in the industry. We are also focusing efforts on developing and commercializing post-lead-acid batteries.

In the industrial battery systems business, the market has been expanding for UPS batteries and forklift batteries, areas of expertise for Hitachi Chemical, which aims to expand its market share by increasing production in response to this demand. Hitachi Chemical also aims to improve profitability and expand its market share by launching new products that address needs for longer life and higher durability. In addition to storage battery monitoring systems and services, Hitachi Chemical is building



## Progress in Fiscal Year 2018 and Roadmap for Going Where We Want to Be

FY2018 Progress	Key Measures for FY2019	Goals for the 2021 Medium-term Management Plan	Vision for the 10-year Strategy (FY2025)
<b>Business Overview</b>  ➤ Create global production bases	➤ Globally unified operations ➤ Concentrate resources on improving quality ➤ Globally optimize manufacturing bases	➤ Use individual characteristics of global bases to shake up the product mix and build a shared foundation of manufacturing capability ➤ Commercialize post-lead acid batteries	➤ Aim to be one of top three global firms in terms of profitability in automotive & industrial batteries and capacitors
<b>Industrial Battery Systems</b> ➤ Increased production of UPS batteries and forklift batteries ➤ HCEN constructed new plant in Shaoguan, China ➤ Completed a large-scale hybrid storage battery system in Niedersachsen, Germany, and began test operations	➤ Expand market share in UPS batteries and forklift batteries ➤ Launch new products ➤ Create a business model for storage batteries in Europe	➤ Expand market share in UPS and forklift batteries, areas of expertise for Hitachi Chemical into Europe and Southeast Asia ➤ Create a business model for storage batteries in Europe, and generate earnings	
<b>Automotive Battery</b>  ➤ Created a system for reflecting lead cost changes in prices	➤ Increase sales of maintenance-free replacement batteries in Southeast Asia ➤ Increase market share in ISS vehicle batteries	➤ Expand ISS vehicle batteries to Europe ➤ Increase market share via global brand strategy ➤ Develop batteries for auxiliary equipment	
<b>Capacitor</b>  ➤ Improved productivity by integrating manufacturing bases	➤ Create new products with higher heat resistance, better reliability, and greater capacities	➤ Transform products and reform manufacturing	

and commercializing business models for energy management that take advantage of the knowledge gained from NEDO's demonstration projects in Europe.

In automotive batteries, we aim to expand our market share through a global brand strategy, in addition to increasing sales of ISS vehicle batteries, and boosting sales of maintenance-free batteries in Southeast Asia and other regions. We have also set our sights on margin improvement through the development of batteries for auxiliary machinery, demand for which is likely to grow alongside advances in CASE.

In capacitors, Hitachi Chemical is moving to improve productivity through reforms in manufacturing, while developing and bringing to market new products that feature

higher heat resistance, better reliability, and greater capacity for the social infrastructure market.

Hitachi Chemical Energy Technology Co., Ltd. (HCEN)

FIAMM Energy Technology S.p.A (FET)

Hitachi Chemical Storage Battery (Thailand) Public Company Limited (HCBT)

Idling Stop System (ISS)

New Energy and Industrial Technology Development Organization (NEDO)

**An uninterruptible power supply (UPS)** is a power source apparatus. Since it incorporates devices such as a battery to store electrical power, UPS provides emergency power to an external load during a definite period of time with set output when the input power source fails.

**Batteries for auxiliary machinery**

Batteries for auxiliary machinery are backups for electrical equipment installed in hybrid vehicles and electric vehicles. Regular 12V lead-acid batteries are placed in the trunk space or elsewhere.

**SOCIAL  
VALUE**

## Providing Value to Society Through Products and Technologies

### NEDO's Demonstration Projects in Europe

Hitachi Chemical is participating in three of NEDO's demonstration projects in Europe. A large-scale hybrid storage battery system was completed in Niedersachsen, Germany, where wind power generation has expanded over the past few years. This demonstration project commenced operations in November 2018. The completed system has two kinds of storage batteries with different characteristics and it is able to charge and discharge a large volume of electricity at high output, economically adjusting the balance in supply and demand for electric power. The aim of the system is to help stabilize the power grid so that more renewable energy can be deployed.



Test facility for the Niedersachsen demonstration project (Large-scale hybrid storage battery system)

### Lithium ion batteries for industrial

Hitachi Chemical provides lithium-ion batteries for hybrid RTG\* cranes. Regenerative electric power generated when the crane moves containers at port is used to charge up the batteries, thereby helping to reduce fossil fuels used by diesel generators. In the railway industry, a new electric train that uses lithium-ion batteries has been developed. This new electric train can run on non-electrified sections of track, where previously only diesel trains ran, by drawing energy from batteries that were charged up during the electrified sections of track.

\* Rubber tire gantry crane with a hybrid system combining diesel-electric power generators and lithium-ion batteries



Hybrid RTG crane

### Decided to register with Ministry of the Environment's JCM Project

In May 2019, Hitachi Chemical successfully registered with the JCM Project, an initiative to conserve energy by introducing a container formation facility at a lead-acid battery plant in Vietnam that was completed in December 2018, as an auxiliary project facility that was adopted under the joint crediting mechanism (JCM) of the Ministry of the Environment in 2015. As a result, Hitachi Chemical will acquire JCM credits over the next nine years, helping to reduce greenhouse gases in Japan.



Lead-acid battery production line with container formation process





Executive Officer,  
General Manager of Life Science Business Headquarters

## Masato Yoshida

### The 2021 Medium-term Management Plan Targets

Create Group synergies and  
foster future business foundation

### Progress on the 2018 Medium-term Management Plan

The life sciences business excels at providing total solutions through the Hitachi Group's network, and is Hitachi Chemical's fourth pillar in foundation businesses that will drive future growth. Under the 2018 Medium-term Management Plan, life sciences business grew steadily for three years as a result of large-scale M&A activities and enlargement of the business base.

In the diagnostic reagent business, Hitachi Chemical turned Kyowa Medex Co., Ltd. (now Hitachi Chemical Diagnostics Systems Co., Ltd.) into a consolidated subsidiary, building a foundation for advancing business through the acquisition of products, highly professional human resources, and technologies and sales networks.

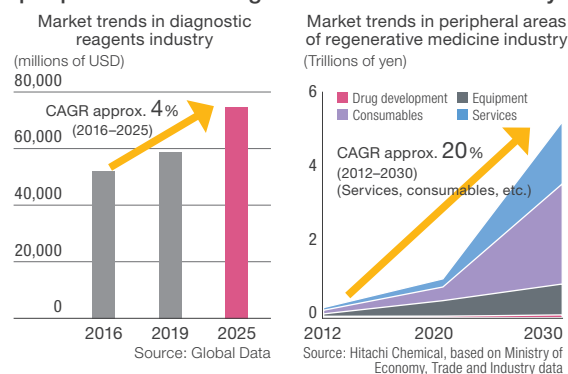
In the regenerative medicine business, production commenced at a newly constructed manufacturing base in Yokohama city, Kanagawa, Japan following the receipt of orders for manufacturing contracts with Daiichi Sankyo Co., Ltd. and SanBio Co., Ltd. Hitachi Chemical signed a technology licensing agreement with Accellta Ltd. in Israel to introduce technologies related to methods used in making stem cell culture media and for culturing stem cells. Moreover, Hitachi Chemical acquired production and sales bases in the U.S. and Europe after buying stakes in PCT (now HCATS) in the U.S. and apceth Biopharma GmbH in Germany. Being able

# Life Sciences

## Policies of Key Businesses

Create synergy with operating companies acquired through M&A and develop future base for businesses

### Market trends in diagnostic reagent industry and peripheral areas of regenerative medicine industry



#### Vision for 2025

Global niche leader in total solutions for POCT

Global leader in the contract development and manufacturing organization (CDMO) field

to establish a cornerstone for global development from bases in North America and Europe, where many new pharmaceutical development firms are located, was a major achievement for Hitachi Chemical. We were able to achieve targets ahead of schedule for the number of contracts acquired during the 2018 Medium-term Management Plan.

### Key Measures for the 2021 Medium-term Management Plan

In the context of the long-term development of the life sciences business sector, Hitachi Chemical aims to be a global niche leader in the POCT field, which is positioned as a focus domain in the diagnostic reagent business, and a global leader in the CDMO field for regenerative medicine business. To achieve this, management has set specific targets in its 10-year Strategy and the 2021 Medium-term Management Plan.

In the diagnostic reagent business, we are focusing on expanding sales of diagnostic reagent products to domestic medical practitioners who use the compact diagnostic equipment developed by Hitachi Chemical. In addition, we will augment our sales channels overseas for POCT reagents through partnerships with local reagent suppliers while utilizing our sales base in the U.S. With demand for genetic diagnosis likely to increase, Hitachi Chemical is focusing on the field of liquid biopsy and is advancing research into new diagnostic markers with an eye on commercialization within five years.

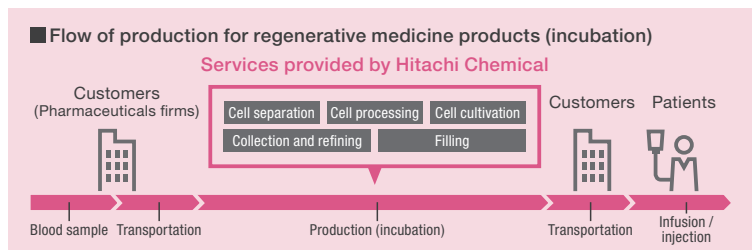
In the regenerative medicine business, Hitachi Chemical is keen to turn a consolidated profit through synergies in PMI with HCATS and apceth Biopharma, which became consolidated subsidiaries. By deploying CFC systems, a technology that automates the production of cells, we are automating key processes (separation, collection, refining,

## Progress in Fiscal Year 2018 and Roadmap for Going Where We Want to Be

FY2018 Progress	Key Measures for FY2019	Goals for the 2021 Medium-term Management Plan	Vision for the 10-year Strategy (FY2025)
<b>Diagnostic Reagent Business</b> <ul style="list-style-type: none"> <li>Obtained approval to produce and sell in vitro diagnostics for FGF23-related hypophosphatemic rickets and osteomalacia</li> <li>Developed new enzymes able to shorten test times for diagnosing diabetes</li> </ul>	<ul style="list-style-type: none"> <li>Expand overseas sales of reagents for dyslipidemia, HbA1c</li> <li>Increase sales of allergen diagnostic reagents</li> <li>Concentrate resources in targeted domains, upgrade structure for POCT business</li> </ul>	<ul style="list-style-type: none"> <li>Acquire foundation for diagnostic reagent business in Europe and the U.S.</li> <li>Develop and bring to market new POCT products</li> <li>Expand and update the overseas sales network</li> </ul>	<p>Help improve the quality of life of people by advancing individualized medical treatment</p> <p><b>Targeted positions</b></p> <ul style="list-style-type: none"> <li><b>Diagnostic reagents</b> Global niche leader in total solutions for POCT</li> <li><b>Regenerative medicine</b> Global leader in CDMO field</li> </ul>
<b>Regenerative Medicine Businesses</b> <ul style="list-style-type: none"> <li>Started production in the contract cell cultivation business for industrial mass cultivation</li> <li>Signed agreement to jointly develop production automation platforms with Invetech</li> <li>Entered into contract diagnostic reagent manufacturing agreement with GSK for SPEAR® T-cell therapies</li> <li>Acquired shares in apceth Biopharma GmbH</li> </ul>	<ul style="list-style-type: none"> <li>Create synergies from PMI with acquired companies in Japan, Europe and the U.S.</li> <li>Reduce production costs and achieve partial automation by introducing automated systems into cell production processes for autologous cell cultivation</li> </ul>	<ul style="list-style-type: none"> <li>Turn profitable on a consolidated basis and update the global business foundation in Japan, the U.S. and Europe</li> <li>Establish a globally connected structure for production, marketing, and development</li> <li>Improve earnings by introducing automation and mass culture technologies</li> <li>Create materials businesses related to life sciences</li> <li>Develop culture media technology and consumables business incubation</li> </ul>	

etc.) in the production of autologous cells. We aim to improve profitability by reducing production costs, including personnel expenses, and stabilizing quality while reducing the work performed manually. Hitachi Chemical aims to create a consumables business and develop culture media technology for regenerative medicine through its know-how and materials technologies, the forte of the Hitachi Chemical Group.

With the life sciences business as a pillar, Hitachi Chemical will examine moving into other business domains, such as disease prevention, that link together the diagnostic reagent business and the regenerative medicine business.



POCT (Point of Care Testing) are tests that can be quickly performed at a general practitioner's office. CDMO stands for contract development and manufacturing organizations that provide contracted services. Liquid biopsy is a technology for diagnosing diseases with blood and other body fluids instead of using patient tissue. Hitachi Chemical Advanced Therapeutics Solutions, LLC (HCATS: formerly called PCT Cell Therapy Services, LLC) CFC refers to counter-flow centrifugation systems. Autologous cells are cells from the same patient. Culture media refer to liquid and solid substances that include the nutrients necessary for cultivating cells.

SOCIAL  
VALUE

## Providing Value to Society Through Products and Technologies

## Diagnostic Reagent Business

## Allergy diagnostic systems

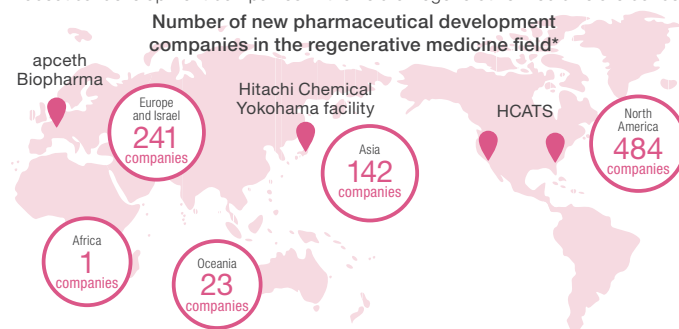
This system measures the levels of allergen-specific IgE antibodies in human serum, which helps physicians identify the allergens responsible for the patients' symptoms. The system simultaneously measures 48 IgE antibodies, including antibodies to pollen, food and animal allergens, in a 0.2ml sample, enabling the collection of a large amount of data in a single test.



## Regenerative Medicine Businesses

## Established a global service structure for regenerative medicine products

Hitachi Chemical has established a structure for servicing key regions from bases in the U.S., Germany and Japan for customers in North America, Europe, and Asia, where most new pharmaceutical development companies are concentrated.



\*Number of regenerative medicine-related new drug development companies  
Source: Alliance for Regenerative Medicine



# Environment

To achieve a sustainable society in harmony with the global environment, Hitachi Chemical will globally promote the reduction of environmental burden in its business activities, products, and services and the solution of environmental issues such as climate change.

## Key Management Indicators in the 2021 Medium-term Management Plan

CO<sub>2</sub> emissions  
(intensity reduction rate compared to FY2010)

**13%** reduction (FY2018 result) → **over 15%** reduction (FY2021 target)

\*1 Scope: major production site in Japan and overseas (including Group companies)

\*2 CO<sub>2</sub> emissions (intensity reduction rate compared to FY2010)  
Reduction from 87% in FY2018 to below 85% by FY2021 (target)

## Related Key Materiality and Contributing to SDGs

### Implementation of social responsibility in the entire value chain

We must identify and properly address risks related to socially unacceptable behavior in the value chain while also addressing risks caused by internal behavior in the Group.



### Pursuing businesses that offer solutions to environmental and social issues

We must advance business that creates economic value while also solving issues affecting society and the global environment, such as by working towards SDGs.



### Review of the 2018 Medium-term Management Plan

Under the 2018 Medium-term Management Plan, the Hitachi Chemical Group continued with its efforts to conserve energy, including its [Carbon Management Strategy](#) that was formulated with numerical targets for reducing CO<sub>2</sub> emissions as a management benchmark. As a result, Hitachi Chemical achieved 96% of its target for reducing CO<sub>2</sub> emissions in Japan in fiscal year 2018 (4% reduction compared with levels in fiscal year 2014).

On a global basis, the Group advanced improvement activities over the course of the three years of the Environmental Action Plan for 2016 to 2018. We improved energy consumed per production unit by 5% through the expanded use of renewable energy (up roughly threefold over the past three years), installation of high-efficiency equipment, and improvements in production processes. We improved water usage per production unit by 19% through improvements in water quality and recycling and reuse. Out of the 12 action items, however, we failed to achieve numerical targets for improvement in energy consumed per production unit, the recycling rate, improvement in water usage per production unit, and maintaining zero environmental accidents. We are taking corrective measures for these missed targets, and aim to further improve by fine-tuning key measures in the [Environmental Action Plan for 2019 to 2021](#).

### Key Measures for the 2021 Medium-term Management Plan

Since we drew up the 2018 Medium-term Management Plan in fiscal year 2015, the world has changed considerably toward the realization of a sustainable society with the adoption of SDGs and the Paris Agreement. In light of these trends, Hitachi Chemical formulated the 2021 Medium-term Management Plan and the Environmental Action Plan for 2019 to 2021 following extensive deliberations with outside experts and relevant internal divisions.

As key management indicators for the 2021 Medium-term Management Plan, Hitachi Chemical has set a target for reducing CO<sub>2</sub> emissions intensity by over 15% by fiscal year 2021 (compared with fiscal year 2010 level) in major production sites in Japan and overseas, in line with the long-term targets of [Hitachi Environmental Innovation 2050](#), the common framework for the whole Hitachi Group. Under the Environmental Action Plan for 2019 to 2021, we have set action targets that weigh potential environmental risks and opportunities, including measures to strengthen corporate governance, further reduction of CO<sub>2</sub> emissions when products are used, and address water risks, in addition to initiatives to reduce environmental impact centered on facilities.

Hitachi Chemical intends to contribute to the realization of a sustainable society by moving steadily forward with these measures.

### Carbon Management Strategy

With the aim of achieving a low-carbon society, and to measure CO<sub>2</sub> emissions as a cost in the manufacturing process, Hitachi Chemical has introduced the Carbon Evaluation System, an original, in-house financial evaluation system that positions CO<sub>2</sub> emissions as one of the costs incurred during manufacturing and translates the balance between target emissions and actual emissions into a carbon profit or loss. We will reflect these metrics in its business strategies and environmental investments while considering the balance between earnings and environmental impact in each business division.



For more information about Hitachi Environmental Innovation 2050, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [Environmental Report](#) > [Policy on Global Environment](#)



For more information about the Environmental Action Plan for 2019 to 2021, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [Environmental Report](#) > [Environmental Management](#) > [Environmental Action Plan](#)



# Diversity & Inclusion

## Key Management Indicators in the 2021 Medium-term Management Plan

### Proportion of diversity in management

**20%** → **over 30%**  
(FY2018 result) (FY2021 target)

\*Numerator: Total number of women and non-Japanese nationals in management positions at Hitachi Chemical and major Group companies. Denominator: Number of managers at the Company and major Group companies.

To deliver “wonders” that exceed expectations and meet the diverse needs of customers and society, Hitachi Chemical promotes diversity and inclusion to make diverse human resources the driving force for creation of innovation and provision of solutions.

## Related Key Materiality and Contributing to SDGs

### Promoting diversity & inclusion to strengthen corporate competitiveness

We must have diverse human resources with different nationalities, genders, skills, backgrounds, and experiences in order to continue innovating and reinforcing its competitiveness. We intend to enhance its management base with diversity and create a corporate culture where all employees can work together and improve their abilities.



For more information about our diversity and inclusion initiatives, refer to [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [Social Report](#) > [Together with Our Employees](#) > [Promoting Diversity & Inclusion \(D&I\)](#)

#### HiNext

An integrated platform for human resource management that uses cloud-based services. The aim is to expand career options, assign the best people to the right positions, and promote co-creation by visualizing human resource data across the Hitachi Group.

### Review of the 2018 Medium-term Management Plan

Hitachi Chemical set up special, dedicated positions for promoting diversity and inclusion as key aspects of its management strategy for creating competitive advantages. Under the 2018 Medium-term Management Plan, We achieved its 12% target for the percentage of women in management positions (non-consolidated basis), having implemented plans to train and promote female employees in each business division. In April 2019, the Company appointed a woman to an Executive Officer position. Groupwide, our human resources have become increasingly diverse as operations have expanded globally, with about 60% of our 20,000-strong workforce consisting of non-Japanese people.

Hitachi Chemical has set World Class Professional (WCP) as its vision for human resource development (i.e., the ideal employee) with the aim of establishing a global human resource system that includes an employee training program and a management by objective (MBO) system that encourages employees and organizations to take on challenges. To foster a culture of dialog and challenge-taking, we first launched the Global Coaching Program in fiscal year 2012 and had over 10,000 employees take part in it fiscal year 2018.

### Key Measures for the 2021 Medium-Term Management Plan

During the 2018 Medium-term Management Plan, Hitachi Chemical has identified the ratio of women in management positions on a non-consolidated basis as a key management indicator. In order to have more diverse opinions reflected in management as global business development accelerates, we aim to promote diversity at the decision-making layer with diversity targets for management on a global basis for the Group.

Under the WCP vision for human resource development, we will create a global foundation for the Group that facilitates the cycle of human resources management in hiring, training, and promoting employees. In February 2019, we began operating HiNext as a human resources information system that enhances visibility on employee skills and experiences across the Group.

In addition, to continue innovating with diverse human resources, Hitachi Chemical is augmenting its systems and nurturing awareness in an effort to foster a healthy and inclusive workplace environment where each and every employee can work to the best of their ability.

Once a year, all employees of the Group are given a survey to understand how these measures have had an impact, and where improvements can be made.



# Corporate Governance

Hitachi Chemical will carry out management in the interests of shareholders and all other stakeholders by establishing the Hitachi Chemical Corporate Governance Guidelines in order to achieve sustainable growth and increase corporate value.

## Measures to Strengthen Corporate Governance Structures

In order to achieve a high level of agility, objectivity and transparency in its management, Hitachi Chemical adopts the “company with nominating committee, etc.” structure that separates executive and supervisory functions. To maximize the advantages of this organizational structure, Hitachi Chemical has an executive framework centered on the President and Chief Executive Officer that facilitates management based on highly agile and professional decision-making. The Board of Directors supervises managerial functions from an independent and objective standpoint.

Furthermore, Hitachi Chemical has ensured diversity among Directors and reflects on their management opinions thus capitalizing

their respective extensive experience and knowledge. We are also reinforcing operational aspects of the Board of Directors through means such as the introduction of a system for evaluating effectiveness.

Additionally, in order to attain sustainable growth and increase corporate value, we have established the [Hitachi Chemical Corporate Governance Guidelines](#) and prepared the Corporate Governance Report for submission to the Tokyo Stock Exchange.

With [strengthen governance at the global level](#) as a basic policy in the 2021 Medium-term Management Plan, Hitachi Chemical has been rebuilding its compliance systems and reinforcing Group governance.



For detailed information on corporate governance, refer to [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#)

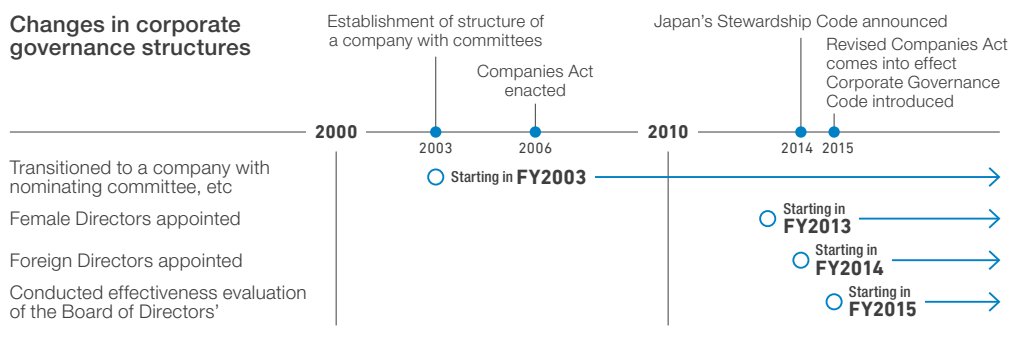


For Corporate Governance Guideline, [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#) > [Hitachi Chemical Corporate Governance Guidelines](#)



For strengthen governance at the global level, refer to [P.25](#).

### Changes in corporate governance structures



### Composition of the Board of Directors (As of the 30th July 2019)

Percentage of non-executive Directors

**78%** (7 out of 9 Directors)

\* Chairman of the Board does not concurrently serve as an Executive Officer.

Percentage of Outside Directors

**44%** (4 out of 9 Directors)

Percentage of Outside Directors in Nominating, Compensation, and Audit Committees

Nominating Committee:

**60%** (3 out of 5 members)

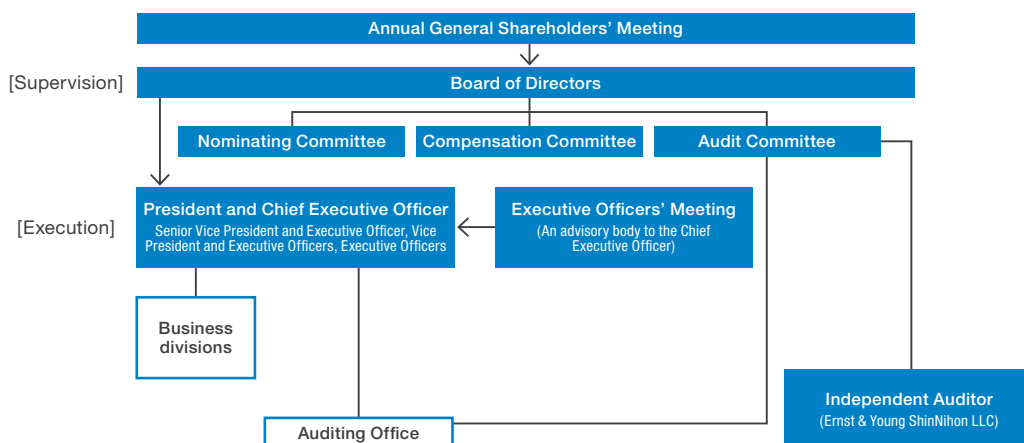
Compensation Committee:

**60%** (3 out of 5 members)

Audit Committee:

**80%** (4 out of 5 members)

### Corporate governance structure (As of the end of June 2019)



### Main authority of each committee

#### Nominating Committee:

Decisions regarding proposals on the appointment and dismissal of Directors

#### Compensation Committee:

Decisions on compensation for Directors and Executive Officers

#### Audit Committee:

- Audit of Directors and Executive Officers' business operations and preparation of audit reports
- Decisions regarding proposals on the appointment and dismissal of Independent Auditors

**Attendance rate at Board of Directors' meetings in FY2018**

Name	Attendance rate
Kazuyuki Tanaka	100% (16 out of 16 meetings)
Takemoto Oto	100% (16 out of 16 meetings)
George Olcott	100% (16 out of 16 meetings)
Masayuki Sarumaru	94% (15 out of 16 meetings)
Richard Dyck	100% (16 out of 16 meetings)
Chieko Matsuda	100% (16 out of 16 meetings)
Yoshihito Kitamatsu	100% (16 out of 16 meetings)
Koji Tanaka*	86% (12 out of 14 meetings)
Yoshihiro Nomura	94% (15 out of 16 meetings)
Hisashi Maruyama	100% (16 out of 16 meetings)

\* Elected at General Shareholders' Meeting held in June 2018.

**Convocation Status of Important Meetings**

In fiscal year 2018, Hitachi Chemical's Board of Directors held 16 meetings and passed resolutions on important matters relating to the basics of management, such as management policies, and the appointment of Chief Executive Officer and Executive Officers. Additionally, the Board of Directors periodically received reports on business results and engaged in discussions as well as promoted the development of appropriate internal control and risk management systems and supervised the effectiveness of the systems' implementation.

The Executive Officers' Meeting was

convened 24 times to discuss important matters affecting the Hitachi Chemical Group, combining the knowledge of all Executive Officers so the Chief Executive Officer can make accurate and prompt decisions.

In regards to other important meetings, the Nominating Committee held 4 meetings, the Audit Committee held 13 meetings, the Compensation Committee held 6 meetings, the J-SOX Committee held 4 meetings and the Compliance Management Committee held 4 meetings.

**Some of the items discussed at the Board of Directors' meetings in FY2018**

- Formulation of the 2021 Medium-term Management Plan
- Measures to prevent a recurrences of inappropriate product testing at Hitachi Chemical
- Conclusion of a final agreement for the acquisition of apceth Biopharma GmbH

**Ensuring the Effectiveness of Audits by the Audit Committee**

The Audit Committee consists of five Directors including four Independent Outside Directors, under whom three staff members in positions equivalent or subordinate to general managers of departments are assigned. The Audit Committee holds a meeting every month and determines audit policies, audit execution plans, etc.

Additionally, the Audit Committee conducts auditing activities including interviewing Executive Officers, attending important internal meetings, and performing audits at the head office, division, business sites and Group companies. In fiscal year 2018, audits were performed at five business sites, one sales site office, and 34 Group companies.

We are also ensuring the effectiveness

of auditing activities through collaboration secured by frequent meetings and interviews with the Independent Auditor and the Internal Audit Section.



Onsite audit of friction material Group company (AJF) in India by Outside Director Chieko Matsuda and Outside Director George Olcott

**AJF**  
Allied JB Friction Pvt. Ltd.

**Evaluation of Effectiveness of the Board of Directors**

Hitachi Chemical has been evaluating the effectiveness of the Board of Directors every year in order to ensure the effectiveness of the Board's management oversight function and decision-making function, and based on the evaluation results, we take measures to improve governance every year.

In fiscal year 2018, we addressed issues identified in the previous fiscal year's effectiveness evaluation and undertook new initiatives that included revising the operations of the Board of Directors in line with the direction of medium- and long-term management strategies.

For the fiscal year 2018 effectiveness

evaluation, which was conducted in March 2019, we added three questions to the questionnaire, including one about monitoring the strengthening of governance and improvements to the quality assurance system, after it came to light that inappropriate product testing was carried out on some of our products. Each Director conducted a self-assessment and wrote comments for each of the questions, with the overall conclusion on effectiveness being that the Board of Directors was "generally effective." In fiscal year 2019, we will take steps to improve effectiveness further based on the results of the effectiveness evaluation in fiscal year 2018.

## Overview of the Evaluation of Effectiveness of the Board of Directors in FY2018

### Overview

We conducted a self-evaluation of all ten Directors (including five Outside Directors) using a questionnaire in cooperation with outside advisors. Each Director carried out a self-evaluation and wrote answers to 23 questions, including ones about the composition of the Board of Directors and its operation. The results of the questionnaire were analyzed and reported to the Board of Director's Meeting in May 2019, which deliberated on them.

### Results of Analysis and Evaluation

As is shown below, the Board of Directors of the Company has been confirmed to fulfill the roles and duties stipulated in the Guidelines for the sustainable growth of the Group and the enhancement of its corporate value as well as concluded that the Board of Directors was "generally effective" in fiscal year 2018.

- ① Given that positive evaluations of effectiveness accounted for more than half (52%) while negative evaluations made up a small fraction (11%) of the questionnaire results, we have determined that the effectiveness of the Board of Directors has been generally secured.
- ② As a result of the questionnaire, it was established that the followings are key issues to address in the future: management and business strategies, and corporate ethics and risk management. New questions are expected to help improve effectiveness by asking questions in regards to monitoring management's awareness of the cost of capital, and monitoring the strengthening of governance and improvements to the quality assurance system.

### Efforts to Improve Effectiveness

As a result of performing the effectiveness evaluation, the Directors expressed numerous opinions about issues and measures for increasing effectiveness. The Company will ensure the effectiveness of operation method, the management oversight function, and decision-making function of the Board of Directors, and continue to achieve a high level of agility, objectivity, and transparency in its management by revising the Guidelines and other matters in reference to the opinions expressed by the Directors.

### Questionnaire

Respondents undertake a self-evaluation (selection from three-point evaluation) for each question in the categories of "Structure and operation of the Board of Directors," "Management strategies and business strategies," "Corporate ethics and risk management," "Performance monitoring and the evaluation and compensation of Executive Officers, etc." and "Dialogues with shareholders, etc." and record the reasons and improvements. Three questions, including "monitoring management's awareness of the cost of capital" and "monitoring the strengthening of governance and improvements to the quality assurance system," "effectiveness of audits" were added to the questions, bringing the total number of questions to 23.

## Implementation of Plan to Develop Successors

Hitachi Chemical is making efforts create "Leaders to Win" by securing the necessary management leaders for achieving its growth strategies globally on a group-wide basis.

In respect to the discovery and selection of successor candidates for the Executive Officers, while taking diversity into consideration along with plans for candidate

development, the Nominating Committee holds discussions and confirms candidates based on the Hitachi Chemical Corporate Governance Guidelines, The Board of Directors exercises continuous oversight of the overall efforts by obtaining advice from the Nominating Committee.



For detailed information on the Plan to Develop Successors, refer to [the Hitachi Chemical's website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#) > [Hitachi Chemical Corporate Governance Guidelines](#)

### Roles of the Nominating Committee

- Discussion of human resources requirements for the President and CEO
- Confirmation of the profile and development policy of candidates for President and CEO
- Confirmation of the individual development of candidates for the President and CEO, and the status of their assignment

### Roles of the Board of Directors

- Discussion of human resource requirements for the President and CEO and the development policy of candidates <consultation from the Nominating Committee>
- Confirmation of the individual development of candidates for the President and CEO, and the status of their assignment <report from the Nominating Committee>
- Determination of appointment standards for Executive Officers
- Overall process management and progress management of candidates for Executive Officer



For detailed information on reasons for selecting and dismissing Directors, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#) > [Hitachi Chemical Corporate Governance Guidelines](#)



For the reasons for selecting Directors, refer to [P.45-46](#)



For detailed information about the standards for determining independence, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#) > [Hitachi Chemical Corporate Governance Guidelines](#)

## Appointment and Dismissal of Directors, Executive Officers, and Independence of Outside Directors

With regard to the appointment of Directors, the Nominating Committee nominates candidates based on its standards, and the General Shareholders' Meeting makes decisions by resolution. Decisions regarding the appointment and dismissal of Executive Officers are made by the Board of Directors based on standards set by the Board.

Independent Outside Directors are independent from Hitachi Chemical and ask

questions, present opinions and give advice, etc., as appropriate from the perspective of ensuring lawfulness, appropriateness and efficiency of management and raising corporate value based on their extensive experience and knowledge at the Board of Directors Meeting, etc. The Nominating Committee determines the independence of Outside Directors based on its standards for independence.

## Directors' and Executive Officers' Compensation

The Compensation Committee discusses and determines the policy for the determination of Directors' and Executive Officers' Compensation and the individual compensation amounts on an annual basis.

The basic policy on compensation for Directors and Executive Officers is to set the

compensation amounts at a competitive level that attracts diverse talents. Compensation for Executive Officers is linked to business performance in order to provide them with motivation to improve corporate value over not only the short term, but also on the medium and long term.

### Directors' and Executive Officers' Compensation (FY2018)

Type of management position	Total compensation (Millions of yen)	Compensation by category (Millions of yen)		Number of eligible persons
		Monthly base salary	Performance-based reward and term-end bonus	
Directors (excluding Outside Directors)	186 (84)	162 (73)	24 (11)	12 (5)
Executive Officers	543	373	170	15
Total	729	535	194	27



For detailed information on cross-held shares, refer to the [Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [Corporate Profile](#) > [Corporate Governance](#) > [Hitachi Chemical Corporate Governance Guidelines](#)

## Shareholding Status

Hitachi Chemical decides to hold shares of other companies if we have determined based on the Hitachi Chemical Corporate Governance Guidelines that there is a reason for holding shares from the points of business operation and that continued holding will contribute to the enhancement of corporate value. We do not hold shares of other companies merely for investment purposes. As of the end of March 2019, we hold shares of 35 companies with a total amount

of ¥7,923 million on the balance sheet. Whether we can acquire shares of other companies is determined by the Executive Officers' or Board of Directors Meetings, which is the decision-making body, in accordance with the Standards for Submissions to the Board of Directors. We also regularly check the aim and reasonability of the [cross-held shares](#) through deliberations at the Executive Officers' Meetings and report the checking results to the Board of Directors.

## Relationship with Parent Company and Ensuring Equality Among Shareholders

As a member of the Hitachi Group, Hitachi Chemical continues to maintain cooperative relationships with Hitachi, Ltd. and other Hitachi Group companies through business activities such as management information exchange, R&D, sharing product supply, and effectively uses management resources including the Hitachi brand strength to increase its corporate value.

In order to ensure independence in

business operations and transactions, we also pay due consideration to ensure that Directors, who concurrently serve as Director of the parent company or its group company, constitute a minority of the Board of Directors, as well as developing measures and an environment to ensure the rights of shareholders and their equality, including making it our policy to give consideration to minority shareholders.

# Compliance / Risk Management

## Thorough Practicing of Compliance

We define compliance as more than just strict adherence to laws and regulations, and understand it to include observance of industry standards as well as employees' routine activities to comply with and enhance corporate ethics and social norms. Compliance is positioned at the heart of Hitachi Chemical's CSR activities.

To advance and thoroughly practice compliance, Hitachi Chemical has defined rule systems, organizational systems and implementation items within the Hitachi Chemical Group Global Compliance Program. In fiscal year 2018, we revised the Hitachi Chemical Group Codes of Conduct that specifically defines the type of behavior that all Group employees should follow. In addition to thoroughly following our Basics and Ethics that we have always emphasized, these revisions include contents about the role that we should play as a member of the international community.

Our employees are reminded of the Codes of Conduct through e-learning, recitation sessions, and periodic meetings about case studies. In the event of behavior that infringes on the Codes of Conduct, the employee is trained on the importance of compliance, and may receive disciplinary action. In the rare occurrence of a situation where laws or regulations have been breached, the Group immediately reports it to the relevant departments and works with its legal counsel to rapidly resolve the situation and prevent a reoccurrence.

We have also designated every October as Corporate Ethics Month, during which

a message from the top management is translated into 12 languages and conveyed to all employees, and a wide range of awareness-raising activities are carried out.

Without exception, all employees are trained on compliance and human rights issues when entering the Company to reinforce compliance. In fiscal year 2018, compliance training sessions were held 94 times with approximately 4,600 employees attending.

Audits were conducted at Four companies in Japan and Seven overseas companies, and guidance and education were provided to improve their compliance management systems. In fiscal year 2019, there are plans to audit 11 companies in Japan and overseas.

We have also set up the Global Hotline, a whistleblowing system through which reports can be made in three languages (Japanese, English and Chinese), with established points of contact. In fiscal year 2018, 53 inquiries/reports were received Group-wide, and the relevant departments worked together to appropriately handle them. Overall, there were no serious breaches of laws or regulations.

During the 2021 Medium-term Management Plan, Hitachi Chemical will rebuild its compliance systems for the purpose of reinforcing corporate governance globally. The Group will constantly improve internal control systems and work diligently to prevent compliance infractions by conducting audits led by regional headquarters, holding regional compliance meetings, and strengthen its efforts for compliance training for managers.



For detailed information about thorough practicing of compliance, refer to [the Hitachi Chemical website](#) > [About Hitachi Chemical](#) > [CSR](#) > [Governance and CSR Management](#) > [Compliance](#)

### Adhering to the Anti-trust Act and Competition Laws of Each Country

Hitachi Chemical has positioned compliance with the Anti-trust Act and the competition laws of each country as a priority in compliance management. We have placed an Anti-trust Officer in each department and each Group company and they interact with customers, in addition to the President and CEO directly addressing all employees about the importance of adhering to laws and regulations during the Corporate Ethics Month. When there are concerns about even a slight breach of the Anti-trust Act, employees are obliged to record the details in the Compliance Information Record Notebook. All these details are audited twice a year by the division responsible for compliance. In July 2018, an attorney was invited to give a presentation about the Anti-trust Act to all employees at the Company and domestic Group companies.

### Measures to Prevent a Reoccurrence of Inappropriate Product Testing at Hitachi Chemical

As measures to prevent a reoccurrence of inappropriate product testing that was discovered in fiscal year 2018, the Company is reviewing its Basic Management Policies to clarify management's stance on quality assurance, and the President and CEO keeps emphasizing to all employees the importance of preventing a reoccurrence. In addition, in fiscal year 2018, we revised the Five Compliance Rules to raise awareness of them again among all employees. To improve and reinforce the quality assurance system, we appointed a CQO (Chief Quality Officer), created the Quality Assurance Headquarters and the Quality Headquarters. Moreover, we endeavored to improve the effectiveness of these systems while spreading awareness of the in-house whistleblowing system's purpose to all employees.

For fiscal year 2019 onward, Hitachi Chemical will conduct quality audits, build our product inspection-related systems that removes human involvement as much as possible, and reform its corporate culture into one where compliance infractions do not occur.



In its broad range of global business activities, Hitachi Chemical thoroughly practices compliance and has been strengthening its risk management to avoid obstacles to its business activities caused by various risks.

## Strengthening Risk Management



For detailed information about business-related risks, refer to [the Hitachi Chemical website](#) > [Investor Relations](#) > [IR Library](#) > [Financial Section](#)



Hitachi Chemical requires its officers and employees to keep an eye on various risks and act mindfully for preventing such risks from arising. In regards to risks that may have a particularly substantial impact on management, we have established countermeasures by making their financial impact visible in the form of a risk assessment table based on scenarios specifying the risk types, responding division, scale of damage, and frequency of occurrence through risk assessment. These are confirmed and reported to the Executive Officers' Meeting and are also described as Business-related Risks in the Securities Reports.

Having established the Auditing Office and the Risk Management Department as independent organizations that report directly to the President and CEO, we are making efforts to further improve governance systems from the viewpoint of highly independent internal audits by the Auditing Office, as well as from the viewpoints of compliance, business continuity, export controls by the Risk Management Department.

In addition, Hitachi Chemical appointed a CRO (Chief Risk Officer) in fiscal year 2018 as an Executive Officer in charge of controlling risks.

### Main Risks and Countermeasures

Category	Main risks	Countermeasures
Health & safety Business continuity	Damage caused by earthquakes and tsunamis Infectious diseases, pandemics	Develop manuals on initial response based on the needs of the business site, formulate BCP and conduct drills, make alternate production arrangements, support preparedness of overseas Group companies
Stable revenue	Recession, fall in demand, intensified competition Failure to detect product defects, leaks to outside	Formulate medium/long-term strategies, dynamic business operations for each business division, thorough application of quality management systems, stringently enforce manufacturing processes, inspections
Social responsibility	Unfair trading (bid rigging, bribery) Leakage of customer or client information	Promote audit, education, and various compliance programs, thoroughly manage information through the development of rules and self-auditing, evaluate information security, and execute measures to improve information security

BCP  
Business Continuity Planning

### ■ Developing product inspection-related systems with minimal human involvement

Aim: Use automation to eliminate opportunities for employees to manipulate inspection data and inspection reports

Goals: Finish automation at Hitachi Chemical by the end of fiscal year 2020 and at Group companies by the end of fiscal year 2022 (planned investments 12-15 billion yen)

### ■ Reform the corporate culture into one where compliance breaches do not occur

**Implementation item** Continue messaging from top management, improve communications between senior management and employees

<b>Strengthening compliance training</b>	<b>Special compliance classes</b> Implement workshop-based training by job rank for all employees on preventing a reoccurrence of inappropriate incidents	<b>Specialist professional training</b> Practice-oriented training to prevent recurrence targeting QA, sales, development & manufacturing divisions (the first line of defense) etc.
<b>Strengthen work rules related to compliance breaches</b>		



## Kazuyuki Tanaka

front row, the 2nd from the left

### Chairman of the Board

Chairman of the Nominating Committee

## George Olcott

back row, the 1st from the left

### Outside Director

Nominating Committee Member

Audit Committee Member

Compensation Committee Member

Independent Director

## Masayuki Sarumaru

back row, the 3rd from the left

### Outside Director

Nominating Committee Member

Audit Committee Member

Compensation Committee Member

Independent Director

## Richard Dyck

back row, the 2nd from the right

### Outside Director

Audit Committee Member

Independent Director

## Chieko Matsuda

front row, the 1st from the right

### Outside Director

Nominating Committee Member

Chairperson of the Audit Committee

Compensation Committee Member

Independent Director

### Reasons for selection

Mr. Tanaka possesses abundant experience and excellent management talent as the manager of the Company and other Hitachi Group companies. He is expected to pursue the sharing of information as a member of the Board of Directors and to enhance the decision-making function of the Board of Directors.

Dr. Olcott possesses abundant specialist knowledge relating to human resources development and corporate governance in global management and wide-ranging insight cultivated as a manager. It is expected that the functions of the Board of Directors will be enhanced by him supervising the execution of the duties of Executive Officers, etc. based on such knowledge and insight from a standpoint that is independent of the Hitachi Group.

Mr. Sarumaru possesses abundant experience and wide-ranging insight as a global manager. It is expected that the functions of the Board of Directors will be enhanced by him supervising the execution of the duties of Executive Officers, etc. based on such experience and insight from a standpoint that is independent of the Hitachi Group.

Dr. Dyck possesses abundant specialist knowledge relating to semiconductors and wide-ranging insight cultivated as a manager. It is expected that the functions of the Board of Directors will be enhanced by him supervising the execution of the duties of Executive Officers, etc. based on such knowledge and insight from a standpoint that is independent of the Hitachi Group.

Dr. Matsuda possesses abundant specialist knowledge relating to business administration, accounting and finance, as well as wide-ranging insight cultivated as a university professor and as a manager. It is expected that the functions of the Board of Directors will be enhanced by her supervising the execution of the duties of Executive Officers, etc. based on such knowledge and insight from a standpoint that is independent of the Hitachi Group.

### Significant concurrently held positions

Guest Professor, Faculty of Business and Commerce, Keio University, Outside Director of The Dai-ichi Life Insurance Co., Ltd., Outside Director of DENSO Corporation, Non-executive Director of JPMorgan Japanese Investment Trust plc

Chairman of YKK Corporation

Representative Director of TGK K.K.

Professor, Graduate School of Management, Tokyo Metropolitan University, Professor, Faculty of Economics and Business Administration, Tokyo Metropolitan University, Outside Corporate Auditor of Kirin Holdings Co., Ltd., Outside Director of SATO HOLDINGS CORPORATION, Outside Director of Foster Electric Co., Ltd.





Taken at the Innovation Center of the Company, in Chiyoda-ku, Tokyo

## Yoshihito Kitamatsu Hisashi Maruyama

front row, the 1st from the left

**Director**

Audit Committee Member

front row, the 2nd from the right

**Director**

Chairman of the Compensation Committee

## Mamoru Morita

back row, the 2nd from the left

**Director**

Nominating Committee Member

Compensation Committee Member

## Hiroyuki Yamashita

back row, the 1st from the right

**Director**

Having been involved in accounting and finance operations, as well as management, in Hitachi, Ltd. and other Hitachi Group companies, Mr. Kitamatsu possesses abundant experience and a proven track record. He is expected to supervise the execution of the duties of Executive Officers, etc. based on such abundant experience and that track record and to enhance the functions of the Board of Directors.

Having being involved in the management of the Company and the Hitachi Chemical Group companies, Mr. Maruyama possesses abundant experience, a proven track record and excellent management execution ability. He is expected to pursue the sharing of information as a member of the Board of Directors and to enhance the decision-making function of the Board of Directors.

Having being involved in management strategy for the entire Hitachi Group in Hitachi, Ltd., Mr. Morita possesses group-wide global experience and wide-ranging insight. He is expected that the functions of the Board of Directors will be enhanced by him reflecting such experience and insight in the management of Hitachi Chemical Group from a broad perspective.

Having being involved in the management of the information and communication business and the mobility business, which are core businesses of the Company, and the management of an overseas group company of the Company, Mr. Yamashita possesses wide-ranging business experience and knowledge. He is expected to pursue the sharing of information as a member of the Board of Directors and to enhance the decision-making function of the Board of Directors.

Vice President and Executive Officer of Hitachi, Ltd.

# Hitachi Chemical Co., Ltd.

GranTokyo South Tower, 9-2, Marunouchi 1-chome,

Chiyoda-ku, Tokyo, 100-6606, Japan

Phone: 81-3-5533-7000 Fax: 81-3-5533-7077

[www.hitachi-chem.co.jp/english](http://www.hitachi-chem.co.jp/english)

Click the link below for inquiries.

[www.hitachi-chem.co.jp/english/contact/index.html](http://www.hitachi-chem.co.jp/english/contact/index.html)

---

## SRI Ratings

	2019 Constituent MSCI ESG Leaders Indexes		
	MSCI Japan ESG Select Leaders Index		
	MSCI Japan Empowering Women Index (WIN)		

THE INCLUSION OF HITACHI CHEMICAL COMPANY, LTD. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF HITACHI CHEMICAL COMPANY, LTD. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.