History of Value Creation

Unceasing pursuit of “unprecedented innovation, unprecedented value”

1960 | 1970 | 1980 | 1990

1963
Advanced into the liquid adhesive domain to build up a new core business.

1965
Expanded the application of bonding technologies to double-coated tapes.

1972
Started mass production of magnetic heads and ferrite cores.

1977
Commercialized anisotropic conductive films (ACF) ahead of industry peers.

As LCD panels for digital cameras and cellular phones and also flat panel displays became widespread, demand for LCD display devices grew ever faster. Anisotropic conductive films (ACF) are indispensable for the evolution of LCD display devices. Sony Chemicals Corporation succeeded in commercializing ACF ahead of the rest of the industry.

1985
Launched production of ink ribbons for thermal transfer printers.

1987
Started production of Lamicoil for compact motors.

1989
Started production of high-density thin multilayer printed circuit boards for the passport-sized camcorder Handycam® TR-55.

1994
Started production of protection elements for Li-ion batteries.

As laptop PCs, cellular phones, video cameras and other portable electronic equipment were introduced with reduced sizes and advanced features, the Li-ion battery market expanded. Sony Chemicals Corporation was first in the world to mass-produce the protection elements essential for safe operation of Li-ion batteries.

1996
Started volume production of multilayer printed circuit boards for PlayStation®.

1998
Started production of optical devices.

Products

1962
Sony Chemicals Corporation was established for manufacturing and sales of copper foil products for circuits and industrial adhesive products.

1970
Kanuma Plant No.1 completed. Transferred from Haneda Plant.

1987
Listed on the Second Section of the Tokyo Stock Exchange (TSE).

1989
Sony Chemical Corporation of America established.

1992
Sony Chemicals Europe B.V. established in the Netherlands.

1994
Sony Chemicals (Suzhou) Co., Ltd. established in China.

Company

For over 50 years since the days of our predecessor Sony Chemicals Corporation, we have been delivering new value to the world.
The value we have created is embodied in technologies indispensable for the advancement and safety of products and that enhance convenience, including through miniaturization, thinning, and greater visibility.
Capitalizing on the unique technologies we have cultivated over many years and new technologies yet to be developed, we will continue our pursuit of value.

2000

2001
Started production of touch panels.

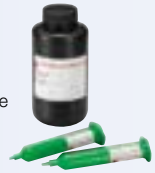
2002
Started selling of anti-reflection films.

Sony Chemicals Corporation established the roll-to-roll sputtering system suited for volume production by applying the proprietary technology for anti-reflection film for cylindrical CRTs, which had been developed by Sony Corporation.

2004
Started production of thermal conductive sheets.

2005

2007
Started production of the optical elasticity resin (SVR®) to increase the visibility of the display panel.



2008
Started production of inorganic polarizer for projectors.

2010

2013
Started production of PSA-transformable optical elasticity resin (hybrid SVR) whose adhesive properties are transformed during UV curing.

While maintaining excellent optical properties of conventional SVR, which is known for its high visibility as well as abilities to improve contrast and shock resistance, hybrid SVR realizes workability equivalent to that of optical clear adhesive and reduces color unevenness of display panels caused by shrinkage during curing.

2014
Started production of eye shield material for medical use.

2015

2015
Started production of Albeedo solar control window film.

2016
Commercialized ArrayFIX particle-arrayed anisotropic conductive film (ACF).

2018
Developed anti-fogging and anti-fouling solutions to prevent clouding and improve the ease of cleaning mirrors.

2020

2020
Developed Infra-Aid, a brand of leak repair products specifically for repair and maintenance of infrastructure equipment.

Developed anti-reflection film AR Film HD Series.

Developed Jettable SVR, optical elasticity resin corresponding to inkjet coating.

2000
Sony Chemicals Corporation was delisted from TSE.
Became a wholly owned subsidiary of Sony Corporation.

2006
Company name changed to Sony Chemical & Information Device Corporation.

2012
Company name changed to Dexerials Corporation, and business launched.

Dexerials

2013
Dexerials (Shanghai) Corporation established in China.

2015
Dexerials Kibou Corporation started business.

2015
Listed on the First Section of the Tokyo Stock Exchange (TSE).

2016
Tochigi Technology Center started operations.

2020
Dexerials Precision Components Corporation established.

Highlights

Global market share **No.1**

Anisotropic conductive films (ACF)[*1]

Optical elasticity resins (SVR)[*2]

Anti-reflection films produced utilizing sputtering technology[*3]

Net sales

57,710 million yen

year on year −4.7%

Operating profit

4,617 million yen

year on year +24.0%

Profit attributable to owners of parent

2,734 million yen

year on year +19.7%

ROE

5.5%

year on year +0.9%pt

Total payout ratio
(before amortization of goodwill)

45.6%

Ratio of outside directors

Internal directors 2

Outside directors 4

66.7%

Ratio of mid-career hires

37.5%

Three-year retention rate for new graduates employed by the Company

90.0%

Number of employees

1,999

On a non-consolidated basis

1,604

1. The 2019 share for amount of ACF for large-sized and small- to medium-sized displays according to the "2020 Current Status and Future Prospects of the Display-related Market" issued by Fuji Chimera Research Institute, Inc.
2. The 2019 share for total amount of optically clear adhesives (OCR/LOCA) used in bonding displays according to the "2020 Current Status and Future Prospects of the Display-related Market" issued by Fuji Chimera Research Institute, Inc. Optical elasticity resins (SVR) is the product name for Dexerials' optically clear adhesives.
3. The 2019 share for amount of surface treatment film (dry coating) according to the "2020 Current Status and Future Prospects of the Display-related Market" issued by Fuji Chimera Research Institute, Inc.

Business Portfolio

(Note) Each business corresponds to a segment among the disclosed results and net sales include inter-segment transactions.

Optical Materials and Components Business

Contribution to net sales 40.8%

Net sales 23,624 million yen Operating profit 1,832 million yen

This business is classified into three categories: optical films, optical resin materials, and optical solutions. These three categories include anti-reflection films, optical elasticity resins, and smart precision adhesives. We have a large share of the global market because of the advanced technology and high quality of our anti-reflection films which are our mainstay products.

Anti-reflection films

The dry-type anti-reflection films realizing outstanding low reflection property and abrasion resistance contribute to improved visibility of electronic products and automotive displays such as mobile devices and car navigation systems. Lineup including moth-eye type eye shielding materials for medical use featuring low reflectance and high visual transmittance utilizing our microfabrication technology.

Optical elasticity resins (SVR)

Highly permeable and elastic resin is embedded in air gaps in devices such as smartphones and tablet PCs to realize slim profiling and improved visibility. Our lineup also includes a PSA-transformable optical elasticity resin (hybrid SVR) for small-to-medium-sized flat panel displays (FPD) whose adhesive properties are transformed by UV curing to realize workability equivalent to that of optical clear adhesive.

UV-curable / thermo-curable adhesives

Our “SA Series” of smart precision adhesives comprises adhesives for UV curing, thermosetting, and UV + thermosetting. This series accomplishes low-temperature curing at low temperatures within a short time, along with low shrinkage, and is ideal for precision affixing during assembly such as camera modules and optical pickups.

UV-curable resin for optical disks

UV-curable resins for optical disk media, such as DVD and Blu-ray Disc. Suitable for forming a corrosion-protection coating for the recording layer and for forming the base and cover layers of Blu-ray Disc media.

Electronic Materials and Components Business

Contribution to net sales 59.2%

Net sales 34,226 million yen Operating profit 4,583 million yen

This business is classified into the four categories: adhesive materials, anisotropic conductive films, surface mounted type fuses, and micro devices. Due to our advanced technology and high quality, we have a large share of the global market for anisotropic conductive films (ACF), our mainstay products, which we were the first in the industry to develop and put into mass production in 1977.

Anisotropic conductive films (ACF)

Anisotropic conductive films are conductive adhesive materials that exploit electrical properties to conduct two components vertically while keeping mechanical performance by adhesion. Widely adopted for display panels and camera modules.

General-purpose double-coated tapes

These products offering superb curvature behavior and static load characteristics are suitable for punching processes. Our lineup in the “Green tape” series consists of many products and is manufactured using a UV curing production method that does not use organic solvent during the adhesive coating process.

Double-coated tapes for FPC Thermosetting tapes for FPC

Double-coated tapes for FPC, FPC stiffener materials, and thermosetting tapes for FPC with high temperature resistance (top 260 or higher) are widely used in the solder reflow process.

Thermal conductive sheets

Thermal conductive sheets conduct the heat generated from IC chips such as CPUs to the heat sink to protect device performance. We offer silicone sheets featuring high thermal conductivity and flexibility, acrylic sheets, and carbon fiber sheets for applications that generate large amounts of heat such as network servers of wireless base station.

Surface mounted type fuses

Self-control protectors (SCP) that immediately interrupt overcharge or overcurrent in Li-ion rechargeable batteries are standard fuses for secondary protection devices. We also offer a lineup of power current protector (PCP) fuses for high-current applications, which despite being thinner and smaller, protect electronic devices from overcurrent.

Sputtering targets

Our sputtering targets are widely used by manufacturers of electronic and electric devices for semiconductor chips, recording media of various optical disk formats, and more. High purity and uniform structure contribute to higher productivity while our various irregular-shape-processing technologies extend lifetimes.

Solar cell conductive films for photovoltaic modules

This film-type bonding material is used to bond solar cells with the metal ribbon that collects electricity generated by the cells. The material is capable of bonding at a lower temperature than conventional soldering. Thus, cells undergo less thermal strain from heating, which helps improve yield during module production.

Inorganic polarizers / Inorganic waveplates

These optical devices achieve high transmittance and low reflectance thanks to nano-level processing technology and a proprietary thin-film microstructure. They are sufficiently durable to withstand long-term use in high-temperature, high-luminance environments. They boost the brightness and contrast of projectors and optical units that use laser light sources.

The application field of Dexerials products is extensive and diverse

Various products, such as televisions, personal computers, smartphones, tablet PCs, and automobiles, created by applying our technologies are used to support lifestyles and industries. The principal Dexerials products and their diverse applications are introduced below.

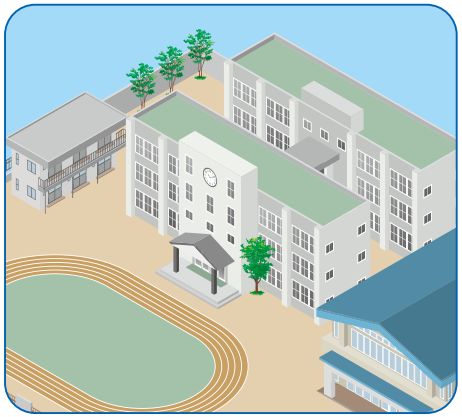
Around Town

- **Smartphones / tablets**
  - Anisotropic conductive films (ACF)
  - General-purpose double-coated tapes
  - Dustproof nets with adhesive for speakers
  - Double-coated tapes for FPC
  - Thermosetting tapes for FPC
  - UV-curable / thermo-curable adhesives
  - Thermal conductive sheets
  - Optical elasticity resins (SVR)
  - Surface mounted type fuses
- **Automobile**
  - Anisotropic conductive films (ACF)
  - Optical elasticity resins (SVR)
  - Thermal conductive sheets
  - Anti-reflection films
- **Electric motorbikes**
  - Surface mounted type fuses

- **Televisions / laptop PCs**
  - Anisotropic conductive films (ACF)
  - General-purpose double-coated tapes
  - Dustproof nets with adhesive for speakers
  - UV-curable / thermo-curable adhesives
  - Thermal conductive sheets
  - Optical elasticity resins (SVR)
  - Anti-reflection films
  - Double-coated tapes for FPC
  - Thermosetting tapes for FPC
  - Surface mounted type fuses
- **Cordless electric power tools / vacuum cleaners**
  - Surface mounted type fuses
- **Washstands**
  - Kireia anti-fogging and anti-fouling solutions

Home

Offices & Schools



- **Laptop PCs**
  - Anisotropic conductive films (ACF)
  - General-purpose double-coated tapes
  - Double-coated tapes for FPC
  - Thermosetting tapes for FPC
  - UV-curable / thermo-curable adhesives
  - Anti-reflection films
  - Surface mounted type fuses
- **Projectors**
  - Inorganic polarizers / Inorganic waveplates
- **Architectural window films**
  - Albeedo solar control window film
- **Servers**
  - Thermal conductive sheets

Medical Facilities

- **Protective gear for health professionals**
  - Moth-eye type films for medical eye shields

- **Artificial ventilators**
  - Surface mounted type fuses

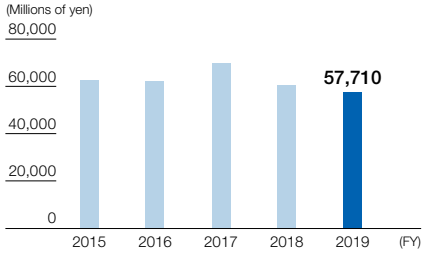
Factories / Others

- **Factories**
  - Water treatment agents
- **Solar Panels**
  - Solar cell conductive films for photovoltaic modules
- **Infrastructure equipment**
  - Leak repair product “Infra-Aid”

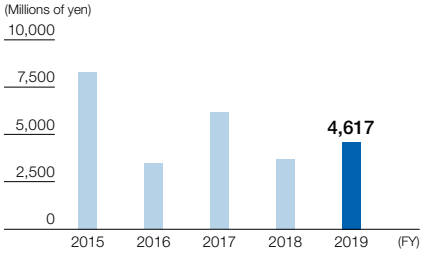
Financial and Non-financial Highlights

Consolidated financial performance indicators		FY2015	FY2016	FY2017	FY2018	**FY2019**
Net sales	(millions of yen)	62,654	62,598	70,079	60,580	**57,710**
Operating profit	(millions of yen)	8,306	3,491	6,178	3,724	**4,617**
Profit attributable to owners of parent	(millions of yen)	4,587	949	3,426	2,284	**2,734**
Net assets	(millions of yen)	52,062	50,682	49,921	49,055	**49,567**
Net assets per share	(yen)	868.96	843.56	825.82	809.40	**814.68**
Total assets	(millions of yen)	87,296	97,347	94,958	87,586	**86,279**
Capital to asset ratio	(%)	59.64	52.06	52.57	56.01	**57.45**
ROE	(%)	8.62	1.85	6.81	4.62	**5.55**

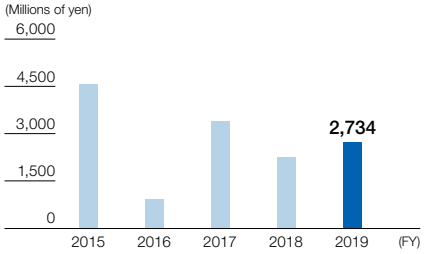
❶ Net sales



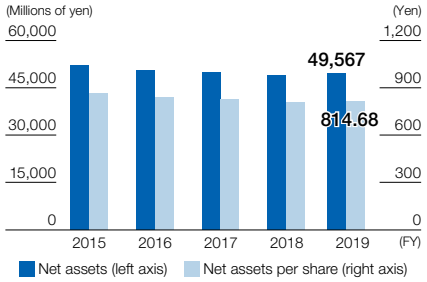
❷ Operating profit



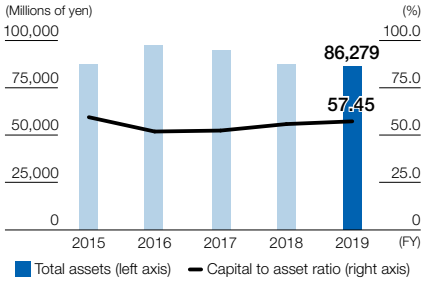
Profit attributable to owners of parent



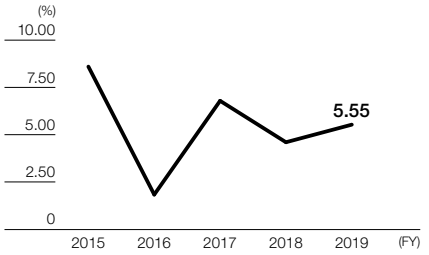
Net assets / Net assets per share



Total assets / Capital to asset ratio



ROE



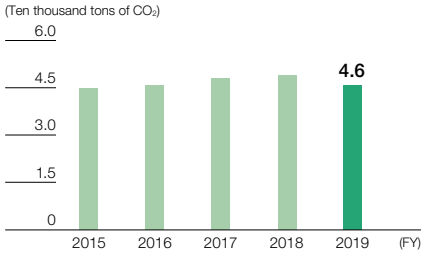
Explanation of key aspects of financial performance

❶ ❷ Factors such as impact of change in the base films for optical films and a decline in the quantity of optical elasticity resins resulted in a year-on-year decrease in sales for fiscal 2019. However, profit increased year-on-year as smart precision adhesives for camera modules was favorably affected by the shift to multiple lenses for smartphones, and the anisotropic conductive films (ACF) product category reported a year-on-year increase in profit because of the expanding demand for particle-arrayed ACF for smartphone applications on top of improved productivity.

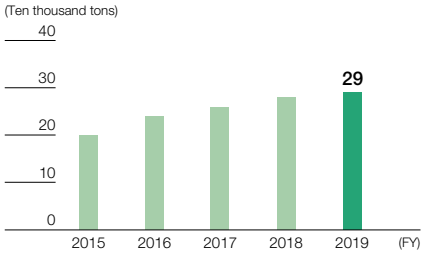
(Note) The change of base films from those that the Company had previously purchased resulted in a decrease in the Company's purchase price since the third quarter of fiscal 2018. As a result, the selling price of the Company's products also decreased. However, this change had no impact on profit.

Non-financial indicators		FY2015	FY2016	FY2017	FY2018	**FY2019**
CO_2 emissions	(ten thousand tons of CO_2)	4.5	4.6	4.8	4.9	**4.6**
Water usage	(ten thousand tons)	20	24	26	28	**29**
VOC emissions	(tons)	46	55	42	46	**37**
Waste emissions	(ten thousand tons)	0.21	0.21	0.24	0.29	**0.26**
Number of employees (consolidated basis)	(persons)	2,317	2,124	1,981	2,005	**1,999**
(non-consolidated basis)	(persons)	1,718	1,600	1,585	1,603	**1,604**
Board diversity Female	(persons)	2/10	2/10	2/10	2/10	**1/10**
Non-Japanese nationals	(persons)	0/10	0/10	0/10	0/10	**1/10**
Percentage of employees with disabilities	(%)	2.98	3.28	3.38	3.40	**3.40**
Rate of taking paid leave	(%)	59.4	62.4	61.8	67.2	**68.4**
Average number of days of paid leave taken	(days)	13.7	14.4	14.2	15.3	**15.7**

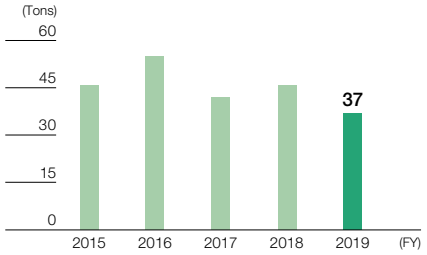
❶ CO_2 emissions



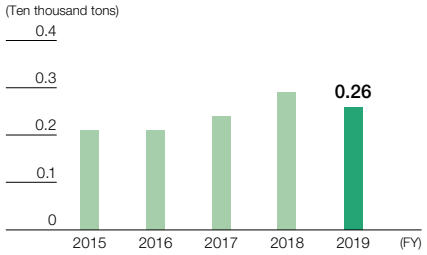
❶ Water usage



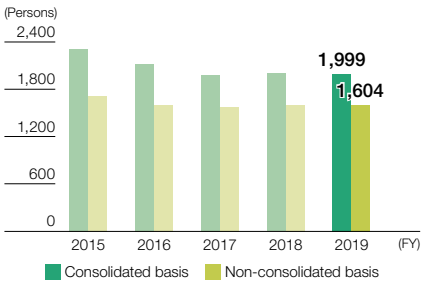
❶ VOC emissions



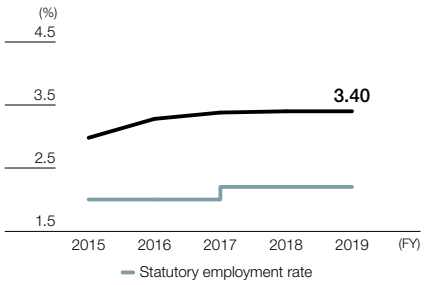
❶ Waste emissions



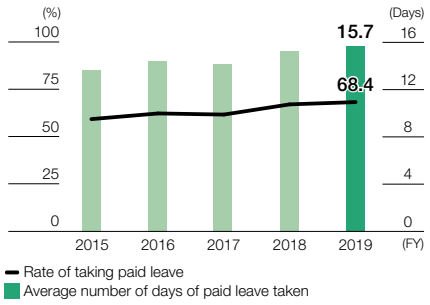
Number of employees



Percentage of employees with disabilities



❷ Rate of taking paid leave / Average number of days of paid leave taken



Explanation of key aspects of non-financial performance

❶ For various environmental indicators in fiscal 2019 such as CO_2 emissions, we were mostly able to reduce the numbers compared to the previous year as a result of promoting energy saving initiatives and recycling at manufacturing sites.

See Pages 34-35 for the details of the initiatives to reduce environmental impact.

❷ To promote work-life balance, we are making efforts to promote the acquisition of annual paid leave. The rate of taking paid leave in fiscal 2019 was 68.4%, higher than performance in the previous year.