

For New Technology Network

**NTN**<sup>®</sup>



**NTN Report**

**2017**

for the year ended March 31, 2017

# NTN's Value Creation Process

NTN is a precision equipment manufacturer that does business around the world in bearings and other eco-products that reduce energy consumption by reducing friction. NTN's products are the choice of some of the most widely recognized companies that make automobiles, rolling stock, construction machinery, aircraft, medical equipment and numerous other machines that are integral parts of lives everywhere.

For New Technology Network



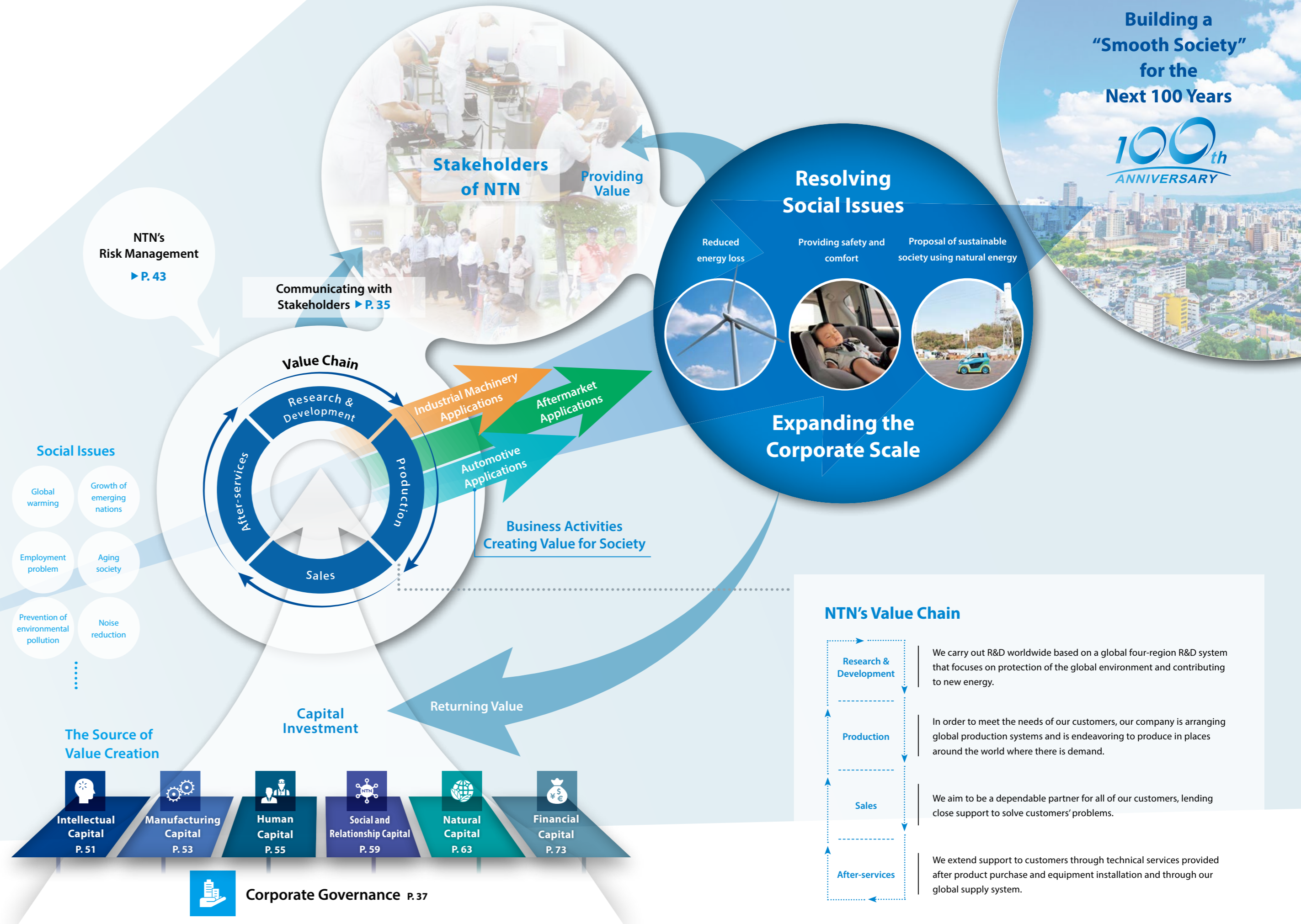
Corporate Philosophy

**"We shall contribute to international society through creating new technologies and developing new products."**

**For New Technology Network**

Networking The World With New Technology

1. Creation of original technologies.
2. Offering the technologies for additional values and service that are suitable for each customer and end user.
3. Improvement of employees' standard of living, distribution of fair returns to stockholders, and contribution to society based on the steady growth of our business.
4. Promotion of globalization, and formation of management systems / corporate organization which are essential for NTN, as an international leading company.

**NTN's Value Chain**

- Research & Development** | We carry out R&D worldwide based on a global four-region R&D system that focuses on protection of the global environment and contributing to new energy.
- Production** | In order to meet the needs of our customers, our company is arranging global production systems and is endeavoring to produce in places around the world where there is demand.
- Sales** | We aim to be a dependable partner for all of our customers, lending close support to solve customers' problems.
- After-services** | We extend support to customers through technical services provided after product purchase and equipment installation and through our global supply system.

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## Editorial Policy

NTN believes the active disclosure of management plans and business results, as well as its basic policy for corporate social responsibility (CSR), CSR activities, and environmental preservation initiatives, among other information, will help garner the understanding and support of all stakeholders. This "NTN Report" which since the fiscal year ended March 31, 2010 has combined the "Annual Report" and the "CSR Report," is part of this active approach to information disclosure.

This report has been edited with reference to the International Integrated Reporting Framework of the International Integrated Reporting Council.

## Reporting period

The scope of this report is the fiscal year ended March 2017 (April 1, 2016 to March 31, 2017). However, some report contents include activities for the fiscal year ending March 2018.

## Disclaimer

This report contains future results and forecasts regarding NTN's future plans, strategies, and business results. Please understand that actual business results may vary from the forecasts made herein by the Company.

# NTN at a Glance

NTN expands business globally in bearings, driveshafts, and precision machinery, and has been growing steadily since its founding in 1918.

We are employing the technologies and expertise we have developed for expanding into four new areas of business with the aim of achieving sustainable growth.

## Outline (as of March 31, 2017)

Corporate name: NTN Corporation

Trademark: **NTN**

Date founded: March 1918

Head office: 3-17, 1-chome, Kyomachibori, Nishi-ku, Osaka-shi,  
Osaka 550-0003, Japan

Representative: Hiroshi Ohkubo, President

Number of employees:

Consolidated: 24,665 Non-consolidated: 5,301

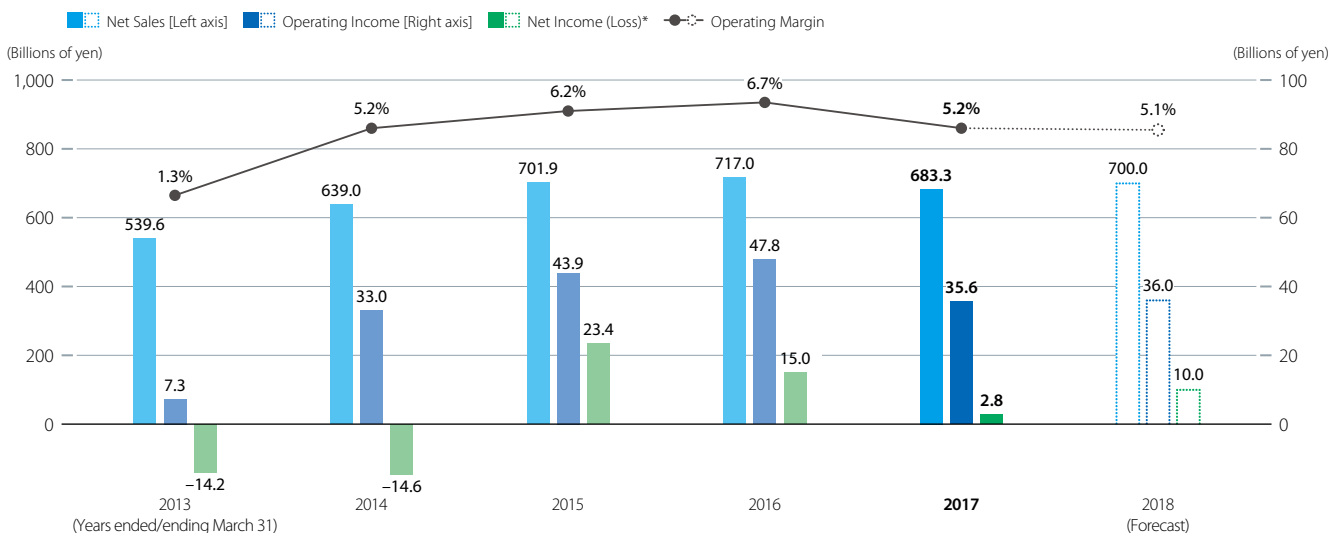
Fiscal term: March

Capital: 54.3 billion yen

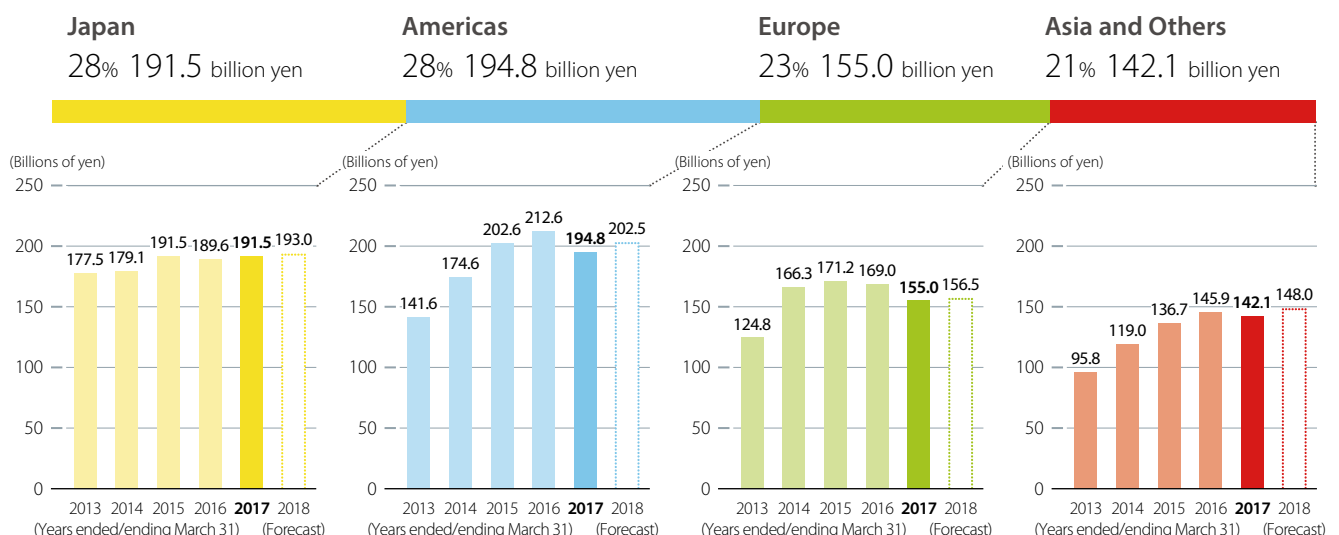
Net sales: Consolidated: 683.3 billion yen

Non-consolidated: 318.6 billion yen (Fiscal year ended March 31, 2017)

## Changes in Consolidated Financial Results



## Net Sales by Region



\* Net income for the year ended March 2016 and later shows the "Net income attributable to shareholder (parent company)."

Net sales  
in the fiscal year  
ended March 2017  
**683.3**  
billion yen

Operating income  
in the fiscal year  
ended March 2017  
**35.6**  
billion yen

# Lines of Business Supporting Industry and People's Lives Worldwide

## Aftermarket Applications

P. 27

NTN provides products that suit the maintenance needs of all kinds of industrial machinery and automobiles.



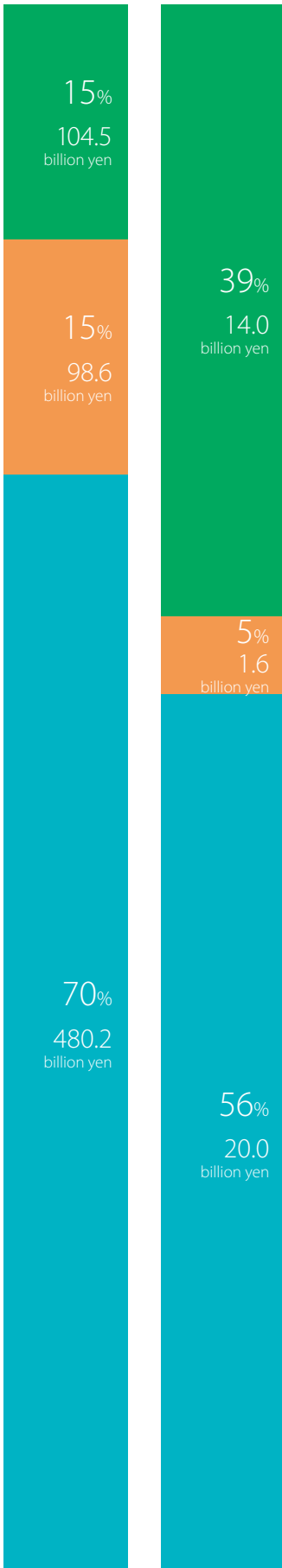
Maintenance tools/  
Technical training



Auto parts



Industrial  
machinery aftermarket



## Industrial Machinery Applications

P. 29

NTN contributes to people's lives by supporting the rotating parts of a wide range of industrial machinery.



Construction  
machinery bearings



Gearbox  
bearings



Agricultural  
machinery bearings



Wind turbine  
bearings



Aerospace  
bearings



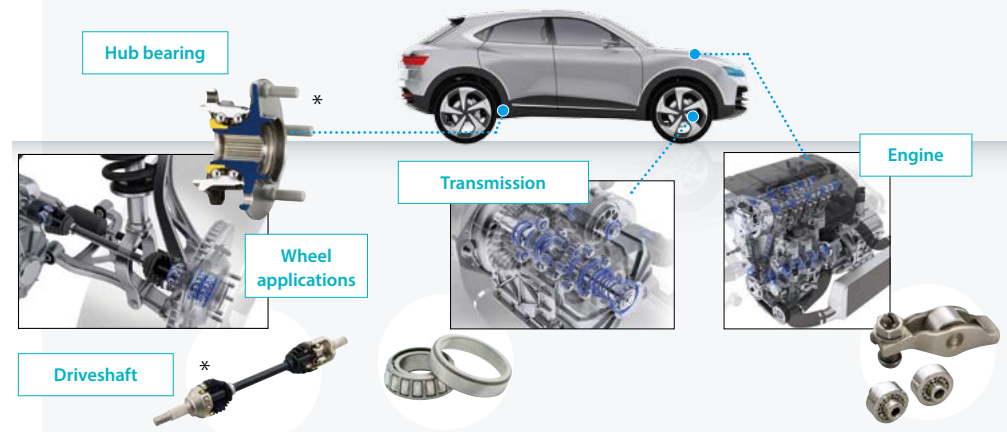
Rolling stock  
bearings



## Automotive Applications

P. 31

NTN contributes to safety and relief of vehicles through the supply of bearings and driveshafts used in vehicles in many forms.



\* Photos are cross-sectional models of products.

# A Chronology of NTN

## 50 Years of Manufacturing Driveshafts Almost 100 Years of Manufacturing Bearings

### Founding–1960's

#### 1918

Began researching and manufacturing of ball bearings at Nishizono Ironworks. (Uchibori, Kuwana-cho, Kuwana-gun, Mie Pref.)



First president: Noboru Niwa Founder: Jiro Nishizono

#### 1923

Nishizono Ironworks and Tomoe Trading Co. (Nishi-ku, Osaka) began joint manufacturing and the sale of bearings

#### 1927

NTN Mfg. Co., Ltd. established with capital of 50,000 yen

#### 1937

Company named the Toyo Bearing Mfg. Co., Ltd.  
Company stock traded publicly



Former head office building

#### 1938

Japan's first bearing manufacturing company to set up in China—Manshu Bearings Mfg. Corp.

#### 1939

Constructed Kuwana Plant (the present Kuwana Works)

#### 1954

Awarded the Deming Prize for statistical quality control for the first time in the Japanese machinery industry



The only Japanese bearings manufacturer to be awarded the Deming Prize

#### 1960

Established Toyo Bearing Iwata Co., Ltd. (the present Iwata Works)

#### 1963

Entered into a technical tie-up with Hardy Spicer Co., Ltd. in the U.K. and began driveshaft production

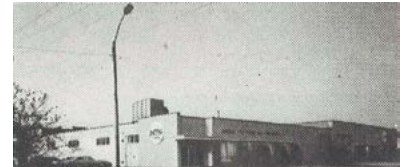


Driveshaft

### 1970's–1980's

#### 1971

Established American NTN Bearing Mfg. Corp. in the USA for manufacture of bearings



First factory outside of Japan (Schiller Park Plant, IL, USA)

Established Toyo Bearing Okayama Co., Ltd. (the present Okayama Works)

Established NTN Kugellagerfabrik (Deutschland) G.m.b.H. in Germany for the manufacture of bearings

#### 1972

Renamed company to NTN Toyo Bearing Co., Ltd.

#### 1973

Established NTN Bearing-CAE (Canada) Ltd. in Canada for the manufacture of bearings (the present NTN Bearing Corp. of Canada Ltd.)

#### 1984

Established Toyo Bearing Nagano Co., Ltd. (the present Nagano Works)

#### 1986

Constructed Japan's first plant dedicated to aerospace bearings in Kuwana Works

#### 1989

Changed company name to NTN Corporation

For New Technology Network  
**NTN**®

Current head office building



### About the NTN Name

The name NTN was created as a trademark by combining the 'N' from Noboru NIWA, a man who raised capital for the business and became the company's first president, Jiro NISHIZONO, the firm's top engineer, and 'T' from the Tomoe Trading Co., which sold the company's products, all of which carried the NTN mark.

The company's name was changed to NTN Mfg. Co., Ltd. and later to Toyo Bearing Mfg. Co., Ltd. (Toyo means "the Orient," a broader area than Japan.) Today, we are, of course, NTN Corporation.

Upon the last name change in 1989 we applied a new meaning to NTN—"For New Technology Network" (Networking The World With New Technology)—to indicate a shift in focus from the historical meaning to a forward-looking vision.

## 1990's–2000's

### 1998

Established NTN Manufacturing (Thailand) Co., Ltd. in Thailand for the manufacture and sales of bearings and drivshafts

### 1999

All plants and R&D Centers in Japan obtained ISO 14001 certification by a multi-site qualification procedure

### 2002

Established Shanghai NTN Corporation in China as a joint venture for the manufacture and sales of drivshafts and bearings



Shanghai NTN Corporation

### 2003

Established Beijing NTN-Seohan Driveshaft Co., Ltd. in China as a joint venture for the manufacture and sales of drivshafts

### 2004

NTN Mie Corporation established as a model factory for domestic bearing production



NTN Mie Corporation

The Iwata Works, Kuwana Works, Okayama Works and Nagano Works acquired ISO9001 and ISO/TS16949 certification

### 2005

Established NTN NEI Manufacturing India Pvt. Ltd. in India as a joint venture for the manufacture and sales of drivshafts

### 2006

Invested in SNR ROULEMENTS in France, a subsidiary to Renault



NTN-SNR Roulements

### 2008

Established NTN Houdatsu Shimizu Corporation for the manufacture and sales company of super-large bearings and other products

## 2010's

### 2010

Established Seohan-NTN Bearing Co., Ltd. in Korea as a joint venture for the manufacture and sales of bearings for wind turbines

Established NTN do Brasil Produção de Semi-Eixos Ltda. in Brazil for the manufacture and sales of drivshafts in Brazil

Established NTA Precision Axle Corporation in the USA for the manufacture and sales company for the forging, turning and heat treatment of parts

Established NTN Noto Corporation in Japan for the manufacture and sales company of bearings for industrial machinery



NTN Noto Corporation

### 2011

Established NTN-LYC (Luoyang) Bearing Corporation in China as a joint venture for the manufacture and sales of hub bearings and needle bearings

Established Nanjing NTN Corporation in China for the manufacture and sales of bearings



Nanjing NTN Corporation

### 2012

Established NTPT Co., Ltd. in Thailand as a joint venture for the manufacture and sell forging and turning parts

## And to Our 100th Anniversary

### 2013

Established the designated logistics company NTN Logistics Co., Ltd. in Kuwana

Established NTN Manufacturing De Mexico, S.A.DE C.V. in Mexico for the manufacture and sales of hub bearings and drivshafts



NTN Manufacturing de Mexico, S.A.DE C.V.

### 2014

Established Xiangyang NTN-Yulon Drivetrain Co., Ltd. in Chia for the manufacture and sales of drivshafts

### 2015

Established NTN Driveshaft Anderson, Inc. in the USA for the manufacture of drivshafts



NTN Driveshaft Anderson, Inc.

### 2016

Established "Green Power Park" at the Advanced Technology R&D Center

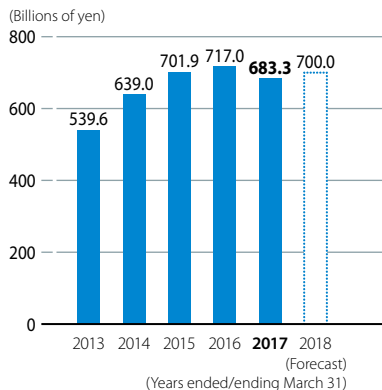


"Green Power Park," a model for natural energy circulation (Mie Prefecture)

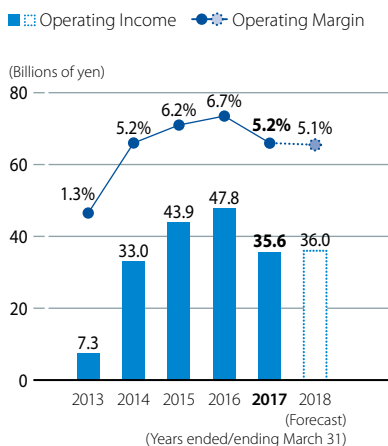
# Financial/Non-financial Highlights

## Financial Capital

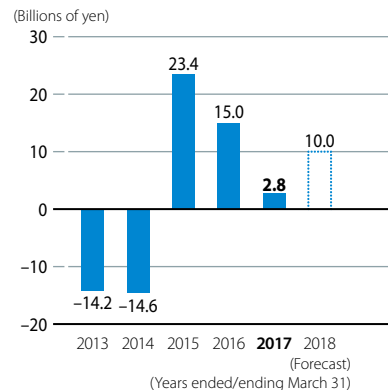
### Net Sales



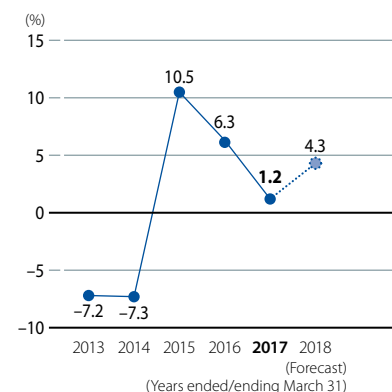
### Operating Income/Operating Margin



### Net Income (loss) Attributable to Shareholder (parent company)



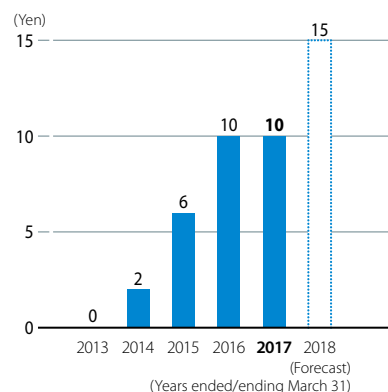
### Net Income/Average Shareholders' Equity (ROE)



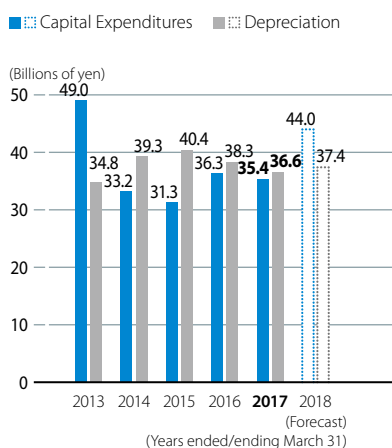
### Equity to Capital Ratio



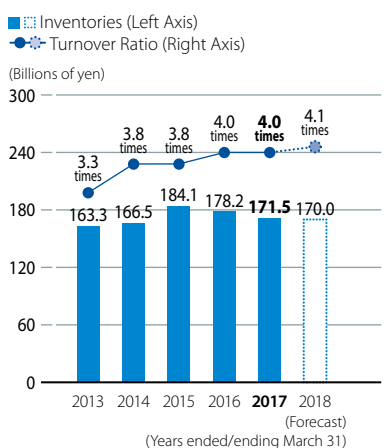
### Cash Dividends



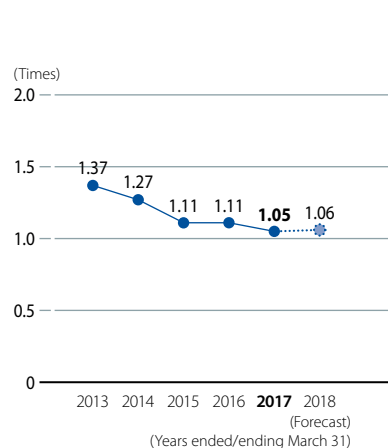
### Capital Expenditures/Depreciation



### Inventories/Inventory Turnover Ratio



### Net D/E Ratio

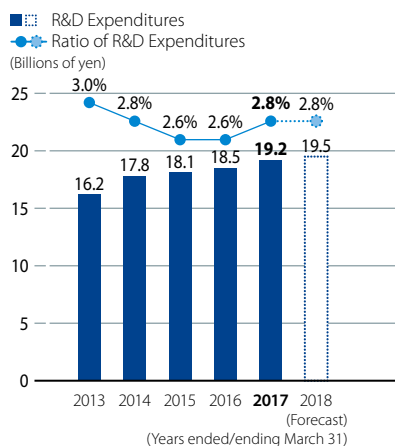




# Non-financial Capital

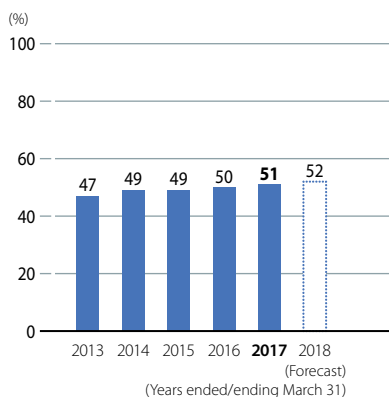
## Intellectual Capital

### Ratio of R&D Expenditures to Net Sales

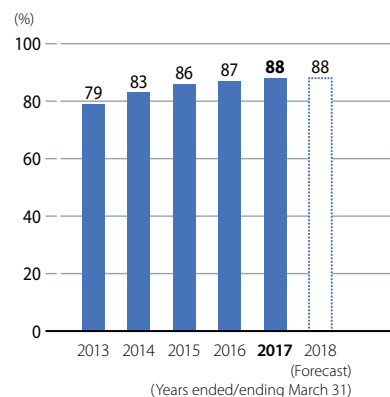


## Manufacturing Capital

### Ratio of Overseas Production

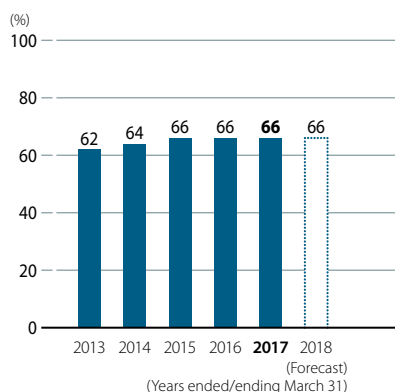


### Ratio of Local Procurement

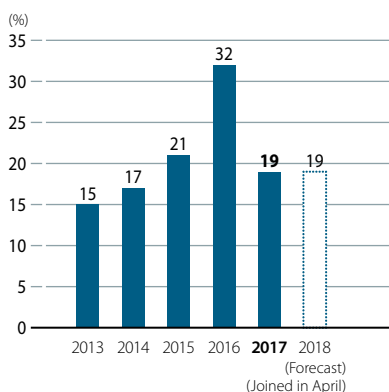


## Human Capital

### Percentage of Employees Overseas

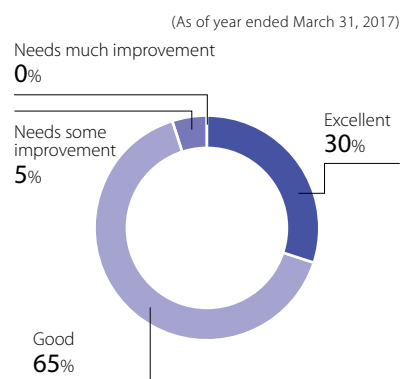


### Percentage of Hired Female Graduates [NTN]



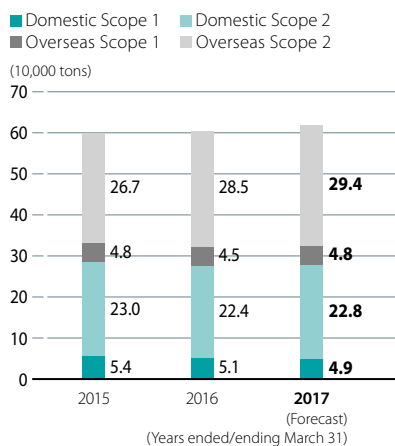
## Social and Relationship Capital

### Customer Satisfaction Surveys

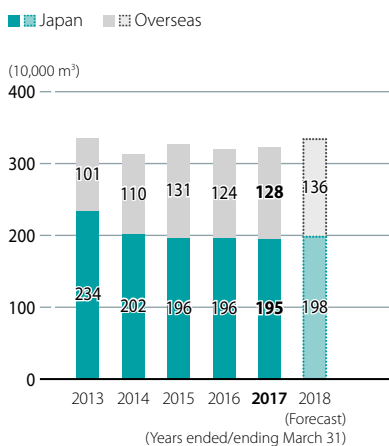


## Natural Capital

### CO<sub>2</sub> Emissions [Scopes 1 and 2]



### Water Usage [Japan/Overseas]



\* Third parties verified domestically, including non-production bases



For detailed data on non-financial capital, please see "Non-financial Capital Data" on PP. 107-108.

To Our Stakeholders



世界を  
なめらかに  
する仕事。

NTN

100<sup>th</sup>  
ANNIVERSARY



## Looking forward to the next 100 years, we are aiming for the development of a “smooth society,” and transforming into a company contributing to a broad range of stakeholders.

My name is Hiroshi Ohkubo, President of NTN Corporation.

The year ended March 31, 2017 was the second year of our Medium-term Management Plan “NTN 100.” Regarding our performance, there was a decrease in sales and income due to effects of the strong yen and other factors, but we expanded our global market share in the aftermarket applications and sales in automotive applications by acquired new projects.

The year ending March 31, 2018 will be the final year of “NTN 100” and also our 100th anniversary. We steadily execute the major themes of “NTN 100” to launch us forward into the next 100 years of business.



Hiroshi Ohkubo  
President

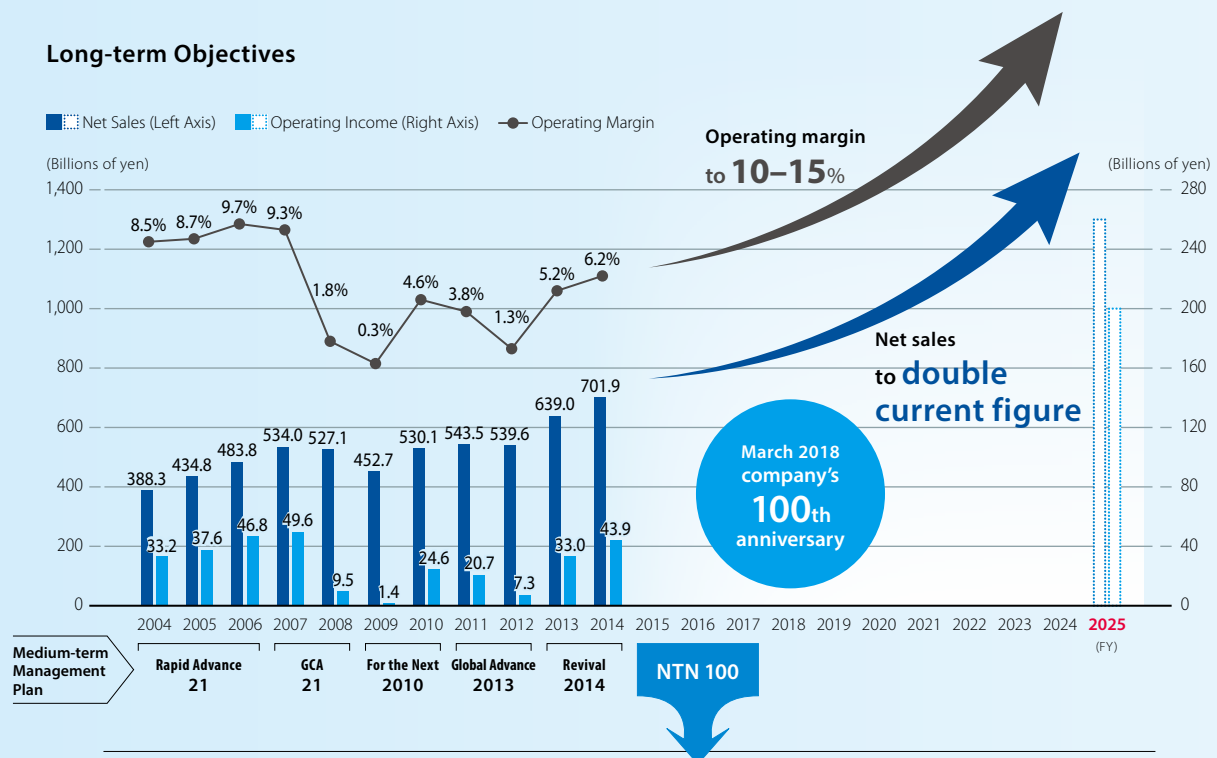
# The View of Top Management on the Progress of "NTN 100"

## Overview of Medium-term Management Plan "NTN 100"

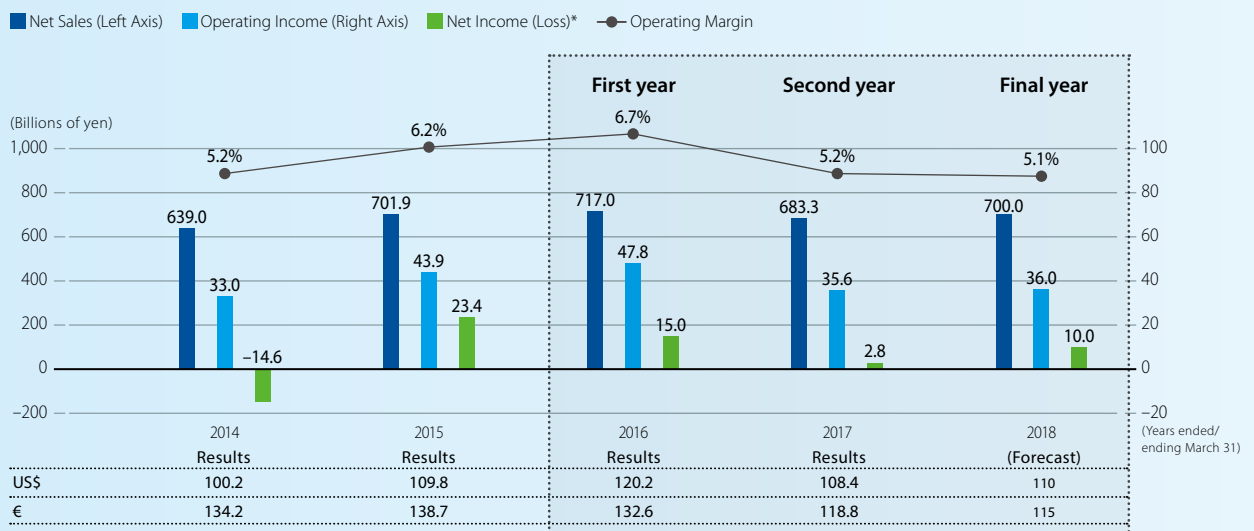
### Long-term Vision: "Our Vision"

1. A company where its corporate philosophy is understood by all employees around the world and where all employees think and act for themselves
2. A company with original new products and services, appreciated for its high quality and functions, and has a global presence
3. A company where everyone involved with NTN be able to be proud of the "NTN" brand

### Long-term Objectives



### "NTN 100": Results to Date and Outlook for the Final Fiscal Year

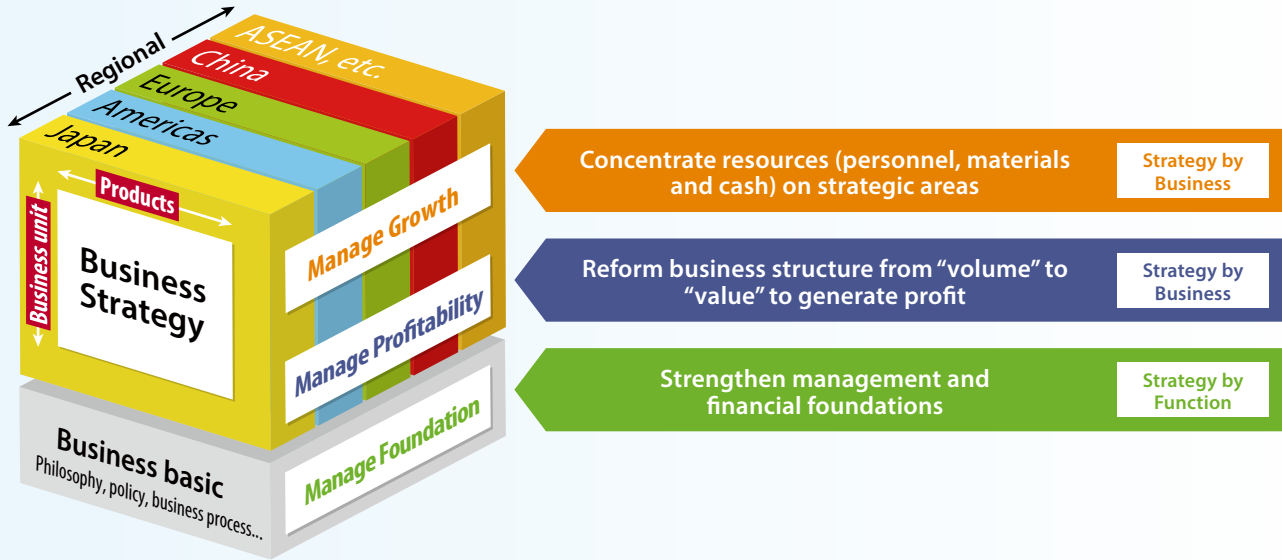


\* Net income for the year ended March 2016 and later shows the "Net income attributable to shareholder (parent company)."

# Basic Policies of “NTN 100”

(April 2015 – March 2018)

Implement main policies based on three Basic Policies to become a co-creative partner company for customers



## Major Themes and Progress

### Manage Growth

▶ For details, see P. 16

**Concentrate resources (personnel, materials and cash) on strategic areas**

#### 1 Develop Businesses in New Areas

- Sales begin for NTN Hybrid Street Lights and NTN Micro Hydro Turbines

#### 2 Expand Aftermarket Business

- Enhance NTN brand and expand global market share

### Manage Profitability

▶ For details, see P. 18

**Reform business structure from “volume” to “value” to generate profit**

#### 3 Structural Reform of the Driveshaft Business

- Development of module products

#### 4 “Monozukuri” with Next-generation Technology

- Promoting a quality assurance system by globally consistent standard quality assurance with “Made by NTN”

### Manage Foundation

▶ For details, see P. 19

**Strengthen management and financial foundations**

#### 5 Establish Management Foundation as a Truly Global Company

- Promoting supply chain CSR
- Thorough compliance with laws and regulations
- Strengthening our risk management system

#### 6 Strengthening Profit Control and Improving Asset Efficiency

- Introducing new core system applied advanced IT



*We are implementing transformation and building the foundation aimed at realizing “Our Vision”—sustainable growth for the next 100 years.*

## Our Current Condition and Management Issues

In the fiscal year ended March 31, 2017, the Japanese economy saw a continued moderate recovery reflecting improvement of employment and income environment, coupled with effects of various government policies. Looking at overseas economy, the U.S. economy continued strong. The European economy also saw a moderate recovery although the effect of the United Kingdom leaving the EU was concerned. The economic conditions in China and other emerging countries show signs of recovery.

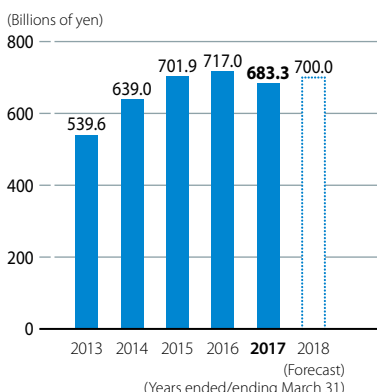
In this environment, the NTN Group is tackling the three-year Medium-term Management Plan “NTN 100” that started in April 2015 and continues until March 2018 when NTN marks the Company’s 100th anniversary. The term “NTN 100” is initials of “NTN Transformation for Next 100.” We deem the three years as the period for implementing

transformation and building the foundation aimed at realizing “Our Vision” to mark the 100th anniversary in March 2018 and achieve sustainable growth for the next 100 years. In this period, we will work in accordance with the three basic policies: “Manage Growth” to concentrate resources (personal, materials and cash) on strategic areas, “Manage Profitability” to reform business structure from “volume” to “value” to generate profit, and “Manage Foundation” that will strengthen management and financial foundations. Acting on these three policies, we will forge ahead with the major themes.

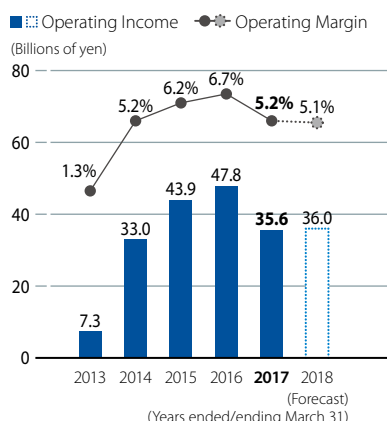
## Overview of Results for the Year Ended March 31, 2017

In this second year of “NTN 100,” net sales during the fiscal year decreased 4.7% from the previous fiscal year to 683.3 billion yen, and operating income decreased

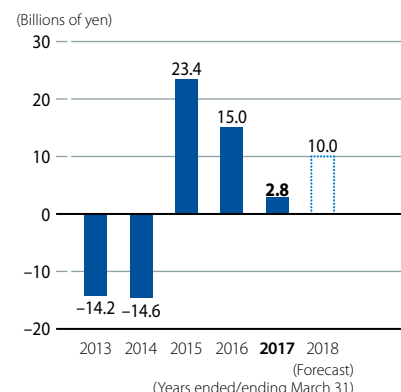
### Net Sales



### Operating Income/Operating Margin



### Net Income (Loss) Attributable to Shareholders (parent company)



25.4% to 35.6 billion yen. Net income attributable to shareholders (parent company) decreased by 81.2% from the previous fiscal year to 2.8 billion yen due to the posting of extraordinary losses related to the Anti-monopoly Act. However, excluding the effects of exchange-rates, net sales increased by 3.6% from the previous fiscal year and operating income increased by 1.9% from the previous fiscal year, resulting in higher sales and income.

Regarding dividends, we paid out an annual dividend of 10 yen as planned at the beginning of the fiscal year.

## Outlook for the Year Ending March 31, 2018 —the Final Fiscal Year of “NTN 100”

For the fiscal year ending March 2018, the final fiscal year of “NTN 100,” we anticipate net sales of 700.0 billion yen and operating income of 36.0 billion yen. In addition to steady sales growth for automotive applications, we anticipate higher sales and income from the previous fiscal year thanks to a recovery in demand in industrial machinery applications. Whether or not there will be any influence due to pending litigation is difficult to predict at the present time, but we have included an estimated 10.0 billion yen as extraordinary loss. As a result, net income attributable to shareholders (parent company) is expected to be 10.0 billion yen.

Regarding distribution of dividends, in celebration of our 100th anniversary in March 2018, and in order to express our appreciation to our shareholders, we will add a commemorative dividend of 5 yen to the regular dividend of 10 yen for both interim and year-end dividends, totaling 15 yen per year.

## Progress of Medium-term Management Plan “NTN 100”

### Manage Growth

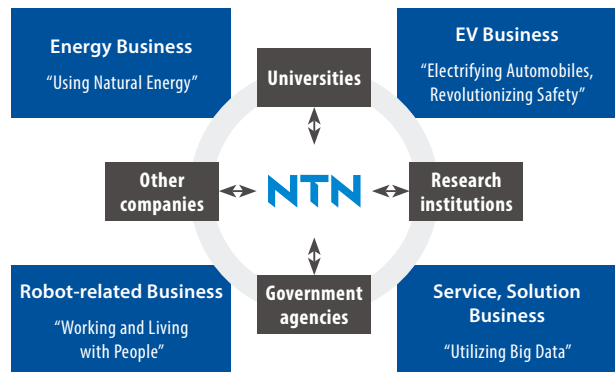
#### 1 Develop Businesses in New Areas

In addition to bearings and driveshafts, we are developing businesses in new areas—energy, electric vehicles (EV), the robot-related business, and services and solutions.

In energy business, we began selling “NTN Hybrid Street Lights” in July 2016. The lights use power

## Four New Business Areas

Develop businesses in new areas fusing NTN’s technology and knowhow



Government-industry-academia collaboration  
Tier 1 supplier collaboration

generated from two sources of natural energy, wind and solar, that power the LED lights which turn on at night. In June 2017 we also began selling the “NTN Micro Hydro Turbine,” a compact hydroelectric generator that can be easily installed in an irrigation channel to supply electricity stably and with high efficiency. We will promote the turbines for generating and supplying power to areas with irrigation channels but no power lines. Additionally, in March 2017 demonstration tests began in Iwata City, Shizuoka Prefecture, on the “NTN Vertical Axis Wind Turbine” that runs silently and is highly efficient at generating power, with a capacity of 10 kW. We plan to obtain ClassNK certification and commercialize the wind turbine for sale in December.



NTN Micro Hydro Turbine



NTN Vertical Axis Wind Turbine (10 kW)



Start of demonstration tests in Iwata City, Shizuoka Prefecture

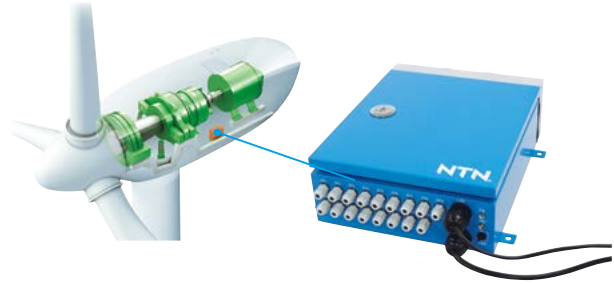
In EV business, we developed a “New In-wheel Motor System” that we are also promoting globally in response to the increased awareness of environment. In May 2016 we added an “Electric Motor and Actuator” series to our product lineup, which we are promoting to assist in the electrification of automobiles and to improve fuel efficiency.

In robot-related business, under the theme of “working and living with people,” we are developing applications and accelerating our market expansion with products such as our “Parallel Link High Speed Angle Control Equipment,” which helps to increase productivity at automated production facilities.



Parallel Link High Speed Angle Control Equipment

In Service, Solution Business, we sell a “Condition Monitoring System (CMS) for Wind Turbines, Wind Doctor™.” The system monitors the operating condition of large wind power generator components, such as bearings and gears by utilizing bearing diagnostic and sensing technologies accumulated through many years of our experience. With bearing condition monitoring, diagnostic, and sensing technologies—we plan to actively apply to other fields, such as rail transport.



Condition Monitoring System (CMS) for Wind Turbines, Wind Doctor™

► For more details on our business development in new areas, see the “Feature” section on P. 23.

## 2 Expand Aftermarket Business

In terms of expand of the aftermarket business, we aim “World’s No.1 customer satisfaction level with product line up and engineering services.”

In Japan we aim to strengthen our engineering services through our technical workshop. Outside Japan, we are strengthening our mobile activities in which our engineers travel by Technical Service Units to distributors and customers, building relationships of trust and helping to expand sales. We are also extending our automotive aftermarket business in Europe, China and other locations and continuously working on the sales expansion.

In production, we completed construction of a new heat treatment plant at NTN Noto Corporation in Shika-machi, Ishikawa Prefecture, in July 2017. The establishment of an integrated production system for bearings will shorten the production lead time and provide a more stable supply system for the Noto region.



Exterior of heat treatment plant at NTN Noto Corporation



We will strengthen customer service with these activities and improve the NTN brand. Additionally, we will expand the aftermarket business and improve the global share by expanding sales in maintenance, repair and overhaul (MRO).

## Manage Profitability

### 3 Structural Reform of the Driveshaft Business

We have identified expanded profits as the most important item on an agenda that includes quality, cost, delivery date, and technical support. We are aiming to achieve the world's No.1 customer satisfaction level.

In sales and engineering, we have employed a new concept and advanced production technologies to develop products that offer customers high added value, including a modularized "Advanced Drive-Shaft Module" that utilizes NTN's hub bearings, which holds the top share globally, and the world's lightest "Lightweight Driveshaft for FR Vehicles."

On the production side, we are establishing new plants in China and the United States, and other locations as the automotive production rises and automakers build new production bases. We are also working to increase localized production rates and



New plant at NTN Driveshaft Anderson, Inc. in the U.S. (Production started in April 2017)

looking to improve earnings by taking such measures as reducing variable costs.

### 4 "Monozukuri" with Next-generation Technology

Following the theme of "innovation with Monozukuri methods for the next 100 years," we plan to introduce innovative manufacturing technologies such as "Electron Beam Welding," increase our cost-competitive capabilities, shorten lead times, and adopt energy-efficient processes. Additionally, efforts led by our Quality Assurance Headquarters will focus on strengthening our global quality assurance system to ensure globally consistent quality worthy of the label "Made by NTN."



## Manage Foundation

### 5 Strengthen the Management Foundation

We are steadily working on supply chain CSR, thorough compliance with laws and regulations, and strengthening our risk management structure in order to enhance our global control and risk management.

By implementing various initiatives throughout the supply chain CSR, the NTN Group is addressing social issues such as "Human Rights," "Labour," "Environment," and "Anti-corruption," endorsing 10 Principles of the UN Global Compact. For our suppliers we hold briefing sessions to seek their cooperation with CSR Procurement Guidelines and NTN's Green Procurement Standards. We also investigate the use of conflict minerals and work on avoiding the use.

▶ See P. 59

With regard to compliance, our efforts are directed by a Compliance Committee, while a Fair Trade Monitoring Committee guides our full compliance with Antimonopoly Act. As companies worldwide establish anti-corruption and bribery prevention measures, we have also set up the bribery prevention regulations, thereby strengthening our compliance. We are also promoting education and awareness-raising activities such as e-learning, plus compliance training and management training for employees going overseas or top management at subsidiaries. Holding "CSR Global Meeting" with the Overseas District Internal Control Section, we are strengthening our global internal control system.

▶ See P. 40



CSR Global Meeting

To strengthen our risk management system, we have built a database for global risk management and we are grasping the current situation of NTN Group to promote the prevention of risk occurrence and the mitigation. We are also working on Business Continuity Plans (BCP) and Business Continuity Management (BCM) to prepare for emergencies.

▶ See P. 43



BCP design at major business sites

In addition, we are working on reforming our core system. Introducing new core system applied advanced IT, we are improving work efficiency and promoting standardization. We also expand the sales and improve the profitability by realizing the quick information sharing about procurement, production and sales activity.

### 6 Strengthen the Financial Foundation

We are putting in place measures to strengthen profit control and improve asset efficiency. While carrying out efforts such as improving profits and decreasing inventory assets, there was extraordinary losses due to issues related to litigation and the Antimonopoly Act, leading to a decrease in current net income and a drop in associated indicators. Heading into the final fiscal year of the Medium-term Management Plan "NTN 100", we aim to achieve a better financial position by reducing interest-bearing debt, increasing inventory turnover ratio, reducing retirement benefit obligations, and improving the profit margin of sales to ensure a stable long-term return of profits to our shareholders.



### Strengthening of the Financial Foundation: Results and Forecast

1. Strengthen Asset Efficiency	"NTN 100" 3-Year Plan				Target of our "NTN 100"
	Fiscal Year Ended March 31, 2016 Results	Fiscal Year Ended March 31, 2017 Results	Fiscal Year Ending March 31, 2018 Forecast	Total (Costs) Average (Ratio)	
Reduction of interest-bearing debt (excluding foreign exchange impact)	26.2 billion yen reduction	1.8 billion yen reduction	2.2 billion yen increase	25.7 billion yen reduction	60.0 billion yen reduction/3 years
Inventory reduction (inventory turnover)	4.0 times/year	4.0 times/year	4.1 times/year	4.1 times/year	4.5 times/year
Capital expenditures	36.3 billion yen/year	35.4 billion yen/year	44.0 billion yen/year	115.7 billion yen/3 years	135.0 billion yen/3 years
FCF	12.5 billion yen/year	21.2 billion yen/year	0 yen	33.7 billion yen	67.0 billion yen/3 years
Equity to capital ratio	29.2%	28.7%	29.1%	29.1%	30.0% or more
Net D/E ratio	1.1	1.1	1.1	1.1	1.0 or less
ROE	6.3%	1.2%	4.3%	3.9%	Over 14%
2. Improvement of the Profit Margin on Sales	"NTN 100" 3-Year Plan				Target of our "NTN 100"
	Fiscal Year Ended March 31, 2016 Results	Fiscal Year Ended March 31, 2017 Results	Fiscal Year Ending March 31, 2018 Forecast	Average	
Operating margin	6.7%	5.2%	5.1%	5.7%	8.8%
3. Shareholder Return	"NTN 100" 3-Year Plan				Target of our "NTN 100"
	Fiscal Year Ended March 31, 2016 Results	Fiscal Year Ending March 31, 2017 Results	Fiscal Year Ending March 31, 2018 Forecast	Average	
Dividends	Annual 10 yen Dividend payout ratio of 35%	Annual 10 yen Dividend payout ratio of 188%	Annual 15 yen Dividend payout ratio of 80%	— Dividend payout ratio of 67%	— Dividend payout ratio of 30% is basic idea.

Society that NTN is aiming for:

## Development of a “smooth society”

NTN was founded in 1918, getting started in business by researching and manufacturing ball bearings, a technology that was key to the development of Japanese industry in that era. On March 1, 2018 we celebrate the company’s 100th anniversary. My deepest gratitude goes out to all those who have supported us and patronized our business through the years.

With a view toward the next 100 years, we are looking to transform into a corporation that can make many further contributions to society. We came up with the anniversary business concept “What NTN can do for society for the next 100 years” based on the types of business we have carried out in the first 100 years. We are thus engaging in a range of endeavors with this concept for next 100 years and achieve a “smooth society.”

### What NTN continues: Pursue tribology\* technology to make things “smooth”

NTN has developed and used its bearings technology to make rotating parts move smoothly in automobiles,

rolling stocks, airplanes, wind turbines, and machinery of all kinds, helping to save energy and ensure safety in people’s lives.

Our core technology is tribology technology, an area that NTN will continue to develop and improve.

In the automotive applications, NTN is the top manufacturer in the world of hub bearings, which support the rotation of tires. We are also number two in the world in driveshafts, which transmit the power of a vehicle’s engine to its wheels. We aim to continue creating new technologies and products for the world’s automakers and vehicle-related manufacturers.

In the industrial machinery applications, we provide highly reliable products and solutions for a wide range of fields, including bearings for aviation and aerospace, rolling stock, medical devices, industrial robots and construction machinery.

Additionally, in the wind power generation which holds a large share in renewable field and expanding globally, NTN supplies bearings for wind turbines and will continue enabling the advancement of this genuine renewable energy source.

In the aftermarket applications, to incorporate

\* “Tribology” refers to the “science and technology of two interacting surfaces in relative motion, covering all phenomena that occurs between them” as an engineering field that deals with lubrication, friction, wear, seizing and bearing design. The science and technology of tribology is applied to achieve low-wear, low-friction machines and parts, and to reduce surface damage as a way of saving energy and resource efficient throughout our society (excerpt from the Japanese Society of Tribologists homepage).



The 100th anniversary logo represents tribology image of rotations combined smoothly and precisely, persistence of keeping smooth rotating for next time and growth for the future.

NTN will contribute to the **“development of a smooth society”** by utilizing technology that makes things **“Nameraka.\*”**

Our technology developed in bearings will smoothly bring about change in the future through electric vehicles, robots and even a society based on natural energy.

\* “Nameraka” means “smooth” in Japanese.



Taken from the capital letters of NTN.  
“NanTe Nameraka” means “How smooth!” in Japanese

the demand for the aftermarket of bearings used everywhere such as bearings for steel and paper mills and mining, we will improve the technical service globally and plan to achieve the highest level of customer satisfaction in the world.

---

### **What NTN starts: Contribute to the development of a “recycling-based society that keeps circulating smoothly”**

We will expand the fields to which we can contribute by utilizing our core tribology technology developed in bearings toward achieving a sustainable society.

In the Medium-term Management Plan “NTN 100,” four new business areas, “Natural Energy,” “EV,” “Robot-related,” and “Service, Solution” are in planning.

In 2015, NTN endorsed the United Nations Global Compact and is supporting 10 principles in the four areas of, “Human Rights,” “Labour,” “Environment,” and “Anti-corruption.” Additionally, we are aiming to be

a global trusted company by doing the business activity considering the 17 Sustainable Development Goals. NTN will provide new value to our various stakeholders such as customers, suppliers, shareholders, employees and local communities. We will also realize the sustainable growth and improve the corporate value in the mid-to-long term by expanding the businesses, including the development in new areas, considering the global social issue.



**NTN will help develop a “smooth society,” “smooth world” and “smooth lifestyles” using technology that makes things “smooth,” based on our key phrase, “Make the World Nameraka.” This is what NTN can do for society for the next 100 years. To all of our stakeholders—we appreciate your continued support and encouragement going forward.**



# New Businesses and Social Contribution Activities Supporting Future Growth

“Developing Business in New Areas” is a major themes under “Manage Growth,” one of the three basic policies in the Medium-term Management Plan “NTN 100.” Here, we feature four areas of new business development—Energy, EV, Robot-related, and Services, Solutions. We also introduce social contribution activities that we are undertaking as part of our 100th anniversary activities.

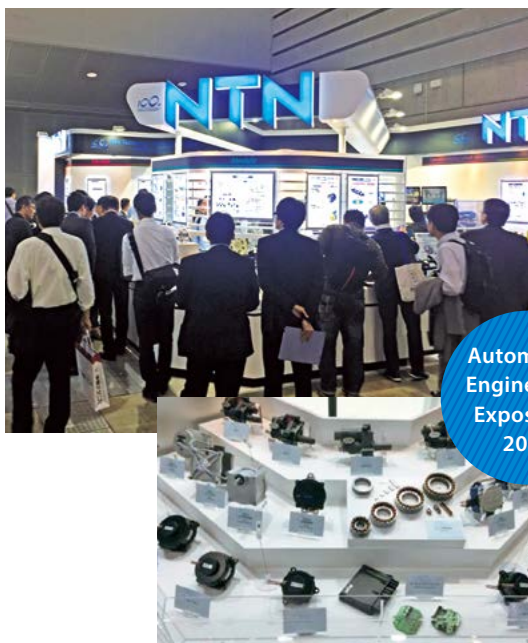
## New Business 1 Energy Business

In July 2016 we began selling “NTN Hybrid Street Lights,” which use the power generated from two forms of natural energy, wind and solar to charge batteries and power LED lights that turn on automatically at night. Generators with higher power generation capacity using wind and solar light are in demand in the market, but the noise generated by the blades as they turn and cut through the air is problematic. Quiet operation is required in residential areas and at public facilities.

Using vertical axis wind turbines with a proprietary blade that does not generate any wind noise, “NTN Hybrid Street Lights” realizes extreme quietness. They are in use at many areas of local



NTN Hybrid Street Light



Automotive Engineering Exposition 2017

Introducing an extensive lineup of “Electric Motors and Actuators”

## New Business 2 EV Business

NTN is expanding the scope of our core products—hub bearings, driveshafts, and bearings of all types—while further extending its automotive-related business through the development of the EV Business as a new business.

In the automotive industry a shift from hydraulics to electrification is taking place for many kinds of control systems, including next-generation vehicles. In May 2016 NTN began developing the “Electric Motor and Actuator” Series as products essential for the new by-wire\* control systems.

NTN exhibited a wide lineup of products in this series at the “2017 Automotive Engineering Expositions in Yokohama and Nagoya” to promote their use.

communities including public facilities such as parks, schools, as well as bus stops, parking lots, commercial facilities, emergency evacuation centers. The lights were also set up at the Mie Prefectural Sun Arena where was used as a media center during the Ise-Shima Summit held in May 2016 to light up the local community.

In July 2017 we began selling the “NTN Micro Hydro Turbine,” an independent power type compact hydroelectric generator that can be easily installed in an existing irrigation channel to generate power, thus significantly reducing construction costs. Moreover, the proprietary shape of the blades such as the winglets on the turbine blades offer high-efficiency power generation. The generated power is stored in a battery and used by street lights or nearby equipment, providing community-based power generation.

We also developed the “NTN Vertical Axis Wind Turbine (10 kW)” with high-efficiency blade technology, and began demonstration tests at “Iwata Eco-Park” in Iwata City, Shizuoka Prefecture. The turbine uses proprietary vertical axis blades that run quietly and generate power with high efficiency. The demonstration tests are providing data on operation control, such as control conditions on the number of rotations depend-



ing on wind speed, optimization of brake control conditions, and the durability of structural components during continuous operation over a long period of time. Such data will be used to improve the reliability of the wind turbines.

In these ways we are actively working to commercialize new types of products and develop business in the area of natural energy.

We exhibited a wide lineup of “Electric Motor and Actuators” under the theme “New Technology Transforms the Next—Make the World Nameraka.” The booth had dynamic models of an engine, brake, and oil pump, creating an appeal for our products and their wide range of applications.

The future is sure to be filled with next-generation vehicles including EVs and fuel cell cars, and we foresee NTN’s core products—hub bearings and driveshafts—continuing to be utilized in these next-generation vehicles. We are planning not only to expand these core products, but also to develop new business in the area of EV-related Business. By so doing, we plan to expand our automotive-related businesses overall.

\* By-wire: a system such as brake-by-wire and shift-by-wire, where driver operations are converted from mechanical systems to electrical signals to drive actuators.



“Electric Motors and Actuators” Series

New Business **3** **Robot-related Business**

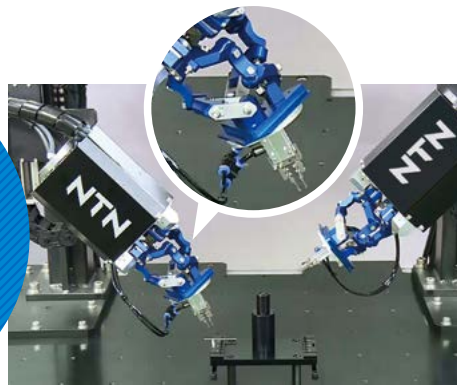
In the Robot-related Business, we are developing applications for our "Parallel Link High Speed Angle Control Equipment." This compact device has a wide range of moving angles, making it possible to position the unit with high speed and precision. With these features, it can be used at automated production facilities or with visual inspection equipment that require a broad range of moving in a small space. It is also being proposed as a replacement for skilled technical work such as welding processes.

In March 2017, we developed a new product that

combines a Dry Ice Snow Precision Cleaning System (QuickSnow®) from Air Water Inc. that uses liquid carbon dioxide in combination with our Parallel Link High Speed Angle Control Equipment. By incorporating our equipment into Air Water's QuickSnow® system, the nozzle turning becoming quick and smooth, enabling cleaning with high efficiency without damaging objects, even if they are complex in shape.

We plan to continue engaging in such collaborations with customers and other firms to expand our reach in the Robot-related Business.

Continuing to expand the Robot-related Business through collaborations with customers and other firms



High Speed Angle Control Equipment that utilizes driveshaft technology



Jointly developed with the customer



Condition Monitoring System for Wind Turbines Wind Doctor™



Monitoring service

New Business **4** **Service, Solution Business**

In Service, Solution Business, we are working to enhance the performance of the "Condition Monitoring System (CMS) for Wind Turbines" and develop it for other fields.

We are developing and manufacturing the system, "Wind Doctor™," based on years of experience with bearing diagnostics and sensing technologies. The system monitors the operating condition of the bearings, gears, and other components of a large wind turbines. It is used for monitoring large wind turbines in Japan and supplying diagnostic data.

We aim to further improve the operational analysis technology for early failure detection function so that the technology can be applied to other fields such as rolling stock, where a top priority is placed on safe operation.



# Social Contribution Activities

## Sponsoring the “Tour of Japan”

As part of our 100th anniversary activities, NTN became the title sponsor of the cycle road race “NTN presents the 20th Tour of Japan” which held races in the eight stages in Japan in May 2017.

The Tour of Japan is the largest international cycle road race held in Japan. NTN sponsored this race as the bicycle is a symbol of ecology and in common with the concept of global environmental conservation behind NTN's tribology technology. The cycle road race pursues the smoothest run in much the same way as NTN aims for smooth rotation with its bearing technology.

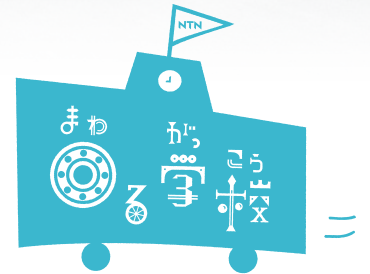
“NTN Rotating Workshops” were held at the race locations, giving over 2,000 visitors the opportunities to



Commutation ceremony

PHOTO:TOJ2017

learn about bearings through workshops and hands-on experience. Besides the classroom-style workshops on bearings, children and adults could play with a “Rotating Hurricane Spinner” that consists of two steel balls attached together, make a wind turbine using paper cups, or assemble a deep groove ball bearing. Through such activities, both children and adults could learn about ecology, saving energy and tribology technology as part of the concept of a “Smooth Society” for the next generation.



Children at the “NTN Rotating Workshop”

## NTN Donates “NTN Hybrid Street Lights”

NTN donates 17 units of “NTN Hybrid Street Lights” to five locations within Japan to promote the locally produced and consumed renewable energy. This donation is as one of the measures towards coexisting with local communities for the company's 100th anniversary activities. The products will be used for regional disaster and crime prevention.

NTN will continue promoting the local production of energy for local consumption in communities through our natural energy products to help achieve a low carbon society.



Donation ceremony at the Kuwana City Hall  
President Ohkubo (left) and Mr. Ito, Mayor of Kuwana (right)

4 units  
Kumamoto Prefecture

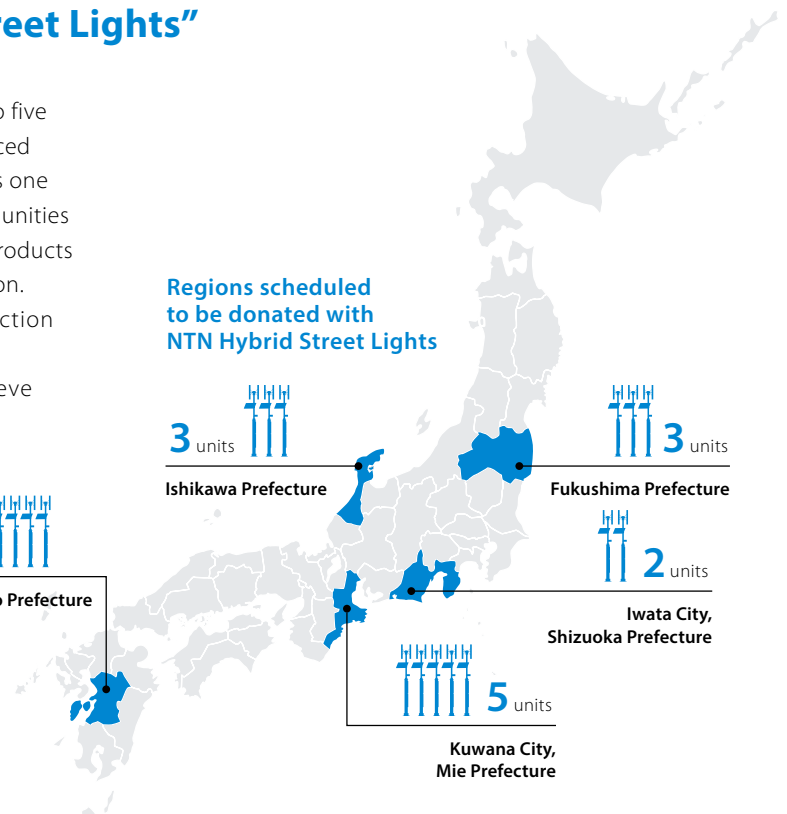
Regions scheduled to be donated with NTN Hybrid Street Lights

3 units  
Ishikawa Prefecture

3 units  
Fukushima Prefecture

2 units  
Iwata City,  
Shizuoka Prefecture

5 units  
Kuwana City,  
Mie Prefecture



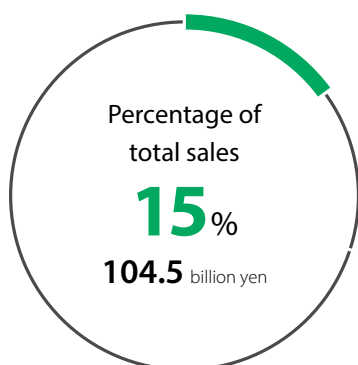
# Review of Operations

## Aftermarket Applications

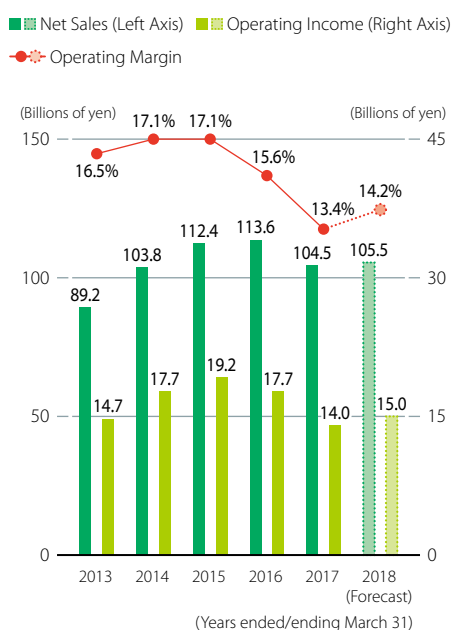
NTN provides products that suit the maintenance needs of all kinds of industrial machinery and automobiles.



Eiichi Ukai, Director



### Operating Income/Operating Margin



### Results in the Fiscal Year Ended March 31, 2017

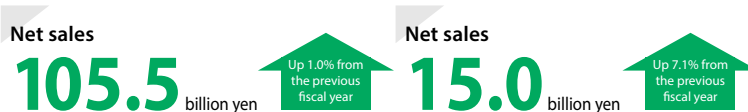


Net sales in aftermarket applications were 104.5 billion yen, a decrease of 9.1 billion yen (8.0%) from the previous fiscal year, due to a decrease in industrial machinery aftermarket and the effects of exchange-rates and other factors. Operating income was 14.0 billion yen, a decrease of 3.7 billion yen (20.9%), due to the effects of exchange-rates and other factors. While automotive aftermarket remained strong, the primary reasons for these declines were that industrial machinery aftermarket, which accounts for the majority of sales, decreased due to the sluggish economic environment mainly in emerging countries.

### Current Business Conditions and Our Major Initiatives

There are signs of recovery in demand for bearings for industrial machinery, and we expect a recovery in demand for industrial machinery aftermarket. In addition, we are focusing on enhancing the NTN brand and expanding sales by strengthening system for sales of MRO projects. In automotive aftermarket, there has been high growth in sales due to an expansion of product line up in the Americas and Europe, and we will continue to work to expand our market share.

### Forecast for the Fiscal Year Ending March 31, 2018



We expect the market shrinking in Japan, but we will expand our market share and work to develop more MRO projects. In the Americas and Europe, we will also promote expanding sales of MRO projects for industrial machinery aftermarket. And we will strengthen our sales networks and promote sales for automotive aftermarket. We anticipate an increase in sales in the Asia region due to recovery demand for aftermarket.

Under these business conditions, we expect to see net sales of 105.5 billion yen (up 1.0% from the previous fiscal year), and operating income of 15.0 billion yen (up 7.1% from the previous fiscal year).

\* MRO: Maintenance, Repair and Overhaul

# PRODUCTS

\* Photos are cross-sectional models of products.

NTN helps to improve the productivity of customers' equipment and maintain consistent operations through the stable supply of products and a quick delivery system by our global supply chain. For the maintenance needs of automobiles, we offer a wide range of auto parts that combine bearings and peripheral components. We also visit a large number of customers with Technical Service Units, hold technical workshops, and provide detailed support to help solve customers' problems.



Mining



Spherical roller bearing with compact seal

Bearing unit

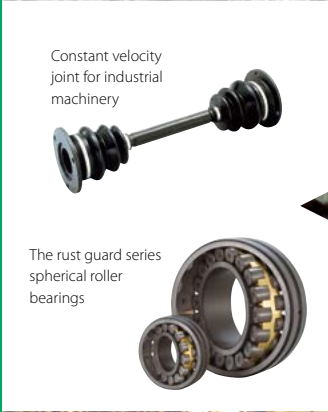


Steel



\* Super large-sized split spherical roller bearing

Sealed four row tapered roller bearing



Constant velocity joint for industrial machinery

The rust guard series spherical roller bearings



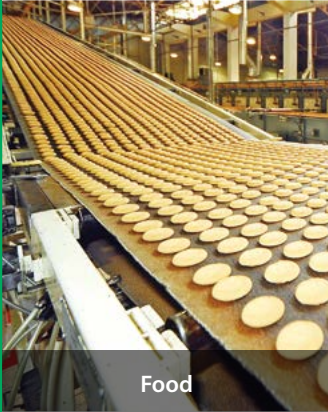
Paper-making



ULTAGE Spherical roller bearings [Type EA, Type EM]



Oil and Gas



Food



\* "PolyLube" bearings for food machinery

Plastic sliding screws



Auto Parts



Parts kit for trucks



Arm shaped self-centering hydraulic puller

Induction heating device

Technical Service Unit



Maintenance Tools / Technical training

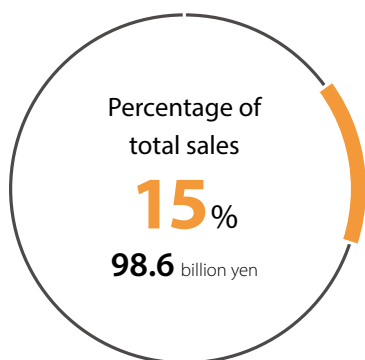
# Review of Operations

## Industrial Machinery Applications

NTN contributes to people's lives by supporting the rotating parts of a wide range of industrial machinery.

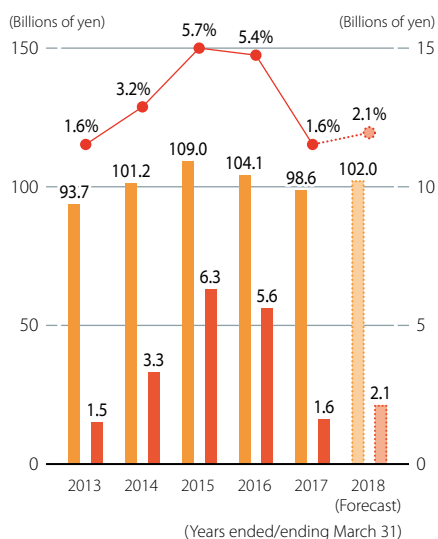


**Kazuki Kawashima**, Director



### Operating Income/Operating Margin

■ Net Sales (Left Axis) ■ Operating Income (Right Axis)  
● Operating Margin



### Results in the Fiscal Year Ended March 31, 2017

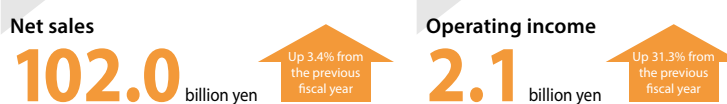


In the industrial machinery applications, demand for construction machinery began to recover from the second half of the year ended March 2017, and demand for gearbox for robots was also strong. Net sales were 98.6 billion yen, a decrease of 5.5 billion yen (5.3%) from the previous fiscal year due to the effects of exchange-rates and other factors. Operating income were 1.6 billion yen decrease of 4.0 billion yen (71.4%) from the previous fiscal year. However, excluding the effects of exchange-rates, there was an increase in both net sales and income.

### Current Business Conditions and Our Major Initiatives

Industrial machinery market recovery remained stagnant, but it started moving in a positive direction from the second half of the year ended March 2017. This was mainly due to the recovery of sales in construction machinery, which account for a large portion of the industry sector, and we expect this strong demand to continue in the fiscal year ending March 2018. In addition, sales for wind turbines and gearbox for robots, as well as products for aircraft and rolling stock have also increased, and positive results from restructuring the engineering division are appearing. We will work to further expand sales and generate profits by developing high-value-added products, introducing them to the marketplace, and expanding production capacity.

### Forecast for the Fiscal Year Ending March 31, 2018



In Japan, we expect an increase in demand for construction machinery to export to emerging countries, and demand for gearbox for robots, while in Europe and China we see increasing demand for wind turbines. In the Americas, the production of construction machinery is on a slight recovery curve. And in Europe, we expect an increase in sales due to the demand for new aircraft. We also expect demand for construction machines and machine tools to increase in Asia and China.

Under these business conditions, we expect to see net sales of 102.0 billion yen (up 3.4% from the previous fiscal year) and operating income of 2.1 billion yen (up 31.3% from the previous fiscal year).

# PRODUCTS

\* Photos are cross-sectional models of products.

We are expanding commercialization of our ULTAGE series of bearings, NTN's new generation of bearings with the world's highest standard, to meet market needs for higher rotational speed and precision. The bearings allow industrial machinery to be made smaller and lighter, and operate at lower rotational torque, which reduces the environmental impact. We will continue to develop the elemental technologies of bearings and work to develop high value-added products through the unitization and systemization of bearing-related components.



Construction machinery bearings

Applications for resource mining and civil engineering



Gearbox bearings

Underlying support for high productivity in robotic applications



Helping to ensure stable food supplies



Agricultural machinery bearings

Meets growing demand in renewable energy

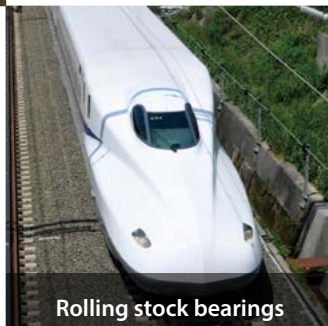


Wind turbine bearings



Aerospace bearings

Applications for jet engines around the world



Rolling stock bearings

Supports safety of the world's high-speed railways



Fundamental components for ensuring high-precision processing



Machine tool bearings

Supports smooth operation of copiers and multifunctional printers

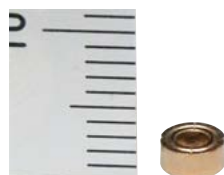


Office equipment bearings



Hydrodynamic bearings

Used also for HDDs and thin fan motors



Medical equipment bearings

Used for CT scanners and artificial hearts



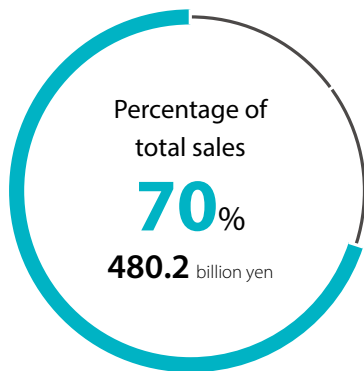
# Review of Operations

## Automotive Applications

NTN contributes to safety and relief of vehicles through the supply of bearings and driveshafts used in vehicles in many forms.

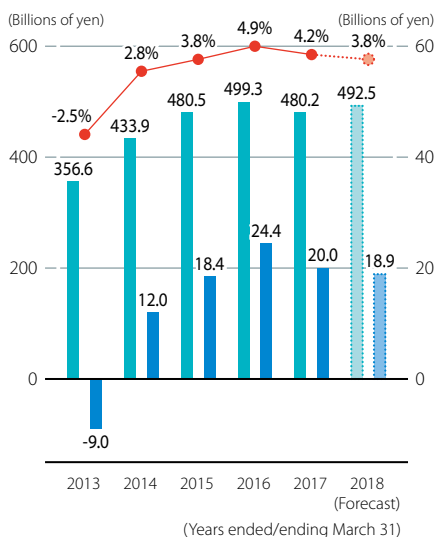


Hideaki Miyazawa, Managing Director



### Operating Income/Operating Margin

■ Net Sales (Left Axis) ■ Operating Income (Right Axis)  
● Operating Margin



### Results in the Fiscal Year Ended March 31, 2017

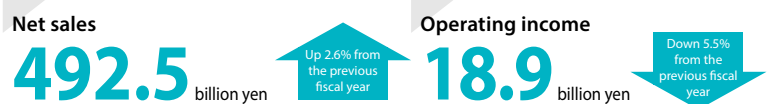


Sales in automotive applications increased due to steady growth in demand for motorcycles in the ASEAN region. In China region, there was higher automobile production volume, and the start of mass production at our new plant. However, due to the effects of exchange-rates and other factors, sales were 480.2 billion yen (down 3.8% from the previous fiscal year). Although there were favorable effects from scale merits and the reduction of variable costs, operating income was 20.0 billion yen (down 18.2% from the previous fiscal year) also due to the effects of exchange-rates and other factors. Excluding the effects of exchange-rates, there was an increase in both income and profits.

### Current Business Conditions and Our Major Initiatives

In the global automotive market, North American automobile production is looking weak, and there is uncertainty about the future of the economy in China. Meanwhile, the market structure and consumer needs are becoming increasingly diverse; this includes increasing production of EVs, electrification, and self-driving vehicles. We are seeing greater movement in qualitative changes than in quantitative expansion. Under such business conditions, we are working to strengthen profits by business structural reform of the driveshafts and hub bearings, and increasing production capacity. We are also working to develop new technologies and introduce more new products, starting with electric motors and actuators, to achieve sustainable business expansion.

### Forecast for the Fiscal Year Ending March 31, 2018



We expect positive effects from the launch of new models in Japan and strong customer demand in Europe. We also expect increasing automobile productions at Japanese manufacturers in China and increases due to steady demand in ASEAN. Meanwhile, in the Americas, although we see positive effects from the start of mass production on new orders at the new plant in Mexico, there is concern over a possible downward deviation from the expected number of new cars.

Under these business conditions, we anticipate net sales to be 492.5 billion yen (up 2.6% from the previous year) and operating income of 18.9 billion yen (down 5.5% from the previous year).

# PRODUCTS

\* Photos are cross-sectional models of products.

We have developed low-torque hub bearings, driveshafts, and bearings, while making these products smaller and lighter, and we are also developing modular products. With the electrification of automobiles and in anticipation of self-driving, we have developed an Electric Motor and Actuator series composed of ball screw, motor, and controller, which we are promoting to customers for a wider range of applications. By selling these products globally, we are helping to improve vehicle fuel efficiency and riding comfort.

**[Engine]**

- Needle roller bearings for rocker arm
- Split type needle roller bearings (for camshaft)

**[Accessories]**

- Pulley bearings for high-speed rotation
- High-density, high-strength sintered gears for starter motors

**[Steering]**

- Auto tensioner with the variable damper mechanism for ISG-equipped engine
- Mechanical clutch unit for next-generation steering system

**[Seat]**

- Clutch for seat lifter

**[Wheel applications]**

- World's No.1 share
- World's No.2 share
- Driveshafts
- Hub bearings

**[Brake]**

- Ball screw drive module for electric hydraulic brake

**[Transmission]**

- AT/MT
- CVT
- Needle roller and cage assembly bearings for planetary gear
- BEAREE seal ring
- ULTAGE Tapered roller bearings for automobiles
- Long-Life series TAB bearings

**[Electric Motor and Actuator]**

In recent years, automobiles have been evolving from mechanical control using conventional hydraulic and pneumatic systems to electric control via electrical systems. At the same time, there is a movement toward low fuel consumption and the development of self-driving vehicles. We are producing extensive series of electric motors and actuators that will fit right in with the accelerating electrification of vehicles.

# The Source of Value Creation

At NTN, we operate our business in the belief that “corporate governance and six capital assets” are indispensable as the “source of value creation.”

By developing businesses that recognize social issues, we enhance the value we offer to our various stakeholders — that include our customers, business partners, shareholders, investors, employees and local communities. We seek to maintain sustainable growth as we increase our corporate value over the medium and long terms.

## Responding to Social Issues

In 2015, we endorsed the United Nations Global Compact, an international initiative for developing a global framework for sustainable worldwide growth. Our aim is to become a truly global company trusted on the world stage as we support ten principles in the areas of human rights, labour, the environment, and corruption prevention.

In the future, we will promote business initiatives while also remaining aware of the 17 objectives and 169 targets of the “UN’s Sustainable Development Goals (SDGs)”, which came into effect in January 2016.



# SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD







## Corporate Governance

One of our top management priorities is to strengthen and enhance our corporate governance. We take steps to make our management more efficient and robust while ensuring it remains compatible with the corporate governance code.

## Six Capital Assets

We offer products and services through an approach to business development that makes full use of what we call our “six capital assets”: Intellectual Capital, Manufacturing Capital, Human Capital, Social and Relationship Capital, Natural Capital, and Financial Capital. With these assets, we are striving to devise solutions to social issues for the sustainable society.



### Intellectual Capital

We are aggressively strengthening our core businesses as we continue to develop new ones. Using our intellectual capital to our advantage, we recognize business development as an essential aspect of our operations.



### Manufacturing Capital

We focus on maintaining and improving product quality while promoting measures to create a safe and comfortable workplace environment.



### Human Capital

We consider our human resources to be the most important asset driving our future growth. Toward that end, we are focusing on initiatives to create a workplace environment in which a diverse range of individuals can play active roles and to cultivate global human resources.



### Social and Relationship Capital

In our business operations, we focus on achieving long-term value creation in order to further strengthen the relationship of trust we are building with our various stakeholders.



### Natural Capital

We aim to reduce the environmental impacts of all our business operations under our corporate philosophy of “We shall contribute to international society through creating new technologies and developing new products.”



### Financial Capital

In the interest of improving our financial foundation, we are implementing various measures to strengthen profit control and improve our asset efficiency.

# Stakeholder Dialog

We are making opportunities to dialog with our various stakeholders for sustainable improvement of corporate value.

## ▶ Third stakeholder dialog with experts in various aspects of CSR:

Continuing an initiative introduced in 2015

### Experts



**Katsuhiko Kokubu**

Professor, Graduate School of Business Administration, Kobe University



**Yoko Hiyama**

Lawyer admitted in Japan and New York, Ethos Law Office, Ethos LPC



**Kazuhiko Shiratori**

Executive Researcher, The Japan Association for Chemical Innovation; Former Senior Manager, Sekisui Integrated Research Inc.



**Eriko Nashioka (Facilitator)**

Certified Public Accountants / Representative Director, Institute for Environmental Management Accounting

## 1. On the Centenary of the Company's Founding

▶ **Stakeholder** I feel that it is wonderful how you have sincerely responded to the results of the dialog during the past two years through evaluation and execution. Also, in the lead-up to commemorating your centennial in 2018, you are instilling your corporate philosophy. To achieve this, it is necessary to be linked to specific actions and to clarify what links the corporate philosophy to the concrete actions of employees. Doing this will enable each and every employee to contribute to society through his or her actions.

## 2. The Need for CSR in the Midst of Global Expansion

▶ **Stakeholder** In order to promote CSR on a global basis, it is important to cooperate with local companies and with society. Toward that end, it is also useful to "identify materiality (issue of particular importance among wide range of CSR initiatives)" in addition to instilling the corporate philosophy, so please consider that aspect. From a management perspective, "promoting diversity" is also an important factor. For the global expansion, promoting diversity is required with the understanding of executive officers.

## 3. Environmental Initiatives

▶ **Stakeholder** I believe that you have positioned itself at a fairly high level in terms of reducing the environmental impact of its business operations. In the future, I would expect to see initiatives involving different aspects than in the past through the establishment of an environmental strategy with a long-term perspective. This could involve reducing the environmental impacts and other innovations in the scope of supply chain.

In such a case, it would be necessary to develop indicators, such as the environmental contribution, that could be understood by a third-party, what it means the objectivity of data. I believe that products that contribute to society — not only from your own company but also developed in collaboration with other companies — will be essential for the sustainable society.

(The above is the summary of the experts' comments.)

### ▶ Dialogs with Other Stakeholders



Customers

We hold sessions where customers can speak directly with our engineers about their requirements whenever it needs and exhibitions where they can become more familiar with our products and technologies.



Business partners

We conduct surveys on CSR and plant commemorative cherry trees.



Please visit the website for details.

1st: <http://www.ntnglobal.com/en/ecology/dialog01.html>

2nd: <http://www.ntnglobal.com/en/ecology/dialog02.html>

3rd: <http://www.ntnglobal.com/en/ecology/dialog03.html>

▶ **NTN** Our corporate philosophy reflects the “frontier spirit” and “co existence and co-prosperity spirit” that permeated our company when it was established, as expressed in the phrase, “creation of original technologies” and “contributing to society.” In order to ensure this corporate philosophy permeates the company for the next 100 years, it is necessary to explain it in a manner that enables employees to understand the link between their day-to-day work and our corporate philosophy. Ultimately, it would be ideal if our corporate philosophy were to guide our employees in their decision-making. We will work to ensure that each and every employee can contribute to society while meeting the needs of our customers.

▶ **NTN** We have been considering the materiality of our group by placing our focus on the Sustainable Development Goals (SDGs) adopted by the United Nations. This will enable each base outside Japan to be rooted in its own region through its business operations. Regarding diversity, we have been implementing a variety of measures, including training of executive officers, and we will take steps to create an environment of mutual respect with each of our bases outside Japan and with our respective cultures.

▶ **NTN** From now on, we would like to concentrate not only on environmental efforts at our factories but also on creating environmental value. We recognize that the objectivity of data is also important, and we are promoting visualization of environment-related figures as non-financial indicators, such as third-party evaluations of CO<sub>2</sub> data. Regarding products that contribute to the environment, we are beginning to formulate such criteria, and we intend to develop products that would be effective over the medium and long terms.

## NTN



### Hiroshi Nakano

Director and Corporate General Manager, CSR Headquarters



### Kohei Iguchi

Project Leader, 100th Anniversary Planning & Promotion Project



### Yasuyuki Kuroda

General Manager, CSR Department, CSR Headquarters



### Toshiyuki Matsutani

General Manager, General Affairs & Environmental Management Department



Shareholders and Investors

We hold periodic general shareholders' meetings, briefing sessions on financial results, individual interviews and so on.



Employees

We offer tours factory for employees' families at each workplace while also offering opportunities for dialog with the management team.



Local communities

We exchange opinions with students at special meetings and offer factory tours for local residents.



# Corporate Governance

## Corporate Governance Structure

### Philosophy and Implementation System

One of our top management priorities is to strengthen and enhance our corporate governance. We take steps to make our management more efficient and robust while ensuring it remains compatible with the corporate governance code.

We also strive to communicate with shareholders, investors, and other stakeholders by providing information in a prompt and accurate manner. This ensures more transparent management.

#### Board of Directors (Convened 17 times\*)

The role of the Board of Directors is to make decisions relating to fundamental business policies, statutory matters, important management issues, and to supervise the performance of duties by its members. The board holds regular meetings at least once per month, with extraordinary meetings also convened at any time when necessary. Moreover, with the goal of improving the function of the Board of Directors, we are analyzing and evaluating their effectiveness.

#### Audit & Supervisory Board (Convened 14 times\*)

We have four Audit & Supervisory Board Members, two of whom are standing Audit & Supervisory Board Members (with three of the four being outside Audit & Supervisory Board Members). The Audit & Supervisory Board Members are responsible for auditing the performance of duties by members of the board. Audit & Supervisory Board Members attend board meetings and other important meetings and express their opinions as part of their efforts to maintain and improve the transparency and fairness of the Company's management supervision system.

#### Business Strategy Committee (Convened 29 times\*)

Discusses fundamental business policies and important management strategies, with meetings held twice per month.

#### Executive Committee (Convened 12 times\*)

We have introduced the Executive Officer System to enable swift decision-making and business execution. Reviews of monthly performance are conducted by the Executive Committee, comprising Directors, Audit & Supervisory Board Members and Executive Officers.

\* In the fiscal period under review

#### Committees

##### Compensation Advisory Committee (Convened 3 times\*)

In consultation with the Board of Directors, the Compensation Advisory Committee deliberates, advises, and makes recommendations to the Board of Directors on issues such as compensation of individual directors and executive officers. A majority of the committee members are outside officers.

##### CSR Committee (Convened 2 times\*)

Composed of heads of relevant departments, this committee deliberates and implements various measures intended to effectively promote CSR activities.

##### Risk Management Committee (Convened 2 times\*)

Identifies and analyzes the various risks that the NTN Group faces, and develops measures for preventing and managing those risks. In addition, it is advancing Business Continuity Planning (BCP) and Business Continuity Management (BCM).

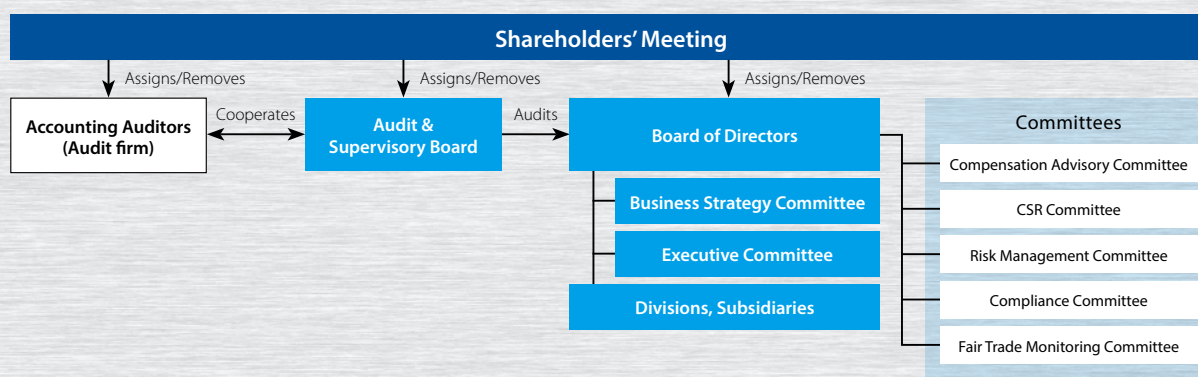
##### Compliance Committee (Convened 4 times\*)

Oversees and provides advice for taking a preventative approach to developing internal rules, organizing training and educational activities, and monitoring activities for global compliance risks other than those related to the Japan Antimonopoly Act (Antimonopoly Act) and the Act against Delay in Payment of Subcontract Proceeds, Etc., to Subcontractors (Subcontracting Act).

##### Fair Trade Monitoring Committee (Convened 2 times\*)

Chaired by the NTN President, the committee is focused on comprehensive compliance with the Antimonopoly Act and Subcontracting Act and exerts practical control to ensure fair-trading by providing advice regarding training and educational activities.

### Corporate Governance Structure



## Main Initiatives

### Innovations Adopted to Strengthen Corporate Governance

- 2004 Executive Officer System is introduced. Board of Managing Directors reviewed and renamed the Business Strategy Committee.
- 2006 CSR Committee is established.
- 2008 Risk Management Committee is established. One outside director is appointed.
- 2011 Number of outside directors is increased from 1 person to 2 persons.
- 2012 Fair Trade Monitoring Committee is established.
- 2015 Compliance Committee is established. Board of Directors undergoes effectiveness evaluation.
- 2016 Compensation Advisory Committee is established.

### Compensation Advisory Committee Convened

This committee was convened to deliberate issues of compensation (monthly compensation, bonuses, Etc.) for directors and executive officers and to submit a report to the Board of Directors. This committee will continue discussions on executive compensation while also considering the opinions of outside officers.

### Strengthening Management Auditing Functions

We employ a corporate auditor-based governance system in which three of the four Audit & Supervisory Board Members are from outside the company. Outside Audit & Supervisory Board Members bring specialized knowledge in areas such as finance, management and law, and they conduct audits in collaboration with the in-house standing Audit & Supervisory Board Member and the Internal Audit Department.

The Board of Directors, which includes two outside directors, makes decisions on important matters and oversees business execution, and the Audit & Supervisory Board Members sit on the Board of Directors and other important meetings to offer their opinions. In this way, we strive to maintain and improve transparency and fairness of the Company's management supervision system.

All outside directors and outside Audit & Supervisory Board Members (5) are designated and registered as Independent Directors/Audit & Supervisory Board Members in accordance with the regulations set in place by Tokyo Stock Exchange, Inc.

After director candidates are decided on at the Board of Directors, they are nominated and voted in at the Shareholders' Meeting. This ensures transparency and fairness. The Board of Directors, based on set regulations, makes decisions on the selection and dismissal of representative directors and directors with special titles, as well as the designation and cancellation of duties delegated to directors.

Regarding subsidiaries, they must report to headquarters on the fulfillment of their duties and must submit certain matters for headquarter's approval according to the terms of Management Rules for Subsidiaries. In this way the Board is strengthening the management control system.

### Open Shareholders' Meeting

We have taken the following steps, such as facilitating participation in the Shareholders' Meeting, to streamline procedures for shareholders to exercise their voting rights.

#### 1. Issuing our Shareholders' Meeting notice at an earlier date

We send notices regarding the Shareholders' Meeting to shareholders three weeks before it is held, which is seven days earlier than the two weeks notification required by law.

#### 2. Measures to publicize the Shareholders' Meeting notice

Beginning this fiscal year, we are providing photographs of candidates for officer positions and a list of candidates in the proposal for election of officers as a means of notifying shareholders.

#### 3. Scheduling the Shareholders' Meeting outside of common dates that other companies use

To ensure that as many shareholders as possible can attend the Shareholders' Meeting, we schedule it outside of common dates that most companies hold their meetings, and we take into account factors such as settlement and audit schedules.

#### 4. Shareholders' Meeting and other notices listed on the website

We endeavored to provide information of listed notices of the Shareholders' Meeting on the web earlier before mailing. At the same time, we include an abridged English-language translation of the notice. We are also taking steps to make the process more convenient for foreign shareholders.

#### 5. Exercising voting rights

In addition to the exercise of voting rights via the mailing, we accept those via the web in advance. We also participate in the Electronic Voting Platform, which is managed by Investor Communications Japan (ICJ) for institutional investors.

#### 6. Other efforts

At the Shareholders' Meeting, certain sections of business reports and settlement data are shown on monitors using graphs, photos and other visible data to complement the meeting chairperson's explanations.



# CSR Management

## Philosophy and Implementation System

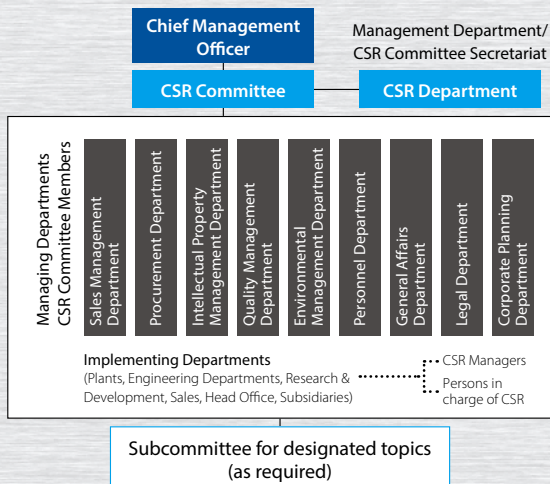
CSR is the initialism for “Corporate Social Responsibility.” Our definition of CSR is “to aim for fulfilling our accountability to our stakeholders and improving our corporate value not only economically but also in the environmental and social realms while including CSR in our corporate commitments to environmental preservation, social fairness and contributions.”

In order to advance the following CSR initiatives in general, we periodically convene our CSR Committees in the relevant divisions under the guidance of the CSR Department. Moreover, CSR managers and other staff in charge of CSR are appointed at domestic and overseas subsidiaries.

1. Corporate Governance: Corporate governance; internal controls
2. Compliance: Complying with laws and regulations; internal rules and social norms
3. Environmental Management: Preservation of the natural environment and ecosystems; greening activity
4. Contribution to Society: Volunteer initiatives; support for culture and the arts; support for disaster recovery
5. Customers: Enhancing customer satisfaction
6. Business Partners: Building partnerships (establishing coexistence and co-prosperity relationships)
7. Employees: Human resource development; improvement of the working environment

In addition, in accordance with our “CSR Policy,” we develop our “Employee Code of Conduct” as the guideline that all employees are required to follow to implement CSR initiatives in their day-to-day activities and “Business Code of Conduct,” as the guideline to comply with.

### CSR Committee and CSR Management System



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/management.html>

## Main Initiatives

### CSR Committee

Annual number of meetings **2**

Our CSR Committee, chaired by the General Manager of the CSR Department, comprises the heads of relevant divisions. The committee convenes twice a year and deliberates on issues and policies in order to ensure the effective implementation of CSR initiatives.

In the fiscal year under review, we deliberated on social issues according to the 10 principles of the UN Global Compact such as human rights, CSR supply chain, and revisions to the ISO 14001 standards for environmental management systems. Moreover, we remain actively focused on information disclosure in order to meet our commitment to corporate accountability.

Each department sets Key Performance Indicators (KPI) in order to allow for visualization of non-financial information, which is an invisible asset. By regularly reporting on and discussing KPI at the CSR committee, we are raising awareness of the importance of non-financial information and increasing our corporate value. Consequently, NTN has been evaluated as a company actively engaged in the areas of environmental preservation and social contribution in the stock market; as a result, it has been incorporated into multiple SRI (socially responsible investment) funds as well as in the SRI index.



\*1. Inclusion status as of the end of June 2017

\*2. The incorporation of NTN Corporation into the MSCI index and the use of the MSCI logo, trademark, service mark or index name are not indications of sponsorship, recommendation or promotion of NTN Corporation by MSCI or its affiliates. The MSCI Index is the exclusive property of MSCI. The names and logos of MSCI and the MSCI Index are trademarks or service marks of MSCI or its affiliates.

Going forward, we will continue to reflect the opinions of external stakeholders in Stakeholder Dialog and the like regarding materiality, which also corresponds to the Sustainable Development Goals.

For Stakeholder Dialog, please see PP. 35–36.  
For the Non-financial Information, please see PP. 107–108.

## Strengthen the Management Foundation

Promoting CSR initiatives across the entire NTN Group

### Convening of Annual CSR Global Meeting

We convene our CSR Global Meeting with the goal of promoting CSR initiatives across the entire Group through personnel interaction and the global exchange of information.

At the first meeting, we built the foundation on which we are promoting CSR initiatives globally; at the second meeting, we further strengthened our horizontal links across national borders.

This, our third meeting, brought together the Five Overseas Offices of the General Manager Internal Control Section (details on p. 41), outside director, corporate auditors, CSR Headquarters, and the Internal Audit Department to participate in discussion of issues under the slogan, "Step Together for Transformation." While considering the actual

circumstances and characteristics of each region, participants were able to promote global CSR initiatives by engaging in ongoing discussions while reviewing policies on risk management, compliance promotion, internal controls, and other issues by region and by country.

We intend to strengthen the management foundation by reflecting the contents of discussions and reinforcing our global structure such as the establishment of rules as well as in-house education and awareness-raising.



CSR Global Meeting

## For Widely Spreading the Corporate Philosophy

Response rate to survey questionnaire on penetrations of Corporate Philosophy **89%**

Awareness rate of Corporate Philosophy among employees **87%**

Under "Our Vision" — the company's long-term vision — our goal is to establish "a company where its corporate philosophy is understood by all employees around the world and where all employees think and act for themselves." We intend to forge ahead with initiatives to raise awareness of our corporate philosophy.

Widely spreading the corporate philosophy can be considered to follow the three steps outlined below, which we are implementing through appropriate measures.

- Step 1: Make employees aware of the existence of the corporate philosophy and its expressions.
- Step 2: Obtain employees' sympathy and understanding for the contents of the corporate philosophy.
- Step 3: Ensure each employee practices the tenets of the corporate philosophy through his or her own work and establishes a system to ensure continued implementation.

In the preceding term, we created posters and pocket cards displaying our corporate philosophy in 13 languages. These were distributed to domestic and overseas subsidiaries in

an effort to raise awareness. In this term, we conducted the survey questionnaire on penetration of corporate philosophy in order to identify the state of recognition and understanding of our corporate philosophy. The results revealed an employee level of awareness of 87%. Therefore, we focused on Step 2 during the year; specifically, in addition to promoting further interpretation of the current corporate philosophy and formulating our corporate philosophy action policy, we implemented various measures that included a review of the framework of our corporate philosophy.

As we continue with measures to obtain employees' sympathy and understanding, we are considering introducing a corporate award for employee initiatives linked to our corporate philosophy with the goal of achieving "Our Vision."



Activity to widely spreading the corporate philosophy



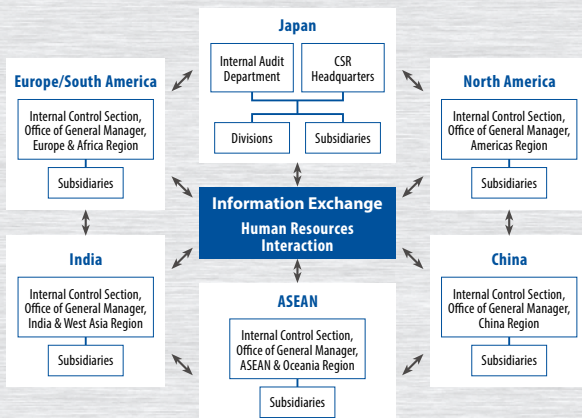
# Internal Control

## Philosophy and Implementation System

In line with the basic framework for internal control as outlined in “Standards and Practice Standards for Management Assessments and Audits Concerning Internal Control Over Financial Reporting (Council Opinions),” published by the Business Accounting Council, we have established the “Internal Control Policy.” Based on this policy, we have made designing and implementing an internal control system one of the priorities of our risk management and compliance. The Internal Audit Department takes the lead on internal audits and has been established as an independent auditing organization to audit business execution throughout the NTN Group.

In April 2014, we established our CSR Headquarters, which comprises the CSR Department, Legal Department and Fair Trade Department in an effort to strengthen our Group-wide system to promote compliance and social responsibility. The CSR Department handles mainly risk management, while the Legal Department oversees compliance and the Fair Trade Department ensures compliance with the Antimonopoly Act. All three departments work closely to implement various policies. Meanwhile, we established the “Office of the General Manager” at each of our various regions outside Japan to monitor operations. We then established the “Internal Control Section” in each of these offices that collaborates with the Internal Audit Department and CSR Headquarters, implementing policies to suit the particular circumstances and characteristics of each region and country.

### Collaborating System with Internal Control Sections



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/internalcontrol.html>

## Main Initiatives

### Strengthening Internal Controls Inside and Outside Japan

Internal control assessment bases **49** of **63** companies

Sales base rate before elimination of consolidation **97.7** %

Since the end of the preceding fiscal year, we have included one additional subsidiary in the assessment for internal controls, thus expanding coverage for Company-level internal controls to 49 companies inside and outside Japan, including our head office. The sales of these 49 companies account for 97.7% of the total sales of NTN and its subsidiaries before elimination for financial consolidation. This accords with Internal Control Guidelines stipulating “a coverage ratio of the top 95% of sales before elimination of consolidation” and even exceeds the ratio. Moreover, we implemented assessments of the internal controls of the business processes of 10 of the 49 companies that represent significant business units.

In addition, the Internal Audit Department conducted audits of the operations of subsidiaries in the ASEAN region and in South Korea in order to eliminate local risks of fraud and violations of laws and regulations. As a more wide-ranging initiative encompassing not only our subsidiaries in ASEAN and South Korea but also more than 1,500 employees at 46 other companies inside and outside Japan, we conducted a survey of the stance of each company’s president regarding compliance. In so doing, we have quantified the culture and environment that can contribute to fraud or other violations at a company. This information is also used for internal audits conducted by the Internal Audit Department.

Moreover, the 3rd CSR Global Meeting was held with the Internal Audit Department, the CSR Headquarters, and the Five International Offices of the General Manager Internal Control Section. We exchanged information on audits outside Japan and on various CSR initiatives, discussed issues, and took steps to strengthen the internal controls of the entire Group.



For details of the CSR Global Meeting, please see P. 40.



We interviewed our outside directors for opinions on the current state of corporate governance and future issues.



### The need to develop and extend the NTN brand with a global perspective

**Akira Wada**  
Outside Director

June 2005: Managing Director of Hitachi Zosen Corporation  
June 2006: Standing Corporate Auditor of NICHIZO TECH INC.  
June 2011: Outside Director of NTN (Current post)

Compared with the situation when I was first appointed as an outside director, the discussions of the Board of Directors are clearly becoming more vigorous. NTN received a cease and desist order and surcharge payment order in 2013 on suspicion of having violated the Antimonopoly Act, but I feel that all company employees are working hard and in good faith to build a corporate governance system that ensures such incidents are never repeated.

NTN celebrates its centennial in March 2018, but in order to achieve further growth in anticipation of the next 100 years, it is essential that NTN pursues global development with greater commitment than ever before. To that end, the company's greatest challenge is to hire global human resources so that people are

inspired to work with them. In addition to reviewing measures that will enable NTN to do so, the company must develop and extend the NTN brand with a global perspective. When I attend meetings of the Board of Directors, I am always aware of whether the discussion is progressing beyond a limited in-house perspective. I also express opinions on matters recognized as issues that will improve brand value.

Furthermore, NTN should pursue not only its own interests but also aim to become a company that seeks greater sustainable value for all stakeholders. In order to form such a corporate image, I will continue to submit various proposals in the interests of ensuring that management's judgment contributes to transparency and impartiality.

### Establishing a management system for a global company can thrive in the international society

**Noboru Tsuda**  
Outside Director

June 2005: Executive Officer of Mitsubishi Chemical Corporation  
April 2014: Deputy CEO and Executive Officer of Mitsubishi Chemical Holdings Corporation  
June 2016: Outside Director of NTN (Current post)



One year has passed since I was first appointed as an outside director. Outside directors can speak positively while also fostering active discussion in the Board of Directors. In addition to attending the Audit & Supervisory Board, I visit the various workplaces where NTN's employees are engaged, which offers me many opportunities to obtain information and make recommendations. Consequently, I have never felt that I have lacked information.

NTN established its Compensation Advisory Committee in June 2016, which demonstrates NTN's attitude that it must remain "accountable" and maintain adequate "management transparency" in the best interests of its shareholders and investors.

At the same time, I believe that, in order to continue further growth and become a truly global company, corporate

governance will continue to evolve. I have been engaged in transforming its corporate mindset and corporate culture while contributing to the emergence of a company that is useful to society.

I hope, therefore, to take full advantage of my experience and fully express my opinion so that NTN's management system for a global company can thrive in the international society.

NTN is currently working on various initiatives targeting "NTN 100;" moreover, developing business in new segments remains an important strategy. Creating a new business is never easy, but I trust that the stated management targets will be achieved by instituting a management system suitable for such a global enterprise and by sharing values of NTN employees globally.



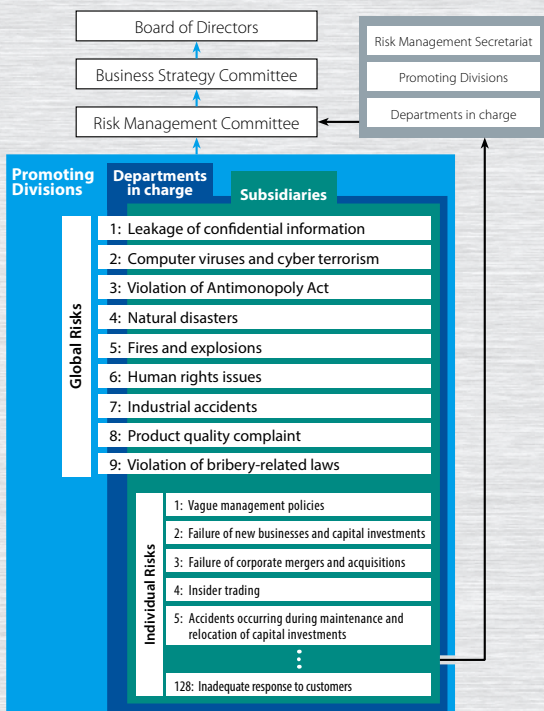
# Risk Management

## Philosophy and Implementation System

We have developed the “Risk Management Policy” and established “Risk Management Rules” that set forth the structure and standards to follow in the event of an emergency. We promote risk management in order to reduce undesirable outcomes occurring in the company by identifying risks or to prevent them from occurring. We established the Risk Management Committee as an advisory body for managing risks. This committee convenes twice a year. Beginning with the current fiscal year under review, we are establishing “NTN Group Global Risk (Global Risks)” and promoting Global Risk Management under a new structure.

Moreover, we are advancing Business Continuity Planning (BCP) and Business Continuity Management (BCM) by continuously striving to increase our abilities to respond to risks and recover from them so that, even if disasters and other events that could disrupt business continuity should occur, we can ensure safety and prevent the interruption of crucial work or resume such work as soon as possible.

### Global Risk Management Structure



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/riskmanagement.html>

## Main Initiatives

### Strengthening and Restructuring the Global Risk Management Structure

#### Slogan

### Risk Management is our Mission

With the Risk Management Committee, we have changed the Management Risk we had identified as our conventional priority, replacing it with “Global Risks” as the priority risk that our entire Group must contend with. To implement this change, we set forth our new Management Policy and adopted a new slogan.

#### Global Risk Management Policy

The NTN Group will proactively implement prevention, crisis-response, and recovery measures and will strengthen its foundation for the next 100 years.

#### Slogan

Risk Management is our Mission

Priority management risks were set by the Risk Management Committee based on the opinions of officers and division heads, but comprehensive management of the Global Risk facing the entire Group is considered necessary. We have identified nine risks with regional commonality under the heading of “Global Risks” (diagram at left).

By structuring our Global Risk Management Database for the purpose of managing global risks and obtaining risk management reports not only from business sites and affiliated companies in Japan but also from subsidiary companies outside Japan, we can grasp the situation our entire Group faces as we proceed.

From the viewpoint of overall regional control, on the other hand, it is also necessary to clarify the roles of each district and each business headquarters (departments in charge) as well as the head office (promoting divisions) and to manage risks unique to specific areas. In addressing these challenges, we will promote the following initiatives in the next fiscal year.

1. Fully implementing the Global Risk Management System
2. Strengthening governance related to risk management
3. Improving the functions of the Global Risk Management Database and establishing a mechanism for effective utilization

We are also implementing measures to correspond to the risk characteristics of each region so as to eliminate the risks or prepare for their occurrence. For example, in Japan we conducted an earthquake drill and a drill for emergency release of a poisonous substance; outside Japan, we conducted a tornado evacuation drill.



Tornado evacuation drill (NTN-BOWER CORP.)

## Continuous promotion of BCP/BCM

### Strengthening the internal promotion system

## Establishment and Convening of the BCP/BCM Subcommittee

In order to strengthen the internal structure to promote BCP/BCM, we established the BCP/BCM Subcommittee comprising the head office Promotion Departments under the Risk Management Committee. This Subcommittee convenes periodic meetings and shares information on its progress. In order to establish the BCM system, we began restructuring our BCP in our major business sites in Japan in December 2016. Regarding BCP guidelines and documents that have already been formulated, we are making revisions to the content to ensure conformity with the status quo.



Business Continuity Planning at a major business site



### Promoting Risk Management throughout Our Group

**We** are working to strengthen our risk management system as we build the foundation for our next 100 years. Among our priorities is the urgent need to implement management of Global Risks. We are focused on identifying the risks faced by our Group on a global scale and are working closely with subsidiary companies both inside and outside Japan to ensure prompt countermeasures, all the while working closely as the harmonious group.

As one initiative related to BCP/BCM, we established the new "BCP/BCM Subcommittee" to strengthen our internal implementation system. As we expand BCP into the future, we will gradually expand the number of business sites subject to implementation and strive to ensure supply stability for our customers through early recovery following a disaster.

### Keiji Ohashi

Managing Director  
Chief Management Officer in charge of Risk Management





# Compliance

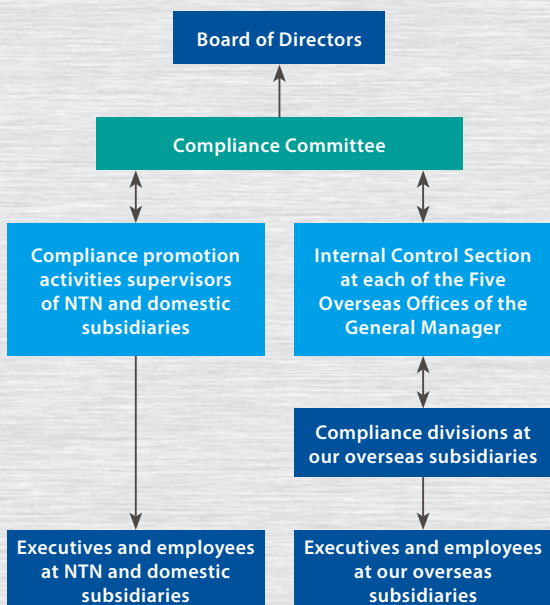
## Philosophy and Implementation System

At NTN, we consider the need to maintain stringent compliance as one of the most important issues our company is facing. Not merely content with observing the various laws and regulations and internal rules, we also define compliance as adhering to widely held social norms; we are therefore instituting a system to implement global compliance.

In addition to having established rules applicable to compliance promotion activities in April 2015, we established the Compliance Committee and have held it periodically. Among the various important management risks investigated and identified by the Risk Management Committee, this committee handles compliance risks linked to potential infringement of laws and regulations. The members of the committee coordinate with domestic subsidiary compliance supervisors and, internationally, with the respective Internal Control Sections at each of the Five Overseas Offices of the General Manager. After relevant prioritization, they design and implement policies for risk reduction and report the details of their activities and the status of implementation to the Board of Directors.

Similarly, we are striving to minimize compliance risks by instituting Helpline, a whistle-blowing system.

### Compliance Promotion Activity Structure



## Main Initiatives

### Compliance Committee

Annual number of meetings **4**

The Compliance Committee convenes four times a year with the attendance of the Director in charge of the Legal Department and the corporate auditors. The Committee is focused on enforcing and strengthening compliance.

Regarding bribery prevention, we enforced the China Regional version and the Japan version of the Anti-Bribery Rules, and at the same time we are also working on promoting audit activities based on these rules. Outside the China Region and Japan, we are also promoting the establishment and introduction of Corruption Prevention Regulations in accordance with the stipulations of each country's regulations.

In relation to the prevention of fraudulent accounting, we have formulated and implemented a variety of audit activities. As for prevention of labor law violations, we have enacted new rules for time management and introduced appropriate systems.

### Compliance Training & Awareness-raising Activity

Since 2016

#### "Compliance Day" Established

In 2016, we adopted July 26 as "Compliance Day" in order to create an opportunity for all to consider anew the importance of compliance. Every year on that day, the president sends a message to all employees to remind them that the NTN Group is committed to ensuring the issue of compliance remains at the forefront.

In relation to training activities, we conducted 48 types of training in the current term such as rank-based training, training by business area, and training on specific themes as well as group training for supervisors of compliance promotion activities.

Furthermore, in order to share information related to compliance within our corporate group, we began to compile and roll out "NTN's Compliance," our



Workshop for supervisors of compliance promotion activities

compliance database. Also, we conduct an annual compliance awareness survey and are using it to identify themes to be addressed as we expand our compliance promotion activities for the next term.

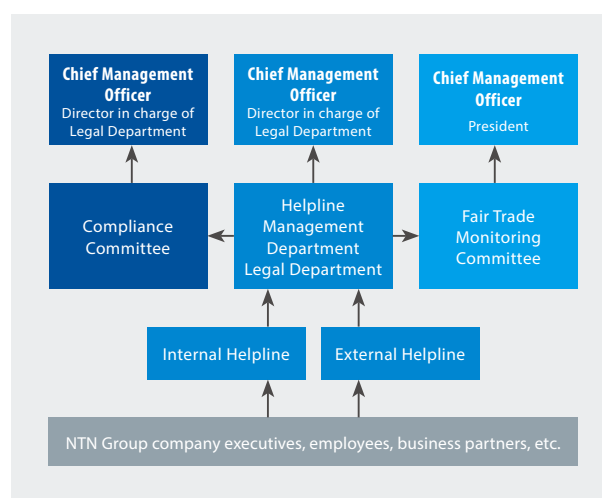
## Helpline (Whistle-blowing system)

### Domestic and International Initiatives

## Operation of the Helpline and Awareness-raising Activities

In Japan, we introduced an internal Helpline as well as an external Helpline related to compliance and we have been operating them. To complement these Helplines, we have provided a Helpdesk linked directly to the Fair Trade Promoting Department that is intended to address competition laws (the Antimonopoly Act and Subcontract Act). Regarding the Helplines and the Helpdesk, we are publicizing them and raising awareness through the introduction of various types of compliance training and by listing information in CSR guidebooks and on the intranet in order to encourage the employees to make use of them when needed.

Outside Japan, we are seeking to accommodate the needs and circumstances of each region by establishing a series of whistle-blowing systems.



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/compliance.html>

## Strengthening of systems to ensure compliance with the Antimonopoly Act

To ensure compliance with the Antimonopoly Act and the Subcontracting Act, the "Fair Trade Promoting Department" undertakes most activities under the supervision of the "Fair Trade Monitoring Committee" with the president as chairman under the control of the Board of Directors.

The Fair Trade Promoting Department conducts internal training, e-learning, and self-audits related to compliance with the Antimonopoly Act and mandatory applications submitted in advance to prevent and monitor contact with competitor companies. This system allows the overall state of contact with competitor companies to be monitored. Through regular audits by the Internal Audit Department, we confirm the effectiveness of initiatives targeting compliance with the Antimonopoly Act. Prior to enactment of

"Compliance Day" (July 26), we distributed to employees in Japan the "Antimonopoly Compliance Booklet" and strengthened awareness of compliance with the Antimonopoly Act. This also presented an opportunity to reconfirm the importance of compliance through the president's message.

Outside Japan, we cooperate with the Internal Control Section in each region to develop systems for training and advanced applications, as well as self-audits organized by each region, and we are redesigning the system to ensure compliance with the relevant competition laws in each region.

The NTN Group will use these various systems to conduct continuous education and awareness-raising activities that strengthen overall control over our compliance.

# Officers (As of June 23, 2017)



<b>Directors</b>	<b>1</b>	<p><b>Hiroshi Ohkubo</b> President Representative Director</p> <p>With operational experience in areas such as the Finance Division and Overseas Divisions and broad knowledge based on these achievements, he was selected to aim for the achievement of the Mediumterm Management Plan NTN 100 and the sustainable growth of corporate value.</p>	<b>2</b>	<p><b>Hironori Inoue</b> Executive Vice President Representative Director Green Energy Products Division Human Resources Project Director, Driveshaft Business Strengthening Project</p> <p>He has operational experience in areas such as the Production Division and the Human Resources Division and broad knowledge based on these achievements.</p>	
	<b>3</b>	<p><b>Yoshinori Terasaka</b> Managing Director Research, Engineering Quality Assurance Headquarters Americas Region</p> <p>He has operational experience in areas such as the Research Division, Engineering Division and Business Division for the automotive market and broad knowledge based on these achievements.</p>	<b>4</b>	<p><b>Keiji Ohashi</b> Managing Director Corporate General Manager, Finance Headquarters General Affairs, Environmental Management Department CSR Headquarters</p> <p>He has operational experience in areas such as the Finance Division and the General Affairs Division and broad knowledge based on these achievements.</p>	
	<b>5</b>	<p><b>Hideaki Miyazawa</b> Managing Director Corporate General Manager, Automotive Business Headquarters Europe &amp; Africa Region Electric Module Products Division EV Module Division</p> <p>He has operational experience in areas such as Divisions for the automotive market and Overseas Divisions and broad knowledge based on these achievements.</p>	<b>6</b>	<p><b>Itsuji Goto</b> Managing Director Human Resources Cost Planning Department China Region</p> <p>He has operational experience in areas such as the Cost Planning Division and Overseas Divisions and broad knowledge based on these achievements.</p>	
	<b>7</b>	<p><b>Hiroshi Nakano</b> Director Corporate General Manager, CSR Headquarters Internal Audit Department</p> <p>He has operational experience in areas such as the Legal Division and broad knowledge based on these achievements.</p>	<b>8</b>	<p><b>Hidefumi Tsuji</b> Director Production Procurement, Logistics Department</p> <p>He has operational experience in areas such as the Production Division and Overseas Divisions and broad knowledge based on these achievements.</p>	
	<b>9</b>	<p><b>Takehiko Umemoto</b> Director Quality Assurance Headquarters General Manager, EV Module Division</p> <p>He has operational experience in areas such as Business Divisions for the industrial machinery market and technical divisions and broad knowledge based on these achievements.</p>			
<b>10</b>	<p><b>Toshinori Shiratori</b> Director Corporate General Manager, Corporate Strategy Headquarters</p> <p>He has operational experience in areas such as the Human Resources Division and the Corporate Strategy Division and broad knowledge based on these achievements.</p>	<b>11</b>	<p><b>Kazuki Kawashima</b> Director Corporate General Manager, Industrial Business Headquarters Composite Material Product Division</p> <p>He has operational experience in areas such as Business Divisions for the automotive market and Business Divisions for the industrial machinery market and broad knowledge based on these achievements.</p>	<b>12</b>	<p><b>Eiichi Ukai</b> Director Aftermarket Business Headquarters NTN KOREA CO., LTD. ASEAN &amp; Oceania, India &amp; West Asia Region</p> <p>He has operational experience in areas such as Quality Assurance Division and Overseas Divisions and broad knowledge based on these achievements.</p>
	<b>13</b>	<p><b>Akira Wada</b> Outside Director</p> <p>He has broad knowledge based on extensive experience in the management of other companies. In the future, by securing validity and legality of management through supervision of management of the Company from an independent standpoint and receiving appropriate advice and suggestions utilizing this experience and knowledge, etc., the Company aims to strengthen management decision-making functions in the Board of Directors.</p>	<b>14</b>	<p><b>Noboru Tsuda</b> Outside Director</p> <p>He has broad knowledge based on extensive experience in the management of other companies. In the future, by securing validity and legality of management through supervision of management of the Company from an independent standpoint and receiving appropriate advice and suggestions utilizing this experience and knowledge, etc., the Company aims to strengthen management decision-making functions in the Board of Directors.</p>	
<b>Outside Directors</b>					

**Audit & Supervisory  
Executive Officers  
Board Members**



**Kouji Kawahara**  
Standing Audit & Supervisory  
Board Member  
(Outside)

**Yusuke Iyama**  
Standing Audit & Supervisory  
Board Member

**Tadao Kagono**  
Audit & Supervisory  
Board Member  
(Outside)

**Ryo Kawakami**  
Audit & Supervisory  
Board Member  
(Outside)

**Executive Officers**

**Natsuhiko Mori**

Senior Executive Officer  
Corporate General Manager,  
New Product and Business Strategic  
Planning Headquarters  
General Manager, Composite Material  
Product Division  
Green Energy Products Division

**Tetsuya Sogo**

Senior Executive Officer  
General Manager, Americas Region  
President, NTN USA Corp.  
Director and Chairman,  
NTN Bearing Corp. of America

**Isao Ozako**

Senior Executive Officer  
General Manager, China Region  
President, NTN (China) Investment Corp.  
President, Guangzhou NTN-Yulon  
Drivetrain Co., Ltd.

**Isao Koiwai**

Senior Executive Officer  
Production Strategy Department  
Deputy Project Director and Project  
Leader, Driveshaft Business  
Strengthening Project

**Koji Kametaka**

Senior Executive Officer  
General Manager,  
Electric Module Products Division  
Deputy Corporate General Manager,  
Automotive Business Headquarters  
Deputy Corporate General Manager,  
EV Module Division

**Masaki Egami**

Senior Executive Officer  
Research  
General Manager, New Product  
Development R&D Center

**Takayuki Matsuo**

Executive Officer  
Deputy Corporate General Manager,  
Corporate Strategy Headquarters

**Etsu Harima**

Executive Officer  
Deputy Corporate General Manager,  
Industrial Business Headquarters

**Pete Eich**

Executive Officer  
Director and President,  
NTN Bearing Corp. of America

**Makoto Okasaka**

Executive Officer  
Deputy Corporate General Manager,  
Automotive Business Headquarters

**Alain Chauvin**

Executive Officer  
General Manager, Europe & Africa Region  
President, NTN-SNR ROULEMENTS

**Eiichi Nakamizo**

Executive Officer  
Corporate General Manager,  
Aftermarket Business Headquarters

**Kazuki Hagihara**

Executive Officer  
Deputy General Manager,  
Americas Region  
Director and Vice Chairman,  
NTN Bearing Corp. of America

**Katsuaki Miyake**

Executive Officer  
Deputy Corporate General Manager,  
Automotive Business Headquarters  
General Manager, Iwata Works

**Koji Ishikawa**

Executive Officer  
General Manager,  
Green Energy Products Division

**Kenji Nono**

Executive Officer  
General Manager,  
Human Resources Department  
General Affairs, Environmental  
Management Department  
Global Human Resources Development  
Department

**Satoshi Ueda**

Executive Officer  
Deputy Corporate General Manager,  
Industrial Business Headquarters  
General Manager, Kuwana Works

**Masaaki Yamamoto**

Executive Officer  
Deputy General Manager, China Region  
Director, NTN (China) Investment Corp.

**Herve Brelaud**

Executive Officer  
Deputy General Manager,  
Europe & Africa Region  
Vice President, NTN-SNR ROULEMENTS

**Ikuo Watanabe**

Executive Officer  
Deputy Corporate General Manager,  
Automotive Business Headquarters  
General Manager,  
Business Planning Department

**Masayuki Nishiguchi**

Executive Officer  
Deputy Corporate General Manager,  
Aftermarket Business Headquarters

**Masayuki Kaimi**

Executive Officer  
General Manager,  
Production Strategy Department

**Shigefumi Komori**

Executive Officer  
Deputy Corporate General Manager,  
Industrial Business Headquarters  
General Manager,  
Business Planning Department

**Takashi Fujii**

Executive Officer  
Corporate General Manager,  
Quality Assurance Headquarters

**Nobuyoshi Ozawa**

Executive Officer  
General Manager,  
ASEAN & Oceania Region  
General Manager, India & West Asia Region



## Business Operations Utilizing Our Six Capital Assets



**Intellectual Capital**

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**Manufacturing Capital**

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**Human Capital**

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**Social and Relationship Capital**

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**Natural Capital**

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**Financial Capital**

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# Intellectual Capital

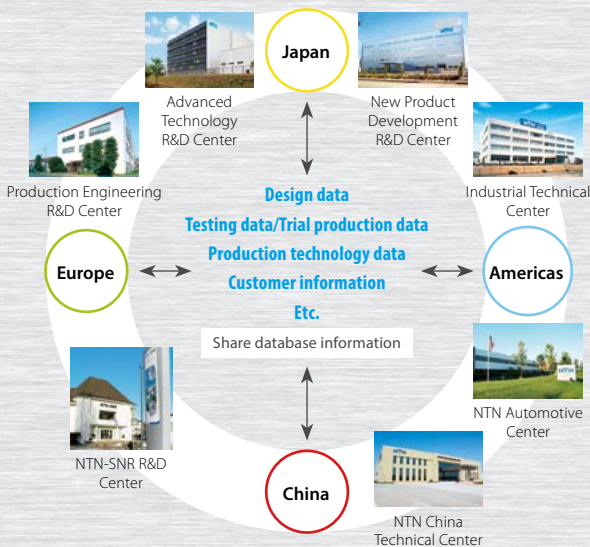
At the NTN Group, we are aggressively strengthening our core businesses as we continue to develop new ones. Using our intellectual capital to our advantage, we recognize business development as an essential aspect of our operations.

## Philosophy and Implementation System

Utilizing core technologies that include tribology, material/heat treatment, precision processing, precision measurement, rotation control, precision positioning technology and analysis, we are developing technologies that meet market needs for long service life, low weight, compact design and low friction. We are also commercializing products in new areas.

In order to support these business operations and respond to the growth of global sales, we continue to create a globalized R&D system. In addition, we are conducting advanced technological research in Japan with the collaboration of industry, academia and government. Moreover, in Japan, Europe, the Americas, China and other regions, we share databases containing data on design, testing and trial production as well as data on production technology and customer projects in order to shorten our lead time for customers. We have the Patent Management Rule as well as the Patent Reward Rule in place to reward our employees for their inventions. Foreign patents and know-how are also covered as inventions to be rewarded, and there is no upper limit on the reward payments. We continue to encourage our employees in their creative efforts at developing new inventions.

### Global Four-region R&D system



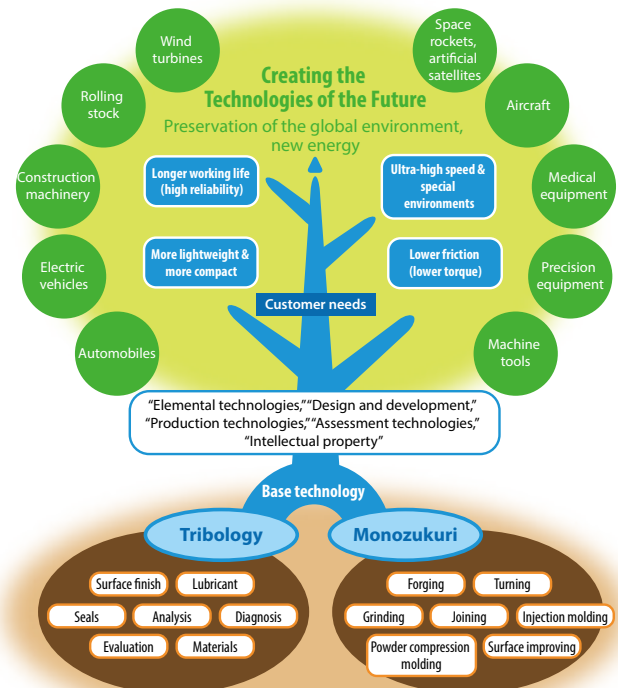
## Main Initiatives

### The NTN Group's Competitive Advantage: Technical Capabilities to Develop Future Technologies

#### "CHO" MONODZUKURI Innovative Parts and Components Award Recipient of the Environmental Components Award

By promoting the development of a series of electronic module products, we are contributing to increased automotive fuel economy and greater ride comfort as well as accelerated development of next-generation vehicles. In addition, our Low-Torque Seal Ring for automobile transmissions was awarded the Environmental Components Award of the CHO MONODZUKURI Innovative Parts and Components Awards from Nikkan Kogyo Shimbun, Ltd. in recognition of this component's leading contribution to increased fuel economy. We are also promoting the development of products that employ renewable energy as well as the commercialization of the robotics field and service solutions.

Through these efforts, we are using our technological expertise to develop future technologies and nurture the growth of our business in the direction of environmental preservation and renewable energy as we contribute to the strengthening of NTN's competitive advantage.



## Using Our Competitive Advantage to Develop New Products

Commercializing products in a range of new business segments

### Green Energy Products Division and Electric Module Products Division Established

During the fiscal year under review, we introduced onto the global market two new products from our core business segment: Tapered Roller Bearings with an early failure detection function and Ultage Series Small-Size High-Speed Angular Contact Ball Bearings for Machine Tool Spindles.

In order to further advance commercialization of products in new business areas as stipulated in the priority policies of our Medium-term Management Plan "NTN 100," we established the Green Energy Products Division in our Natural Energy Business and began selling Hybrid Streetlights offering quiet operation while allowing highly efficient power generation utilizing two renewable energy sources, wind and photovoltaic power. Moreover, at Asaka canal in Fukushima Prefecture in Japan, we completed the demonstration test of "NTN Micro Hydro Turbines," small-scale independent hydropower generators capable of producing power when located in



NTN Micro Hydro Turbine, a small hydroelectric power plant

existing in waterways. We continue to advance the early commercialization of renewable energy products, including the launch of the demonstration test of the small hydro turbine (10 kW) at Iwata Eco Park in Iwata, Shizuoka Prefecture in Japan.

Looking to our EV segment, in order to contribute to the early emergence of next-generation vehicles, we established the "Electric Module Products Division" for development of the Electric Motor and Actuator Series in addition to the EV Module Division.

In our robotics segment, we are currently developing a compact robot capable of high-precision assembly of ultra-small parts. This robot uses an angle control device incorporating our proprietary parallel link mechanism as the core component.

## Developing Inventions that Contribute to Our Competitiveness

Number of Patents Rewarded

191

Compared with the preceding fiscal year  
41% Increase

We promoted an intellectual property strategy in line with our business and R&D strategy to strengthen our competitiveness especially in key product areas. As a result, 443 employees (cumulative) have been rewarded for compared for 191 patents, an increase of 41% to the preceding fiscal year. We will continue to encourage our employees to create inventions to increase the competitiveness of our business.



Please visit the website for details.

<http://www.ntnglobal.com/en/ecology/ic.html>



**We will use our core technologies to our advantage in order to achieve the technological development that will support us for our next 100 years.**

**In** March 2018, NTN commemorates its centennial. Bearings, our main product line, have contributed significantly to the development of industry by minimizing the energy loss from rotational motion. We are now pursuing four new business segments under the management priority of "Manage Growth" as part of our "NTN 100" Medium-term Management Plan. In the energy business and electric vehicle business, we established respective divisions in April 2016 and have successfully commercialized products that we have developed. In our Robot-related Business and Service, Solution Business, we are developing products that meet market needs and are working toward commercialization.

We will continue to promote R&D through manufacturing technologies and our base technology of tribology while working to develop and grow new businesses. Our intention is to promote technological development that will support us over the coming 100 years.

**Natsuhiko Mori**

Senior Executive Officer

Corporate General Manager, New Product and Business Strategic Planning Headquarters





# Manufacturing Capital

We focus on maintaining and improving product quality while promoting measures to create a safe and comfortable workplace environment.

## Philosophy and Implementation System

Under our “Basic Quality Policy,” which underpins all our manufacturing, we formulate “Quality Management Policy” every year and work to improve the quality of our products. During the fiscal year under review, we promoted pre-production preparation, acquired quality information from production bases outside Japan on a timely basis, and accelerated our response times. We are also strengthening our response to any critical claim that might arise anywhere around the globe.

### Basic Quality Policy

Pursuing right quality to meet functions and specifications requested by our customers.

- Applicable quality  
Our quality should immediately respond to the change of our customer’s requirements.
- Competitive quality  
We have to win quality competition.
- Quality for economy  
Quality should benefit our company.

### Quality Slogan

Quality is our future — Quality paves the way for our future.



In order to meet the needs of our customers, we are arranging global production systems and are endeavoring to provide manufacturing facilities in locations around the world where demand exists. In order to ensure stable quality from the very first product off the line and establish quality assurance systems with unified global standards at our production bases outside Japan, we dispatch support staff to locations from mother plants and the Quality Management Department. They audit the workplaces in question, investigate past quality problems, and improve production lines. Moreover, with the goal of rapidly obtaining quality information from production bases outside Japan, we have adopted the G-QUICK system to centrally manage global quality information. In addition to actively taking steps to acquire quality management certifications relevant to the items we produce, we are providing varied training to raise employee awareness and increase their knowledge regarding quality.

We are also promoting occupational health and safety based on the “safety first” approach, as we recognize this as an indispensable aspect of a welcoming work environment and improved quality.



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/mc.html>

## Main Initiatives

### Ensuring Global Quality

Strengthening our quality assurance functions

### Quality Assurance Headquarters Established

We established the Quality Assurance Headquarters in order to minimize the impact on customers from any quality problems that might arise in the market or around the world. Utilizing the G-QUICK system, we can direct a prompt response to the departments involved regarding any quality issues that might arise. At the same time, we are implementing a system that can quickly resolve problems by dispatching support staff from the Quality Assurance Headquarters to the site in question.

We are also seeking to acquire certification of registration with ISO 9001, the international standard for quality management systems, and are actively acquiring the ISO/TS 16949 certification required by auto manufacturers for our production bases inside and outside Japan. The major certifications acquired in the fiscal year under review are outlined below.

### Major Certifications Acquired in Fiscal Year Ended March 31, 2017

#### ISO 9001 certification acquired at 38 bases

Region	Base	Date of Certification
Japan	ELECTRIC MODULE PRODUCTS DIVISION	Fiscal year ending March 31, 2018 (planned)

#### ISO/TS 16949 certification acquired at 31 bases

Region	Base	Date of Certification
China	Xiangyang NTN-Yulon Drivetrain Co., Ltd.	Fiscal year ended March 31, 2017
Japan	NTN ENGINEERING PLASTICS CORP.	Fiscal year ending March 31, 2018 (planned)
Japan	NTN ADVANCED MATERIALS CORP. Kanie Plant	Fiscal year ending March 31, 2018 (planned)
Japan	NTN ADVANCED MATERIALS CORP. Kameyama Plant	Fiscal year ending March 31, 2018 (planned)
Mexico	NTN MANUFACTURING DE MEXICO, S.A. DE C.V.	Fiscal year ending March 31, 2018 (planned)

In 2016, ISO/TS16949, the international standard for the auto industry, was revised and renamed “IATF 16949.” For the next fiscal year, we are preparing to acquire certification with IATF 16949.



IATF standards workshop presented by an outside lecturer

## Cultivating Strong Quality-minded Personnel

### Quality improvement initiatives

## Quality Training and Quality Month Activity

In addition to the QC Basic Course, QC Management Course and QC Advanced Course that form our quality training program, we provide training intended to increase employee awareness and knowledge of quality issues. In the fiscal year under review, we also implemented quality education for managers, who include department heads and presidents of subsidiaries. For the coming fiscal year, we intend to enrich the training materials we use and focus on additional quality training initiatives.

In November each year, we mark "Quality Month" with activities that are intended to improve quality throughout our group. We are raising employee awareness of the importance of quality through measures that include our Quality Action Declaration and the presentation of quality lectures for all employees.



Poster for our Quality Month in fiscal 2016

## Our Approach to Occupational Safety and Health

**Number of workplace accidents** Reduced by **6** accidents

Compared with the preceding fiscal year  
21% decrease

Four manufacturing bases and five subsidiaries that acquired certification for the Occupational Safety and Health Management System (OSHMS) conducted ongoing activities toward their goal of zero workplace accidents. Unfortunately, 20 workplace accidents occurred, but this represented a decrease of six compared with the preceding fiscal year, no doubt as a result of these safety initiatives.

Although the OSHMS has brought our occupational health and safety management up to a nominal standard, we believe that it is still insufficient in terms of predicting and responding to hazards that arise in unexpected circumstances. For this reason, we intend to

strengthen our risk management efforts in the future by implementing risk prediction activities for non-routine operations that arise suddenly.



Safety inspection in lift operation



Please visit the website for details.

<http://www.ntnglobal.com/en/ecology/mc.html>



## Improving the NTN Brand with the Goal of Delivering Quality that Satisfies Our Customers

In terms of quality assurance, our mission is to implement the policies of our Medium-term Management Plan "NTN 100," which envisions "a company with a global presence that is appreciated for its high quality." In other words, customers around the world recognize our company's quality and capabilities, and this increases market appreciation of the NTN brand.

In order to meet the demands of the global marketplace, we have established a global production system and have sought to manufacture our products in locations around the world where demand for them exists. When launching new production plants or transferring production, it is essential that we ensure a smooth and seamless transfer of the production system of our mother plants. For that reason, we are strengthening our pre-production arrangements and are accelerating the acquisition of global quality information. Through this effort, we are unifying our global quality assurance system.

We will enhance the profile of the globally unique NTN brand as we strive to deliver a level of quality that truly satisfies our customers.

### Takashi Fujii

Executive Officer

Corporate General Manager, Quality Assurance Headquarters





# Human Capital

We consider our human resources to be the most important asset driving our future growth. Toward that end, we are focusing on initiatives to create a workplace environment in which a diverse range of individuals can play active roles and to cultivate global human resources.

## Philosophy and Implementation System

## Main Initiatives

### Diversity

As a company that has developed its business around the globe, we have hired a diverse range of employees who differ by gender, age, career choice and work style. We therefore believe it is necessary to foster a workplace environment characterized by understanding and mutual recognition of each other's differences so that all our employees can demonstrate their abilities to the full. At the same time, we work to ensure that all employees can grow and develop a sense of fulfillment from their work, which eventually contributes to the further development of our company. In order to put these ideals into effect throughout our Group, the "Diversity Group" was established in the Global Human Resource Development Department in March 2015 and is promoting various initiatives related to diversity.

Moreover, in order to promote greater work-life balance, we have built on our Child Care Leave System by implementing the "Mom-back System," which re-employs those who have left the company for reasons of childbirth and child care. We are also planning to enhance our systems that support a healthy balance between work and childcare.

We are supporters of four areas in the 10 principles of the United Nations Global Compact, namely, human rights, labour, the environment, and corruption prevention. Among these, we position human rights as a priority of our business operations. In addition, we are working to increase awareness among the NTN Group regarding two of the associated initiatives, specifically that "Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights;" and "Principle 2: make sure that they are not complicity in human rights abuses." Furthermore, as guided by our Human Resources Department, we are working to introduce a system that can detect human rights violations and are improving our monitoring and response through systems that include our "Helpline."

Through these initiatives, we remain focused on creating a workplace environment in which our diverse employees can find success.

### Cultivating Global Human Resources

Ratio of females in management position **10.9%**

Our Group focuses on creating workplace environments that makes it easier for our diverse employees to work comfortably. As part of our initiative to promote capable female employees, we continued to offer seminars for woman and management that we first introduced during the preceding year. As a result, we have succeeded in increasing the female management promotion rate by 10% for the fiscal year, compared with 8.5% in the preceding term.

Regarding the employment of persons with disabilities, we have established three "Dream Workshops" at Kuwana, Iwata and Okayama Works. This initiative, implemented in cooperation with special needs schools, contributes to a work environment in which people with intellectual disabilities can fill an important role. We have achieved a rate of employment of persons with disabilities of 2.08% for the current term, with the numerical value exceeding the statutory employment rate. We remain committed to an ongoing and active recruitment effort.

Moreover, in order to further raise awareness related to diversity, we have introduced "unconscious bias training" for division heads in our head office. The objective of this training is to instill the appropriate level of judgment as well as response skills for various circumstances by enabling the participants to recognize and control any preconceptions, prejudices, or other biases that we tend to acquire unconsciously. This initiative offered an opportunity for the participants to consider diversity in their immediate surroundings and confront their own biases through group discussion of a mock scene in which an incident involving prejudice caused a workplace disruption. In addition, in an effort to raise awareness of diversity, we distributed our "Diversity Handbook" to all employees.



"Diversity Handbook"



Dream Workshop, a facility supporting persons with intellectual disabilities

## Enhancing Work-life Balance

Number of employees who took childcare leave

40

Rate of paid leave utilization (regular employees)

92%

We prepared for the introduction of a telecommuting system as a means of enhancing both our child care and nursing care support systems. First, we introduced telecommuting for employees in management positions in the Osaka and Tokyo regions as well as employees involved in general office work who are engaged in child care and nursing care. We intend to identify any issues that arise and will focus on extending this system with the goal of achieving full-fledged introduction by April 2018.

We remain dedicated to creating an easy and welcoming workplace by further enhancing Bear Kids Land, the in-company daycare center, and clarifying operational issues regarding our Mom-back System while incorporating system revisions.



Sign for Iwata Works' Bear Kids Land

## Instilling and Strengthening Respect for Human Rights

For employees in Japan

### Introducing Training to Minimize Employee Harassment

In an effort to prevent sexual harassment and other abuses of authority, we introduced training on these forms of harassment for employees who have been promoted to management positions, those who have recently entered the company, and heads of management departments of subsidiaries in Japan. In addition, we are promoting initiatives to instill and improve awareness of human rights, including improvements to monitoring for human rights violations.

Our policy is to continue developing a variety of measures related to human rights in order to share them with our subsidiaries outside Japan.



Training seminar on preventing abuses of authority



Please visit the website for details.

<http://www.ntnglobal.com/en/ecology/hc.html>



Voice

### The NTN GROUP actively promotes "DIVERSITY" —NTN-SNR ROULEMENTS' efforts—

**We,** NTN-SNR ROULEMENTS, are committed to create a working environment free from discrimination in which all human rights are respected. We have reaffirmed our commitment to maintain intergenerational bonds by signing the Generation Contract in December 2016.

Focusing on gender equality, we promote it in all areas of working life (hiring, training, wages, etc.). Women represent a significant percentage of our employees in all categories as follows: women employees from 26.8 % (2014) to 27.4% (2016) and women managers 18.5% (2016). In addition, we endeavor to improve working conditions for older employees by facilitating part-time work through ergonomic measures.

We will continuously put further efforts to hire the people with disabilities and to guarantee equal job, training and career development opportunities for everyone.

**Isabelle PICHARD**

Human Resource Relations Department Manager  
NTN-SNR ROULEMENTS





## Philosophy and Implementation System

### Improving Business Competitiveness with Exceptional Human Resources

International sales account for 72% of total Group sales, while 66% of our employees are located outside Japan. In order to achieve further growth going forward, we are committed to training what we call “globally focused personnel” who can succeed in markets beyond their national or regional boundaries. To meet this indispensable requirement, we have convened our NTN Technical Skills Competition, which brings together young and intermediate-level technicians from various regions, and our Global QC Circle Convention, which is intended to improve safety, quality, and productivity. In addition, we are promoting a variety of measures such as introducing the International Challenge Training, the international trainee system, and the globalization internship system. These initiatives also contribute to the creation of a mechanism that ensures transmission of our original technologies and skills from mother plants to our production bases around the world. At the same time, we are improving our ability to pass on the skills and expertise we have acquired.

### Employment and Conditions

We at NTN support the 10 principles related to labour as set out in the UN Global Compact; moreover, we are working to uphold the “elimination of all forms of forced and compulsory labour” while working to ensure the “effective abolition of child labour” with application to all our subsidiaries in Japan and around the world.

In Japan, in addition to providing training for “the elimination of discrimination in respect of employment and occupation” and ensuring that “Business should uphold the freedom of association and the effective recognition of the right to collective bargaining” through the solicitation of regular employees by labour unions, we are devising initiatives such as labour-management consultations through talks with employees and are maintaining good labour relations.

Regarding our human resources system, we are advancing the implementation of systems to accommodate recent changes in the employment situation, such as devising ways of working and increasing the diversity of our personnel. We are also developing a system that makes it possible to train employees with the capability to lead our business in the global marketplace.

## Main Initiatives

### Global Human Resources Development

Improving our original skills and preserving our proprietary technologies

### NTN Technical Skills Competition

At the NTN Technical Skills Competition, young and intermediate-level technicians around the world — the coming generations who will be responsible for our company’s future — compete to demonstrate the superiority of their skills while continually planning to upgrade their expertise and preserve the company’s proprietary expertise for future generations.

At the competition, we held six events that included heat treatment skills and machine maintenance. Following the overall evaluation, we awarded Gold, Silver and Bronze prizes as well as a Spirit Award. This competition has been held annually since 2014, and a review of the events in this competition revealed an increase in participation, including more females; moreover, compared with last year’s competition, the participants have more than doubled in number. The competition is clearly fulfilling its role as a venue for international exchange.



Competition under way at the NTN Technical Skills Competition (top)  
Group photo of participants



Improving safety, quality and productivity

## Global QC Circle Convention

Held annually since 2011, the Global QC Circle Convention enables QC Circles — representing various areas of the world that are actively involved in quality improvement — to introduce and share the results of their quality improvement challenges how effectively improved. Through this effort, we are devising ways to improve safety, quality and productivity around the world.



Presentation under way at the Global QC Circle Convention

Timely training of globally focused personnel

## International Challenge Training

The goal of International Challenge Training is to provide early training for Japanese personnel to enable them to be active in business globally. First introduced in 2015, this initiative supports the deployment of new graduate employees in locations outside Japan. After completing training, participants are involved in a systematic job rotation scheme through which they are transferred to locations outside Japan after achieving a track record of five years working in Japan. This initiative trains effective personnel and enables them to make use of their international training experience.

Designing careers with a broader perspective

## International Trainee Systems

In addition to making it possible for employees to plan their future careers with a broader perspective, we have the international trainee system and the globalization internship system with the goal of training personnel who can succeed globally. During the fiscal year under review, we actively promoted various initiatives through this system.



Gathering as part of the International Trainee System

Annual Number of Monitoring of Working Conditions and the Human Resources System conducted

2

As one means of addressing labour issues, the presidents of our subsidiaries in Japan are brought together at a meeting where the participants conduct a survey to uncover any instances of forced labour or child labour while monitoring the status of dialogues with employees. Moreover, focusing on subsidiaries in Japan, we monitor labour conditions and the status of the human resources systems twice a year. By identifying the status quo, we are able to take steps to address any emerging problems or issues while providing guidance.

In the future, we plan to extend this initiative to encompass our subsidiaries outside Japan. In our role as the global company, we will identify local working conditions and human resources systems in order to construct appropriate systems and mechanisms.



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/hc.html>



# Social and Relationship Capital

In our business operations, we focus on achieving long-term value creation in order to further strengthen the relationship of trust we are building with our various stakeholders.

## Philosophy and Implementation System

In order to enhance customer satisfaction at NTN Group sales bases around the world, we appoint a sales person and an engineer to be in charge of each of our customers and sales agents. This allows us to quickly and accurately determine the needs and problems of each customer and thus offer the best responses and solutions. At the same time, we work continually to improve the skills of these sales people and engineers. In Japan, we implement TQM (Total Quality Management), which reviews weekly activities through meetings and training events. TQM develops the skills of sales representatives and encourages them to adopt the perspective of the customer before they take action.

With regard to our suppliers, the Procurement Department at our head office is the main point of contact working with production sites according to our Procurement Guidelines, which have been formulated with a focus on a global perspective, fairness and impartiality, and preservation of the global environment. We carefully select our suppliers and work to establish relationships of trust with them. We also formulated the "NTN CSR Procurement Guidelines" and placed priority on CSR Procurement and Green Procurement by engaging business partners who were capable of actively implementing these CSR initiatives.

### Contents of NTN CSR Procurement Guidelines

- 1 Compliance
- 2 Human rights and labor
- 3 Environment
- 4 Quality and safety
- 5 Information security
- 6 Business Continuity Management (BCM)
- 7 Social Contributions



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/sc.html>

## Main Initiatives

### Enhancing Customer Satisfaction

#### Overall Assessment of Customer Satisfaction Surveys



\* (As of the year ended March 31, 2017)  
We received responses from 97 companies in Japan and abroad.

The NTN Group conducts various types of training at its sales bases in Japan as part of the effort to enhance customer satisfaction.

During the fiscal year under review, we were able to clarify our strategies and tactics through cross SWOT analysis\* and by providing Customer Strategy Training to verify whether we are taking a strategic approach from the customer's perspective.

We are also implementing Change Leadership Training for sales representatives and sales managers in order to develop personnel who can lead salespeople to improve their bargaining skills while also taking the lead in reforming awareness and action. Furthermore, we offer Sales Manager Training aimed at upgrading the skills of sales managers so that they can comprehensively implement process management. We are also training sales managers with subordinates so they can train personnel capable of thinking and acting independently. Both types of training have been productive and have achieved positive results. Going forward, we will focus on developing training methods that respond to changing customer needs.

\* SWOT analysis: The classification of elements of business operations into the four categories of Strengths, Weaknesses, Opportunities, and Threats. Each category is evaluated and analyzed. Furthermore, strategies and tactics are developed through a method of combining these elements.



Change Leadership Training

## Activating Supply Chain Management

### Supplier Meetings

Number of annual meetings **2** / Number of companies participated **57**

We hold periodic Supplier Meetings for our business partners in order to clarify changes in our Procurement Policy and provide notice of anticipated production volumes at our production bases. We held these meetings twice in the fiscal year under review. At these events, we sought the cooperation of the 57 participating companies.

At these meetings and on our website, we also request that our suppliers follow the NTN CSR Procurement Guidelines and Green Procurement Standards we formulated in April 2016. Further, in February 2017, we requested that our 293 suppliers complete a questionnaire on their CSR matters and we requested in writing that they implement our CSR procurement initiatives.



Supplier Meeting

We also implemented a self-audit for subcontractors for our 22 bases in Japan (21 production bases and 1 research center). In addition, more severe audits were conducted under the supervision of our Procurement Department. In the next fiscal year, we will establish a certification system for the auditors undertaking self-audits for subcontractors in order to promote the training of experts and the establishment of a system through which each base will conduct audits on an independent basis.

## Responsible Mineral Procurement

Survey response rate of conflict minerals **100%**

We confirm that the materials and mineral resources included in the components used for our products are not associated with "conflict minerals" and there are no adverse effects on society such as being a fund for armed groups in conflict areas. If adverse effects are assumed or confirmed, we seek out manufacturing methods that avoid the purchase of such conflict minerals. During the next fiscal year, we plan to conduct periodic surveys of our suppliers regarding conflict minerals.



Please visit the website for details.

<http://www.ntnglobal.com/en/ecology/sc.html>



## Strengthening Supply Chain Management According to Our CSR Procurement Guidelines

**We** continue to maintain our business operations under Procurement Guidelines formulated from the viewpoint of a global perspective, fairness and impartiality and preservation of the global environment. We established the NTN CSR Procurement Guidelines in April 2016 to promote appropriate activities throughout the supply chain, addressing social issues such as human rights, labor practices, the environment, prevention of corruption, and the eradication of anti-social forces.

We recognize that it is important to strongly promote Supply Chain Management not only in Japan but also internationally, as we have a business that operates globally.

Recently, Business Continuity Management has been attracting attention as an important issue. In response, we have formulated Business Continuity Planning for each manufacturing base. For the next step, we will focus on deploying this initiative to each of our suppliers.

Through these activities, we are taking steps to raise the satisfaction level of our customers and stakeholders.

**Kunio Kamo**

General Manager  
Procurement & Logistics Department





## Social and Relationship Capital

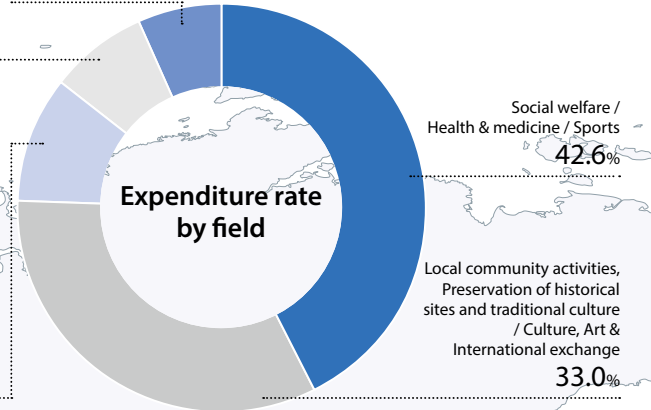
Our Group's CSR policy states that, in addition to developing a variety of initiatives around the world, "We shall make every effort to interact meaningfully with society on a local level and to engage in activities that contribute to society."

Number of social contribution activities

556 → 685

Compared with the preceding fiscal year Increase by 129

Environmental preservation 6.5%



Assistance for disaster-stricken areas / Community disaster-prevention and crime prevention / Others 7.8%

Academic & research / Social education 10.1%



© TABLE FOR TWO



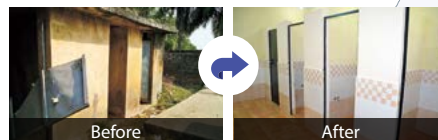
Enjoying a nutritious lunch

### Participation in the "Table for Two Program"

Eleven of our business sites are participants in the "Table for Two Program" operated by TABLE FOR TWO International, a non-profitable organization. A portion of the sales proceeds from every purchased "healthy menu" meal targeted for donations is donated to recipients in the developing world, where it is used to fund children's lunches and the like. In short, this social contribution initiative supports the health of people in developed countries while also contributing food aid to children in developing countries.

### Supporting the renovation of restrooms and other facilities

NTN Bearing India Private Ltd. has assisted in the renovation of restrooms and other facilities in a government run school in a village outside of Chennai, India. After massive flooding in December 2015 damaged the same, we collaborated with a local non-profitable organization and successfully completed the restoration.



Refurbished restrooms



Participants in 24-hour charity marathon



### Sponsorship of 24-hour charity marathon

Since 2014, NTN Sudamericana, S.A. (located in Panama) has participated as an official sponsor of a charity marathon dedicated to raising awareness and support for children suffering from incurable diseases.



Donated desk calendars

### Desk calendars donated in support of the visually impaired

NTN Bearing - Thailand Co., Ltd. donated more than 100 desk calendars provided by employees. These calendars are repurposed as Braille educational materials for the visually impaired.

### NTN commemorates 30 years of providing assistance to SOS Children's Village.

NTN Kugellagerfabrik (Deutschland) G.m.b.H. is proud to have been supporting SOS Children's Village since October 1986. This is an independent international non-governmental development organization that focuses on protecting the human rights of children. They are committed to motivating children who are unable to live with their families, helping them work toward a positive future and develop along with their communities.



Letter of gratitude for our 30 years of support



Drawings, photos and letters of appreciation from children



Creating a colorful sign on a Born Learning Trail

### Contributing to Born Learning Trails

American NTN Bearing Mfg. Corp. makes regular charitable donations to a non-profitable organization. The company's employees also volunteer to construct "Born Learning Trails" that are sponsored by this organization. The company also encourages participations in initiatives that are closely tied to the public places, such as schools and playgrounds, where the trail signage (information display) is drawn.

### Annual Summer Party

NTN (China) Investment Corp. and Shanghai NTN Corp. collaborate in holding an annual Summer Party. During 2017, which marks the tenth year of this event, the companies hosted not only employees and their families but also staff from facilities for the persons with disabilities and residents from neighboring areas. More than 3,000 people participated in this event, which turned into an occasion for all the people to expand their network of friends and recognize their daily advantages.



Creating a sign board for Summer Party



Please visit the website for details.  
<http://www.ntnglobal.com/en/ecology/sc.html>



# Natural Capital

For the NTN Group to ensure continuous and sustainable growth, it is indispensable that we not only generate profit but also adopt eco initiatives to address global environmental issues. Toward this end, we aim to reduce the environmental impacts of all our business operations under our corporate philosophy of “We shall contribute to international society through creating new technologies and developing new products.”

In addition to reducing CO<sub>2</sub> emissions during our production operations, the NTN Group is contributing to reduced CO<sub>2</sub> emissions during the product usage phase by providing our customers with a variety of efficient bearing products. Moreover, we are contributing to the emergence of a sustainable society by directly addressing the issue of CO<sub>2</sub> emissions reduction. We are doing so by developing our green energy business and by making an effort to meet our long-term targets for CO<sub>2</sub> emissions, whose deadline year is fiscal 2025.



Contributing to the emergence of a sustainable society

NTN is helping to create a “smooth society.”

## CO<sub>2</sub> reduction initiatives

### 1. Reductions within the NTN Group

#### Long-term target (fiscal 2025)

CO<sub>2</sub> emissions relative to 1997 Reduce by **28.7%**

Upgrading of heat treatment devices, compressors, and other equipment

Fuel conversion, LED lighting, heat shielding

Generation of renewable energy



LED lighting



### 2. Reductions by customers

Customers in automotive applications. Customers in industrial machinery applications. Customers in aftermarket applications.

Various bearing products and driveshafts

More lightweight and more compact, long-life, high-reliability, and super-high-speed products



\*1. Cutaway image reveals inner structure of product.



### 3. Direct reduction through development of green energy business\*2

NTN Hybrid Street Light  
NTN Micro Hydro Turbine  
NTN Vertical Axis Wind Turbine



\*2. Please refer to website for details: [http://www.ntnglobal.com/en/products/natural\\_energy/index.html](http://www.ntnglobal.com/en/products/natural_energy/index.html)



## Contributing to the emergence of a sustainable society with reduced CO<sub>2</sub> emissions by developing green energy products



Having taken advantage of the bearing technology that the company has cultivated over many years, our Green Energy Products Division has developed and commercialized the NTN Hybrid Street Light, which features an independent power supply that combines a wind turbine and a photovoltaic panel, as well as the NTN Micro Hydro Turbine, a small hydroelectric power generator that can function as an independent power supply, generating power simply by being placed in a flowing waterway. It generates power using wind, water, and sunlight as energy sources and can be used as a power supply for street lamps or electric fences. Moreover, because it produces almost no noise when generating power, it can be used in urban or residential areas. What's more, because it does not need to be connected to the power grid, it can be used in the event of a blackout caused by a disaster such as an earthquake. These outstanding products emit absolutely no CO<sub>2</sub> and thus directly contribute to the emergence of a sustainable society through emissions reduction.

### Koji Ishikawa

Executive Officer  
General Manager, Green Energy Products Division

# Environmental Policy

In an effort to reduce our environmental impact, our Group has established an Environmental Management System encompassing the entire Group.

## Environmental Management System

Our Group formulated the NTN Environmental Policy so that we can reduce our environmental impact and contribute to the sustainable development of society.

To implement this policy, we established an enterprise-wide Environmental Management Committee that includes all our companies as well as our subsidiaries in Japan and have identified corporate environmental targets regarding CO<sub>2</sub> emissions and waste reduction for all our companies and business sites.

We have established energy-efficiency and resource-conserving committees and committees on office environmental measures in the manufacturing, head office, and sales divisions and are strengthening our environmental management system at each workplace.

In the next fiscal year, in accordance with the transition to the 2015 edition of the ISO 14001 standard, we will revise our environmental policy along with our environmental management system.

### NTN Environment Policy

Maintaining harmony with the global environment is our most important challenge. The NTN Group has identified pollution control and preservation of our natural capital as priorities of our business operations. Furthermore, we remain committed to developing technologies that contribute to the emergence of a sustainable society in harmony with nature.

#### 1. Developing technology that contributes to prevention of global warming

By developing technologies and innovative products that contribute to energy efficiency and alternative energy generation worldwide, the NTN Group will contribute to the prevention of global warming.

#### 2. Observance of laws and regulations

The NTN Group will observe all relevant environmental laws, regulations, and ordinances. Moreover, we will proactively take steps to comply with requests from our customers, local communities, and other stakeholders.

#### 3. Reducing the environmental impacts of our business operations

The NTN Group remains dedicated to minimizing the environmental impacts of our emissions of CO<sub>2</sub> and restricted substances across all our business operations. We will endeavor to identify and reduce our environmental impacts in both the upstream and downstream (from supplier to customer) branches of our supply chain.

#### 4. Utilizing resources sustainably

The NTN Group will strive to reduce waste as well as our inputs of water, raw materials, and other resources by remaining focused on reducing, reusing, and recycling.

#### 5. Stringently controlling environmentally harmful substances

The NTN Group will practice green procurement and conduct stringent management of any environmentally harmful substances used in our products and processes. We remain focused on adopting benign substitutes for any highly harmful chemical substances we use in our operations.

#### 6. Conserving biodiversity

In cooperation with local communities, the NTN Group will proactively implement forest preservation, biodiversity conservation, and other environmental protection initiatives.

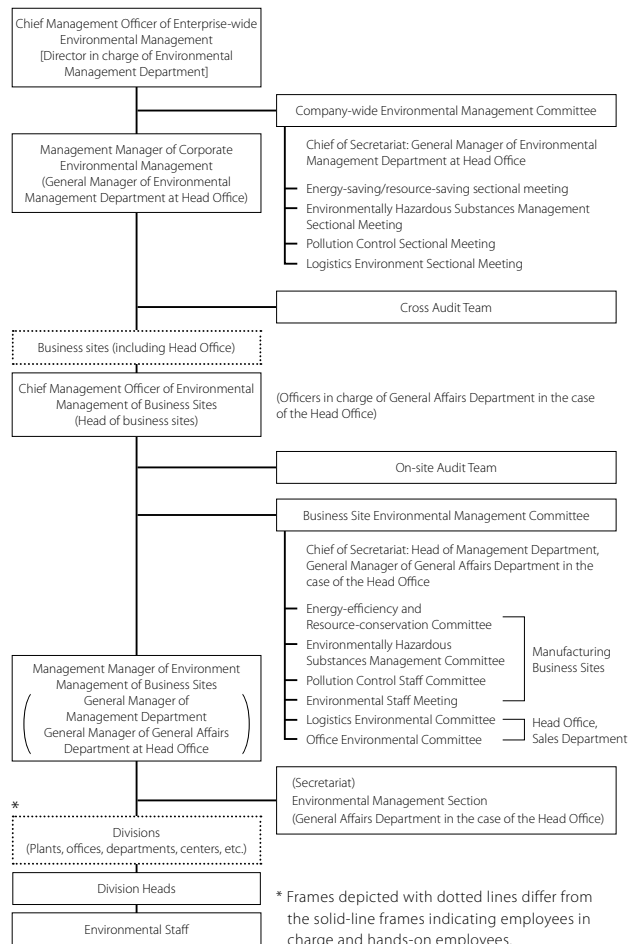
#### 7. Maintaining open communication

In implementing this Environmental Policy, the NTN Group will seek to improve the environmental awareness of all our employees. In addition, we will widely disseminate information on our environmental initiatives and actively promote open communication with the general public.

#### 8. Continuously improving our Environmental Management System

The NTN Group will implement and continuously improve our Environmental Management System in order to enhance our environmental performance.

### Plan of Our Environmental Management System



Please refer to the Environmental Data for a list of business sites that have acquired ISO 14001 certification.

<http://www.ntnglobal.com/en/ecology/sitereport/iso14001.html>



## Company-wide Environmental Performance for the Fiscal Year Ended March 31, 2017

### 15 of 23 Targets Achieved

For the fiscal year under review, we promoted initiatives and set our targets in accordance with the four policies of the NTN Environmental Policy. As a result, we succeeded in achieving our targets for 15 of 23 items.

Our targets for the next fiscal year are CO<sub>2</sub> emissions of 654,000 tons/year (282,000 tons/year in Japan; 372,000 tons/year outside Japan). In addition, we intend to set company-wide environmental targets according to our revamped NTN Environmental Policy and Environmental Action Policy. We will also devise measures to achieve these targets.

### Company-wide Environmental Results for the Fiscal Year Ended March 31, 2017

😊 Achieved ☹ Not achieved

NTN Environmental Policy	Environmental Purpose	Environmental Targets		Results	Self-evaluation	
Development and sales of environmentally friendly products	Development of energy-efficient products	Develop environmentally contributing products to meet needs of expanding new energy and greater number of electric cars		R&D in progress in engineering and research divisions	😊	
		Begin assessment of environmental efficiency in new product development		Preparing to implement	☹	
Reduction in environmental impact	Prevention of global warming	Promote energy efficiency by using the new energy-efficient budget framework		Being implemented in each business site	😊	
		Reduction of CO <sub>2</sub> emissions	Japan	273,000 tons/year or less *1 *2	277,000 tons/year	☹
			Overseas	346,000 tons/year or less *3	342,000 tons/year	😊
		Reduction in CO <sub>2</sub> emissions intensity	Japan	Improvement over the fiscal year ended March 31, 1998, -21.1%	-20.3%	☹
			Overseas	Improvement over the fiscal year ended March 31, 2007, -14.0%	-10.8%	☹
		Reduce, reuse, and recycle	Raise the recycling rate	Japan	99.8% or more	99.9%
	Overseas			98% or more	96.9%	☹
	Preserve resources	Reduction in waste generation intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -0.1%	-3.1%	😊
			Overseas	Reduction over the fiscal year ended March 31, 2015, -6.4%	-5.2%	☹
		Reduction in water consumption intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -16.0%	-15.3%	☹
			Overseas	Reduction over the fiscal year ended March 31, 2015, -6.4%	-5.2%	☹
	Reduction in paper purchased intensity	Japan	Increase paper consumption by +15.1% over the fiscal year ended March 31, 2011	+14.7%	😊	
		Reduction in use of Styrofoam	Japan	In comparison with the fiscal year ended March 31, 2000, -99% maintained	-99.7%	😊
Management and reduction of environmentally hazardous substances	Manage and reduce PRTR-designated substances		Being implemented in each business site	😊		
Observance of laws and regulations and implementation of thorough environmental management systems	Compliance with environmental laws	Introduce management that reflects the Act on Rational Use and Proper Management of Fluorocarbons		Being managed in each business site	😊	
		Continue to create measures to prevent leak accidents and carry out improved and full-scale emergency drills (Prevention of water pollution)		Completed at all business sites	😊	
		Continue strict management of poisonous materials		Strict management continuing	😊	
	Expansion and improvement of environmental management systems	ISO 14001 certificate	Prepare the AMC Kameyama Plant for inclusion in the multi-site ISO 14001 certification.		Audit scheduled for September 2017	😊
		Accommodate revisions to ISO 14001	Begin operating the ISO 14001:2015 of the Management System		Now collecting information at seminars and preparing to revise the management manual	😊
		Promote green procurement	Ensuring the understanding of the revision of the Green Procurement Standards and the guidelines for activities to preserve biodiversity		Revision of Green Procurement Standard	☹
Clarification of responsibilities for green procurement in each division						
Activities to contribute to society and protect the natural environment	Protecting biodiversity	Zero complaints of environmentally hazardous substances		No complaints from customers	😊	
		NTN Kigyo no Mori and other protecting biodiversity activities		Being implemented in various regions	😊	

\*1. The CO<sub>2</sub> emissions factor of power suppliers is calculated with a fixed coefficient of 0.381.

\*2. AMC KAMEYAMA Plant has been included.

\*3. NTN-LYC (Luoyang) Bearing Corp. has been included.



# Company-wide Environmental Targets for the Fiscal Year Ending March 31, 2018

## NTN Environmental Policy and Environmental Action Policy for the Fiscal Year Ending March 31, 2018

NTN Environment Policy	Environmental Action Policy
1. Developing technology that contributes to prevention of global warming	Develop technologies and products that contribute to energy efficiency and energy generation.
2. Observance of laws and regulations	Introduce management that reflects the Act on Rational Use and Proper Management of Fluorocarbons.
	Continue strict management of poisonous materials.
	Increase number of personnel who have acquired pollution control supervisor qualification. Stringently identify equipment containing PCBs and undertake planned processing reliably.
3. Reducing the environmental impacts of our business operations	Reduce CO <sub>2</sub> emissions using a supplemental budget.
	Identify Scope 3 impacts and other environmental impacts in the supply chain.
	Promote green procurement.
4. Utilizing resources sustainably	Reduce water usage.
	Reduce waste generation and maintain a high recycling rate.
	Reduce use of paper and Styrofoam.
5. Stringently controlling environmentally harmful substances	Manage and reduce the handling volume of substances that are subject to the PRTR law.
6. Conserving biodiversity	Promote biodiversity conservation initiatives such as the Kigyo no Mori forest.
7. Maintaining open communication	Plan measures that contribute to an improved evaluation of our environmental rating as well as vigorous information disclosure.
8. Continuously improving our Environmental Management System	Include the AMC Kameyama Plant in the multi-site ISO 14001 certification.
	Accommodate revisions to the ISO 14001 standard (transition to the 2015 edition).

## Company-wide Environmental Targets for the Fiscal Year Ending March 31, 2018

NTN Environmental Policy	Environmental Targets			
Using proprietary technology to help minimize global warming	Develop technologies and products that contribute to energy efficiency and energy generation.			
Ensuring compliance with laws and regulations	Continue strict management of poisonous materials			
Reducing the environmental impact of our business operations	Reduce CO <sub>2</sub> emissions.	Reduce CO <sub>2</sub> emissions.	Japan	282,000 tons/year or less
			Overseas	372,000 tons/year or less*1
	Reduce CO <sub>2</sub> emissions intensity.	Reduce CO <sub>2</sub> emissions intensity.	Japan	Improvement over the fiscal year ended March 31, 1998, -21.2%
			Overseas	Improvement over the fiscal year ended March 31, 2007, -5.0%*1
Committing to the use of sustainable resources	Reduce water usage.	Reduce water consumption intensity.	Japan	Reduction over the fiscal year ended March 31, 2011, -16.8%
			Overseas	Reduction over the fiscal year ended March 31, 2015, -1.2%*2
	Reduce waste generation and maintain a high recycling rate.	Raise the recycling rate.	Japan	99.8% or more
			Overseas	97% or more
	Reduce waste generation intensity.	Reduce waste generation intensity.	Reduction over the fiscal year ended March 31, 2011, -1.6%	
		Reduce paper purchased intensity.	Increase paper consumption by +14.0% over the fiscal year ended March 31, 2011	
	Reduce use of paper and Styrofoam.	Reduce use of Styrofoam.	In comparison with the fiscal year ended March 31, 2000, -99% maintained	
Ensuring thorough management of environmentally hazardous substances	Manage and reduce the handling volume of substances that are subject to the PRTR law.			
Implementing biodiversity conservation initiatives	NTN Kigyo no Mori and other biodiversity-protection activities			
Continually improving our Environmental Management System	Accommodate revisions to the ISO 14001 standard (transition to the 2015 edition).			

\*1. 5 business sites added: NTN-AT, NDB, NTPT, NNMI Chennai, and Nanjing NTN.

\*2. 4 business sites added: NDB, NTPT, NNMI Chennai, and Nanjing NTN



# Environmental Impact of Business Activities

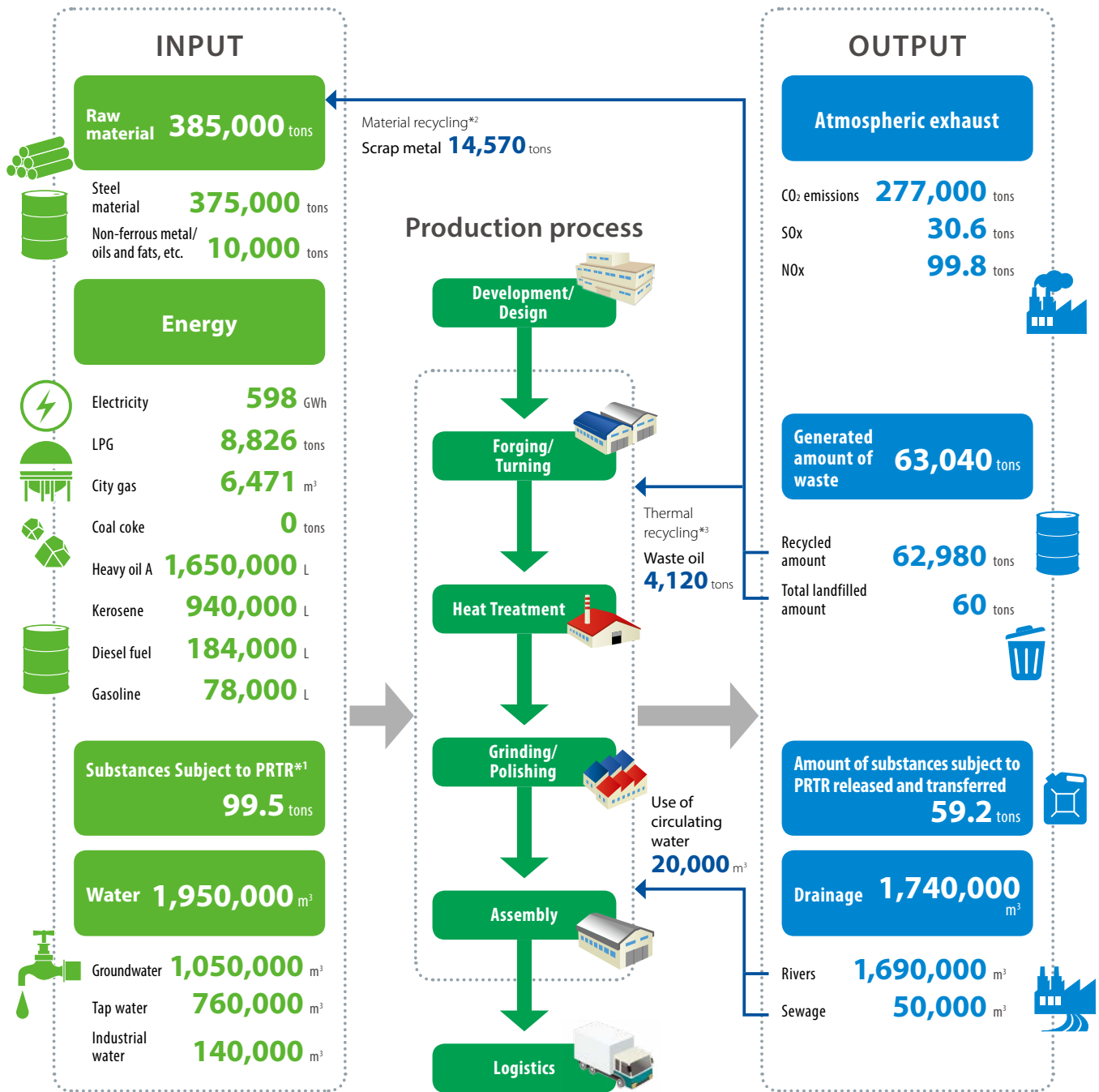
## Reducing Environmental Impact in All Business Activities

The NTN Group strives to reduce its environmental impacts across all processes from development and design to logistics. Toward that end, we are taking steps to identify the overall

scope of all inputs into the manufacturing process (raw materials, energy, chemical substances [PRTR] and water) and all outputs from the manufacturing process (air, solid waste, chemical substances [PRTR] and wastewater) in an effort to minimize them.

### Environmental impact from production activities in Japan (Fiscal Year ended March 31, 2017)

Target: the NTN Group in Japan



\*1. An Act intended to improve management and monitoring of environmental emissions of specific chemical substances

\*2. Material recycling: To recycle for use as a raw material  
\*3. Thermal recycling: To recycle for use as fuel



Please refer to the website for environmental accounting data.  
<http://www.ntnglobal.com/en/operation.html>



- For data specific to particular business sites, please refer to the Environmental Data.  
<http://www.ntnglobal.com/en/ecology/sitereport/index.html>
- Please refer to the website for the third-party verification opinion from SGS Japan as well as information on efforts to prevent global warming attributable to logistics.  
<http://www.ntnglobal.com/en/ecology/co2.html>

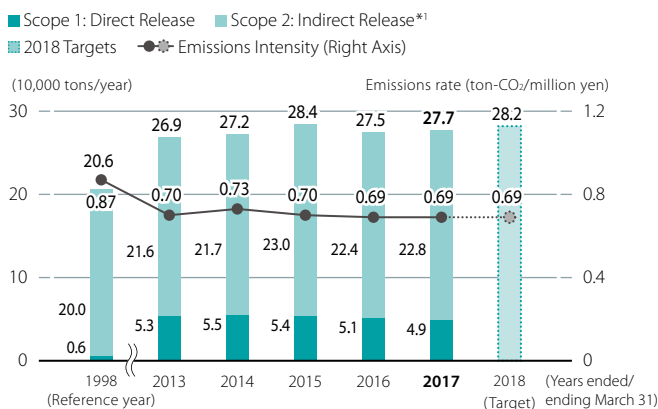
## Prevention of Global Warming

In an effort to reduce our environmental impact, our Group has established an Environmental Management System encompassing the entire Group.

### Reduction of CO<sub>2</sub> Emissions

Regarding our CO<sub>2</sub> emissions reduction target for the fiscal year under review, our Group companies in Japan did not meet the target (3,000 tons above the target and a 0.6% increase year-on-year). For Scope 1 emissions, upgrading the cupola furnace at NTN Casting Corporation to an electric furnace in January 2016 resulted in a reduction of 5.2% compared to the preceding fiscal year. Scope 2 emissions, however, rebounded 1.9% in reaction. On the other hand, Group companies outside Japan did meet the target (4,000 tons below the target and a 3.5% increase year-on-year). Shanghai NTN Corporation contributed to this by introducing photovoltaic generation equipment, accruing a benefit from in-house power generation (a 5.8% decrease year-on-year).

#### CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity (Japan)



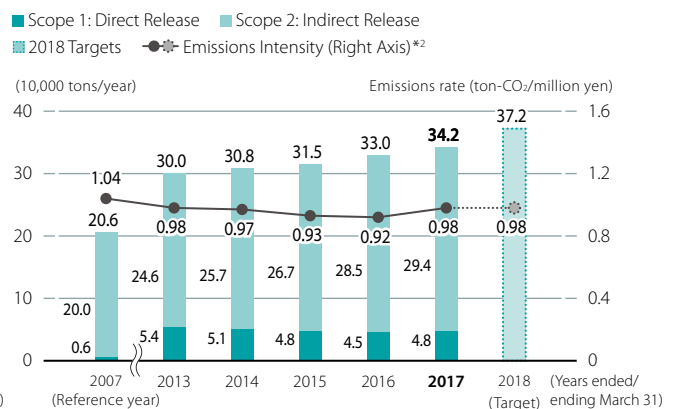
\*1. Domestic Power Drain Coefficient, calculated with a fixed coefficient of 0.381  
CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity (outside Japan)

The CO<sub>2</sub> emissions intensity target was not achieved by either the domestic Group or overseas Group. The principal contributing factor was reduced production in the domestic Group and in the North American offices of the overseas Group.

Regarding the CO<sub>2</sub> emissions reduction target for the domestic Group for the next fiscal year, we adopted a target of 282,000 tons/year (representing a 1.8% increase year-on-year). We also noted that increased production scale was a contributor to increased CO<sub>2</sub> emissions, but by promoting various energy-efficiency initiatives, we are working towards achieving the target. In addition, because the overseas Group is promoting local production and has added five business sites\*, we have adopted a CO<sub>2</sub> emissions target of 372,000 tons/year.

\* Five business sites outside Japan: NTN-AT, NDB, NTPT, NNMI Chennai, Nanjing NTN

#### CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity (Overseas)



\*2. Emissions Intensity outside Japan was modified with the addition of five business sites.

### Dual-pane windows installed in the head office building

The NTN Group is also taking steps to reduce CO<sub>2</sub> emissions at our offices.

During installation of seismic upgrades to our head office building following the Great Hanshin-Awaji Earthquake of January 1995, we upgraded the structure along with windows equipped with energy-efficient glass panes. In the summer of 2016, the building was retrofitted with site-fabricated low-E Insulated Glazing Unit (IGU) glass\* windows in order to achieve a further CO<sub>2</sub> emissions reduction. In addition, we upgraded the

air conditioning equipment with the latest models and introduced various types of LED lighting in order to achieve our planned reduction of CO<sub>2</sub> emissions.



Energy-efficient dual-pane windows installed in the head office  
At left: with dual panes installed At right: Before dual-pane installation with low-E coating

\* Site-fabricated low-E IGU glass retrofit  
<https://www.asahiglassplaza.net/products/attoch/>  
(Japanese Website Only)



## Protecting Biodiversity

The NTN Group, working in collaboration with local residents and NGOs, engages in nature conservation and strives to preserve biodiversity around its business sites.

### Nagano Works Is Recognized with Governor’s Award, the “Nagano Hometown Forest Creation Award.”

In January 2017, the Nagano Works was formally recognized for its initiatives with the awarding of the Governor’s Award, the “Nagano Hometown Forest Creation Awards.” This honor is bestowed on an individual or organization that has made a significant contribution to forest conservation and forestry development. The Nagano Works earned high praise for engaging in forest improvement in the City of Komagane for more than a decade since concluding a forest maintenance agreement with the city. The initiative that led to this award was based on the “Forest Adoption” Project in Nagano Prefecture in March 2006. We intend to continue promoting our Forest Adoption projects and will address future community contribution initiatives.



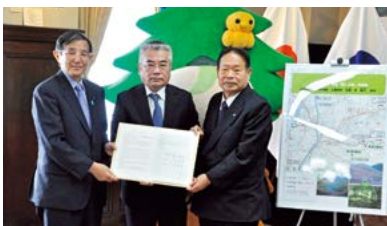
Presentation by Eri Nakajima, Deputy Governor of Nagano

### “Nagomi no Mori” Initiative Launched in Second Location

In January 2017, NTN Kinan Corporation entered into a second environmental conservation and forest agreement with Kamitonda-cho, Nishimuro-gun, Wakayama prefecture.

The first “NTN Kinan Muro Nagomi no Mori” project got under way in 2007 and resulted in the planting of about 2,000 oak, sawtooth oak, white oak, and other species of hardwood trees. After a decade of growth, these trees have reached about five meters in height.

During this time, the company gained access to an additional 0.45 hectares of mountain forest at the same location and will be planting trees and cutting undergrowth. Under the guidance of the local Nishimuro Forestry Cooperative, the company will spend about a decade planting ubamegashi (*quercus phillyraeoides*), bayberry, wild cherry trees, and Shibaguri chestnut. NTN Kinan will continue to engage in forest conservation activities while working to protect the surrounding areas and the natural environment.



Commemorative photo taken at signing ceremony. From left: Yoshinobu Nisaka, Governor of Wakayama Prefecture, Seiji Uemoto, President of NTN Kinan Corporation, Takamichi Koide, Mayor of Kamitonda-cho

### Greening Initiative at NTN-LYC (Luoyang) Bearing Corp.

NTN-LYC (Luoyang) Bearing Corp. is located in the city of Luoyang, Henan province, China, and has been in production since 2012. Known locally as “Peony City,” it is the site of the Luoyang Peony Festival held every year in April.

In February 2017, as part of the factory’s greening initiative, employees planted six pine trees as well as more than 100 peonies in a vacant lot in front of the administration building and on the southern side of the factory, creating a facility worthy of its location in the “Peony City.”

Going forward, the company will continue to implement environmental conservation initiatives through ongoing pruning of trees as well as weeding and mowing of the peony gardens. All are invited to visit Luoyang in April when the peonies are in full bloom.



Planted peonies in bloom

### “Kigyo no Mori” Initiative Now a Part of the Region

Since 2002, Iwata Works has been engaged in five spring-to-autumn greening initiatives at Nature Fureai Park in the city of Iwata.

This initiative involves various tasks such as pruning of azaleas, maintenance of weeding and walking paths, repair of monuments and benches using thinned timber, and, for the fiscal year under review, a total of 270 employees and their family members participated. The company is committed to continued engagement in environmental preservation and community activities in the future.

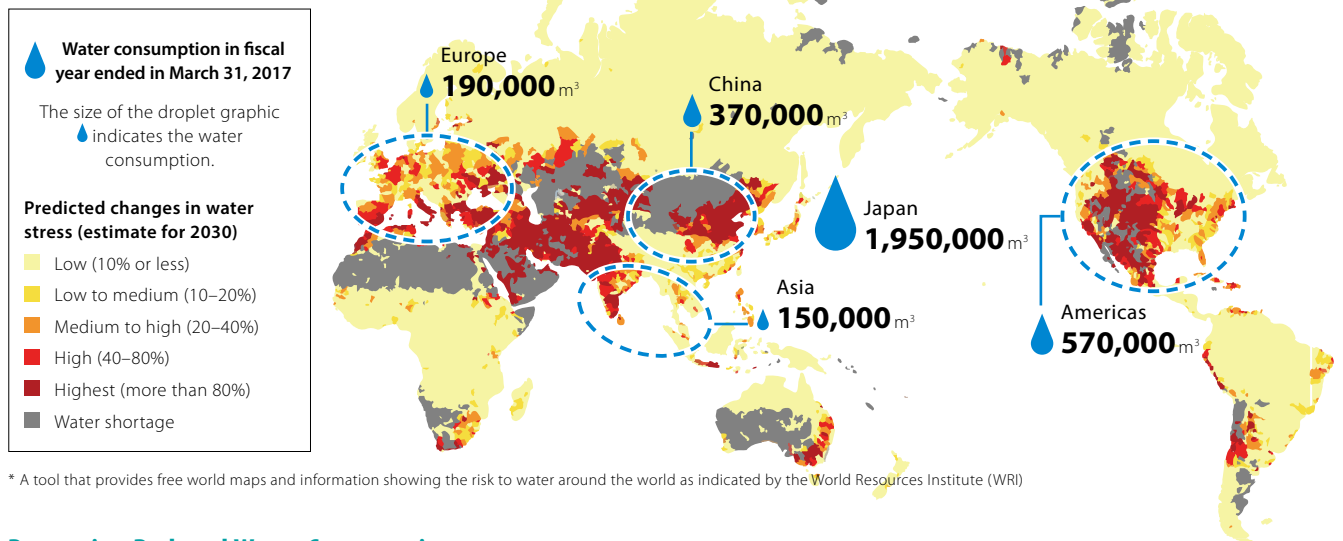


Participating in activities at Nature Fureai Park

# Protection of Resources

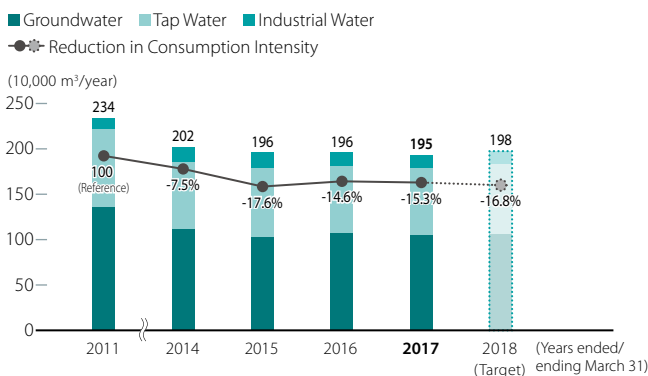
In addition to conventional initiatives such as reducing water consumption and improving the water consumption intensity, the NTN Group has been promoting the AQUEDUCT\* initiative. This effort focuses on the risks to fresh water (current status and future projections of water quantity and quality) for each business site and provides an evaluation. In the future, we will address the water risks and production volumes at each of our business sites in order to reduce water consumption and promote water recycling.

## Water Stress (forecast for 2030) and Current Water Usage

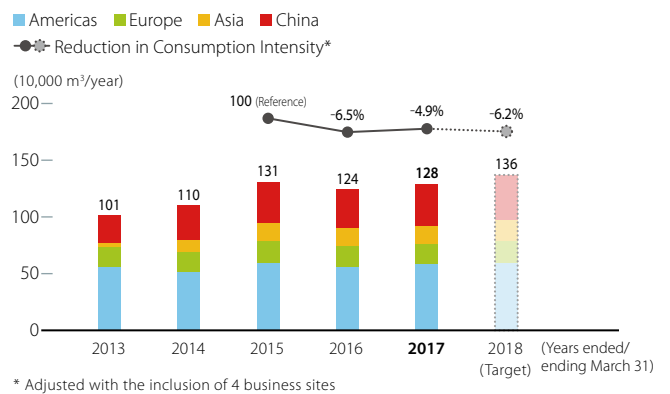


## Promoting Reduced Water Consumption

### Water Usage (Japan)

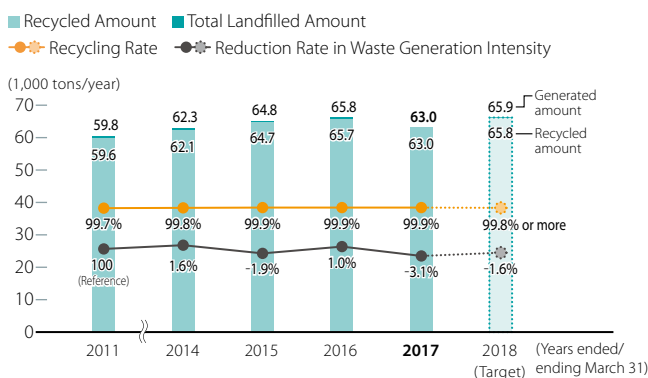


### Water Usage (Overseas)

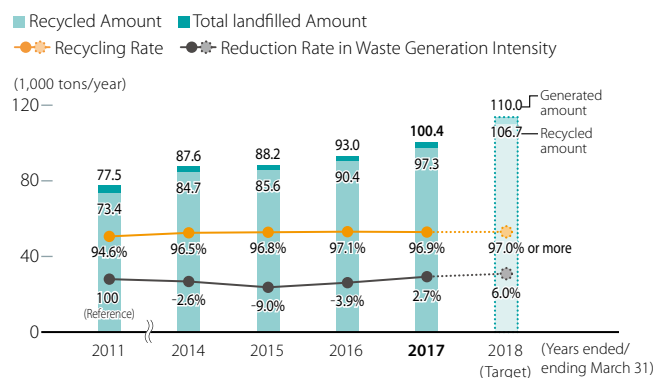


## Raising the Recycling Rate

### Generated Amount of Waste and Recycled Amount (Japan)



### Generated Amount of Waste and Recycled Amount (Overseas)





## Management and Reduction of Environmentally Hazardous Substances

The NTN Group is managing and reducing environmentally hazardous substances while complying with worldwide laws and regulations.

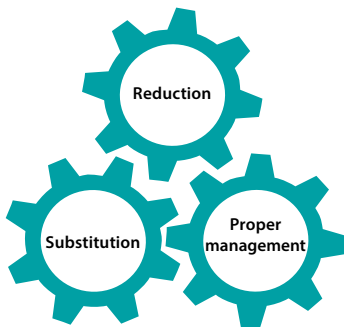
### Response to Environmental Regulations

The NTN Group complies with chemical substance restrictions around the world by keeping a close watch on changing restrictions and constantly testing for what substances are

contained in the raw materials, parts, and materials it procures. We strive to manage and reduce the amount of environmentally hazardous and harmful substances we use.

### Reducing the Use of Chemical Substances Subject to the PRTR

We are committed to reducing the amount of hazardous chemical substances used in our Group's production processes in Japan and are seeking less harmful substitutes for the hazardous chemicals that we continue to use. The target chemical substances are used in our production processes; several of the six substances indicated in the illustration at right account for about 90% of the total, and in order to reduce the amounts of the substances used, we will introduce substitutes for the target substances we use in small quantities. Moreover, in order to reduce the total volume handled, we are promoting changes to both our work processes and the substances used.



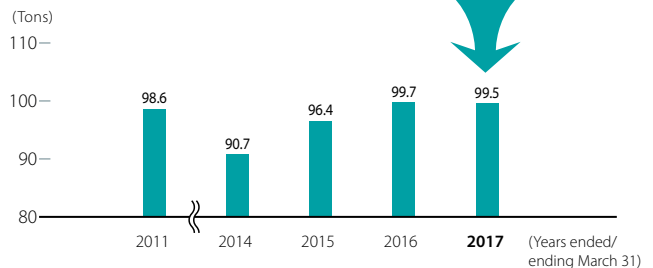
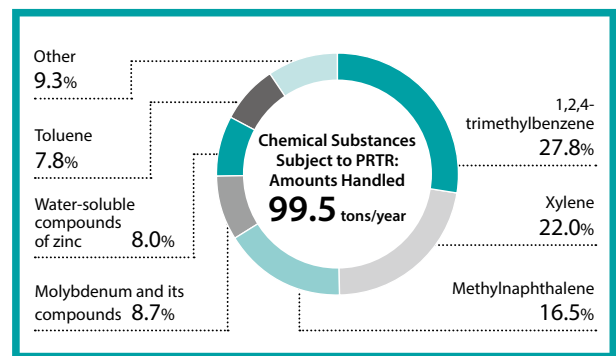
### Disposal of PCB-Contaminated Equipment

The Law Concerning Special Measures Against PCB Waste was amended in May 2016 to accelerate the processing of PCB waste in Japan; the law took effect on August 1 that same year. This strengthened the authority of prefectural and city governments and the like to request notifications and conduct on-site inspections of business operators regarding high-concentration PCB wastes that have not been reported on.

In our Group companies in Japan, four transformer units containing low concentrations of PCBs were discarded at the Kuwana Works during the fiscal year under review. Moreover, the Iwata Works discarded 46 capacitors containing high concentrations of PCBs, 32 transformers containing low concentrations of PCBs, and two capacitors, among other items.

We will continue the disposal process for equipment containing low-concentration PCBs during the coming fiscal year.

### Chemical Substances Subject to PRTR: Amounts Handled



### Emergency-Response Drills Conducted

NTN Mikumo Corp. carries out emergency-response drills every June during Environment Month. During the fiscal year under review, training was provided to new employees assigned from the Mono-Zukuri (Manufacturing) Center, Manufacturing Department, and Quality Assurance Department as well as 33 employees who had not undergone training prior to June 30, 2016.

Specifically, certain points were confirmed on-site, including the emergency stop procedure required in the event of a leakage of coolant; confirmation of the drainage route inside the factory for rainwater and the like; and proper use of



Emergency drill in front of wastewater treatment facility

absorption mats stockpiled in the warehouse on site and elsewhere.

## Environmental Management

The NTN Group has established and implemented an Environmental Management System (EMS) that meets the ISO 14001 international standard as part of its effort to enhance its environmental initiatives. In the fiscal year under review, no serious legal violations occurred, as no violations of emissions standards and no pollution accidents were noted.

### Accommodating Revisions to the ISO 14001 Standard

In response to the revision of the 2004 version of the ISO 14001 standard to the 2015 version in September 2015, members of the NTN Group in Japan held a workshop for internal environmental auditors. In addition, from November 2016 to January 2017, a total of 99 staff attended training courses at four

locations across Japan. The chief lecturer was assigned from L. Marvin Johnson & Associates, Inc. Japan, a training institute for ISO auditors. We plan to increase the number of internal auditors to around 230 as part of our main review leading up to our introduction of the 2015 version of the ISO 14001 standard, which is scheduled for September 2017.

### The AMC Kameyama Plant prepares for certification of registration with the 2015 version of the ISO 14001 standard.

The Kameyama Plant of NTN Advanced Materials Co., Ltd. (AMC Kameyama Plant) had acquired certification of ISO 14001 registration independently around the time it was part of the former Nippon Kagaku Yakin Co., Ltd. However, the examination the company will undergo under the multi-site system as a member of NTN will be its first.

Therefore, in order to implement the environmental management system required to be in place for the 2015 version of the ISO 14001 standard, a study group comprising key members of the AMC Kameyama Plant will focus on the issues addressed in the revision and increase their understanding of

the standards as all our companies gear up for the review scheduled for September 2017.



Study session at AMC Kameyama Plant

### Participation in Shimane Exchange Meeting 2016

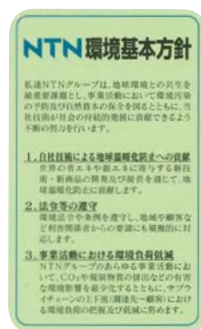
NTN Casting Corporation participated in the Shimane Exchange Meeting 2016 held in the city of Matsue, Shimane Prefecture, in December 2016. This event highlights the activities of the various companies in the area as well as local governments and organizations and the like for the benefit of students with the goal of promoting exchanges among companies. About 230 booths staffed by private enterprises, governments, NPOs, and university laboratories participated in this exchange fair, which attracted more than 1,600 visitors, of which 700 were students. This event was a good opportunity for local residents to learn about the business operations and corporate philosophy of NTN Casting Corporation. Many visitors to our booth offered their comments and asked questions.



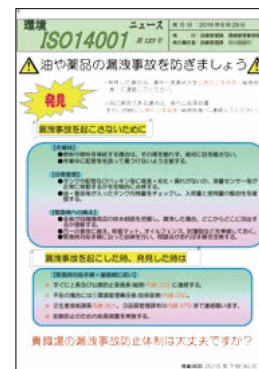
Attendees at Shimane Exchange Meeting 2016

### Improving Environmental Awareness

In order to raise environmental awareness, our Group companies in Japan have updated and distributed an "Environmental Policy Card" for all employees (including those stationed at business sites such as temporary staff, subcontractors, and permanently assigned contractors). Moreover, every year in June, Environment Month, we identify priority initiatives for each business site. For example, through our *Environmental News* publication, we are particularly thorough about making all concerned well aware of procedures such as the emergency response required during an oil or chemical leak.



Environmental Policy Card  
(Items 4 and above appear on back of card.)



Issue of *Environmental News*



# Financial Capital

In the interest of improving our financial foundation, we are implementing various measures to strengthen profit control and improve asset efficiency.



## Improving Our Financial Foundation with a Steady Approach

**Our** net sales and operating income decreased from the previous fiscal year mainly due to the effects of exchange-rates. Free cash flow improved due to inventory reduction and other measures intended to reduce working capital. On the other hand, net income attributable to shareholders (parent company) decreased relative to the preceding fiscal year due to extraordinary losses and effects of exchange-rates, while related indicators such as Return On Equity (ROE) declined. We will continue to focus on operating margin and ROE and will devise measures to improve our financial foundation by strengthening our profit control and improving asset efficiency.

**Keiji Ohashi**

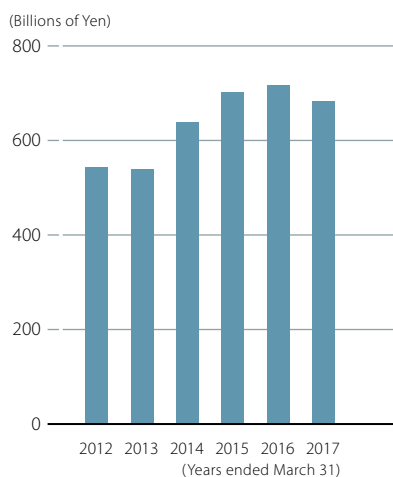
Managing Director,  
Corporate General Manager, Finance Headquarters



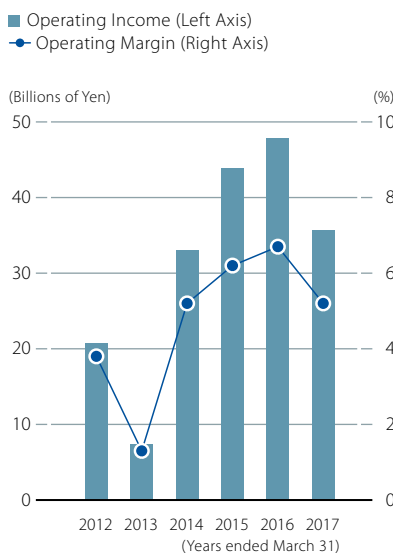
### Summary for the fiscal year ended March 31, 2017

- Net sales: 683.3 billion yen, a decrease of 33.7 billion yen (4.7%) year-on-year
- Operating income: 35.6 billion yen (Operating margin 5.2%), a decrease of 12.1 billion yen (25.4%) year-on-year
- Capital expenditures: 35.4 billion yen, a decrease of 0.9 billion yen (2.5%) year-on-year
- Depreciation: 36.6 billion yen, a decrease of 1.6 billion yen (4.3%) year-on-year
- R&D costs: 19.2 billion yen, an increase of 0.7 billion yen (3.9%) year-on-year
- Interest-bearing debt: 320.2 billion yen, a decrease of 5.0 billion yen (1.5%) year-on-year
- Inventories: 171.5 billion yen, a decrease of 6.7 billion yen (3.8%) year-on-year
- Dividends: 10 yen (5 yen at 2nd quarter end, 5 yen at fiscal year end) Dividend payout ratio of 187.6%

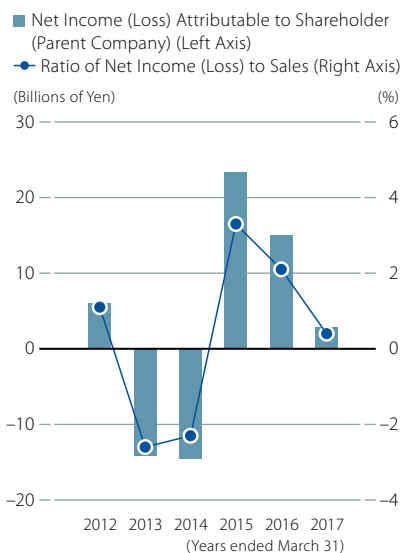
#### Net Sales



#### Operating Income / Operating Margin



#### Net Income (Loss) Attributable to Shareholder (Parent Company) / Ratio of Net Income (Loss) to Sales





## Net Sales and Incomes

### ● Sales Performance

Consolidated net sales for the fiscal year ended March 31, 2017, were 683,329 million yen, a decrease of 33,668 million yen (4.7%) from the previous fiscal year. Due to the effects of exchange-rates, a decrease of 59,246 million yen represented an increase of 25,578 million yen. Overseas sales were 491,863 million yen, a decrease of 35,577 million yen (6.7%) from the previous fiscal year. Overseas sales accounted for 72.0% of net sales overall (Americas 28.5%, Europe 22.7%, Asia and others 20.8%), a decrease of 1.6 percentage points from the previous fiscal year.

### Net Sales and Incomes by Business Sector

In aftermarket applications, sales were 104,501 million yen due to the effects of exchange-rates and a decrease in demand for industrial machinery aftermarket. Operating income was 13,995 million yen due to the effects of exchange-rates and other factors.

In industrial machinery applications, net sales were 98,611 million yen due to the effect of exchange-rates and other factors, though customer demand increased for construction machinery and other applications. Operating income were 1,622 million yen.

In automotive applications, net sales were 480,217 million yen due to the effect of exchange-rates, though customer demand increased in overseas. Operating income was 20,006 million yen after accounting for effects of exchange-rates and other factors, although the increased sales had the effect of reducing proportional costs.

### Net Sales and Incomes by Region

In terms of sales in Japan, looking at aftermarket applications, there was a decrease in industrial machinery aftermarket applications. As for sales of industrial machinery applications, construction machinery and other applications increased. In automotive applications grew thanks to expanded customers'

demands. As a whole, net sales were 191,466 million yen (up 1.0% from the previous fiscal year).

In terms of sales in Americas, looking at aftermarket applications, there was an increase in automotive aftermarket applications. In industrial machinery aftermarket applications, sales increased in construction machinery applications and others. Sales of automotive applications also increased backed by increased customer demands and other factors. As a whole, net sales were 194,765 million yen (down 8.4% from the previous fiscal year), due to effects of exchange-rates.

In terms of sales in Europe, automotive aftermarket applications increased. For industrial machinery applications, lower customer demand for wind turbines and other products, and increased demand for in aircraft and other applications, resulted in relatively unchanged performance from the previous fiscal year. As a whole, net sales were 154,990 million yen (down 8.3% from the previous fiscal year), due to effects of exchange-rates.

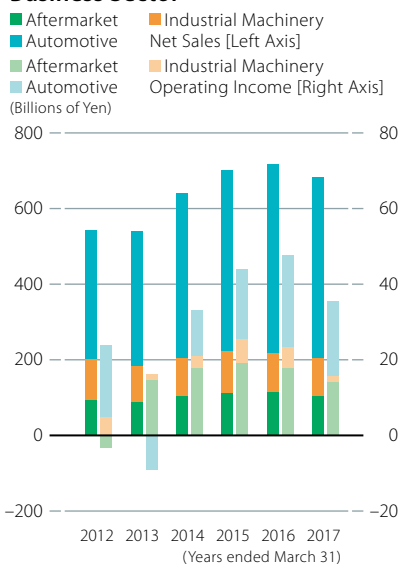
In terms of sales in Asia and other areas, automotive aftermarket applications were increased. For industrial machinery applications, sales increased in construction machinery and other applications; similarly, sales increased in automotive applications thanks to expanded customer demands. As a whole, net sales were to 142,108 million yen (down 2.6% from the previous fiscal year), due to effects of exchange-rates.

### ● Cost of Sales and Selling, General and Administrative Expenses

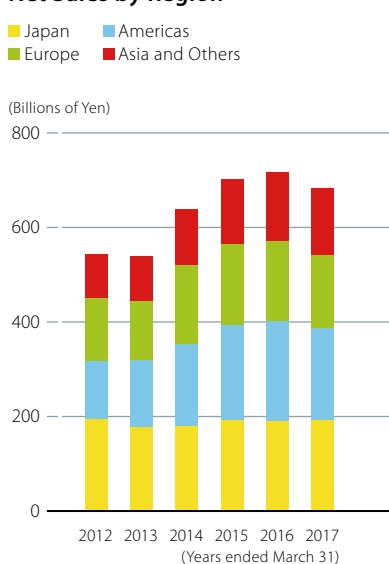
The cost of sales was 555,722 million yen, up 0.9 percentage points and representing 81.3% of consolidated net sales. This was mainly effects of exchange-rates.

Selling, general and administrative expenses were 91,984 million yen, representing 13.5% of consolidated net sales, or up 0.6 percentage points compared to the previous fiscal year.

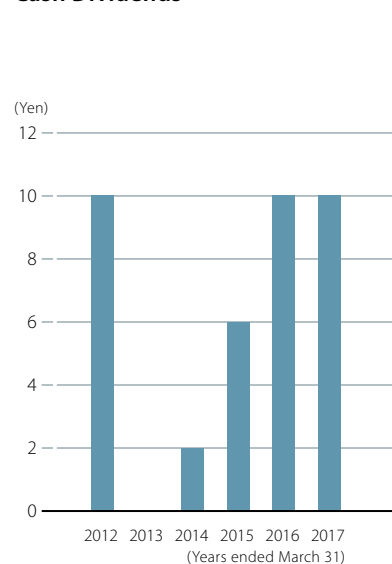
### Net Sales / Operating Income by Business Sector



### Net Sales by Region



### Cash Dividends





## Financial Capital

### ● Income

Regarding profit for the fiscal year under review, factors contributing to increased earnings included the effects of scale and a decrease in variable costs. Meanwhile, factors contributing to decreased earnings included unfavorable effects of exchange-rates, lower sales price level, and increased personal expenses. As a result, the operating income for the term was 35,623 million yen, down 12,147 million yen from the previous fiscal year.

Other expenses amounted to a net expense of 20,733 million yen. The major contributing factors were income of 5,475 million yen, including a loss reversal associated with the arbitration award of 2,147 million yen, and expenses of 26,208 million yen, including a loss related to Antimonopoly Act of 12,129 million yen, impairment losses of 4,562 million yen, and a loss on sale of fixed assets of 171 million yen.

As a result, net income before income taxes and equity in earnings was 14,890 million yen for the fiscal year under review, a decrease of 12,053 million yen compared with the preceding fiscal year. Net income per share was 5.33 yen for the year under review.

Regarding annual dividends for the fiscal year under review, we plan to pay a year-end dividend of 5 yen per share, which, when added to our interim dividend of 5 yen per share, totals 10 yen per share for the full year.

### R&D and Capital Expenditures

#### ● R&D Expenditures

R&D expenditures of the entire group for the fiscal year under review were 19,196 million yen (up 715 million yen over the previous fiscal year), representing 2.8% of consolidated net sales.

Under the ongoing “NTN 100,” our 3-year Medium-term Management Plan from April 2015 to March 2018, we are vigorously creating new businesses to “Manage Growth.” In April 2016, we established our Electric Module Products Division and Green Energy Products Division, which are

intended to promote product commercialization.

In order to accommodate increased sales outside Japan, we continue to globalize our research and development system. We are supporting state-of-the-art technological research in Japan by seeking collaboration among industry, academia, and government and are building a global network with R&D bases outside Japan for new products and technologies. Additionally, we are accelerating efforts to accommodate our customers with technical services, certification evaluations, inspections, and analysis and the like so that we can quickly respond to sales growth in the Americas, Europe, Asia, and elsewhere.

#### ● Capital Expenditures

For NTN Corporation and its consolidated subsidiaries, the main focus of capital expenditures was on increasing production capacity, labor savings, and rationalization, maintaining and upgrading existing facilities, improving safety, and conducting R&D for new products.

In Japan, capital expenditures totaled 12,198 million yen for capital projects that included the expansion of bearing production equipment and expansion of buildings at NTN Noto Corporation, as well as additions to bearing production equipment at NTN Akaiwa Corporation.

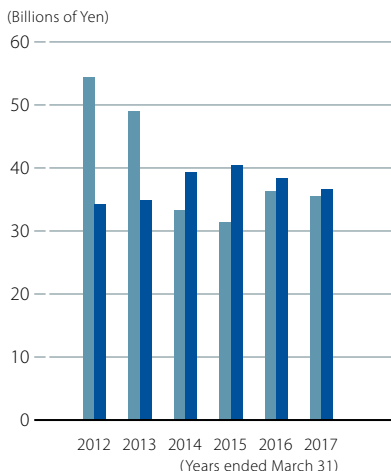
In the Americas, capital expenditures totaled 11,350 million yen on projects that included the construction of a new plant and installation of CVJ production equipment at NTN Driveshaft Anderson, Inc. and the addition of production equipment for CVJ parts at NTN-Bower Corporation.

In Europe, capital expenditures were 8,250 million yen, with projects including the expansion of bearing production equipment at NTN-SNR ROULEMENTS and NTN Mettmann (Deutschland) G.m.b.H.

In Asia and other areas, capital expenditures amounted to 3,663 million yen on projects that included expansion of CVJ

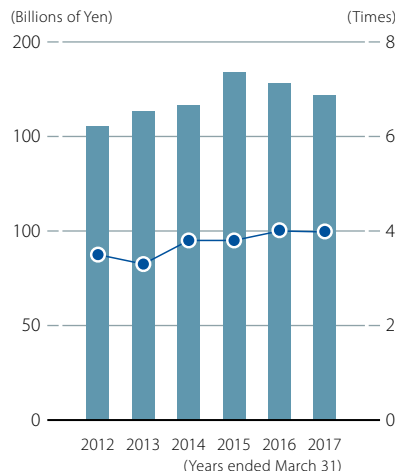
### Capital Expenditures and Depreciation

■ Capital Expenditures  
■ Depreciation

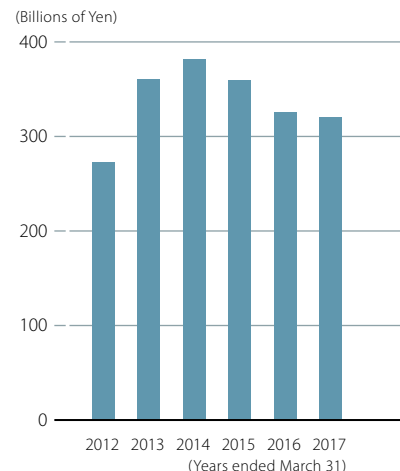


### Inventories / Inventory Turnover Ratio

■ Inventories (Left Axis)  
● Inventory Turnover Ratio (Right Axis)



### Interest-bearing Debt



production equipment at NTPT Co., Ltd. and Xiangyang NTN-Yulon Drivetrain Co., Ltd.

After adjusting for -64 million yen in equipment transfers between segments, total capital expenditures for the fiscal year were 35,398 million yen.

All expenditures were funded from internal funds and short-term loans. Depreciation and amortization for the fiscal year under review amounted to 36,629 million yen (down 1,649 million yen from the previous fiscal year).

## Financial Position and Cash Flows

### Interest-bearing debt decreased by 5.0 billion yen compared with the preceding fiscal year. Free cash flow came to 21.2 billion yen.

Total current assets at March 31, 2017 amounted to 434,929 million yen, a year-on-year increase of 12,636 million yen (or 3.0%). Major factors included an 11,973 million yen increase in cash and cash equivalents; 3,210 million yen increase in electronically recorded monetary claims; a 3,054 million yen increase in accounts receivable-trade; 6,738 million yen decrease in inventories.

Total fixed assets at the fiscal year-end amounted to 284,612 million yen, a decrease of 11,789 million yen (or 4.0%) against the end of the previous fiscal year. Investments and other assets increased by 3,393 million yen (4.5%), to 79,350 million yen, against the result for the previous fiscal year. As a result, total assets amounted to 798,891 million yen, a year-on-year increase of 4,240 million yen (or 0.5%).

Current liabilities were 315,028 million yen, a year-on-year increase of 26,257 million yen (or 9.1%). This was due mainly to a 12,642 million yen increase in short-term bank loans and a 5,757 million yen increase in trade payables. Total long-term liabilities amounted to 238,813 million yen, a year-on-year decrease of 18,562 million yen (or 7.2%). This is mainly due to a 14,578 million yen decrease in long-term debt and lease

obligations, and a 4,988 million yen decrease in liabilities for retirement benefits.

Total net assets were 245,050 million yen, a year-on-year decrease of 3,455 million yen (or 1.4%). This was due mainly to an 8,469 million yen decrease in translation adjustments; a 2,486 million yen decrease in retained earnings; a 4,953 million yen increase in net unrealized holding gain on securities; and a 3,522 million yen increase in retirement benefit liability adjustments.

The equity to capital ratio was 28.7%, down 0.5 percentage points. Total net assets per share, based on the number of shares outstanding over the end of the previous fiscal year, were 431.66 yen per share (a decrease of 5.31 yen per share over the previous fiscal year). Interest-bearing debt amounted to 320,170 million yen, a decrease of 5,004 million yen (1.5%) from the end of the previous fiscal year. Factoring in the 3,241 million yen decrease from effects of exchange-rates, the actual decrease was 1,763 million yen. The ratio of interest-bearing debt to total assets was 40.1% (down 0.8 percentage points compared to the end of the previous fiscal year).

Net working capital was 119,901 million yen, a decrease of 13,621 million yen from the end of the previous fiscal year. The current ratio was 138.1% (down 8.1 percentage points over the end of the previous fiscal year).

The inventory turnover ratio was 3.98 times (down 0.04 times compared with the end of the previous fiscal year), while the turnover ratio of total assets was 0.86 times (down 0.04 times).

Net cash from operating activities was 62,388 million yen (a year-on-year increase of 16,141 million yen, or 34.9%). Major items included proceeds of 36,629 million yen from depreciation and amortization, 14,890 million yen from income before income taxes, and an increase of 7,243 million yen in trade payables.

Net cash from investing activities was 41,219 million yen (a year-on-year increase of 7,448 million yen, or 22.1%). This was due mainly to expenditures of 35,273 million yen for the purchase of property, plant, and equipment and 6,627 million yen for the purchase of other assets.

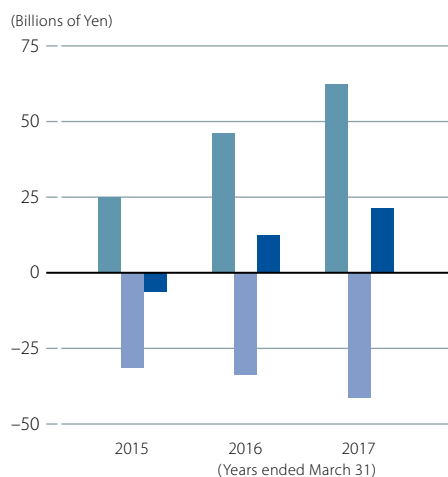
Net cash from financing activities was 8,218 million yen (a year-on-year decrease of 19,740 million yen, or 70.6%). Major factors included expenditures of 75,060 million yen for repayment of long-term loans and 39,481 million yen in proceeds from long-term loans. Proceeds from issuance of corporate bonds totaled 20,000 million yen.

After including a decrease of 978 million yen in translation adjustments, cash and cash equivalents as of the end of the fiscal year under review totaled 79,284 million yen, representing an increase of 11,973 million yen (17.8%) compared with the previous consolidated fiscal year end.

Free cash flow, the difference between net cash provided by operating activities and net cash used in investing activities, amounted to 21,169 million yen. The proportion of net cash provided by operating activities to net sales was 9.1%.

## Cash Flows

■ Operating Cash Flow ■ Investment Cash Flow  
■ Free Cash Flow



# Risk Factors

Business results and the financial position of the NTN Group are subject to the following risks. It should be noted that the forward-looking statements contained in the following reflect judgments of the NTN Group as of the submission date of our securities report (June 26, 2017).

## 1) Economy

The NTN Group operates global production and sales networks, and supplies customers in various industrial sectors. Business results and the financial position of the NTN Group operations may be affected by the economic conditions in specific countries and business conditions in industries to which our customers belong.

## 2) Foreign Exchange Fluctuations

Overseas sales of the NTN Group account for over 50% of consolidated sales. This percentage is expected to increase further due to continued acceleration in the global business development of the NTN Group. Overseas subsidiaries' foreign currency-denominated business results and financial positions are converted to yen for the preparation of consolidated financial statements. Moreover, many export transactions with overseas customers of the Company are conducted in foreign currencies. Although the NTN Group hedges risks through forward foreign exchange contracts and expansion of local procurement, effects of exchange rate fluctuations on business results and financial positions cannot be fully eliminated.

## 3) Declines in Market Prices

The competitive environment surrounding production and sales activities of the NTN Group is becoming harsher worldwide. As products from China and other emerging countries are gaining ground, bearings have been partially affected by falling market prices. At the same time, against a backdrop of global price competition, calls for price reductions are mounting in the automotive industry, which accounts for over half of the NTN Group sales. Although the NTN Group works continuously to reduce costs while developing new products of high quality and high added value, business results and the NTN Group's financial position may be affected by downward pressure on market prices.

## 4) Rise in Raw Materials Prices

The NTN Group procures a wide range of raw materials from outside sources. To deal with cost increases, especially of steel materials, which pose a high weighting in materials costs, measures have been taken such as mark-ups on selling prices to reflect higher materials cost. In addition, the Group is targeting cost reductions through enhanced production yields and VA/VE methods. Nevertheless, business results and the NTN Group's financial position may be affected by stronger than expected increases in raw materials costs.

## 5) Disasters and Accidents

Production plants and facilities of the NTN Group and its transaction counterparts are exposed to the risk of damage from natural disasters such as earthquakes, floods, and fires. Although the NTN Group has put into place crisis management systems and stands ready to engage in measures to contain damage as much as possible, risks cannot be completely eliminated. Business performance and the financial status of the NTN Group may be affected by a natural disaster or by accidents.

## 6) Dependence on Specific Industries

The NTN Group's Bearings Division derives approximately half of its sales revenues from the automotive industry, which also accounts for more than half of sales of components that the Constant-velocity Joints Division produces for automotive power transmission to the drive axle. Dependence on the automotive industry is therefore high. Although the NTN Group works to increase sales of bearings and precision equipment products to the industrial machinery sector and implements policies to achieve a balanced sales structure, a rapid shift in demand in the automotive industry could potentially affect the NTN Group's business results and financial position.

## 7) Product Defects

To ensure product quality, the NTN Group works to satisfy customers' requirements concerning product functions and specifications, and strives to provide appropriate quality and product safety by enforcing quality assurance globally. However, a substantial product defect leading to a serious accident, claim for damages, or product recall could entail huge product warranty costs and potentially affect business performance and the financial position of the NTN Group. Although the NTN Group has taken out global product liability insurance, complete coverage for loss is not possible.

## 8) Intellectual Property

The NTN Group generates a wealth of innovative technologies and know-how in the process of new product development, representing valuable intellectual property for which the NTN Group files patent applications to protect its rights. However, business performance and the financial position of the NTN Group may be affected if a legal challenge is initiated against its intellectual property or if its intellectual property is infringed by a third party.

## 9) Global Operations

The NTN Group develops its business operations worldwide with overseas sales exceeding 50% of consolidated sales. Overseas business development is associated with the following risks:

- a. Risks from unforeseen change in tax systems of or between individual countries
- b. Risks from unforeseen change in laws of individual countries
- c. Difficulty in hiring and retaining appropriate staff
- d. Evolving technology levels and unstable labor relations in emerging economies
- e. Political instability in emerging economies

## 10) Statutory Regulations

The NTN Group is subject to the various laws and regulations (tax laws, environmental laws, occupational safety and health laws, economic statutes such as antimonopoly laws and anti-dumping laws, trade and exchange laws, and securities trading regulations) of the countries and regions in which it does business. The NTN Group strives to abide by these laws and regulations and conduct fair business activities. However, if the NTN Group is ever be subject to litigation or involved in legal proceedings because of a violation of a law or regulation, and if the decision of such litigation or legal proceedings goes against the Group, this may have an effect on the business performance or the financial state of the Group. As well, if these laws or regulations change, or if new unforeseen laws or regulations are enacted, these also may have an effect on the business performance or the financial state of the Group. Some of NTN Group companies are defendants are subject to the following actions and others.

[1] In June 2012, the Company and its former executives received an indictment filed by the Tokyo District Prosecutors Office ("TDPO") on suspicion of having violated the Japan Antimonopoly Act in relation to domestic sale of bearings. In March 2013, the Company received a cease and desist order and surcharge payment order (for 7,231 million yen) from the Japan Fair Trade Commission ("JFTC"). Because the assertions by the JFTC and the TDPO are greatly different from the Company's view of the facts, in April 2013, the Company requested the JFTC to initiate a hearing. As a result, hearing proceedings for the JFTC orders were commenced in September 2013. In addition, in respect of a criminal trial we had been appealing against the conviction declared in February 2015 by the Tokyo District Court, but the Tokyo High Court rendered judgment of the rejection of the appeal in March 2016. The Company and its former executives have appealed to the Supreme Court.

Overseas, there are ongoing investigations by the authorities into our consolidated subsidiaries in Brazil and elsewhere.

[2] The Company and its consolidated subsidiaries in the U.S., Canada, etc. are defendants in a number of class action suits for suspected price-fixing of bearing sales with other businesses. The Company and its subsidiaries in the U.S. received a letter from the U.S. Department of Justice ("DOJ") in March 2015 that they were no longer subject of its investigation which lasted since November 2011. Additionally, the Company and its subsidiaries have never been subject of investigation by the competition authority of Canada. However, last year in November, we considered quick settlement of the suits to be the best option, taking account of an increase in expenses due to prolonged suits and their impact on business operations, and therefore entered into a settlement agreement with indirect purchasers who comprised a part of plaintiffs in the U.S.

[3] In February 2016, a lawsuit was filed against eight bearing manufacturers, including the Company, in The United Kingdom Competition Appeal Tribunal. It sought the joint payment of damages of 507.8 million euros (provisional amount) to Peugeot S.A. and its total 19 group companies (hereinafter referred to as the "PSA group"). The claim was revised and now PSA group seeks the joint payment of damages of 437.7 million euros (provisional amount) against four bearing manufactures, including the Company. The suit has been filed allegedly because the PSA group incurred damages in connection with the violation of the European Competition Law, which is subject of the decision made by the European Commission on March 19, 2014. We will insist on the legitimacy of the Company's argument.

[4] The Company or its affiliated companies may be filed the lawsuit similar to the abovementioned lawsuit etc. and continue to address these claims. However, it is currently difficult to make reasonable estimates of the future possible effects on the results of operations and financial position of the Company and its consolidated subsidiaries.

# Consolidated Balance Sheet

March 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
<b>Assets</b>			
Current assets:			
Cash and cash equivalents (Note 12)	¥ 79,284	¥ 67,311	\$ 708,874
Short-term investments (Note 12)	718	924	6,420
Trade receivables (Note 12):			
Notes	11,850	12,252	105,950
Accounts	124,998	121,944	1,117,600
Electronically recorded monetary claims	5,495	2,285	49,130
Allowance for doubtful accounts	(877)	(899)	(7,841)
	141,466	135,582	1,264,839
Inventories (Note 4)	171,482	178,220	1,533,211
Deferred income taxes (Note 21)	8,405	8,928	75,149
Other current assets (Note 12)	33,574	31,328	300,184
<b>Total current assets</b>	<b>434,929</b>	<b>422,293</b>	<b>3,888,677</b>
Property, plant and equipment, at cost (Note 5):			
Land (Note 2(g))	33,142	33,488	296,321
Buildings and structures (Note 2(g))	199,673	197,815	1,785,265
Machinery, equipment and vehicles (Note 2(g))	782,738	777,730	6,998,417
Construction in progress	16,720	15,705	149,493
	1,032,273	1,024,738	9,229,496
Less accumulated depreciation	(747,661)	(728,337)	(6,684,796)
<b>Property, plant and equipment, net (Note 23)</b>	<b>284,612</b>	<b>296,401</b>	<b>2,544,700</b>
Investments and other assets:			
Investment securities (Notes 6 and 12)	36,395	30,213	325,406
Investments in unconsolidated subsidiaries and affiliates (Note 12)	17,992	19,089	160,865
Goodwill	—	139	—
Deferred income taxes (Note 21)	5,150	12,449	46,046
Other assets	19,813	14,067	177,147
<b>Total investments and other assets</b>	<b>79,350</b>	<b>75,957</b>	<b>709,464</b>
<b>Total assets (Note 23)</b>	<b>¥ 798,891</b>	<b>¥ 794,651</b>	<b>\$ 7,142,841</b>

See accompanying notes to the consolidated financial statements.

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
<b>Liabilities and net assets</b>			
<b>Current liabilities:</b>			
Short-term bank loans (Notes 7 and 12)	¥ 66,733	¥ 54,091	\$ 596,656
Current portion of long-term debt and lease obligations (Notes 7 and 12)	66,947	69,000	598,569
Trade payables (Note 12):			
Notes	1,433	1,349	12,812
Accounts	57,829	53,898	517,046
Electronically recorded obligations	58,132	56,390	519,755
	117,394	111,637	1,049,613
Accrued income taxes (Notes 12 and 21)	3,057	4,236	27,332
Deferred income taxes (Note 21)	1	17	9
Provision for loss on support to a related company	2,173	1,496	19,429
Other current liabilities	58,723	48,294	525,040
<b>Total current liabilities (Note 23)</b>	<b>315,028</b>	<b>288,771</b>	<b>2,816,648</b>
<b>Long-term liabilities:</b>			
Long-term debt and lease obligations (Notes 7 and 12)	189,110	203,688	1,690,822
Liability for retirement benefits (Note 8)	42,149	47,137	376,852
Provision for product defect compensation	401	308	3,585
Deferred income taxes (Note 21)	2,272	1,073	20,314
Other long-term liabilities	4,881	5,169	43,641
<b>Total long-term liabilities (Note 23)</b>	<b>238,813</b>	<b>257,375</b>	<b>2,135,214</b>
<b>Contingent liabilities (Note 10)</b>			
<b>Net assets:</b>			
Shareholders' equity (Note 9):			
Common stock:			
Authorized – 1,800,000,000 shares			
Issued – 532,463,527 shares in 2017 and 2016	54,347	54,347	485,914
Capital surplus	66,943	67,351	598,534
Retained earnings	114,158	116,644	1,020,679
Treasury stock, at cost:			
1,388,394 shares in 2017 and 795,969 shares in 2016	(807)	(616)	(7,215)
<b>Total shareholders' equity</b>	<b>234,641</b>	<b>237,726</b>	<b>2,097,912</b>
Accumulated other comprehensive income (loss):			
Net unrealized holding gain on securities (Note 6)	13,507	8,554	120,765
Translation adjustments	(10,006)	(1,537)	(89,463)
Retirement benefit liability adjustments	(8,899)	(12,421)	(79,565)
<b>Total accumulated other comprehensive loss, net</b>	<b>(5,398)</b>	<b>(5,404)</b>	<b>(48,263)</b>
Non-controlling interests	15,807	16,183	141,330
<b>Total net assets</b>	<b>245,050</b>	<b>248,505</b>	<b>2,190,979</b>
<b>Total liabilities and net assets</b>	<b>¥798,891</b>	<b>¥794,651</b>	<b>\$7,142,841</b>

See accompanying notes to the consolidated financial statements.

# Consolidated Statement of Income

Year ended March 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Net sales (Note 23)	¥683,329	¥716,997	\$6,109,607
Cost of sales (Note 14)	555,722	576,651	4,968,680
Gross profit	127,607	140,346	1,140,927
Selling, general and administrative expenses (Note 14)	91,984	92,576	822,424
Operating income (Note 23)	35,623	47,770	318,503
Other income (expenses):			
Interest and dividend income	1,420	1,429	12,696
Interest expense	(4,192)	(4,730)	(37,480)
Equity in earnings of affiliates	213	801	1,904
Gain on reversal of prior year customs duties	695	—	6,214
Gain on valuation of derivatives, net	590	—	5,275
Gain on reversal of reorganization expenses	—	760	—
Gain on reversal of provision for product defect compensation	—	656	—
Litigation expenses	(1,956)	(1,219)	(17,488)
Foreign exchange loss, net	(1,341)	(6,824)	(11,990)
Product compensation expense	(1,190)	(208)	(10,640)
Provision for loss on support to a related company	(667)	(33)	(5,964)
Gain on reversal of loss on arbitration ruling (Note 15)	2,147	—	19,196
Gain on sales of property, plant and equipment (Note 16)	—	2,880	—
Gain on change in equity (Note 17)	—	1,552	—
Loss on surcharge payments under the Anti-Monopoly Act (Note 18)	(12,129)	—	(108,445)
Loss on impairment of fixed assets (Notes 5 and 23)	(4,562)	(2,688)	(40,789)
Loss on sales of property, plant and equipment	(171)	—	(1,529)
Loss on arbitration ruling (Note 19)	—	(13,013)	—
Other, net	410	(190)	3,668
Profit before income taxes	14,890	26,943	133,131
Income taxes (Note 21):			
Current	5,590	10,490	49,980
Deferred	4,835	405	43,230
Profit	4,465	16,048	39,921
Profit attributable to:			
Non-controlling interests	(1,634)	(1,011)	(14,609)
Owners of parent	¥ 2,831	¥ 15,037	\$ 25,312

See accompanying notes to the consolidated financial statements.

# Consolidated Statement of Comprehensive Income

Year ended March 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
Profit	¥4,465	¥ 16,048	\$ 39,921
Other comprehensive income (loss) (Note 20):			
Net unrealized holding gain (loss) on securities (Note 6)	4,953	(6,008)	44,285
Translation adjustments	(8,682)	(17,345)	(77,625)
Retirement benefit liability adjustments	3,624	(934)	32,402
Share of other comprehensive loss of affiliates accounted for by the equity method	(768)	(726)	(6,867)
Other comprehensive loss, net	(873)	(25,013)	(7,805)
Comprehensive income (loss)	¥3,592	¥ (8,965)	\$ 32,116
Total comprehensive income (loss) attributable to:			
Owners of parent	¥2,836	¥ (8,352)	\$ 25,357
Non-controlling interests	¥ 756	¥ (613)	\$ 6,759

See accompanying notes to the consolidated financial statements.



# Consolidated Statement of Changes in Net Assets

Year ended March 31, 2017

	Millions of yen									
	Number of shares in issue	Common stock	Capital surplus	Retained earnings	Treasury stock, at cost	Net unrealized holding gain on securities	Translation adjustments	Retirement benefit liability adjustments	Non-controlling interests	Total net assets
Balance at April 1, 2015	532,463,527	¥54,347	¥67,370	¥106,128	¥(559)	¥14,562	¥ 14,901	¥(11,478)	¥17,288	¥262,559
Cash dividends paid	—	—	—	(4,521)	—	—	—	—	—	(4,521)
Profit attributable to owners of parent	—	—	—	15,037	—	—	—	—	—	15,037
Purchases of treasury stock	—	—	—	—	(58)	—	—	—	—	(58)
Sales of treasury stock	—	—	—	—	1	—	—	—	—	1
Change in equity resulting from transactions with non-controlling interests	—	—	(19)	—	—	—	—	—	—	(19)
Other changes	—	—	—	—	—	(6,008)	(16,438)	(943)	(1,105)	(24,494)
Balance at April 1, 2016	532,463,527	54,347	67,351	116,644	(616)	8,554	(1,537)	(12,421)	16,183	248,505
Cash dividends paid	—	—	—	(5,317)	—	—	—	—	—	(5,317)
Profit attributable to owners of parent	—	—	—	2,831	—	—	—	—	—	2,831
Purchases of treasury stock	—	—	—	—	(191)	—	—	—	—	(191)
Change in equity resulting from transactions with non-controlling interests	—	—	(408)	—	—	—	—	—	—	(408)
Other changes	—	—	—	—	—	4,953	(8,469)	3,522	(376)	(370)
<b>Balance at March 31, 2017</b>	<b>532,463,527</b>	<b>¥54,347</b>	<b>¥66,943</b>	<b>¥114,158</b>	<b>¥(807)</b>	<b>¥13,507</b>	<b>¥(10,006)</b>	<b>¥ (8,899)</b>	<b>¥15,807</b>	<b>¥245,050</b>

	Thousands of U.S. dollars (Note 1)									
	Common stock	Capital surplus	Retained earnings	Treasury stock, at cost	Net unrealized holding gain on securities	Translation adjustments	Retirement benefit liability adjustments	Non-controlling interests	Total net assets	
Balance at April 1, 2016	\$485,914	\$602,182	\$1,042,907	\$(5,508)	\$ 76,480	\$(13,742)	\$(111,055)	\$144,691	\$2,221,869	
Cash dividends paid	—	—	(47,540)	—	—	—	—	—	(47,540)	
Profit attributable to owners of parent	—	—	25,312	—	—	—	—	—	25,312	
Purchases of treasury stock	—	—	—	(1,707)	—	—	—	—	(1,707)	
Change in equity resulting from transactions with non-controlling interests	—	(3,648)	—	—	—	—	—	—	(3,648)	
Other changes	—	—	—	—	44,285	(75,721)	31,490	(3,361)	(3,307)	
<b>Balance at March 31, 2017</b>	<b>\$485,914</b>	<b>\$598,534</b>	<b>\$1,020,679</b>	<b>\$(7,215)</b>	<b>\$120,765</b>	<b>\$(89,463)</b>	<b>\$ (79,565)</b>	<b>\$141,330</b>	<b>\$2,190,979</b>	

See accompanying notes to the consolidated financial statements.

# Consolidated Statement of Cash Flows

Year ended March 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2017	2016	2017
<b>Cash flows from operating activities:</b>			
Profit before income taxes	¥ 14,890	¥ 26,943	\$ 133,131
Adjustments for:			
Depreciation and amortization	36,629	38,278	327,498
Loss on impairment of fixed assets	4,562	2,688	40,789
Amortization of goodwill	47	53	420
Increase in provision for loss on support to a related company	667	33	5,964
Loss on surcharge payments under the Anti-Monopoly Act	12,129	—	108,445
Increase (decrease) in allowance for doubtful accounts	89	(6)	796
(Decrease) increase in provision for directors' and audit & supervisory board members' bonuses	(4)	31	(36)
Increase (decrease) in provision for product defect compensation	93	(632)	832
(Decrease) increase in liability for retirement benefits	(655)	1,529	(5,856)
Decrease in account payable for reorganization expenses	—	(2,412)	—
Payments for loss on arbitration ruling	1,114	11,651	9,960
Interest and dividend income	(1,420)	(1,429)	(12,696)
Proceeds from insurance income	—	(2,146)	—
Interest expense	4,192	4,730	37,480
Translation adjustments and foreign exchange loss, net	834	1,433	7,457
Gain on valuation of derivatives, net	(590)	—	(5,275)
Equity in earnings of affiliates	(213)	(801)	(1,904)
Loss (gain) on sales of property, plant and equipment, net	171	(2,880)	1,529
Gain on change in equity	—	(1,552)	—
(Increase) decrease in trade receivables	(9,282)	4,599	(82,990)
Decrease (increase) in inventories	2,468	(2,148)	22,066
Increase (decrease) in trade payables	7,243	(5,408)	64,759
Other	1,989	32	17,781
Subtotal	74,953	72,586	670,150
Interest and dividend income received	1,988	2,396	17,775
Interest paid	(4,314)	(4,789)	(38,571)
Payment for loss on arbitration ruling	(1,114)	(11,651)	(9,960)
Surcharge payments under the Anti-Monopoly Act	(1,112)	—	(9,942)
Proceeds from insurance income	—	2,146	—
Income taxes paid	(8,013)	(14,441)	(71,644)
Net cash provided by operating activities	¥ 62,388	¥ 46,247	\$ 557,808
<b>Cash flows from investing activities:</b>			
Decrease in short-term investments, net	200	336	1,788
Purchases of property, plant and equipment	(35,273)	(34,441)	(315,374)
Proceeds from sales of property, plant and equipment	472	3,121	4,220
Purchases of other assets	(6,627)	(3,179)	(59,252)
Proceeds from redemption of investment securities	—	1,000	—
Other	9	(608)	81
Net cash used in investing activities	(41,219)	(33,771)	(368,537)
<b>Cash flows from financing activities:</b>			
Increase (decrease) in short-term bank loans, net	13,679	(19,529)	122,303
Proceeds from long-term debt	39,481	37,297	352,997
Repayment of long-term debt, including current portion	(75,060)	(45,039)	(671,107)
Proceeds from issuance of corporate bonds	20,000	—	178,819
Proceeds from issuance of common stock assigned to non-controlling interests	—	4,652	—
Cash dividends paid	(5,317)	(4,521)	(47,540)
Repayment of lease obligations	(325)	(249)	(2,906)
Other	(676)	(569)	(6,043)
Net cash used in financing activities	(8,218)	(27,958)	(73,477)
Effect of exchange rate changes on cash and cash equivalents	(978)	(172)	(8,744)
Net increase (decrease) in cash and cash equivalents	11,973	(15,654)	107,050
Cash and cash equivalents at beginning of the year	67,311	87,778	601,824
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries from consolidation	—	(4,813)	—
Cash and cash equivalents at end of the year	¥ 79,284	¥ 67,311	\$ 708,874

See accompanying notes to the consolidated financial statements.

# Notes to Consolidated Financial Statements

March 31, 2017

## 1. Basis of Preparation

The accompanying consolidated financial statements of NTN Corporation (the "Company") and consolidated subsidiaries are prepared on the basis of accounting principles generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards, and are compiled from the consolidated financial statements prepared by the Company as required by the Financial Instruments and Exchange Act of Japan.

In preparing the accompanying consolidated financial statements, certain reclassifications have been made to the consolidated financial statements issued domestically in order to present them in a format which is more familiar to readers outside Japan. In addition, certain notes included herein are not required under accounting principles generally accepted in Japan but are presented as additional information.

Certain amounts in the prior year's financial statements have been reclassified to conform to the current year's presentation. Such reclassification had no effect on consolidated profit or net assets.

The translation of yen amounts into U.S. dollar amounts is included solely for the convenience of readers outside Japan and has been made at ¥111.845 = U.S.\$1.00, the exchange rate prevailing on March 31, 2017. This translation should not be construed as a representation that yen can be converted into U.S. dollars at the above or any other rate.

## 2. Summary of Significant Accounting Policies

### (a) Principles of consolidation

The accompanying consolidated financial statements include the accounts of the Company and the significant companies which it controls directly or indirectly. Companies over which the Company exercises significant influence in terms of their operating and financial policies have been included in the accompanying consolidated financial statements on an equity basis.

The financial statements of certain consolidated subsidiaries whose fiscal year end is December 31 have been included in consolidation on the basis of a full fiscal year closing on March 31 for consolidation purposes.

### (b) Foreign currency translation

Monetary assets and liabilities denominated in foreign currencies are translated into yen at the rates of exchange in effect at the balance sheet date. Revenues and expenses are translated at the rates of exchange prevailing when the transactions were made.

Assets and liabilities of overseas consolidated subsidiaries are translated into yen at the exchange rates in effect at the respective balance sheet dates, except for the components of net assets excluding non-controlling interests which are translated at the respective historical rates. Revenue and expenses are translated at the average rates of exchange for the respective years. Differences arising from translation are reflected in "Translation adjustments" and "Non-controlling interests" in the accompanying consolidated balance sheets and statements of changes in net assets.

### (c) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, deposits with banks withdrawable on demand, and short-term investments which are readily convertible to cash subject to an insignificant risk of any change in their value and which were purchased with an original maturity of three months or less.

### (d) Allowance for doubtful accounts

The allowance for doubtful accounts is computed based on the actual historical percentage of bad debts and an estimate of uncollectible amounts determined after an analysis of specific individual receivables.

### (e) Short-term investments and investment securities

The accounting standard for financial instruments requires that securities be classified into three categories: trading, held-to-maturity or other securities. Trading securities are carried at fair value and held-to-maturity debt securities are carried at amortized cost. Marketable securities classified as other securities are carried at fair value with any changes in unrealized holding gain or loss, net of the applicable income taxes, included directly in net assets. Cost of securities sold is determined by the moving average method. Non-marketable securities classified as other securities are carried at cost based on the moving average method.

### (f) Inventories

Inventories are principally stated at lower of cost, determined by the average method, or net selling value.

### (g) Property, plant and equipment (other than leased assets)

Property, plant and equipment are stated at cost. The Company and its domestic consolidated subsidiaries calculate depreciation by the straight-line method over the estimated useful lives of the respective assets. The foreign consolidated subsidiaries principally calculated depreciation by the straight-line method over the estimated useful lives of the respective assets.

The principal estimated useful lives are as follows:

Buildings and structures	10 to 50 years
Machinery, equipment and vehicles	5 to 12 years

Contributions granted by national and municipal governments are deducted directly from the acquisition costs of the related fixed assets as stipulated in the Corporation Tax Law of Japan. The property, plant and equipment accounts on the consolidated balance sheets at March 31, 2017 and 2016 were reduced by the following amounts:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Land	¥ 799	¥ 799	\$ 7,144
Buildings and structures	402	434	3,594
Machinery, equipment and vehicles	155	195	1,386
	¥1,356	¥1,428	\$12,124

### (h) Provision for loss on support to a related company

Provision for loss on support to a related company is provided for the possible loss on support provided to a related company considering the subsidiary's financial condition and other factors.

### (i) Liability for retirement benefits

Liability for retirement benefits has been provided principally at an amount calculated based on the retirement benefit obligation after the fair value of the pension plan assets are deducted. The estimated benefit is attributed to each period by the benefit formula method over the estimated years of service of the eligible employees.

Past service cost is amortized as incurred primarily by the straight-line method over a period of principally 15 years, which is within the estimated average remaining years of service of the eligible employees.

Net unrecognized actuarial gain or loss is amortized commencing in the year following the year in which the gain or loss was recognized primarily by the straight-line method over a period of principally 15 years, which is within the estimated average remaining years of service of the eligible employees.

#### **(j) Provision for product defect compensation**

Provision for product defect compensation is provided at an estimated amount in order to cover the anticipated compensation.

#### **(k) Leases**

For lease transactions involving the transfer of ownership, the leased assets are depreciated by the same methods used for owned fixed assets.

For lease transactions not involving the transfer of ownership, leased assets are depreciated over the lease period using the straight-line method with a nil residual value.

#### **(l) Goodwill**

Goodwill is being amortized by the straight-line method over the estimated period of the economic benefits.

#### **(m) Research and development costs and computer software**

Research and development costs are charged to income as incurred.

Expenditures relating to computer software developed for internal use are charged to income when incurred, except if the software is expected to contribute to the generation of income or to future cost savings. Such expenditures are capitalized as assets and are amortized by the straight-line method over their respective estimated useful lives, generally a 5-year period.

#### **(n) Deferred income taxes**

Deferred income taxes are provided for temporary differences between the balances of assets and liabilities reported for financial reporting purposes and the corresponding balances for tax reporting purposes.

#### **(o) Derivative financial instruments and hedging activities**

All derivatives are stated at fair value with any changes in fair value included in profit for the period in which they arise, except for derivatives which meet the criteria for deferral hedge accounting under which realized gain or loss, net of the applicable income taxes, is deferred as a component of net assets. Receivables and payables hedged by forward foreign exchange contracts which meet certain conditions are translated at the corresponding foreign exchange contract rates. Interest-rate swaps which meet certain conditions are accounted for as if the interest rates applied to the interest-rate swaps had originally applied to the underlying debt.

Interest-rate and cross currency swaps which meet certain conditions are accounted for as if the interest rates and currencies applied to the interest-rate and cross currency swaps had originally applied to the underlying debt.

#### **(p) Distribution of retained earnings**

Under the Corporation Law of Japan and the Company's Articles of Incorporation, the distribution of retained earnings with respect to a given financial period is made by resolution of the shareholders at a general meeting held subsequent to the close of the financial period. The distribution of retained earnings with respect to the interim financial period is made by resolution of the Board of Directors. The accounts for the period do not reflect such distributions.

#### **(q) Consolidated taxation system**

The Company and certain domestic consolidated subsidiaries adopted the consolidated taxation system, which allows companies to file tax returns based on the combined profits or losses of the parent company and its wholly owned domestic subsidiaries.

### **3. Additional Information**

#### **(a) Implementation Guidance on Recoverability of Deferred Tax Assets**

Effective April 1, 2016, the Company and its domestic consolidated subsidiaries adopted "Revised Implementation Guidance on Recoverability of Deferred Tax Assets" (Accounting Standards Board of Japan Guidance No. 26 of March 28, 2016).

#### **(b) Performance-linked stock compensation scheme**

Effective from the fiscal year ended March 31, 2017, the Company has introduced a performance-linked stock compensation scheme (hereinafter referred to as the "Scheme") for its directors (excluding directors who do not reside in Japan and outside directors; the same applies hereinafter), which serves as an officer remuneration system that is closely linked to corporate performance targets in the mid-term management plan and which is highly transparent and objective in nature.

##### **(i) Overview of transactions**

The Scheme adopts a mechanism known as an officer remuneration BIP (Board Incentive Plan) trust (hereinafter referred to as the "BIP Trust"). The BIP Trust is an incentive plan for officers based on the performance share scheme and the restricted stock scheme in the U.S., and has a system in which the Company's shares acquired by the BIP Trust and funds equivalent to the proceeds received when converting into cash or disposing of such shares are distributed and paid according to the officers' positions and the degree of achievement of performance targets disclosed in the mid-term management plan, and other factors.

##### **(ii) The Company's shares remaining in the trust**

The Company's shares remaining in the trust are recorded as treasury stock in the net asset section, based on their book value (excluding the amount of incidental expenses) recorded in the accounts of the trust. The book value and number of shares of such treasury stock at March 31, 2017 totaled ¥180 million (\$1,609 thousand) and 568,000 shares, respectively.

## 4. Inventories

Inventories at March 31, 2017 and 2016 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Finished goods	¥ 97,406	¥103,195	\$ 870,902
Work in process	43,629	45,808	390,084
Raw materials and supplies	30,447	29,217	272,225
	¥171,482	¥178,220	\$1,533,211

## 5. Impairment of Fixed Assets

The Company and its consolidated subsidiaries group fixed assets used for manufacturing by management segment into minimum units which generate identifiable cash flows (e.g., a factory). They also group fixed assets used at the head office or used for sales activities as shared assets, and group fixed assets on an individual basis when they do not expect any future use.

The Company and its consolidated subsidiaries wrote down the following assets to their respective net recoverable values because the Company and its consolidated subsidiaries do not expect them to be recoverable. Consequently, the Company and its consolidated subsidiaries recorded related losses on impairment of fixed assets of ¥4,562 million (\$40,789 thousand) and ¥2,688 million in the accompanying consolidated statement of income for the years ended March 31, 2017 and 2016, respectively:

Location	Usage	Classification	Millions of yen		Thousands of U.S. dollars
			2017	2016	2017
Japan	Production equipment and other	Machinery and equipment	¥ 24	¥ —	\$ 215
		Construction in progress	100	226	894
		Other	432	—	3,862
Europe	Production equipment and other	Machinery and equipment	85	—	760
		Other	79	—	707
Asia and other areas	Production equipment and other	Buildings and structures	1,319	—	11,793
		Machinery and equipment	2,441	—	21,825
		Construction in progress	—	2,462	—
—	—	Goodwill	82	—	733
			¥4,562	¥2,688	\$40,789

The recoverable value of the fixed assets presented in the above table has been measured primarily at net realizable value or value in use. If a fixed asset is unlikely to be sold or diverted to other usage, such asset is valued at nil.

## 6. Securities

(a) Information regarding marketable securities classified as other securities at March 31, 2017 and 2016 is summarized as follows:

	Millions of yen					
	2017			2016		
	Carrying value	Acquisition costs	Unrealized gain (loss)	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:						
Equity securities	¥31,758	¥12,025	¥19,733	¥25,002	¥11,717	¥13,285
Securities whose carrying value does not exceed their acquisition costs:						
Equity securities	4,347	4,772	(425)	3,825	5,080	(1,255)
Other	—	—	—	2,000	2,000	—
Subtotal	4,347	4,772	(425)	5,825	7,080	(1,255)
Total	¥36,105	¥16,797	¥19,308	¥30,827	¥18,797	¥12,030

	Thousands of U.S. dollars		
	2017		
	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	\$283,947	\$107,515	\$176,432
Securities whose carrying value does not exceed their acquisition costs:			
Equity securities	38,866	42,666	(3,800)
Other	—	—	—
Subtotal	38,866	42,666	(3,800)
Total	\$322,813	\$150,181	\$172,632

**(b) Sales and aggregate gain on investment securities are summarized as follows:**

There were no sales of investment securities for the years ended March 31, 2017 and 2016.

## 7. Short-Term Bank Loans, Long-Term Debt and Lease Obligations

Short-term bank loans principally represent short-term notes with average annual interest rates of 0.84% and 1.05% at March 31, 2017 and 2016, respectively.

Long-term debt and lease obligations at March 31, 2017 and 2016 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Loans from banks and other financial institutions, due through 2025, at an average annual interest rate of 1.37%	¥233,437	¥271,083	\$2,087,148
0.405% unsecured bonds due 2025	10,000	—	89,409
0.490% unsecured bonds due 2027	10,000	—	89,409
Lease obligations due through 2046	2,620	1,605	23,425
	256,057	272,688	2,289,391
Less current portion	(66,947)	(69,000)	(598,569)
	¥189,110	¥203,688	\$1,690,822

The aggregate annual maturities of long-term debt and lease obligations subsequent to March 31, 2017 are summarized as follows:

Year ending March 31,	Millions of yen	Thousands of U.S. dollars
2018	¥ 66,947	\$ 598,569
2019	60,666	542,411
2020	21,449	191,774
2021	32,187	287,782
2022	29,066	259,878
2023 and thereafter	45,742	408,977
	¥256,057	\$2,289,391

## 8. Retirement Benefits

### 1. Outline of retirement benefits for employees

The Company and certain domestic consolidated subsidiaries have defined benefit pension plans (i.e., corporate pension fund plans and lump-sum payment plans), covering substantially all employees who are entitled to lump-sum or annuity payments, the amounts of which are determined by reference to their basic rates of pay, length of service, and the conditions under which termination occurs. They also have defined contribution pension plans and advance payment plans. Certain overseas consolidated subsidiaries have defined benefit pension plans and/or defined contribution pension plans. The Company has also established an employees' retirement benefit trust.

## 2. Defined benefit pension plans

(1) The changes in the retirement benefit obligation for the years ended March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Retirement benefit obligation at the beginning of the year	¥104,978	¥109,664	\$938,603
Service cost	3,432	3,340	30,685
Interest cost	1,870	1,994	16,720
Actuarial gain	(612)	(2,821)	(5,472)
Benefits paid	(5,859)	(6,281)	(52,385)
Other	(172)	(918)	(1,538)
Retirement benefit obligation at the end of the year	¥103,637	¥104,978	\$926,613

\*Certain domestic consolidated subsidiaries calculate the liability for retirement benefits based on the simplified method.

(2) The changes in plan assets for the years ended March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Plan assets at fair value at the beginning of the year	¥57,841	¥64,587	\$517,153
Expected return on plan assets	1,834	2,122	16,398
Actuarial gain and loss	3,240	(6,128)	28,969
Contributions by the employers	2,586	2,172	23,121
Benefits paid	(3,710)	(3,639)	(33,171)
Other	(303)	(1,273)	(2,709)
Plan assets at fair value at the end of the year	¥61,488	¥57,841	\$549,761

(3) The balance of retirement benefit obligation and plan assets at fair value, liabilities and assets recognized in consolidated balance sheets as of March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Funded retirement benefit obligation	¥ 95,273	¥ 96,786	\$ 851,831
Plan assets at fair value	(61,488)	(57,841)	(549,761)
	33,785	38,945	302,070
Unfunded retirement benefit obligation	8,364	8,192	74,782
Net amount of liabilities and assets recognized in the consolidated balance sheet	42,149	47,137	376,852
Liability for retirement benefits	42,149	47,137	376,852
Net amount of liabilities and assets recognized in the consolidated balance sheet	¥ 42,149	¥ 47,137	\$ 376,852

(4) The components of retirement benefit expenses for the years ended March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Service cost	¥ 3,432	¥ 3,340	\$ 30,685
Interest cost	1,870	1,994	16,720
Expected return on plan assets	(1,834)	(2,122)	(16,398)
Amortization:			
Actuarial loss	2,254	2,500	20,153
Past service cost	(9)	(162)	(80)
Retirement benefit expenses	¥ 5,713	¥ 5,550	\$ 51,080

(5) The components of retirement benefit liability adjustments included in other comprehensive income (before tax effect) for the years ended March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Actuarial gain and loss	¥6,106	¥(808)	\$54,593
Past service cost	17	(149)	152
Total	¥6,123	¥(957)	\$54,745

(6) The components of retirement benefit liability adjustments included in accumulated other comprehensive income (before tax effect) as of March 31, 2017 and 2016 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unrecognized actuarial loss	¥(11,487)	¥(17,593)	\$(102,705)
Unrecognized past service cost	(280)	(297)	(2,503)
Total	¥(11,767)	¥(17,890)	\$(105,208)

(7) The fair value of plan assets, by major category, as a percentage of total plan assets as of March 31, 2017 and 2016 are as follows:

	2017	2016
Equities	50.5%	43.7%
Bonds	23.6	19.7
General accounts at life insurance companies	16.0	17.1
Other	9.9	19.5
Total	100.0%	100.0%

The expected long-term rate of return on plan assets is determined as a result of consideration of both the portfolio allocation at present and anticipated in the future, and long-term expected rate of return from multiple plan assets.

(8) The assumptions used in accounting for the defined benefit plans are as follows:

	2017	2016
Discount rate	Principally 1.2%	Principally 1.2%
Expected long-term rate of return on plan assets	Principally 2.5%	Principally 2.5%

### 3. Defined contribution pension plans

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Contributions to defined contribution pension plans	¥1,545	¥1,568	\$13,814

## 9. Shareholders' Equity

(a) The Corporation Law of Japan (the "Law") provides that an amount equal to 10% of the amount to be disbursed as distributions of capital surplus (other than the capital reserve) and retained earnings (other than the legal reserve) be transferred to the capital reserve and the legal reserve, respectively, until the sum of the capital reserve and the legal reserve equals 25% of the capital stock account. Such distributions can be made at any time by resolution of the shareholders or by the Board of Directors if certain conditions are met.

Retained earnings include the legal reserve provided in accordance with the provisions of the Law. The legal reserve of the Company included in retained earnings amounted to ¥8,639 million (\$77,241 thousand) at March 31, 2017 and 2016, respectively.



(b) Movements in shares issued and treasury stock during the years ended March 31, 2017 and 2016 are summarized as follows:

	Number of shares			
	2017			
	April 1, 2016	Increase	Decrease	March 31, 2017
Shares issued: Common stock	532,463,527	—	—	532,463,527
Treasury stock: Common stock	795,969	592,425	—	1,388,394
	2016			
	April 1, 2015	Increase	Decrease	March 31, 2016
Shares issued: Common stock	532,463,527	—	—	532,463,527
Treasury stock: Common stock	670,098	127,486	1,615	795,969

The increase in treasury stock of 592,425 shares was due to purchases of 24,425 shares of less than one voting unit and purchases of 568,000 shares by the "Officer Remuneration BIP Trust" as the trust asset of the new stock compensation scheme for directors for the year ended March 31, 2017 (Please refer to Note 3-(b)). Additionally, the Company included 568,000 shares held by the "Officer Remuneration BIP Trust" in the number of treasury stock at March 31, 2017.

The increase in treasury stock of 127,486 shares was due to purchases of 49,486 shares of less than one voting unit and the acquisition of 78,000 shares under provisions of Article 156 of the Law (the acquisition of treasury stock based on the resolution of the meeting of the shareholders) applied pursuant to Article 163 of the Law (the acquisition of treasury stock based on the resolution of the Board of Directors meeting) for the year ended March 31, 2016. The decreases in treasury stock were due to sales of shares at requests of shareholders owning less than one voting unit for the year ended March 31, 2016.

## 10. Contingent Liabilities

### Lawsuits, etc.

- (1) In June 2012, the Company and its former executives received an indictment filed by the Tokyo District Prosecutors Office (hereinafter referred as TDPO) on suspicion of having violated the Anti-Monopoly Act of Japan in connection with the sales of bearings in Japan. In March 2013, the Company received a cease and desist order and surcharge payment order for ¥7,231 million (\$64,652 thousand) from the Japan Fair Trade Commission (hereinafter referred as JFTC). Because the assertions by the JFTC and the TDPO are different from the Company's view of the facts, in April 2013, the Company requested the JFTC to initiate a hearing. As a result, hearing proceedings for the JFTC orders were commenced in September 2013. In addition, in respect of a criminal trial, the Company had been appealing against the conviction declared in February 2015 by the Tokyo District Court, but the Tokyo High Court rendered its judgment and rejected the appeal in March 2016. The Company and its former executives have appealed to the Supreme Court of Japan.  
There are ongoing investigations by authorities into consolidated subsidiaries in South Korea and elsewhere.
- (2) In the U.S. and Canada, a number of class action suits was filed against the Company and its consolidated subsidiaries for suspected price-fixing of bearing sales with business competitors. The Company and its consolidated subsidiary have reached an agreement to settle with indirect purchasers, parts of the certain plaintiffs in the U.S. in November 2016.
- (3) In February 2016, a lawsuit was filed against eight bearing manufacturers, including the Company, in The United Kingdom Competition Appeal Tribunal. The suit sought the joint payment of damages of €507.8 million (provisional amount) to Peugeot S.A. and its total 19 group companies (hereinafter referred to as the PSA group). The claim was revised for four bearing manufactures, including the Company to pay €437.7 million (provisional amount) jointly. The suit was filed because the PSA group claimed damages incurred in connection with the alleged violation of the European Competition Law, which is the subject of a decision made by the European Commission on March 19, 2014.
- (4) The Company and its related companies may be subject to lawsuit similar to the above mentioned lawsuits, etc. and continue to address these claims. Depending on the results of the above lawsuits, etc., the results of operations of the Company and its consolidated subsidiaries could be affected. However, it is currently difficult to make reasonable estimates of the future possible effects on the results of operations and financial position of the Company and its consolidated subsidiaries.

## 11. Operating Leases

Future minimum lease payments subsequent to March 31, 2017 for non-cancelable operating leases were as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
2018	¥1,004	\$ 8,977
2019 and thereafter	3,872	34,619
Total	¥4,876	\$43,596

## 12. Financial Instruments — Fair Value

### Overview

#### (a) Policy for financial instruments

The Company and its subsidiaries (collectively, the “Group”) raise necessary funds in accordance with management plans mainly by bank borrowings and issuance of corporate bonds in support of operations related to the manufacture and sales of bearings, constant-velocity joints (CVJs) and precision equipments. The Group utilizes bank borrowings for short-term operating funds, and bank borrowings and issuance of corporate bonds for long-term capital investments and finances. Temporary surplus funds are managed by low-risk financial assets. The Group utilizes derivatives to avoid or mitigate risks as described in the later part of this note and does not hold them for speculative purposes.

#### (b) Types of financial instruments and related risks

Trade receivables, notes, accounts receivable and electronically recorded monetary claims, are exposed to credit risk of customers. In addition, as a result of the business of the Group, which operates globally, foreign currency trade receivables are exposed to currency rate fluctuation risk, which is mitigated by utilizing forward foreign currency exchange contracts. Securities are mainly composed of stocks of the companies with which the Group has business relationships and they are exposed to fluctuation risk of market prices.

Trade payables, notes, accounts payable and electronically recorded obligations, are due within one year. Certain trade payables resulting from the import of raw materials are denominated in foreign currencies. These are exposed to fluctuation risk of foreign currencies. However, the risk is mitigated because the trade payables, notes and accounts payable denominated in foreign currencies are within persistently the range of accounts receivable denominated in the same currencies.

Loans are mainly utilized for business operations of the Group. Short-term loans are mainly utilized for financing of operating activities. Long-term loans are mainly utilized for capital investments and financing. These have maturity dates of 8 years or less, at the longest, subsequent to March 31, 2017. Certain loans are exposed to fluctuation risk of interest rates and fluctuation risk of exchange rates and this risk is hedged by derivative transactions of interest rate swap agreements and cross currency swap agreements.

The Group has a policy to utilize derivative transactions involving forward foreign currency exchange contracts, currency option agreements, currency swap agreements, interest rate option agreements and interest rate swap agreements for the purpose of avoiding future fluctuation risk of foreign currencies trade receivables and payables and mitigating future fluctuation risk of interest rate of loans and corporate bonds. The Group utilized forward foreign currency exchange contracts, interest rate swap agreements and cross currency swap agreements for the year ended March 31, 2017. Refer to “(o) Derivative financial instruments and hedging activities” in Note 2. “Summary of Significant Accounting Policies.”

#### (c) Risk management for financial instruments

(i) Monitoring of credit risk (the risk that customers or counterparties may default)

In accordance with internal rules and manual, the credit management section periodically monitors financial conditions of major customers, manages collection due dates and balances of each customer and tries to identify credit risk of customers with worsening financial conditions at the early stage and mitigate the risk. Credit risk of securities is quite low because the Group utilizes certificate of deposits with high credit ratings, up to a limited amount, which is approved by the Company. The Group believes credit risk of derivative transactions is almost nil because counterparties are financial institutions with high credit ratings.

(ii) Monitoring of market risks (the risks arising from fluctuations in foreign currency exchange rates, interest rates and others)

The Group mainly utilizes forward foreign currency exchange contracts for hedging of fluctuation risk which is identified by each currency. Depending on the market conditions of foreign currencies, the Group utilizes forward foreign currency exchange contracts for forecasted export transactions with a maximum period of 6 months.

The Group utilizes interest rate swap agreements and cross currency swap agreements to mitigate fluctuation risk of interest rates and fluctuation risk of loan principal due to floating exchange rates.

The Group continuously reviews securities holdings by monitoring periodically the market value and financial condition of securities’ issuers (companies with business relationships with the Group) and by evaluating those relationships.

The Group has established policies which include maximum upper limits and reporting obligations for derivative transactions and comply fully with these guidelines. Derivative transactions are entered into by the Company’s Accounting Department and certain consolidated subsidiaries. The Company carries out mutual supervision and monitoring of the derivative transactions in accordance with management policies and its consolidated subsidiaries apply the same approach. Each derivative transaction of the Company is reported to the responsible director when entered into. The consolidated subsidiaries are required to report the status of their derivatives transactions to the Company on a monthly basis and are also required to consult with the Company when they enter into derivative transactions other than forward foreign currency exchange contracts.

(iii) Monitoring of liquidity risk (the risk that the Group may not be able to meet its obligations on scheduled due dates)

The Group manages liquidity risk with the responsible section preparing and updating cash flow plans and keeping necessary funds based on reports of each section.

#### (d) Supplementary explanation of the fair value of financial instruments

The fair value of financial instruments is based on their quoted market price, if available. When there is no quoted market price available, fair value is reasonably estimated. Since various assumptions and factors are reflected in estimating the fair value, different assumptions and factors could result in different fair value. In addition, the notional amounts of derivatives in Note 13 “Derivative Financial Instruments and Hedging Activities” are not necessarily indicative of the actual market risk involved in the derivative transactions.

## Fair Value of Financial Instruments

The carrying value of financial instruments on the consolidated balance sheets, fair value and the difference as of March 31, 2017 and 2016, are shown in the following table. The table does not include financial instruments for which it is extremely difficult to determine the fair value. (Please refer to Note 2 below).

	Millions of yen					
	2017			2016		
	Carrying value	Fair value	Difference	Carrying value	Fair value	Difference
(1) Cash and cash equivalents	¥ 79,284	¥ 79,284	¥ —	¥ 67,311	¥ 67,311	¥ —
(2) Short-term investments	718	718	—	924	924	—
(3) Notes and accounts — trade receivables	136,848	136,848	—	134,196	134,196	—
(4) Electronically recorded monetary claims	5,495	5,495	—	2,285	2,285	—
(5) Investment securities	36,105	36,109	4	28,827	28,830	3
(6) Short-term loans receivable included in other current assets	94	94	—	2	2	—
Total assets	¥258,544	¥258,548	¥ 4	¥233,545	¥233,548	¥ 3
(7) Short-term bank loans	66,733	66,733	—	54,091	54,091	—
(8) Current portion of long-term debt	66,615	66,615	—	68,701	68,701	—
(9) Notes and accounts — trade payables	59,262	59,262	—	55,247	55,247	—
(10) Electronically recorded obligations	58,132	58,132	—	56,390	56,390	—
(11) Accrued income taxes	3,057	3,057	—	4,236	4,236	—
(12) Long-term debt	186,822	187,600	778	202,382	205,662	3,280
Total liabilities	¥440,621	¥441,399	¥778	¥441,047	¥444,327	¥3,280
Derivative transactions (*)	¥ 1,070	¥ 1,070	¥ —	¥ 480	¥ 480	¥ —

	Thousands of U.S. dollars		
	2017		
	Carrying value	Fair value	Difference
(1) Cash and cash equivalents	\$ 708,874	\$ 708,874	\$ —
(2) Short-term investments	6,420	6,420	—
(3) Notes and accounts — trade receivables	1,223,550	1,223,550	—
(4) Electronically recorded monetary claims	49,130	49,130	—
(5) Investment securities	322,813	322,849	36
(6) Short-term loans receivable included in other current assets	841	841	—
Total assets	\$2,311,628	\$2,311,664	\$ 36
(7) Short-term bank loans	596,656	596,656	—
(8) Current portion of long-term debt	595,601	595,601	—
(9) Notes and accounts — trade payables	529,858	529,858	—
(10) Electronically recorded obligations	519,755	519,755	—
(11) Accrued income taxes	27,332	27,332	—
(12) Long-term debt	1,670,365	1,677,321	6,956
Total liabilities	\$3,939,567	\$3,946,523	\$6,956
Derivative transactions (*)	\$ 9,567	\$ 9,567	\$ —

\*Assets and liabilities arising from derivative transactions are shown at net value with the amount in parentheses representing net liability position.

Note 1: Methods to determine the fair value of financial instruments and other matters related to securities and derivative transactions  
 (1) Cash and cash equivalents, (2) Short-term investments, (3) Notes and accounts-trade receivables, (4) Electronically recorded monetary claim and  
 (6) Short-term loans receivable included in other current assets  
 Since these items are settled in a short time period, their carrying value approximates fair value.

(5) *Investment securities*

The fair value of equity securities is based on quoted market prices.

(7) *Short-term bank loans*, (9) *Notes and accounts-trade payables* (10) *Electronically recorded obligations* and (11) *Accrued income taxes*

Since these items are settled in a short time period, their carrying value approximates fair value.

(8) *Current portion of long-term debt* and (12) *Long-term debt*

Long-term debt is composed of corporate bonds and long-term loans. The fair market value of corporate bonds is based on quoted market prices. The fair value of long-term loans is based on the present value of the total of principal and interest discounted by the interest rate to be applied assuming new loans under the similar conditions to existing loans are made.

Certain long-term loans with floating interest rates have been hedged by interest rate swap agreements and interest-rate and cross currency swap agreements. These have been accounted for as loans with fixed interest rates. The fair value of those long-term loans is based on the present value of the total of the principals, interest payments and net cash flows of the swap agreements discounted by the interest rates to be applied assuming new loans under similar conditions are made.

*Derivative Transactions*

Please refer to Note 13 "Derivative Financial Instruments and Hedging Activities" section of these Notes to Consolidated Financial Statements.

Note 2: Financial instruments for which it is extremely difficult to determine the fair value are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unlisted stocks			
Stocks of subsidiaries and affiliates	¥17,992	¥19,089	\$160,865
Other	290	288	2,593
Unlisted foreign bonds	—	1,098	—
Total	¥18,282	¥20,475	\$163,458

Because no quoted market price is available and it is extremely difficult to determine the fair value, the above financial instruments are not included in the preceding table.

Note 3: Redemption schedules for cash and cash equivalents, receivables and marketable securities with maturities at March 31, 2017 and 2016 are as follows:

	Millions of yen			
	2017			
	Within one year	More than one year and within five years	More than five years and within ten years	More than ten years
Cash and cash equivalents	¥ 79,284	¥—	¥—	¥—
Short-term investments	718	—	—	—
Trade receivables	136,848	—	—	—
Electronically recorded monetary claims	5,495	—	—	—
Short-term loans receivable included in other current assets	94	—	—	—
Total	¥222,439	¥—	¥—	¥—

	Millions of yen			
	2016			
	Within one year	More than one year and within five years	More than five years and within ten years	More than ten years
Cash and cash equivalents	¥ 67,311	¥—	¥—	¥—
Short-term investments	924	—	—	—
Trade receivables	134,196	—	—	—
Electronically recorded monetary claims	2,285	—	—	—
Short-term loans receivable included in other current assets	2	—	—	—
Total	¥204,718	¥—	¥—	¥—

*Thousands of U.S. dollars*

	<b>2017</b>			
	Within one year	More than one year and within five years	More than five years and within ten years	More than ten years
Cash and cash equivalents	\$ 708,874	\$—	\$—	\$—
Short-term investments	6,420	—	—	—
Trade receivables	1,223,550	—	—	—
Electronically recorded monetary claims	49,130	—	—	—
Short-term loans receivable included in other current assets	841	—	—	—
<b>Total</b>	<b>\$1,988,815</b>	<b>\$—</b>	<b>\$—</b>	<b>\$—</b>

Note 4: The redemption schedule for long-term debt is disclosed in Note 7 "Short-Term Bank Loans, Long-Term Debt and Lease Obligations" section of these Notes to Consolidated Financial Statements.

### 13. Derivative Financial Instruments and Hedging Activities

#### (a) Derivative transactions to which hedge accounting is not applied

The estimated fair value of the derivatives positions outstanding which do not qualify for deferral hedge accounting at March 31, 2017 and 2016 is summarized as follows:

#### Currency-related transactions

*Millions of yen*

Classification	Transaction	<b>2017</b>			
		Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	Euro	¥ 6,975	¥ 1,338	¥ 220	¥ 220
	U.S. dollars	13,781	—	(8)	(8)
	Other	2,241	—	(71)	(71)
Over-the-counter transactions	Buying:				
	Other	204	—	(4)	(4)
	Interest-rate and cross currency swaps				
	Receive / fixed yen and pay / fixed Euro	10,058	10,058	933	933
<b>Total</b>		<b>¥33,259</b>	<b>¥11,396</b>	<b>¥1,070</b>	<b>¥1,070</b>

*Millions of yen*

Classification	Transaction	<b>2016</b>			
		Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	Euro	¥ 6,956	¥ 1,338	¥ 19	¥ 19
	U.S. dollars	4,983	480	80	80
Over-the-counter transactions	Other	1,225	—	(6)	(6)
	Interest-rate and cross currency swaps				
	Receive / fixed yen and pay / fixed Euro	10,058	10,058	387	387
<b>Total</b>		<b>¥23,222</b>	<b>¥11,876</b>	<b>¥480</b>	<b>¥480</b>

		Thousands of U.S. dollars			
		2017			
Classification	Transaction	Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	Euro	\$ 62,363	\$ 11,963	\$ 1,967	\$ 1,967
	U.S. dollars	123,215	—	(71)	(71)
	Other	20,037	—	(635)	(635)
Over-the-counter transactions	Buying:				
	Other	1,824	—	(36)	(36)
	Interest-rate and cross currency swaps				
	Receive / fixed yen and pay / fixed Euro	89,928	89,928	8,342	8,342
	Total	\$297,367	\$101,891	\$9,567	\$9,567

The fair value of forward foreign currency exchange contracts are computed using prices provided by counterparty financial institutions.

#### (b) Derivative transactions to which hedge accounting is applied

The estimated fair value of the derivatives positions outstanding which qualify for deferral hedge accounting at March 31, 2017 and 2016 is summarized as follows.

		Millions of yen		
		2017		
Method of hedge accounting	Transaction	Notional amount	More than one year	Fair value
Swap rates applied to underlying long-term debt	Interest rate swaps Receive / floating and pay / fixed	¥18,500	¥14,000	(*1)
Swap rates and currency applied to underlying long-term debt	Interest-rate and cross currency swaps Receive / floating U.S. dollars and pay / fixed yen	¥ 1,500	¥ 1,500	(*2)
Forward foreign currency exchange contracts applied to underlying other current liabilities	Forward foreign currency exchange contract Selling:			
	U.S. dollars	¥ 79	—	(*3)
	Buying:			
	Euro	¥ 3,003	—	(*3)

		Millions of yen		
		2016		
Method of hedge accounting	Transaction	Notional amount	More than one year	Fair value
Swap rates applied to underlying long-term debt	Interest rate swaps Receive / floating and pay / fixed	¥23,000	¥18,500	(*1)
Swap rates and currency applied to underlying long-term debt	Interest-rate and cross currency swaps Receive / floating U.S. dollars and pay / fixed yen	¥ 1,500	¥ 1,500	(*2)

		Thousands of U.S. dollars		
		2017		
Method of hedge accounting	Transaction	Notional amount	More than one year	Fair value
Swap rates applied to underlying long-term debt	Interest rate swaps Receive / floating and pay / fixed	\$165,407	\$125,173	(*1)
Swap rates and currency applied to underlying long-term debt	Interest-rate and cross currency swaps Receive / floating U.S. dollars and pay / fixed yen	\$ 13,411	\$ 13,411	(*2)
Forward foreign currency exchange contracts applied to underlying other current liabilities	Forward foreign currency exchange contract Selling:			
	U.S. dollars	\$ 706	—	(*3)
	Buying:			
	Euro	\$ 26,850	—	(*3)

\*1 Because interest rate swap agreements are accounted for applying swap rates to underlying long-term debt, their fair value is included in that of long-term debt disclosed in Note 12 "Financial Instruments – Fair Value."

\*2 Because interest-rate and cross currency swaps agreements are accounted for applying swap rates to underlying long-term debt, their fair value is included in that of long-term debt disclosed in Note 12 "Financial Instruments – Fair Value."

\*3 Because forward foreign currency exchange contracts are accounted for applying forward foreign exchange rate to underlying accounts-trade receivable and other current liabilities, their fair value is included in that of accounts-trade receivable and other current liabilities.

## 14. Research and Development Costs

Research and development costs included in cost of sales and selling, general and administrative expenses totaled ¥19,196 million (\$171,630 thousand) and ¥18,481 million for the years ended March 31, 2017 and 2016, respectively.

## 15. Gain on Reversal of Loss on Arbitration Ruling

In relation to arbitration proceedings for allegedly defective products with Volvo Powertrain AB in Europe, NTN-SNR ROULEMENTS (hereinafter referred to as NTN-SNR) received the final ruling from the Arbitration Institute of the Stockholm Chamber of Commerce (Sweden) that ordered NTN-SNR to provide compensation for damages in November 2015. Accordingly, the Company and NTN-SNR recorded loss on arbitration ruling for the year ended March 31, 2016. The Company and NTN-SNR thoroughly examined the ruling and decided that there was a flaw in such arbitration proceedings. Therefore, the Company and NTN-SNR challenged the ruling in the Stockholm District Court in February 2016. In January 2017, NTN-SNR has reached an agreement to settle with Volvo Powertrain AB. As a result, the Company and NTN-SNR recorded gain on reversal of loss on arbitration ruling in the amount of ¥2,147 million (\$19,196 thousand) for the year ended March 31, 2017.

## 16. Gain on Sales of Property, Plant and Equipment

Gain on sales of property, plant and equipment for the year ended March 31, 2016 consisted of the following:

	Millions of yen 2016
Gain on sales of land at former TAKARAZUKA Works	¥2,694
Others	186
	¥2,880

## 17. Gain on Change in Equity

In January 2016, PT. NTN MANUFACTURING INDONESIA changed from being a consolidated subsidiary to an affiliate due to the issuance of new shares to a third party resulting in the decrease in ownership interest held by the Company and its subsidiary. As a result, the Company recorded gain on change in equity in the amount of ¥1,552 million for the year ended March 31, 2016.

## 18. Loss on Surcharge Payments under the Anti-Monopoly Act

In relation to a number of class action suits for suspected price-fixing of bearing sales with other business competitors, the Company and its consolidated subsidiary in the U.S. have reached an agreement to settle with indirect purchasers, parts of the certain plaintiffs in the U.S. in November 2016. In addition, the Company has negotiated the compensation of damages with a part of customers in association with investigations by the authorities about the competition laws. Nevertheless, in overall consideration of the effects to operations of the Company and its consolidated subsidiaries due to extended negotiations, the Company reached the conclusion to pay the settlement amount because the Company considered that an amicable and early resolution would accord with the overall benefits for both parties.

As a result, the Company and its consolidated subsidiaries recorded loss on surcharge payments under the Anti-Monopoly Act in the amount of ¥12,129 million (\$108,445 thousand) for the year ended March 31, 2017.

## 19. Loss on Arbitration Ruling

NTN-SNR ROULEMENTS (hereinafter referred to as NTN-SNR), a consolidated subsidiary, had been involved in arbitration proceedings with Volvo Powertrain AB in Europe since November 2012. They submitted a claim to arbitration and requested a payment for damages due to allegedly defective products provided by NTN-SNR. In November 2015, NTN-SNR received the final ruling from the Arbitration Institute of the Stockholm Chamber of Commerce (Sweden) that ordered NTN-SNR to provide compensation for damages. The Company and NTN-SNR recorded loss on arbitration ruling in the amount of ¥13,013 million, which is the final arbitration amount less the proceeds from insurance income, for the year ended March 31, 2016.

## 20. Other Comprehensive Income (Loss)

The following table presents the analysis of other comprehensive income (loss) for the years ended March 31, 2017 and 2016.

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Net unrealized holding gain (loss) on securities:			
Amount arising during the year	¥ 7,210	¥ (9,038)	\$ 64,464
Reclassification adjustments for gains included in profit	(134)	—	(1,197)
Before tax effect	7,076	(9,038)	63,267
Tax effect	(2,123)	3,030	(18,982)
Total	4,953	(6,008)	44,285
Translation adjustments:			
Amount arising during the year	(8,768)	(17,363)	(78,394)
Reclassification adjustments for losses included in profit	86	18	769
Before tax effect	(8,682)	(17,345)	(77,625)
Tax effect	—	—	—
Total	(8,682)	(17,345)	(77,625)
Retirement benefit liability adjustments:			
Amount arising during the year	3,451	(3,276)	30,855
Reclassification adjustments for losses included in profit	2,305	2,224	20,609
Before tax effect	5,756	(1,052)	51,464
Tax effect	(2,132)	118	(19,062)
Total	3,624	(934)	32,402
Share of other comprehensive loss of affiliates accounted for by the equity method:			
Amount arising during the year	(768)	(726)	(6,867)
Other comprehensive loss, net	¥ (873)	¥(25,013)	\$ (7,805)

## 21. Income Taxes

Income taxes applicable to the Company and its domestic subsidiaries comprise corporate taxes, inhabitants' taxes and enterprise taxes which, in the aggregate, resulted in statutory tax rates of 30.2% and 32.4% for the years ended March 31, 2017 and 2016, respectively. Overseas subsidiaries are subject to the income taxes of the respective countries in which they operate.

The effective tax rates for the years ended March 31, 2017 and 2016 differ from the Company's statutory tax rates for the following reasons:

	2017	2016
Statutory tax rates	30.2%	32.4%
Permanent non-deductible expenses	0.8	0.9
Permanent non-taxable income	(9.3)	(5.8)
Elimination of dividend income	11.8	7.9
Equity in earnings of affiliates	(0.4)	(0.9)
Difference in overseas consolidated subsidiaries' applicable tax rates	(2.9)	(3.2)
Increase in valuation allowance	34.7	10.6
Decrease in deferred tax assets due to change in statutory tax rates	0.1	2.5
Tax credit for research and development expenses	(0.5)	(3.1)
Gain on change in equity	—	(1.9)
Other	5.5	1.0
Effective tax rates	70.0%	40.4%



The tax effects of temporary differences which gave rise to significant portions of the deferred tax assets and liabilities at March 31, 2017 and 2016 are presented below:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Deferred tax assets:			
Liability for retirement benefits	¥ 16,390	¥ 18,594	\$ 146,542
Inventories	1,167	3,237	10,434
Tax loss carryforwards	9,443	13,266	84,429
Accrued expenses	5,339	3,874	47,736
Valuation loss on investment securities	898	898	8,029
Impairment loss	863	673	7,716
Other	4,901	3,567	43,820
Gross deferred tax assets	39,001	44,109	348,706
Less: valuation allowance	(5,969)	(2,426)	(53,368)
Total deferred tax assets	33,032	41,683	295,338
Deferred tax liabilities:			
Depreciation and amortization	(13,373)	(14,757)	(119,567)
Unrealized holding gain on securities	(5,789)	(3,666)	(51,759)
Reserve for deferred gain on property included in retained earnings	(1,233)	(1,329)	(11,024)
Retained earnings of overseas consolidated subsidiaries	(184)	(309)	(1,645)
Other	(1,171)	(1,335)	(10,471)
Total deferred tax liabilities	(21,750)	(21,396)	(194,466)
Net deferred tax assets	¥ 11,282	¥ 20,287	\$ 100,872

The "Act for Partial Revision of Regulations Including the Act for, among Other Purposes, Partial Revision of the Consumption Tax Act to Implement a Drastic Reform of the Taxation System for Purposes Such as Securing Stable Financial Resources for Social Security" (Act No. 85, 2016) and the "Act for Partial Revision of Regulations Including the Act for, among Other Purposes, Partial Revision of the Local Tax Act and the Local Allocation Tax Act to Implement a Drastic Reform of the Taxation System for Purposes Such as Securing Stable Financial Resources for Social Security" (Act No. 86, 2016) were enacted in the Japanese Diet session on November 18, 2016 and the timing of implementation for the consumption tax rate increase to 10% was postponed from April 1, 2017 to October 1, 2019.

In line with these revisions, the timing of implementation for the abolishment of the special local corporation tax, the restoration of the enterprise tax on corporations as a result of said abolishment, the revision of the local corporate income tax rate, and the revision of the rate of the corporation levy that comprises a part of the corporate residential tax, which had been scheduled from fiscal years beginning on or after April 1, 2017, was postponed to fiscal years beginning on or after October 1, 2019.

Though the domestic statutory tax rates to calculate deferred tax assets and liabilities will not change, the tax rates are reclassified between national tax and local tax. The effect of the change on the consolidated financial statements was immaterial.

## 22. Amounts per Share

Amounts per share at March 31, 2017 and 2016 and for the years then ended were as follows:

	Yen		U.S. dollars
	2017	2016	2017
Net assets	¥431.66	¥436.97	\$3.86
Profit attributable to owners of parent:			
Basic	5.33	28.28	0.05
Cash dividends	10.00	10.00	0.09

Amounts per share of net assets are computed based on the number of shares of common stock outstanding at the year end.

Basic profit attributable to owners of parent per share is computed based on the profit attributable to owners of parent of common stock and the weighted-average number of shares of common stock outstanding during the year. Diluted profit attributable to owners of parent per share has not been presented because there were no potentially dilutive shares of common stock for the years ended March 31, 2017 and 2016.

The Company recorded shares held by the "Officer Remuneration BIP Trust" (Please refer to Note 3-(b)) as treasury stock in the consolidated financial statements as of March 31, 2017. Accordingly, to compute "net assets per share," the Company's shares held by the trust (568,000 shares at March 31, 2017) are included in treasury stock that is excluded from the number of shares outstanding as of March 31, 2017. In addition, to compute "profit attributable to owners of parent per share," the Company's shares held by the trust (349,538 average number of shares for the year ended March 31, 2017) are included in treasury stock that is excluded from the computation of the average number of shares for the year ended March 31, 2017.

Cash dividends per share represent the cash dividends proposed by the Board of Directors as applicable to the respective years together with the interim cash dividends paid.

## 23. Segment Information

### 1. Outline of reporting segments

The Group's reporting segments are divisions of the Group for which separate financial information is available, and whose operating results are reviewed regularly by the highest management decision-making body (the Board of Directors meeting of the Company) in order to allocate management resources and assess performance of operations.

The Group's main business lines consist of the manufacture and sales of bearings, CVJs and precision equipments for the aftermarket, general industrial machinery market, and automotive market. Business activities in Japan are controlled by the Company (the Head Office), and overseas business activities are controlled by the General Manager responsible in each region. Business entities in each region prepare their own plans and strategies to conduct business activities while analyzing profitability and the investment efficiency of operations.

Accordingly, the Group has four reporting segments based on geographic business segmentation controlled by the Head Office or the General Managers: Japan, the Americas, Europe, and Asia and other areas. Each reporting segment engages in the manufacture and sale of bearings, CVJs, and precision equipments and other products.

### 2. Calculation methods used for net sales, profit or loss, assets, liabilities and other items on each reporting segment

The accounting policies of the segments are substantially the same as those described in the significant accounting policies in Note 2. Inter-segment sales and transfer are recorded at the same prices used in transactions with third parties.

### 3. Information as to net sales, profit or loss, assets, liabilities, and other items for each reporting segment for the years ended March 31, 2017 and 2016

Reportable segment information for the years ended March 31, 2017 and 2016 is summarized as follows:

	Millions of yen						
	2017						
	Reporting segments				Total	Adjustments	Consolidated
Japan	Americas	Europe	Asia and other areas				
<b>Sales, profit and assets or liabilities by reporting segments:</b>							
Net sales:							
Sales to third parties	¥200,956	¥187,788	¥165,262	¥129,323	¥ 683,329	¥ —	¥683,329
Inter-segment sales and transfers	119,879	3,605	3,755	12,980	140,219	(140,219)	—
Total	320,835	191,393	169,017	142,303	823,548	(140,219)	683,329
Segment profit	¥ 4,462	¥ 8,286	¥ 3,310	¥ 14,523	¥ 30,581	¥ 5,042	¥ 35,623
Segment assets	¥584,617	¥169,057	¥138,029	¥157,234	¥1,048,937	¥(250,046)	¥798,891
Segment liabilities	¥379,093	¥115,146	¥ 95,336	¥ 53,954	¥ 643,529	¥ (89,688)	¥553,841
<b>Other items:</b>							
Depreciation and amortization	¥ 13,168	¥ 10,098	¥ 6,390	¥ 6,973	¥ 36,629	¥ —	¥ 36,629
Capital expenditures	¥ 19,207	¥ 11,699	¥ 8,318	¥ 3,749	¥ 42,973	¥ (64)	¥ 42,909

	Millions of yen						
	2016						
	Reporting segments					Total	Adjustments
Japan	Americas	Europe	Asia and other areas				
<b>Sales, profit and assets or liabilities by reporting segments:</b>							
Net sales:							
Sales to third parties	¥200,106	¥203,881	¥179,526	¥133,484	¥ 716,997	¥ —	¥716,997
Inter-segment sales and transfers	137,579	4,498	4,023	14,676	160,776	(160,776)	—
Total	337,685	208,379	183,549	148,160	877,773	(160,776)	716,997
Segment profit	¥ 24,150	¥ 5,774	¥ 3,100	¥ 12,619	¥ 45,643	¥ 2,127	¥ 47,770
Segment assets	¥552,813	¥169,453	¥143,964	¥160,124	¥1,026,354	¥(231,703)	¥794,651
Segment liabilities	¥354,653	¥121,245	¥ 96,262	¥ 57,006	¥ 629,166	¥ (83,020)	¥546,146
<b>Other items:</b>							
Depreciation and amortization	¥ 11,836	¥ 11,247	¥ 7,085	¥ 8,110	¥ 38,278	¥ —	¥ 38,278
Capital expenditures	¥ 16,179	¥ 7,453	¥ 8,326	¥ 8,022	¥ 39,980	¥ (185)	¥ 39,795

	Thousands of U.S. dollars						
	2017						
	Reporting segments					Total	Adjustments
Japan	Americas	Europe	Asia and other areas				
<b>Sales, profit and assets or liabilities by reporting segments:</b>							
Net sales:							
Sales to third parties	\$1,796,737	\$1,679,002	\$1,477,598	\$1,156,270	\$6,109,607	\$ —	\$6,109,607
Inter-segment sales and transfers	1,071,831	32,232	33,574	116,053	1,253,690	(1,253,690)	—
Total	2,868,568	1,711,234	1,511,172	1,272,323	7,363,297	(1,253,690)	6,109,607
Segment profit	\$ 39,894	\$ 74,085	\$ 29,595	\$ 129,849	\$ 273,423	\$ 45,080	\$ 318,503
Segment assets	\$5,227,028	\$1,511,529	\$1,234,110	\$1,405,821	\$9,378,488	\$(2,235,647)	\$7,142,841
Segment liabilities	\$3,389,449	\$1,029,514	\$ 852,394	\$ 482,400	\$5,753,757	\$ (801,895)	\$4,951,862
<b>Other items:</b>							
Depreciation and amortization	\$ 117,734	\$ 90,286	\$ 57,133	\$ 62,345	\$ 327,498	\$ —	\$ 327,498
Capital expenditures	\$ 171,729	\$ 104,600	\$ 74,371	\$ 33,519	\$ 384,219	\$ (572)	\$ 383,647

The total amount of segment profit is adjusted to operating income of the consolidated statement of income.

Other than those corresponding to segment assets, adjustments relate to the elimination of inter-segment transactions, etc. The adjustments for segment assets consist of inter-segment elimination, etc. of ¥286,466 million (\$2,561,277 thousand) and ¥276,943 million and the corporate assets of the Group of ¥36,420 million (\$325,629 thousand) and ¥45,240 million for the years ended March 31, 2017 and 2016, respectively. The corporate assets are mainly long-term investment funds (investment securities) for the year ended March 31, 2017.

The corporate assets are mainly operating funds of the Company (deposits and securities) and long-term investment funds (investment securities) for the year ended March 31, 2016.

#### 4. Related information

(1) Sales by products and service

Sales by products and service classified by the similarity of the market for the years ended March 31, 2017 and 2016 are summarized as follows:

		Millions of yen			
		2017			
		Aftermarket	Industrial machinery	Automotive	Total
Sales to third parties		¥104,501	¥98,611	¥480,217	¥683,329

		Millions of yen			
		2016			
		Aftermarket	Industrial machinery	Automotive	Total
Sales to third parties		¥113,628	¥104,110	¥499,259	¥716,997

		Thousands of U.S. dollars			
		2017			
		Aftermarket	Industrial machinery	Automotive	Total
Sales to third parties		\$934,338	\$881,675	\$4,293,594	\$6,109,607

(2) Regional information

(a) Sales

Sales categorized by country and region based on locations of customers within the Group for the years ended March 31, 2017 and 2016 are summarized as follows:

Millions of yen				
2017				
Japan	Americas	Europe	Asia and other areas	Total
¥191,466	¥194,765	¥154,990	¥142,108	¥683,329

Millions of yen				
2016				
Japan	Americas	Europe	Asia and other areas	Total
¥189,557	¥212,550	¥169,039	¥145,851	¥716,997

Thousands of U.S. dollars				
2017				
Japan	Americas	Europe	Asia and other areas	Total
\$1,711,887	\$1,741,383	\$1,385,757	\$1,270,580	\$6,109,607

"Americas" includes the U.S.A., Canada and Central and South America. "Europe" includes Germany, France, the U.K. and others. "Asia and other areas" include China, Thailand, India and others. The sales of the "Americas" segment above include the sales to customers in the U.S.A. of ¥168,383 million (\$1,505,503 thousand) and ¥188,391 million for the years ended March 31, 2017 and 2016, respectively. The sales of the "Asia and other areas" segment above include the sales to customers in China of ¥74,223 million (\$663,624 thousand) and ¥77,612 million for the years ended March 31, 2017 and 2016, respectively.

(b) Property, plant and equipment

Property, plant and equipment categorized by country and region within the Group at March 31, 2017 and 2016 are summarized as follows:

Millions of yen

2017				
Japan	Americas	Europe	Asia and other areas	Total
¥110,920	¥76,259	¥44,964	¥52,469	¥284,612

Millions of yen

2016				
Japan	Americas	Europe	Asia and other areas	Total
¥111,877	¥75,580	¥46,400	¥62,544	¥296,401

Thousands of U.S. dollars

2017				
Japan	Americas	Europe	Asia and other areas	Total
\$991,730	\$681,828	\$402,020	\$469,122	\$2,544,700

1. Property, plant and equipment in "Americas" in the amount of ¥67,938 million (\$607,430 thousand) and ¥67,151 million is located in the U.S.A. at March 31, 2017 and 2016, respectively.
2. Property, plant and equipment in "Europe" in the amount of ¥32,545 million (\$290,983 thousand) and ¥35,487 million is located in France at March 31, 2017 and 2016, respectively.
3. Property, plant and equipment in "Asia and other areas" in the amount of ¥39,440 million (\$352,631 thousand) and ¥49,028 million is located in China at March 31, 2017 and 2016, respectively.

## 5. Loss on impairment of fixed assets

Loss on impairment of fixed assets by reporting segment for the years ended March 31, 2017 and 2016 is summarized as follows:

Millions of yen

2017					
Japan	Americas	Europe	Asia and other areas	Adjustments	Total
¥556	¥—	¥164	¥3,760	¥82	¥4,562

Millions of yen

2016					
Japan	Americas	Europe	Asia and other areas	Adjustments	Total
¥226	¥—	¥—	¥2,462	¥—	¥2,688

Thousands of U.S. dollars

2017					
Japan	Americas	Europe	Asia and other areas	Adjustments	Total
\$4,971	\$—	\$1,467	\$33,618	\$733	\$40,789

## 24. Business Combination

### Common Control Transaction, etc.

#### 1. Overview of transaction

(1) Company name and business description of combined company

Combined company: NTN Antriebstechnik G.m.b.H.

Business description: Manufacture and sales of CVJs

(2) Date of the business combination

March 31, 2017

(3) Legal form of business combination

Acquisition of stock from non-controlling shareholder by the exercise of stock acquisition rights on exchangeable bonds issued by non-controlling shareholder

(4) Company name of combined company after business combination

There is no change.

(5) Other matters related to overview of transaction

The Company acquired additional 25% of ownership interests through the transaction. As a result, NTN Antriebstechnik G.m.b.H. became a wholly owned subsidiary of the Company. The Company aims to enhance the consolidation group management and to expand the CVJ business in Europe by the transaction.

#### 2. Overview of accounting treatment applied

The transaction was treated as "transaction with non-controlling shareholders" which falls under the category of "common control transactions, etc." set forth in "Accounting Standard for Business Combinations" and "Implementation Guidance on Accounting Standard for Business Combinations and Accounting Standard for Business Divestitures."

#### 3. Matters to be disclosed when additionally acquiring shares of subsidiaries

Details on acquisition cost of acquired company and consideration for acquisition by type

Consideration for the acquisition: Exercise of stock acquisition rights on exchangeable bonds ¥1,028 million (\$9,191 thousand)

#### 4. Matters related to change in ownership interests held by the Company due to transactions with non-controlling shareholders

(1) Main reason for change in capital surplus

Additional acquisition of shares in a subsidiary

(2) Decrease in capital surplus due to transaction with non-controlling shareholders

¥408 million (\$3,648 thousand)

## 25. Subsequent Event

The following distribution of retained earnings of the Company, which has not been reflected in the accompanying consolidated financial statements as of March 31, 2017 and for the year then ended, was approved at the annual general meeting of the shareholders held on June 23, 2017:

	Millions of yen	Thousands of U.S. dollars
Year-end cash dividends (¥5.0 (U.S.\$0.04) per share)	¥2,658	\$23,765

# Independent Auditor's Report



Ernst & Young ShinNihon LLC

## Independent Auditor's Report

The Board of Directors  
NTN Corporation

We have audited the accompanying consolidated financial statements of NTN Corporation and its consolidated subsidiaries, which comprise the consolidated balance sheet as at March 31, 2017, and the consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

### *Management's Responsibility for the Consolidated Financial Statements*

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditor's Responsibility*

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Opinion*

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of NTN Corporation and its consolidated subsidiaries as at March 31, 2017, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

### *Convenience Translation*

We have reviewed the translation of these consolidated financial statements into U.S. dollars, presented for the convenience of readers, and, in our opinion, the accompanying consolidated financial statements have been properly translated on the basis described in Note 1.

*Ernst & Young ShinNihon LLC*

June 26, 2017  
Osaka, Japan

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A member firm of Ernst & Young Global Limited

# Main Financial Indexes: 11-Year Summary

Years ended March 31

	2007	2008	2009	2010
<b>FOR THE YEAR DATA</b>				
Net Sales	483,818	533,985	527,100	452,746
Operating Income	46,793	49,612	9,479	1,399
Operating Margin	9.7	9.3	1.8	0.3
Income (Loss) Before Income Taxes	45,170	44,313	(10,104)	(1,838)
Net Income (Loss) Attributable to Shareholder (Parent Company)	27,014	27,431	(8,985)	(2,015)
Capital Expenditures	59,347	59,504	49,594	21,504
Depreciation	32,693	39,547	45,759	40,702
R&D Costs	14,221	15,006	17,402	14,687

## YEAR-END DATA

Total Assets	611,944	629,464	627,613	618,802
Net Assets/Shareholders' Equity	215,815	216,401	192,223	214,551
Inventories	107,131	109,969	140,466	126,663
Interest-bearing Debt	197,911	212,874	275,996	231,638
Number of Employees	17,306	18,960	20,679	17,959

## PER SHARE DATA

Net Assets	445.61	445.98	376.77	374.19
Net Income (Loss)				
- Basic	58.34	58.43	(19.14)	(4.00)
- Diluted	53.74	54.59	—	—
Cash Dividends	16.00	19.00	13.00	8.00

## OTHER INFORMATION

Inventory Turnover Ratio	4.5	4.9	3.8	3.6
Net D/E Ratio	0.79	0.86	1.38	1.00
Net Income (Loss)/Average Total Assets (ROA)	4.6	4.4	(1.3)	(0.3)
Net Income (Loss)/Average Shareholders' Equity (ROE)	13.8	13.1	(4.3)	(1.1)
NTN-ROI*2	8.6	8.6	1.5	0.2
Shareholders' Equity Ratio	34.2	33.3	28.2	32.2

\*1. In Financial Section, U.S. dollar amounts have been converted from yen, for convenience only, using the approximate exchange rate on March 31, 2017, which was U.S.\$1 = ¥111.845

\*2. NTN-ROI = Net operating income after tax / (Inventories + tangible fixed assets)



Thousands of US dollars\*1  
(except per share amounts)

2011	2012	2013	2014	2015	2016	2017	2017
530,056	543,468	539,595	638,971	701,900	716,997	<b>683,329</b>	<b>6,109,607</b>
24,560	20,724	7,278	33,004	43,851	47,770	<b>35,623</b>	<b>318,503</b>
4.6	3.8	1.3	5.2	6.2	6.7	<b>5.2</b>	<b>5.2</b>
22,855	16,357	(13,898)	(2,451)	37,063	26,943	<b>14,890</b>	<b>133,131</b>
14,399	5,993	(14,196)	(14,648)	23,353	15,037	<b>2,831</b>	<b>25,312</b>
29,700	54,440	48,979	33,162	31,266	36,300	<b>35,398</b>	<b>316,492</b>
35,936	34,175	34,841	39,315	40,392	38,278	<b>36,629</b>	<b>327,498</b>
15,697	17,157	16,174	17,821	18,088	18,481	<b>19,196</b>	<b>171,630</b>
632,001	693,258	768,462	848,037	856,277	794,651	<b>798,891</b>	<b>7,142,841</b>
210,353	212,126	211,743	213,369	262,559	248,505	<b>245,050</b>	<b>2,190,979</b>
136,985	155,107	163,287	166,484	184,128	178,220	<b>171,482</b>	<b>1,533,211</b>
223,284	271,978	360,802	381,767	359,105	325,174	<b>320,170</b>	<b>2,862,622</b>
19,172	20,789	21,398	22,156	23,360	24,109	<b>24,665</b>	<b>24,665</b>
376.05	370.19	375.84	374.68	461.21	436.97	<b>431.66</b>	<b>3.86</b>
27.08	11.27	(26.69)	(27.54)	43.91	28.28	<b>5.33</b>	<b>0.05</b>
—	—	—	—	—	—	<b>—</b>	<b>—</b>
10.00	10.00	0	2.00	6.00	10.00	<b>10.00</b>	<b>0.09</b>
3.9	3.5	3.3	3.8	3.8	4.0	<b>4.0</b>	
0.92	1.11	1.37	1.27	1.11	1.11	<b>1.05</b>	
2.3	0.9	(1.9)	(1.8)	2.7	1.8	<b>0.4</b>	
7.2	3.0	(7.2)	(7.3)	10.5	6.3	<b>1.2</b>	
4.2	3.4	1.1	4.6	6.3	6.5	<b>5.1</b>	
31.6	28.4	26.0	23.5	28.6	29.2	<b>28.7</b>	

About the Company

NTN's Vision and Strategy

Feature

Review of Operations

The Source of Value Creation

Corporate Information

# Non-financial Capital Data



## Corporate Governance

● NTN ● Domestic subsidiaries ● Overseas subsidiaries

For details, please see P. 37 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
Number of outside directors	●	2	2
Number of outside Audit & Supervisory Board members	●	3	3
Number of directors who do not also serve as executive officers	●	14	14
Number of Audit & Supervisory Board held	●	14	14
Number of Board of Directors held	●	18	17
Attendance rate of (outside) directors at Board of Directors	●	97%	97%
Attendance rate of (inside) directors at Board of Directors	●	100%	99%
Attendance rate of (outside) auditors at Board of Directors	●	93%	96%
Attendance rate of (inside) auditors at Board of Directors	●	100%	100%
Number of Compensation Advisory Committee held	● ● ●	—	3
Ratio of non-Japanese top executives at overseas subsidiaries	● ● ●	30%	31%
Number of selections to SRI indexes	● ● ●	3 brands	6 brands*
Number of accounting and business briefing sessions held by top management (hosted by NTN)	●	6	4
Number of stakeholder dialog held with CSR experts	●	1	1
Number of CSR Committee held	●	2	2
Number of CSR Global Meetings held	● ● ●	1	1
Response rate to survey questionnaire on penetration of corporate philosophy	● ● ●	—	89%
Awareness rate of corporate philosophy among employees	● ● ●	—	87%
Usage rate of CSR Guidebook	● ● ●	63%	64%
Rate of carrying pocket card such as Business Code of Conduct	● ● ●	89%	89%
Number of Risk Management Committee held	●	2	2
Percentage of companies with company-wide risk management system	● ● ●	100%	100%
Ratio of risk management follow-up at domestic subsidiaries	● ● ●	100%	100%
Ratio of risk management follow-up at overseas subsidiaries	● ● ●	—	97%
Number of Compliance Committee held	●	6	4
Response rate on compliance awareness survey	● ● ●	77%	78%
Ratio of cultures that encourage freely talking about compliance	● ● ●	67%	68%
Rate of employees who feel compliance awareness at office has improved	● ● ●	34%	33%
Recognizability of Helpline	● ● ●	72%	79%
Helpline call response rate	● ● ●	100%	100%
Number of whistle-blowing cases	● ● ●	5	15

\* As of June 30, 2017



## Intellectual Capital

For details, please see P. 51 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
R&D expenditures	● ● ●	18.5 billion yen	19.2 billion yen
Number of outside awards received for product development	● ● ●	4	3
Ratio of R&D expenditures to sales	● ● ●	2.6%	2.8%
Number of patents reward was paid	● ● ●	135	191



## Manufacturing Capital

For details, please see P. 53 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
Number of participants in specialized quality education courses	● ● ●	137	145
Quality management system certification rate*	● ● ●	100%	100%
Rate of workplace incidents (that required time off)	● ● ●	0.37	0.28
Number of workplace incidents (that required time off)	● ● ●	4	3
Number of training sessions related to laws held by safety and health consultants	● ● ●	9	7
Consultation rate for specific health checkups	● ● ●	84%	100%
Specific counseling guidance implementation rate	● ● ●	45%	47%
Number of sites which acquired OSHMS certification	● ● ●	9	9
Number of employees who took leave for mental health reasons	● ● ●	23	23
Number of employees who returned to work after taking leave for mental health reasons	● ● ●	80%	56%
Number of counseling service consultations per month	● ● ●	—	76
Number of practical safety education conducted	● ● ●	—	60

\* Consolidated subsidiaries involved in manufacturing (excluding bases which have not started mass-production)



## Human Capital

● NTN ● Domestic subsidiaries ● Overseas subsidiaries  
For details, please see P.55 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
Number of employees	Total	5,154	5,301
	Male	4,661	4,756
	Female	493	545
Percentage of employees overseas		66%	66%
Average age	Total	40	40
	Male	40	41
	Female	40	39
Years of continuous employment	Total	18	17
	Male	18	18
	Female	18	16
Rate of paid leave utilization for regular employees		90%*1	92%*2
Job turnover		2.8%	2.1%
Job turnover in 3 years or less		6%	4.6%
Employment rate of persons with disabilities		1.95%	2.08%
Ratio of females promoted to management positions		8.5%	10.0%
Ratio of females in management positions		—	10.9%
Ratio of post-retirement re-employment		75%	63%
Total number of work hours per year		1,870 hours	1,842 hours
Total number of overtime work hours		124 hours	110 hours
Number of employees who took childcare leave	Total	35	40
	Male	1	2
	Female	34	38
Number of employees who returned to work after taking childcare leave	Total	9	20
	Male	1	1
	Female	8	19
Number of employees who took nursing care leave		0	1
Number of male employees who took childbirth support leave		86	55
Number of employees who utilized shortened work hours		20	29
Number of employees of our "Mom-back" system		1	0
Number of employees of Bear Kids Land, the in-company day-care center for employees' children		22	23
Number of individuals enrolled in Dream Workshop, the facility supporting persons with intellectual disabilities		14	14

\*1. For fiscal year ended March 31, 2016, data spans December 16, 2014 to December 15, 2015.

\*2. For fiscal year ended 31, 2017, data spans December 16, 2015 to December 15, 2016.



## Social and Relationship Capital

For details, please see P.59 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
Customer Satisfaction Survey results (ratio of Excellent + Good responses)		95%	95%
Number of TQM (Total Quality Management) activities implemented		223	228
Number of visits to customers by a Technical Service Unit car		257	272
Number of Supplier Meetings held		2	2
Number of companies participating in Supplier Meetings		57	57
Self-audit implementation rate for subcontracting transactions		100%	100%
Number of business bases at which Subcontract Act compliance workshops were held		22	22
Number of business partners who met request to promote CSR procurement		—	293
Number of Supplier Quality Improvement Challenges held		1	1
Survey response rate of conflict minerals		100%	100%
Expenditures for social contribution activities		192 million yen	142 million yen
Number of employees participating in blood drive		1,695	2,190
Number of social contribution activities		556	685



## Natural Capital

For details, please see P.63 and following.

Item	Applicable scope	Year ended Mar. 31, 2016	Year ended Mar. 31, 2017
		Achievements	Achievements
CO <sub>2</sub> emissions	Total	605,000 tons	619,000 tons
	Japan Scope 1	51,000 tons	49,000 tons
	Japan Scope 2	224,000 tons	228,000 tons
	Overseas Scope 1	45,000 tons	48,000 tons
	Overseas Scope 2	285,000 tons	294,000 tons
Water usage	Total	3,200,000 m <sup>3</sup>	3,230,000 m <sup>3</sup>
	Japan	1,960,000 m <sup>3</sup>	1,950,000 m <sup>3</sup>
	Overseas	1,240,000 m <sup>3</sup>	1,280,000 m <sup>3</sup>



For more details on each type of capital, please see our website.  
<http://www.ntnglobal.com/en/ecology/nonfinance.html>

## Third-Party Opinion

# NTN Report 2017 Third-Party Opinion



### Takeshi Mizuguchi

Professor, Faculty of Economics, Takasaki City University of Economics

#### Profile:

After working at a trading company and auditing corporations, he became the lecturer in the Faculty of Economics at Takasaki City University of Economics from 1997, and assumed his present position in 2008.

His areas of expertise cover responsible investment and disclosure of non-financial information.

He successively worked as the chairman of the green bond review committee organized by the Ministry of the Environment, a member of the ESG review committee, and the director of the Society for Environmental Economics and Policy Studies.

Major publications include "Responsible Investment" (Iwanami Shoten, winner of SEEPS Commentary Award) and "ESG Investment—Form of the New Capitalism" (Nikkei Publishing).

I feel that the degree of perfection is getting higher year by year as an integrated report. This year, the opening section, "NTN's Value Creation Process," describes a story about how to reach your company's goal, "a smooth society," by improving corporate values, such as fixing social problems, in an easy-to-understand way. Your company's main business has been making bearings. So, I think that the concept of reducing friction to aim at a safe and energy-effective "smooth society" is compelling for your company.

In addition, I think it was also advantageous that the report explained the progress of your Medium-term Management Plan "NTN 100," under the title of "The President's Business Strategy." I took it to mean that the entire picture can be grasped by reading this article. Among all, I appreciate that this report mentioned the business fields directly leading to fixing of social problems, such as the energy business or EV business, in the description about "Manage Growth" regarding your new businesses, in the sense of embodiment of integrated thinking.

In fact, your strategy has been producing concrete fruits, for example, the NTN Micro Hydro Turbine launched in June this year and the NTN Vertical Axis Wind Turbine whose demonstration experiments have started. The performance of hydro turbines or wind turbines is influenced by low-friction smooth rotation, and this is indeed the core technology of your company. In this sense, I think that these new businesses are good trials to "visualize" your strength and technologies. I anticipate your company will build up additional achievements in the future. Also in the EV business, NTN established the Electric Module Products Division to promote development of new products. The shift to EV might be promoted

more rapidly than expected; for example, it was reported that sales of gasoline and diesel vehicles will be prohibited by 2040 in France and the UK. Therefore, I wish your company will further accelerate tackling of this business.

It is also an important effort that your company evaluated water-relevant risks for each business site in relation to natural capital. In some overseas regions, it is expected that people will suffer from water-relevant stress more seriously; so, I expect your company to take planned measures. With respect to human capital, I also appreciate that your company has been continuously opening the NTN Technical Skills Competition and Global QC Circle Convention to get your worldwide employees involved in these efforts. In the aspect of social and relationship capital, your company has determined the NTN CSR Procurement Guidelines, paying attention to supply chains, too. The human rights issues of supply chains are particularly drawing increased attention overseas. And thus, I suggest you consider identifying high-risk regions and then conducting due diligence.

I think it was also good that the report introduced opinions of outside directors in relation to corporate governance. On the other hand, in the fiscal year ended March 2017, your company posted a loss of approximately 12.1 billion yen in relation to the Antimonopoly Law, which exceeded one-third of the operating income. This was a very high tuition. I know that your company has strengthened its response by forming committees to observe compliance and supervise fair trade; so, try hard continuously so as not to get involved in this type of dispute again.

## Responding to the Third-Party Opinion

We appreciate your valuable opinions, Mr. Mizuguchi.

In the process of creating "NTN Report 2017," the third-party opinions collected so far and expert opinions collected by the stakeholder dialog were reflected. This report introduces, as various efforts, the progress of the Medium-term Management Plan "NTN 100," and NTN's Value Creation aiming at sustainable growth including the corporate philosophy, vision, strength, and activities of NTN which will observe its centennial anniversary, together with linkages between the business activities and CSR, by classifying our capital into six types.

We accept the precious opinions about, for example, due diligence regarding human rights issues or making efforts not to violate the Antimonopoly Law, promoting our businesses additionally, and aiming at "a smooth society" as an "Monozukuri" corporation contributing to global society even in the next hundred years" by taking these opinions as a future reminder.



### Hiroshi Nakano

Director and Corporate General Manager, CSR Headquarters

# Investor Information (As of March 31, 2017)

## Head Office

NTN Corporation  
3-17, 1-chome, Kyomachibori, Nishi-ku,  
Osaka 550-0003, Japan

## Transfer Agent for Common Stock

Mitsubishi UFJ Trust Banking  
Corporation 4-5, 1-chome,  
Marunouchi, Chiyoda-ku,  
Tokyo 100-8212, Japan

## General Meeting of Shareholders

The General Meeting of Shareholders  
was held on June 23, 2017 in Osaka

## Common Stock

Authorized 1,800,000,000 shares  
Issued and outstanding 532,463,527 shares

## Stock Exchange Listings

First Section of Tokyo Stock Exchange  
(#6472)

## Stock Price Range in the Fiscal Year Ended March 31, 2017

High: ¥604  
Low: ¥243

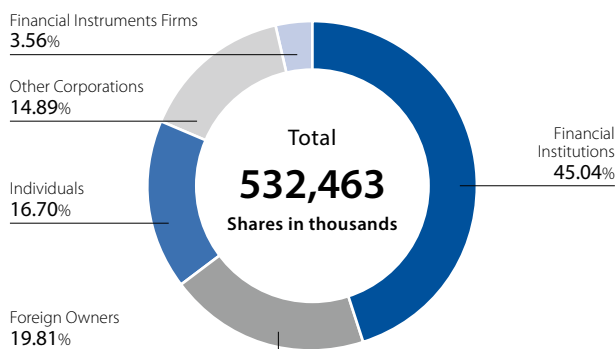
## Number of Shareholders

25,138

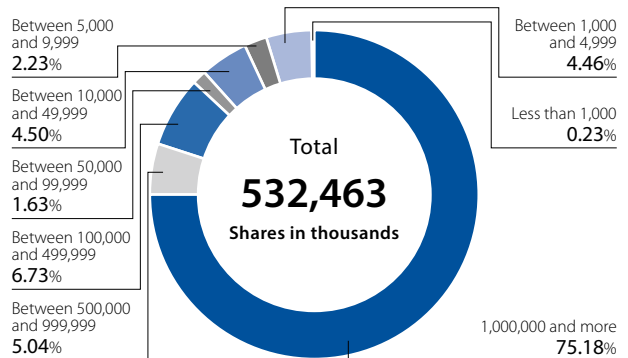
## Independent Auditor

Ernst & Young ShinNihon LLC

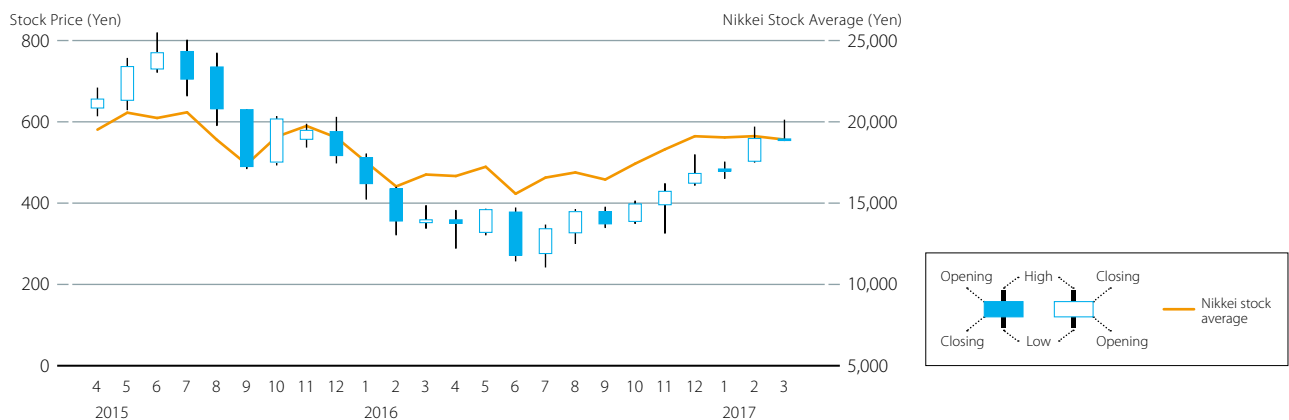
## Breakdown of Shareholders



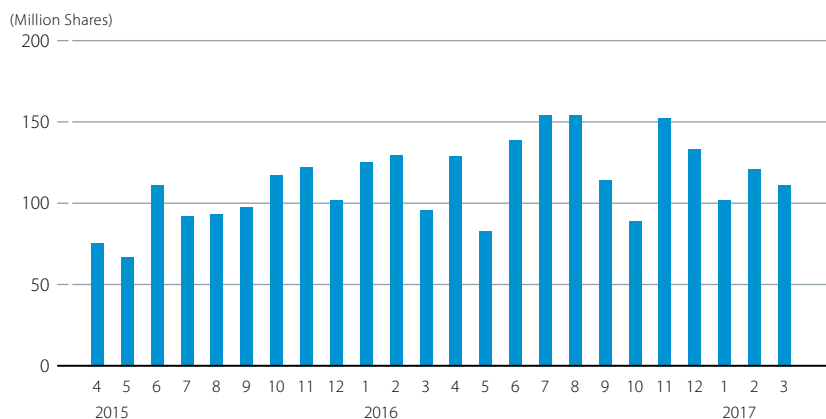
## Breakdown of Number of Share Held



## Tokyo Stock Price Range



## Monthly Volume Traded



## Investor Relations

Corporate Communications Dept.  
Phone: +81-6-6449-3528  
Fax: +81-6-6443-3226  
E-mail: [irmanager@ntn.co.jp](mailto:irmanager@ntn.co.jp)

## NTN on the Internet

NTN's Website offers a variety of corporate and product information, including the latest NTN report and financial results.

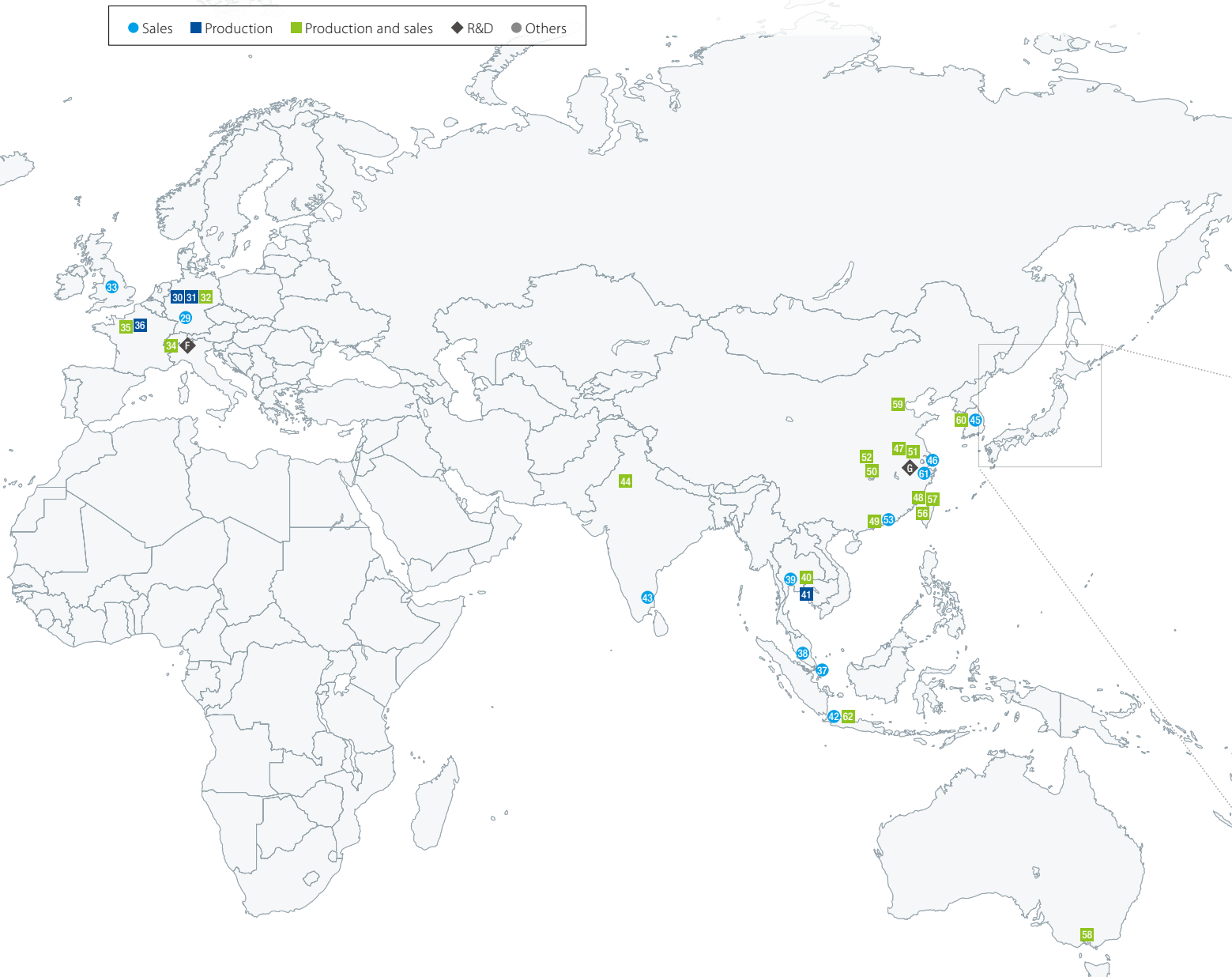
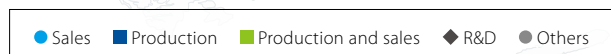
<http://www.ntnglobal.com/en/>

# Global Network

(As of March 31, 2017)

Company Name	Paid-in Capital	Holding as percentage (%)
<b>Consolidated Subsidiaries</b>		
1 NTN BEARING SERVICE CORPORATION	¥480,000,000	100
2 NTN MIE CORP.	¥3,000,000,000	100
3 NTN KONGO CORP.	¥1,000,000,000	100
4 NTN HOUDATSU SHIMIZU CORP.	¥1,250,000,000	100
5 NTN NOTO CORP.	¥1,000,000,000	100
6 NTN FUKUROI CORP.	¥1,500,000,000	100
7 NTN AKAIWA CORP.	¥1,250,000,000	100
8 NTN MIKUMO COMPANY LTD.	¥450,000,000	100
9 NTN OMAEZAKI CORP.	¥266,000,000	97.4
10 NTN ENGINEERING PLASTICS CORP.	¥100,000,000	100
11 NTN ADVANCED MATERIALS CORP.	¥400,000,000	99.34
12 NTN CASTING CORP.	¥450,000,000	100
13 NTN KINAN CORP.	¥450,000,000	100
14 NTN KAMIINA CORP.	¥725,000,000	80
15 NTN Technical Service Corp.	¥200,000,000	100
16 NTN LOGISTICS CO., LTD.	¥10,000,000	100 (100)
17 NTN USA CORP.	US. \$197,120,000	100
18 NTN BEARING CORP. OF AMERICA	US. \$24,700,000	100 (100)
19 NTN DRIVESHAFT, INC.	US. \$54,580,000	100 (100)
20 NTN DRIVESHAFT ANDERSON, INC.	US. \$16,000,000	100 (100)

Company Name	Paid-in Capital	Holding as percentage (%)
21 AMERICAN NTN BEARING MFG. CORP.	US. \$24,330,000	100 (100)
22 NTN-BOWER CORP.	US. \$117,000,000	100 (100)
23 NTK PRECISION AXLE CORP.	US. \$15,000,000	60 (60)
24 NTA PRECISION AXLE CORP.	US. \$20,000,000	62.5 (62.5)
25 NTN BEARING CORP. OF CANADA LTD.	CAN. \$20,100,000	100
26 NTN-SUDAMERICANA, S.A.	US. \$700,000	100
27 NTN MANUFACTURING DE MEXICO, S.A. DE C.V.	Mex. \$369,405,719	100 (5)
28 NTN do Brasil Produção de Semi-Eixos Ltda.	BRL 79,479,763	100 (13.37)
29 NTN Wälzlager (Europa) G.m.b.H.	€ 14,500,000	100
30 NTN Kugellagerfabrik (Deutschland) G.m.b.H.	€ 18,500,000	100
31 NTN Mettmann (Deutschland) G.m.b.H.	€ 25,000	100 (100)
32 NTN Antriebstechnik G.m.b.H.	€ 50,000	100
33 NTN BEARINGS (UK) LTD.	STG. £2,600,000	100 (0.04)
34 NTN-SNR ROULEMENTS	€ 123,599,542	100
35 NTN TRANSMISSIONS EUROPE	€ 82,843,207	100
36 NTN TRANSMISSIONS EUROPE CREZANCY	€ 11,500,000	100 (100)
37 NTN BEARING-SINGAPORE (PTE) LTD.	S. \$36,000,000	100 (0.97)



Company Name	Paid-in Capital	Holding as percentage (%)	
38 NTN BEARING-MALAYSIA SDN.BHD.	M. \$10,000,000	60	(60)
39 NTN BEARING-THAILAND CO., LTD.	BAHT 780,000,000	100	(99.999)
40 NTN MANUFACTURING (THAILAND) CO., LTD.	BAHT 1,311,000,000	100	(99.999)
41 NTPT CO., LTD.	BAHT 700,000,000	75	(10.73)
42 PT. NTN BEARING INDONESIA	US. \$7,300,000	100	(100)
43 NTN BEARING INDIA PRIVATE LTD.	INR 300,000,000	100	(0.1)
44 NTN NEI Manufacturing India Private Ltd.	INR 3,608,000,000	96.54	(0.001)
45 NTN KOREA CO., LTD.	WON 500,000,000	100	
46 NTN (CHINA) Investment Corp.	US. \$256,545,000	100	
47 Nanjing NTN Corp.	US. \$180,000,000	100	(86.67)
48 Shanghai NTN Corp.	US. \$166,500,000	95	(15.72)
49 Guangzhou NTN-Yulon Drivetrain Co., Ltd.	US. \$12,500,000	60	(12)
50 Xiangyang NTN-Yulon Drivetrain Co., Ltd.	US. \$34,000,000	60	(60)
51 NTN-RAB (Changzhou) Corp.	US. \$28,440,000	100	
52 NTN-LYC (Luoyang) Bearing Corp.	US. \$73,800,000	50	(50)
53 NTN CHINA LTD.	HK. \$2,500,000	100	

Other than above, another 10 companies

Company Name	Paid-in Capital	Holding as percentage (%)	
<b>Affiliated Companies Accounted for by the Equity Method</b>			
54 ASAHI FORGE OF AMERICA CORP.	US. \$7,100,000	28.17	(28.17)
55 Seohan-NTN Driveshaft USA CORP.	US. \$6,000,000	49	
56 TUNG PEI INDUSTRIAL CO., LTD.	NT. \$1,257,232,620	27.35	
57 TAIWAY Industry CO., LTD.	NT. \$160,000,000	36.25	
58 UNIDRIVE PTY LTD.	A. \$5,000,000	40	
59 Beijing NTN-Seohan Driveshaft Co., Ltd.	US. \$6,000,000	40	(6.67)
60 Seohan-NTN Bearing CO., LTD.	WON 75,780,330,000	49	
61 NTN-DONGPAI (Shanghai) Bearing Sales Corp.	US. \$1,460,000	25	(25)
62 PT. TPI MANUFACTURING INDONESIA	US. \$55,415,050	28.8	(0.002)

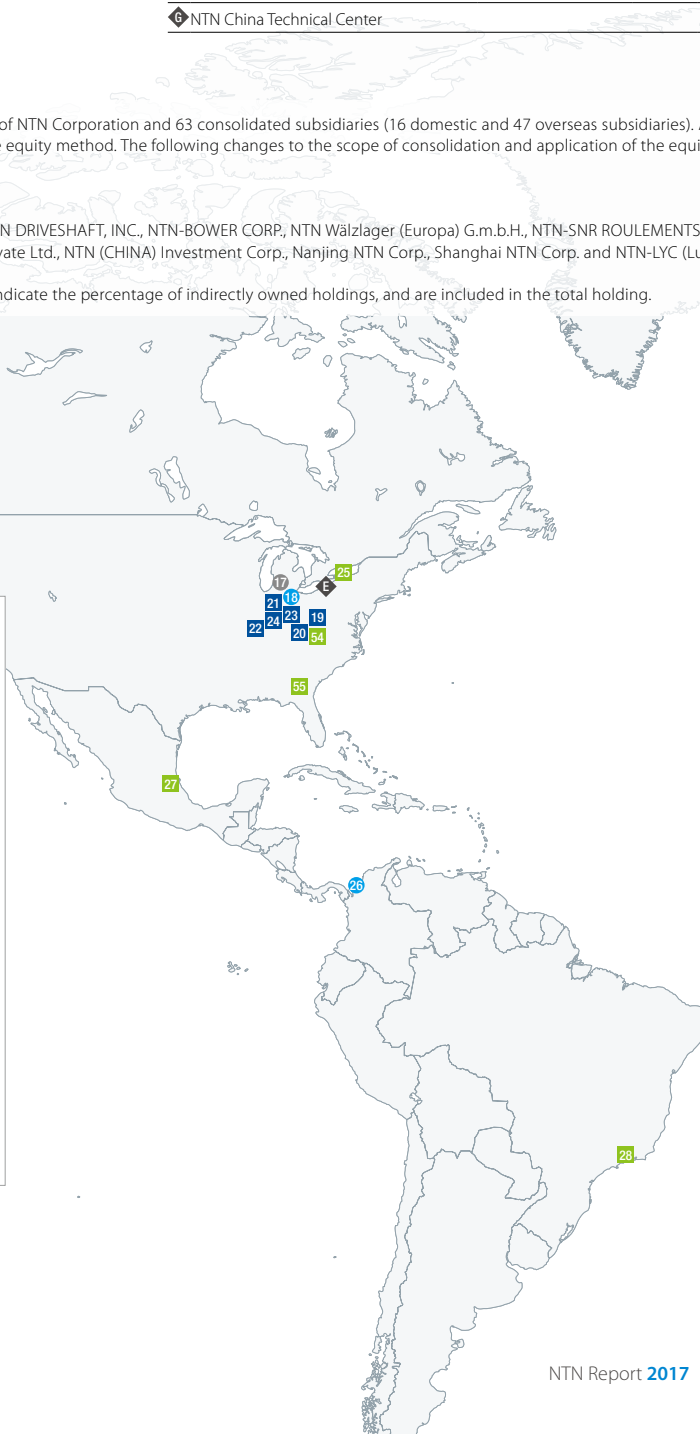
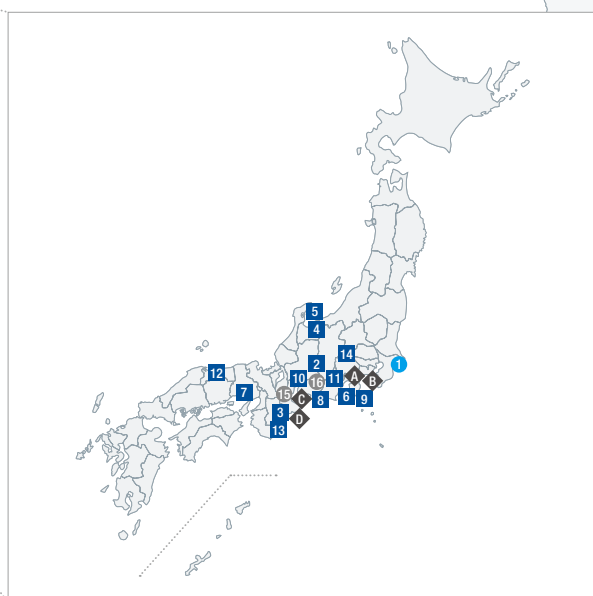
#### R&D Bases

- ◆ NTN R&D CENTER
- ◆ PRODUCTION ENGINEERING R&D CENTER
- ◆ INDUSTRIAL TECHNICAL CENTER
- ◆ ADVANCED TECHNOLOGY R&D CENTER
- ◆ NTN Automotive Center
- ◆ NTN-SNR R&D Center
- ◆ NTN China Technical Center

Notes 1. The scope of consolidation as of March 31, 2017 consisted of NTN Corporation and 63 consolidated subsidiaries (16 domestic and 47 overseas subsidiaries). A total of 9 affiliates (all overseas affiliates) were accounted for by the equity method. The following changes to the scope of consolidation and application of the equity method were made during the fiscal year under review.

- ◆ Consolidated Subsidiaries (unchanged year-on-year)
- ◆ Affiliates (unchanged year-on-year)

2. Of the above consolidated subsidiaries, NTN USA CORP., NTN DRIVESHAFT, INC., NTN-BOWER CORP., NTN Wälzlager (Europa) G.m.b.H., NTN-SNR ROULEMENTS, NTN TRANSMISSIONS EUROPE, NTN NEI Manufacturing India Private Ltd., NTN (CHINA) Investment Corp., Nanjing NTN Corp., Shanghai NTN Corp. and NTN-LYC (Luoyang) Bearing Corp. are specified subsidiaries.
3. Figures in curved brackets under "Holding as percentage" indicate the percentage of indirectly owned holdings, and are included in the total holding.



100<sup>th</sup>  
ANNIVERSARY

NTN®

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