

For New Technology Network

**NTN**<sup>®</sup>

NTN Corporation

# NTN Report 2016

for the year ended  
March 31, 2016



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. With over 220 operating bases in 33 countries, employees more than 24,000, NTN passionately researches, develops, manufactures, sells and supports good quality products so that NTN improves historic brands.

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.

## 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.

### 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.

### Outline (as of March 31, 2016)

Corporate name:	NTN Corporation	Representative:	Hiroshi Ohkubo, President
Trademark:		Number of employees:	Consolidated: 24,109 Non-consolidated: 5,154
Date founded:	March 1918	Fiscal term:	March
Head office:	3-17, 1-chome, Kyomachibori, Nishi-ku, Osaka-shi, Osaka 550-0003, Japan	Capitalization:	54.3 billion yen
		Net sales:	Consolidated: 717.0 billion yen Non-consolidated: 335.5 billion yen (Fiscal year ended March 31, 2016)

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**Bearings** Equipments that support industries and lifestyles

We will introduce all NTN's activities

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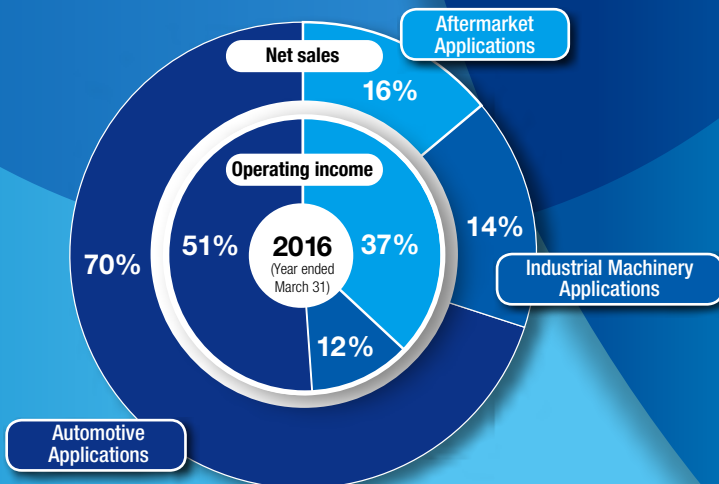
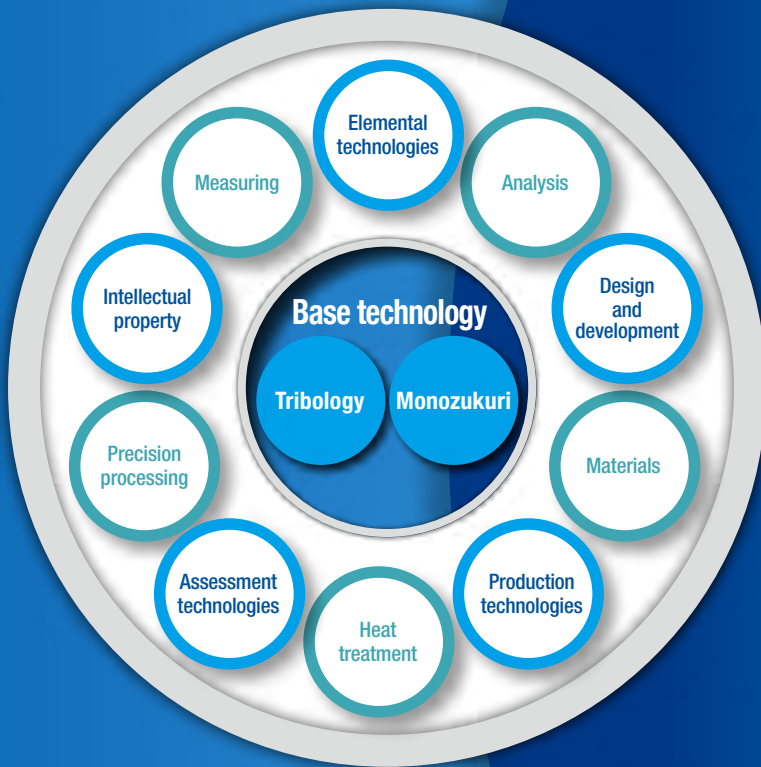
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# NTN's Line of Business

The NTN Group provides original technologies and services for various types of machinery to support the global industry and lifestyle.



## Aftermarket Applications

NTN provides engineering services that suit the maintenance needs of all kinds of industrial machinery and automobiles and helps customers keep their equipment up and running stably by enhancing product lineup and quick delivery.



## Industrial Machinery Applications

NTN supports rotating parts for a wide range of industrial machinery by ensuring unyielding durability even at temperatures over 300°C, speeds of 300 km/h and other extreme conditions of use.



## Automotive Applications

A single automobile is composed of more than 100 bearings. Therefore, NTN supplies products that serve the growing needs for vehicle electrification, in addition to the standard demands for safety, security and comfort.



Maintenance tools



Technical training



Auto parts

Technical service units visit customers around the world to provide technical services.



Technical support

Industrial machinery aftermarket



Aerospace

Supplying bearings for major jet engine manufacturers in the world



Construction machinery



Wind turbine

Supplying bearings for rolling stock manufacturers around the world



Machine tool



Rolling stock



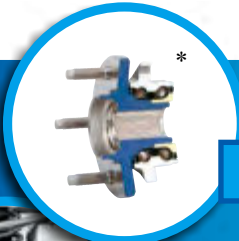
Agricultural machinery



©PEDRO STUDIO PHOTO



Transmission

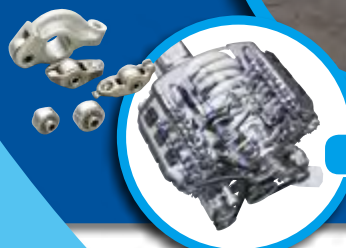


Hub bearing

World's No. 1 share



Wheel applications



Engine



Driveshaft

World's No. 2 share

\* Photos are cross-sectional models of products.

# NTN's Global Presence

In order to swiftly meet the needs of customers all over the world, NTN operates “self-contained centers” that carry out the full operations from research and development to production, sales and after-services.

## Topics of the fiscal year ended March 31, 2016

### Japan

● R&D bases: 6 ● Production bases: 27 ● Sales bases: 37

#### Building integrated production systems

The key to expanding business in the aftermarket is to enhance product lineup and shorten lead-time. NTN decided to newly establish a heat treatment plant at NTN NOTO Corp. Prior to this, all parts made in the Noto area had to be shipped to other production bases for heat treatment since there were no such facilities in the area. The new heat treatment plant will establish an integrated production system of bearings for industrial machinery in the Noto area that will enable faster production and a more stable supply of products.



Image of the heat treatment plant at NTN NOTO Corp.

### Americas

● R&D bases: 2 ● Production bases: 15 ● Sales bases: 23

#### Stable driveshaft supply

Demand for NTN's driveshafts continues to grow in the North American automobile market thanks to strong sales of SUVs, pickup trucks and other popular vehicles. Given the circumstances, NTN established the third manufacturing company in the USA (Anderson, Indiana) for producing driveshafts, NTN Driveshaft Anderson, Inc. (NDA). By speeding up local production, NDA is a part of the transformation to realize “NTN's driveshafts the world's No.1 customer satisfaction level.”



Image of NDA

### Europe

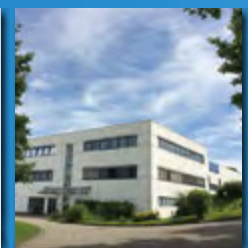
● R&D bases: 4 ● Production bases: 14 ● Sales bases: 26

#### First overseas production of precision bearings for machine tools

In 2016, NTN will start producing precision bearings for machine tools at German subsidiary NTN Kugellagerfabrik (Deutschland) G.m.b.H. (DMF) in Mettmann, Germany. This will be the first time these bearings will be made outside of Japan and will shorten considerable time for deliveries that took approximately 2 months by marine shipping. It will also assist machine tool manufacturers in shortening their design time, as “Bearing Technical Calculation Tool” will be deployed alongside production lines in the demand area. In order to expand market shares, NTN Kugellagerfabrik will differentiate itself from local competing bearing manufacturers by providing high value-added services.



Precision bearings for machine tools



DMF that manufactures precision bearings for machine tools

**Asia and Others**

● R&D bases: 1 ● Production bases: 22 ● Sales bases: 41

**Strengthen driveshaft supply in China**

Chinese demand for driveshafts continues to grow alongside the rise in automobile turnout in that country. To keep up with that demand, NTN established Xiangyang NTN-Yulon Drivetrain Co., Ltd. (Xiangyang NTN) in 2014, as the third base in China for manufacturing automotive driveshafts. Located in Xiangyang City, Hubei Province, Xiangyang NTN started mass-production in April 2015 to strengthen driveshaft supply to global automotive manufacturers operating in China.

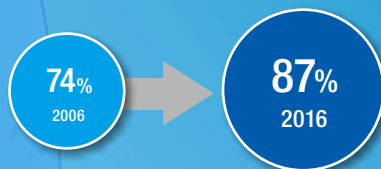


Xiangyang NTN has started mass-production

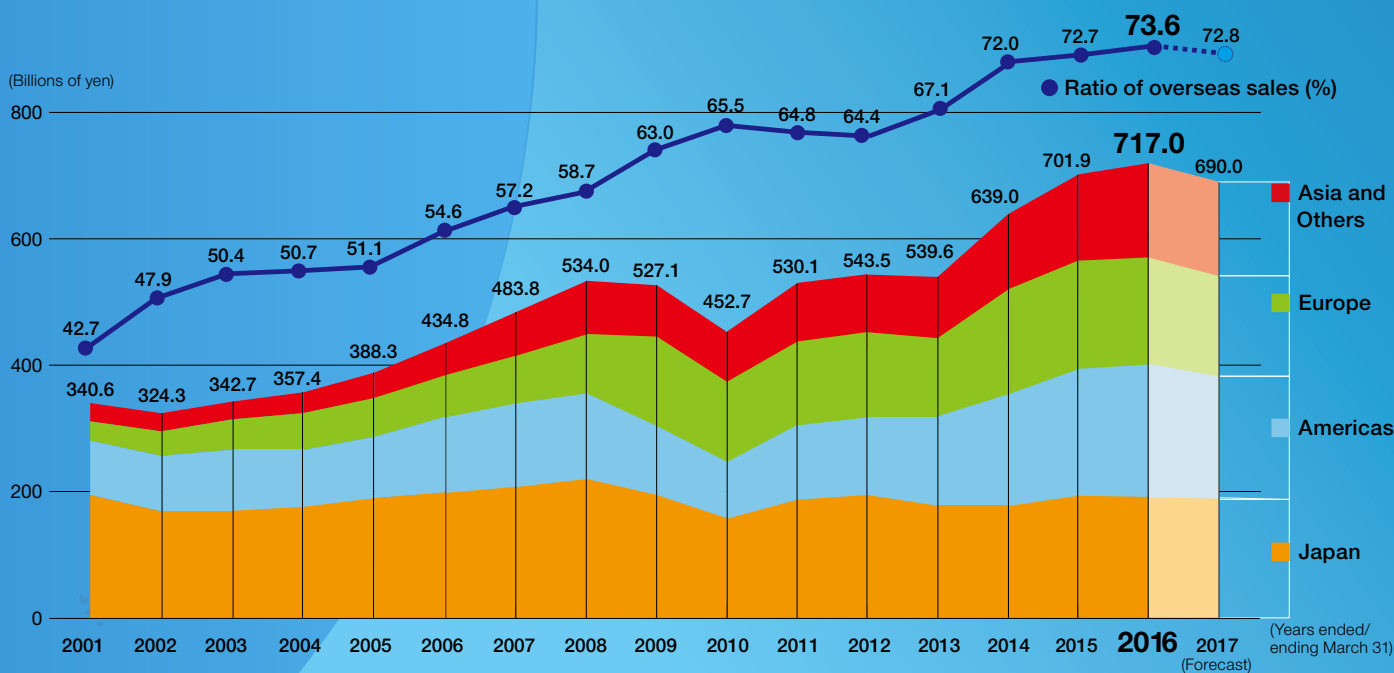
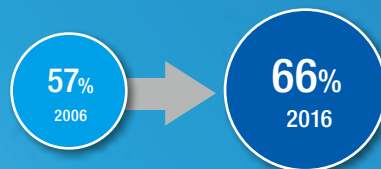
**Ratio of overseas production**



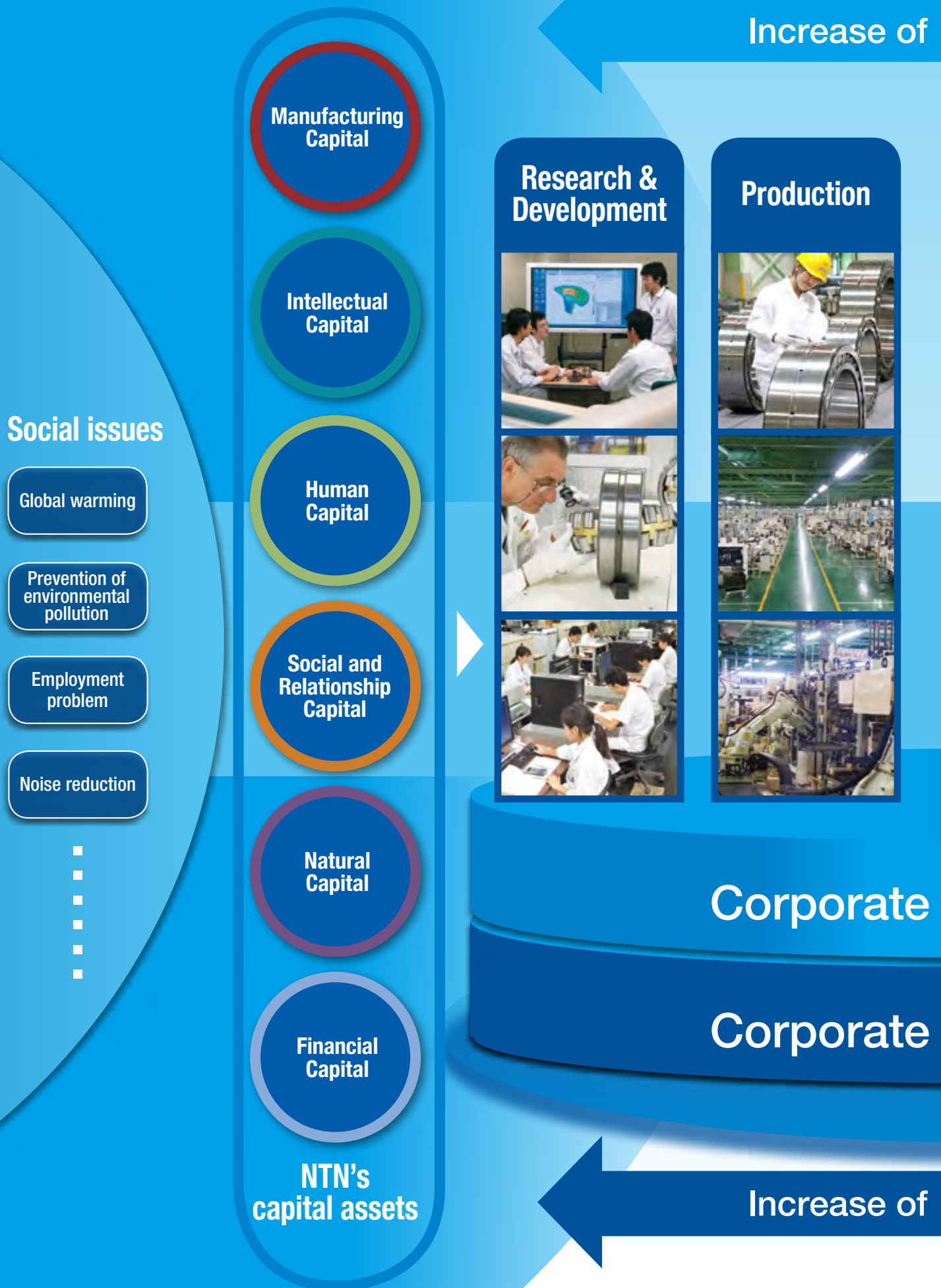
**Ratio of local procurement**



**Percentage of employees overseas**



# NTN's Value Creation Process





# Values provided by NTN

## non-financial capital

### Sales



### After-services



## Governance

## Philosophy

## financial capital

Contributing to a wide range of industries around the world



### Reduced energy loss



Coefficient of friction 0.001 - 0.005

Energy saving

Reductions of CO<sub>2</sub> emissions

### Providing safety and comfort



Reduced vibrations

Reduced noise

Improved riding comfort

### Proposal of sustainable society using natural energy



Water power

Wind power

Solar power

# New Businesses for Supporting NTN's Growth for the Next 100 Years

## Business by NTN, past and future

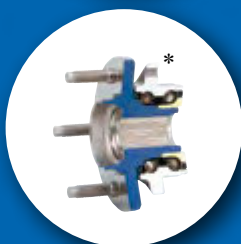
Bearing



Driveshaft



Hub bearing



### Natural Energy Business

In order to establish business in natural energy products as quickly as possible, NTN newly created a Green Energy Products Division that is in charge of developing, producing and selling compact wind turbines, micro hydro turbines and other products that apply proprietary technologies for rolling bearings and magnetic materials. In just the compact wind turbine segment, technologies that allow power to be generated efficiently with slight blow of wind are utilized.

### EV Business

In the electric vehicle (EV) business, NTN came out with more compact and lighter "New In-wheel Motor System" that can be equipped without changing the vehicle's suspension or steering structure, by rethinking the structure of the reduction gear. This can be expected to enable reduction in cost and time of development. NTN also newly established an Electric Module Products Division for launching business in module products such as "Electric Motor and Actuator" which is essential for the electrification of the next generation automobiles.

### Robot-related Business

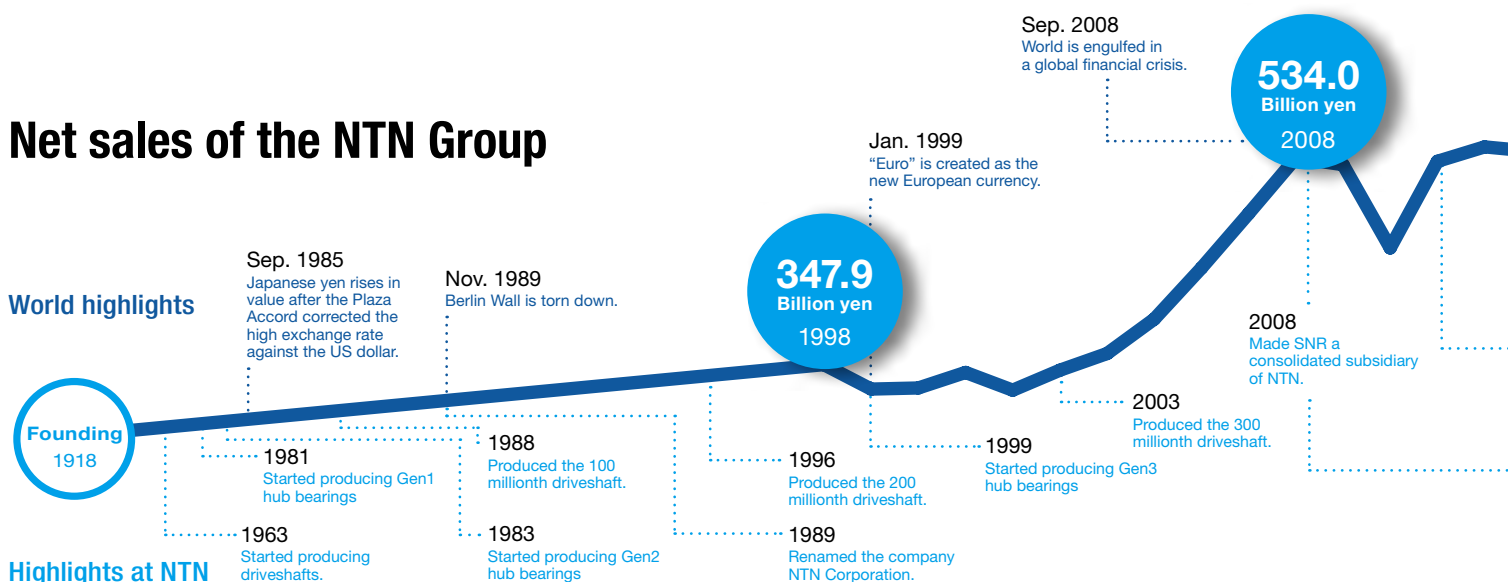
Under a theme of "Working and Living with People," NTN accelerates expansion of "Parallel Link High Speed Angle Control Equipment" that is helping industries improve the productivity of their automated production systems by enabling high-speed accurate positioning, and a series of "Microscopic Coating Applicators with Microgeometry Measuring Function" that spray microscopic droplets to a high degree of accuracy and measure all of coated shapes and volume.

### Service, Solution Business

NTN is using proprietary big data technologies for monitoring, diagnosing and sensing bearings to not only offer hardware products but also to develop business in services and solutions. One example that NTN has made available since 2015 is the "Condition Monitoring System (CMS) for Wind Turbines, Wind Doctor™" that continuously monitors the operating conditions of large wind turbines.

\* Photos are cross-sectional models of products.

## Net sales of the NTN Group





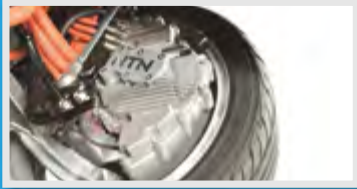
Hybrid Street Lights



Compact Wind Turbine



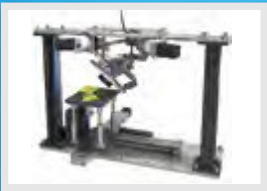
Micro Hydro Turbine



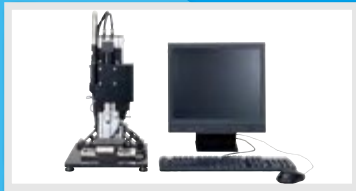
New In-wheel Motor System



Electric Motor and Actuator



Parallel Link High Speed Angle Control Equipment



Microscopic Coating Applicator with Microgeometry Measuring Function



Condition Monitoring System for Wind Turbines

# 100th anniversary 2018

(Years ending March 31)

**717.0**  
Billion yen  
2016

Mar. 2015  
Medium-term Management Plan "NTN 100" is announced.

2013  
Produced the 600 millionth driveshaft.

2011  
Produced the 500 millionth driveshaft.

2008  
Produced the 400 millionth driveshaft.

The NTN Group will mark its 100th anniversary in 2018. But, in order to grow sustainably for the next 100 years, NTN defined a long-term vision covering the next 10 years and highlight the position.

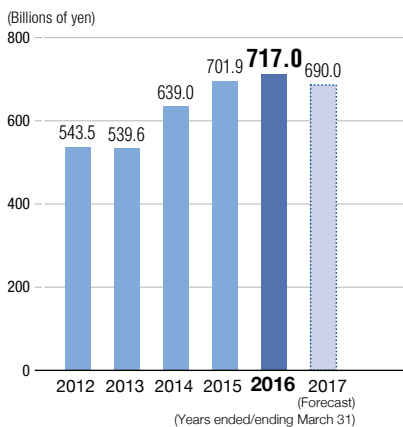
**Long-term Vision: "Our Vision"**

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 has pride in the "NTN" brand

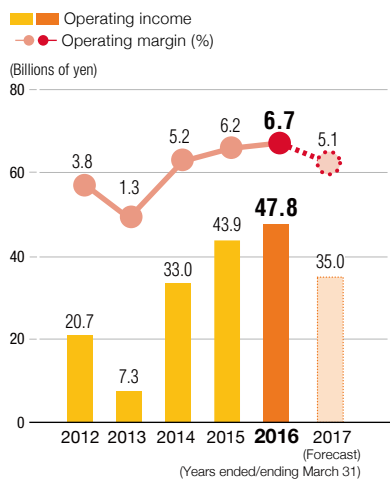


## Financial Capital

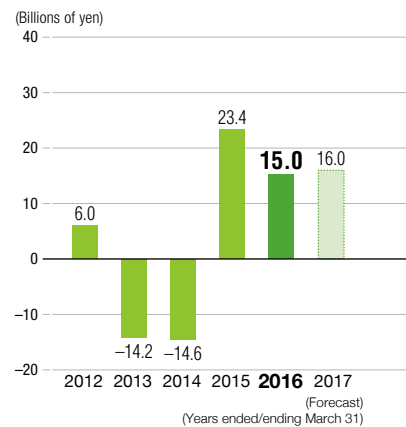
### Net sales



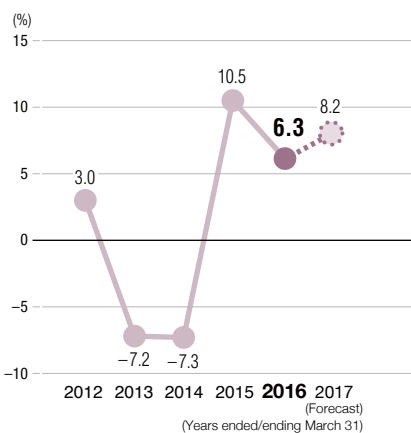
### Operating income, Operating margin



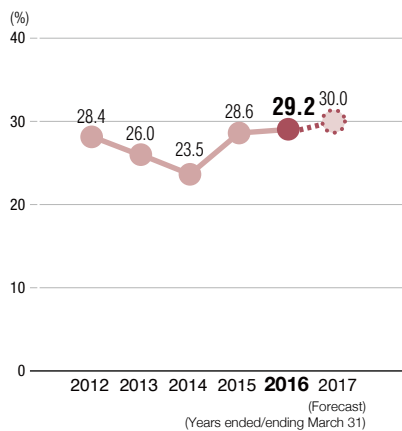
### Net income (loss) attributable to shareholder (parent company)



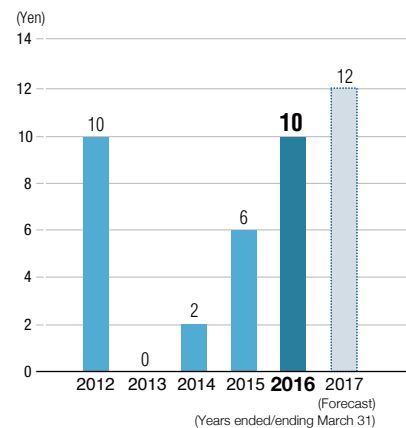
### Net income/Average shareholders' equity (ROE)



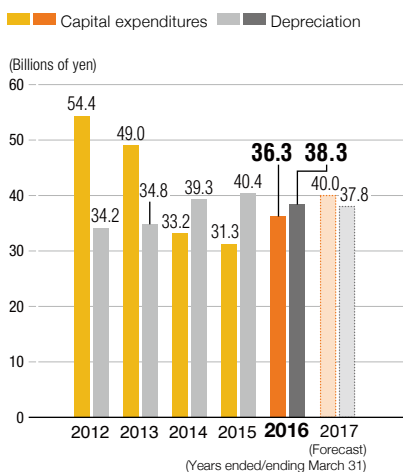
### Equity to capital ratio



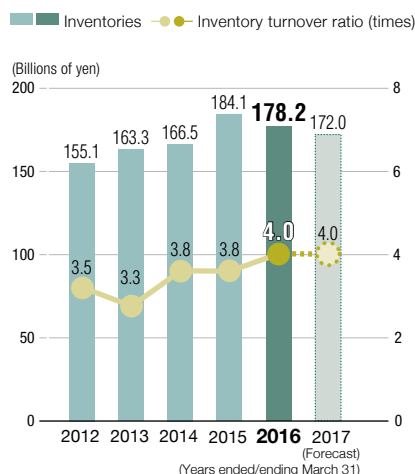
### Cash dividends



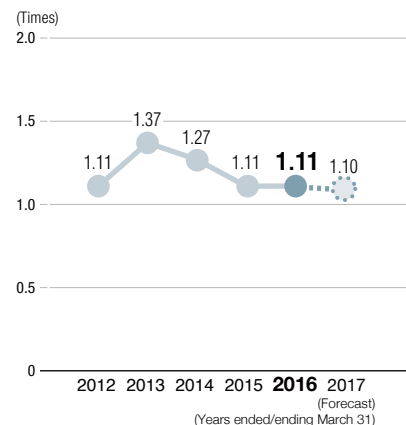
### Capital expenditures/Depreciation



### Inventories/Inventory turnover ratio



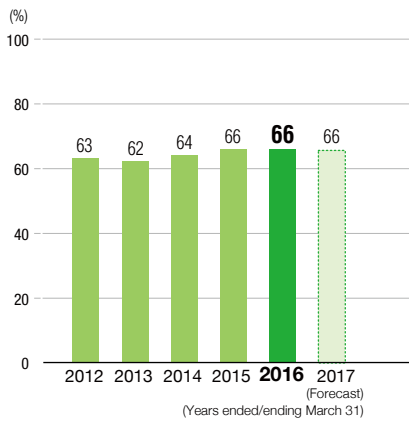
### Net D/E ratio



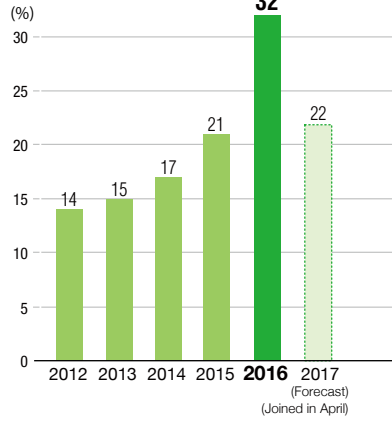
# Non-financial Capital

## Human Capital

Percentage of employees overseas

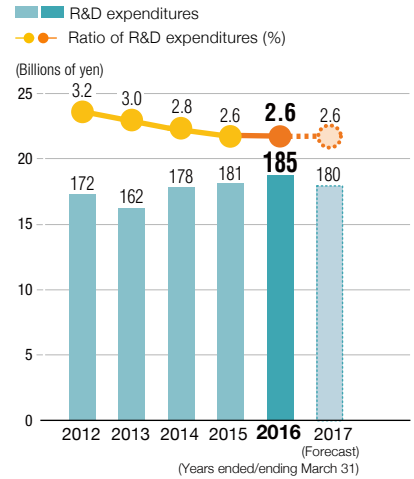


Percentage of hired female graduates [NTN]



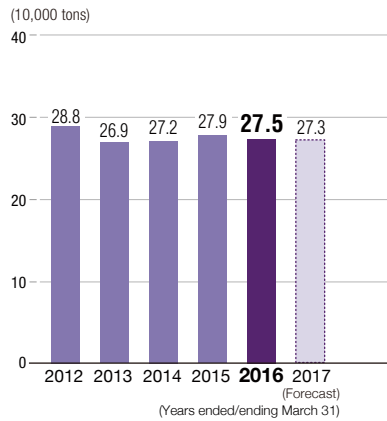
## Intellectual Capital

Ratio of R&D expenditures to net sales

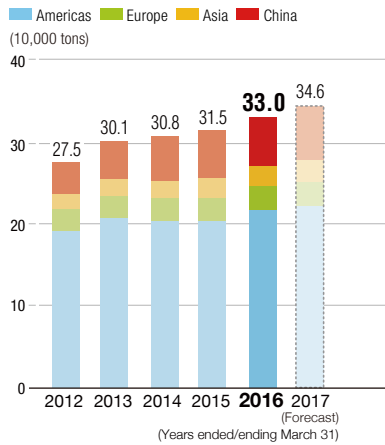


## Natural Capital

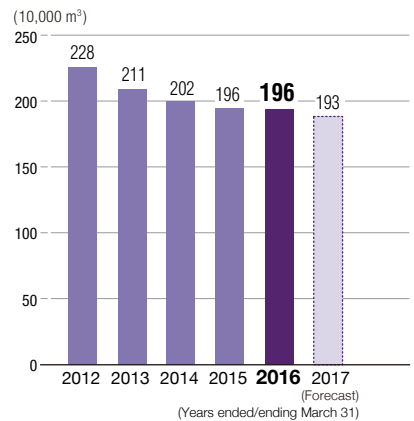
CO<sub>2</sub> emissions [NTN Group companies in Japan]



CO<sub>2</sub> emissions [Overseas NTN Group companies]

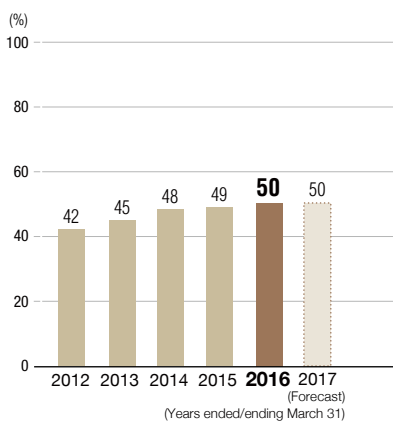


Water usage [NTN Group companies in Japan]

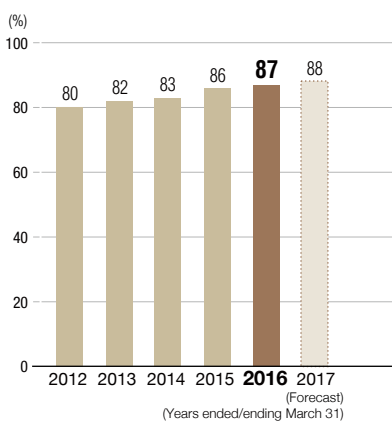


## Manufacturing Capital

Ratio of overseas production

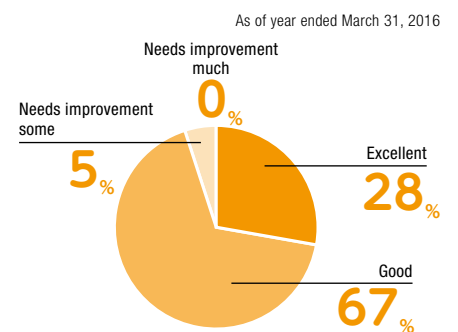


Ratio of local procurement



## Social and Relationship Capital

Customer Satisfaction Surveys





Management  
Strategy  
Section



Messages from Top Management

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At a Glance

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Review of Operations

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Feature: Our Technologies

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Results in the fiscal year ended March 2016

Net sales

**717.0** Billion yen

from the previous fiscal year

**2.2%** 

Operating income

**47.8** Billion yen

from the previous fiscal year

**8.9%** 

Yearly dividend

**10.00** yen

from the previous fiscal year

**4.00** yen 



## President's Message

My name is Ohkubo, President of NTN Corporation.

The fiscal year ended March 2016 was the first year of our Medium-term Management Plan “NTN 100” and, thankful to strong growth of automotive markets and favorable tailwinds in exchange rates, we posted the highest amount of net sales in our history. With that in mind, we will put greater efforts into executing the major themes of “NTN 100” in order to improve our competitiveness in international markets during the lead-up to our 100th anniversary in 2018.



# Continuing our efforts to be known as a brand with a global presence

## Results and Outlook

During the fiscal year under review, the Japanese economy saw a continued moderate recovery reflecting improvement of employment and income environment, coupled with effects of various government policies, although weakness was confirmed in some areas. Looking at overseas economy, the U.S. economy continued recovering and the European economy also showed a moderate recovery despite a somewhat weak tone seen in some area, while economic conditions in China and other emerging countries further slowed down.

Under these circumstances, net sales of the NTN Group posted a record high for the second year in a row, increasing by 2.2% from the previous fiscal year to 717.0 billion yen on the strong growth of automotive markets and favorable tailwinds in exchange rates. Operating income was the second highest in our history at 47.8 billion yen, because of cost reduction and favorable exchange rates.

On the other hand, net income attributable to shareholder (parent company) decreased by 35.6% from the previous fiscal year to 15.0 billion yen, largely because of posted exchange-rates losses of 6.8 billion yen caused by the yen's sudden appreciation in the latter half of the year and 13.0 billion yen in loss associated with the arbitration award\*.

Cash dividends were increased by 4 yen to 10 yen for year, as initially announced for the year.

Forecast for the fiscal year ending in March 2017 are for net sales of 690.0 billion yen and operating income of 35.0 billion yen.

Though major segments of the industrial machinery markets are in a slump and a slowdown is continuing in emerging economies such as China and South America, on the positive side, our themes in the aftermarket business are proving to be effective and new orders are coming in from automotive manufacturers.

The most effective factor for decreasing sales is exchange-rates. We are assuming exchange-rates of ¥105 to the US dollar and ¥120 to the Euro for the fiscal year ending March 2017 which is a bigger swing towards a stronger yen than was seen in the fiscal year ended March 2016, but after excluding the effect of the exchange-rates, we are planning for increases in both net sales and operating income in the fiscal year ending March 2017. Assuming these business forecast, we plan to further raise cash dividends for the year by 2 yen to 12 yen.

## Growth Efforts

The NTN Group is tackling the three-year Medium-term Management Plan “NTN 100” that started in April last year and continues until March 2018 when marks the Company's 100th anniversary. We deem the three years as the period for implementing transformation and building the foundation aimed at realizing “Our Vision.” 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 forge ahead with the major themes.

In one of the major themes of “Strengthen the Management Foundations”, we are taking the steps expected of a global corporation to ensure absolute ensure compliance, proper corporate governance and diversity, in addition to permeating our “Corporate Philosophy” throughout our entire employees as a standard code of conduct for all of our business sites around the world. We are also committed to serving the communities that host our business operations through our corporate social responsibilities and will continue to broaden our community contributions and environmental activities intended to protect biodiversity and more, so that we are accepted and appreciated as a business by these local communities. Moreover, in 2015 we signed onto the United Nation's Global Compact, the international framework which provides businesses worldwide to adopt sustainable and socially responsible practices. We support the 10 principles set forth by the Global Compact and, as a true global corporation, to aim at establishing management foundations that are respected by the international community.

The NTN Group would like to take this opportunity to ask for the continued support of our stakeholders.



**Hiroshi Ohkubo**  
President

\* In November 2015, NTN-SNR ROULEMENTS, our consolidated subsidiary, received a final award from the Arbitration Institute of the Stockholm Chamber of Commerce (Sweden) in relation to the arbitration proceedings regarding the problem with the bearings between NTN-SNR and Volvo Powertrain AB of Europe that orders NTN-SNR to provide compensation for damages. Due to this, we have recorded losses. We thoroughly examined the award and decided that there was a flaw in such arbitration proceedings. Therefore, we challenged the award in the Stockholm District Court in February 2016.

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

The NTN Group will celebrate the 100th anniversary in March 2018. In order to continue growing for the next 100 years the Company has defined “Our vision.”

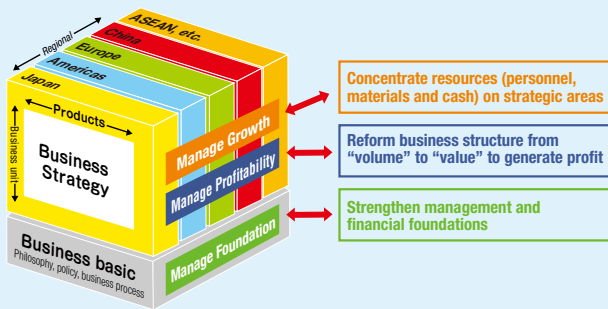
In the April 2015 to March 2018 Medium-term Management Plan “NTN 100” for implementing transformation and building the foundation aimed at realizing “Our Vision,” we will work in accordance with the three basic policies: “Manage Growth,” “Manage Profitability,” and “Manage Foundation.” Acting on these three policies we will forge ahead with the major themes:

## Long-term Vision: “Our Vision”

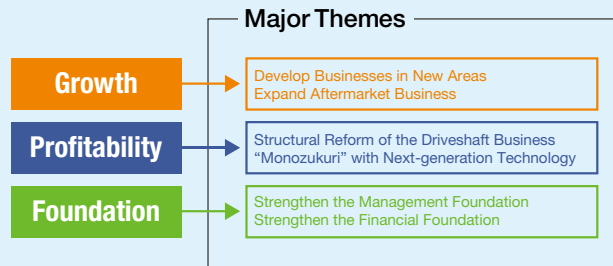
1. A company where its corporate philosophy is understood by all employees around the world and where all employees think and act for themselves
2. A company with original new products and services, appreciated for its high quality and functions, and has a global presence
3. A company where everyone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

## Basic Policies of “NTN 100”

Implement main policies based on 3 Basic Policies to become a co-creative partner company for customers

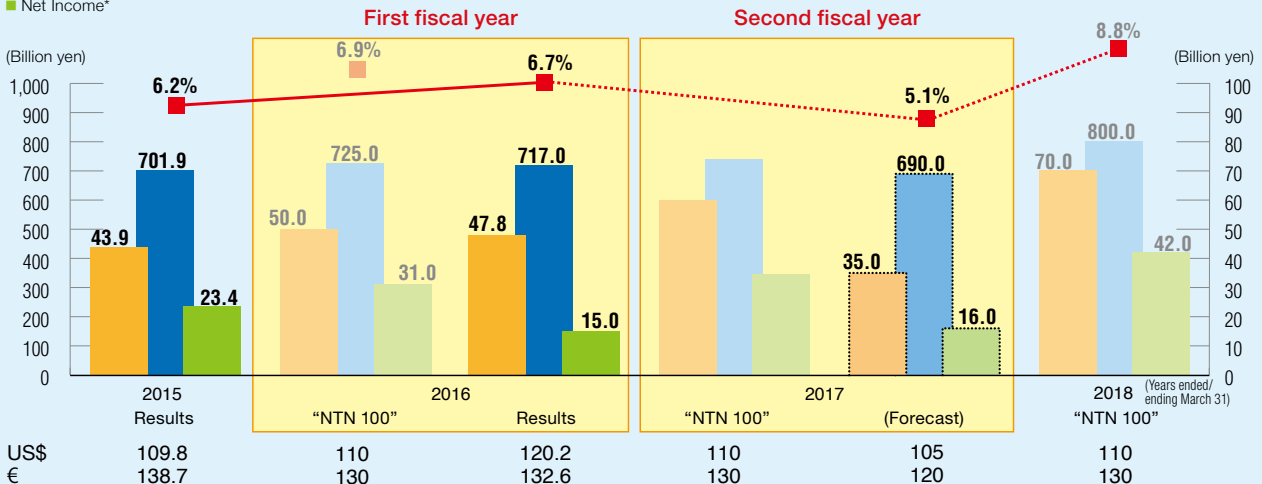


## Main Themes of “NTN 100”



## “NTN 100”: Results for the First Fiscal Year and Outlook for the Second Fiscal Year

■ Net Sales (Left axis)  
 ■ Operating Income (Right axis)  
 ■ Net Income\*



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

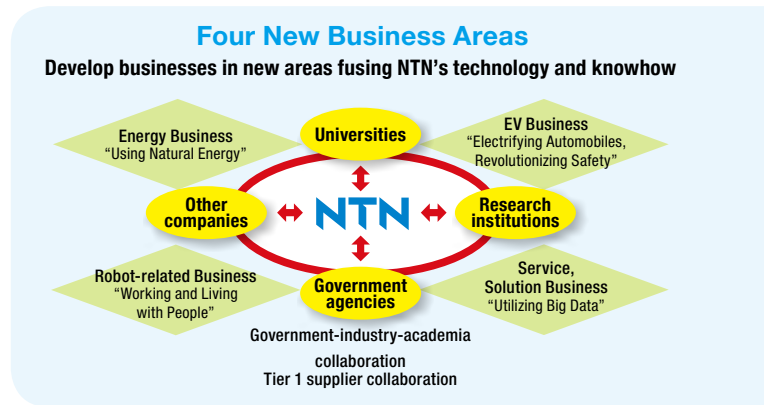
# The Progress of “Manage Growth”

## Developing Business in New Areas

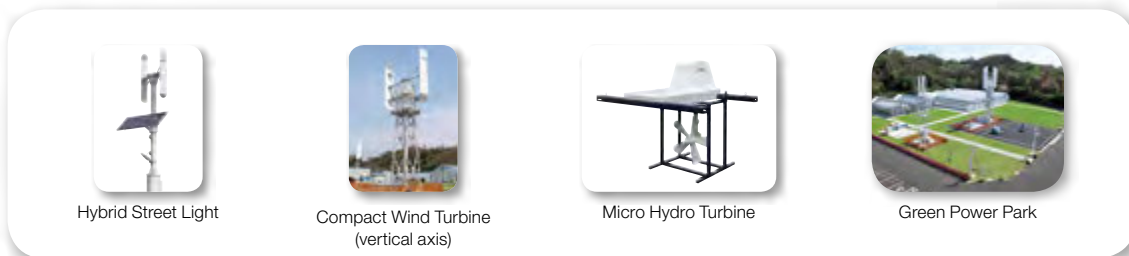
“We continue to develop a steady stream of new businesses, such as our Hybrid Street Light, which initiated sales in July 2016.”

Under “NTN 100,” we are going beyond our conventional fields of bearings and driveshafts to promote development in a range of new business areas.

In terms of the natural energy business, we focused on developing, manufacturing, and sales “Micro Hydro Turbines” and “Compact Wind Turbines.” On April 1, 2016, we formed our “Green Energy Products Division” in order to develop this business without delay, and in July 2016 we were able to achieve to release our “Hybrid Street Light,” which combines photovoltaic power generation with a small windmill. Our micro hydro turbine designed to be installed in irrigation canals is scheduled to be introduced in December 2016. In addition, we plan to release our compact wind turbine at the end of 2017. We have already received many inquiries about these products and are responding to the demand.



We have established “Green Power Park” at the Advanced Technology R&D Center in Kuwana City in Mie Prefecture. The facility is an energy circulation model where uses these products. There, we conduct tests to demonstrate how a low-carbon society can be realized. [⇒ See p. 38](#)



In terms of our EV business, we engage in product development to support safer driving for electric vehicles and other next-generation vehicles. Among the products we offer is “New In-wheel Motor System.” This product contributes to smaller, more lightweight designs by taking a new approach to the structure of reduction gears. It can be mounted in a vehicle without requiring modification to the structure of the suspension or steering mechanisms. We also offer our “Two Motor On-board Drive System” that is capable of delivering drive power to the right and left wheels independently.

On April 1, 2016, we established our “Electric Module Products Division” in an effort to achieve early commercialization of our module products such as our “Electric Motors and Actuator,” which has become indispensable to powering next-generation motor vehicles.

Through these initiatives, we are contributing to the accelerated development of next-generation vehicles.



In our robot-related business, under the theme of “Working and Living with People,” we are 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 through accurate, high-speed positioning, and our “Microscopic Coating Applicator with Microgeometry Measuring Function,” which has dual functions: measuring shapes after coating to allow control of the application process and quality through comprehensive inspection; and ensuring highly accurate coating with microscopic droplets.



Parallel Link High Speed Angle Control Equipment



Microscopic Coating Applicator with Microgeometry Measuring Function

In our Service, Solution Business, we are developing business in order to provide services and solutions not only provision of things but also by utilizing big data in the form of condition monitoring, diagnosis technology,

and sensing technology for bearings.

In 2015, we also launched sales of Condition Monitoring System (CMS) for wind turbines “Wind Doctor™.” It continually monitors the operating conditions of large wind turbine facilities. CMS can also be applied to infrastructure other than wind turbines. We are committed to the continuous development of this product, which will enable us to acquire greater access to the aftermarket.



## The Progress of “Manage Growth”

# Expand Aftermarket Business

“We have improved our inventory and utilized system. As a result, we can deliver products immediately as they are needed by our customers.”

### Results for the Fiscal Year under Review

In terms of Expansion of the Aftermarket Business, we aim to achieve the “World’s No. 1 Customer Satisfaction Level with Product Lineup and Engineering Services.”

We seek to strengthen our engineering services through Aftermarket Academy (which includes technical workshops and bearing diagnosis) for the aftermarket in Japan. Outside Japan, we are extending our automotive aftermarket business in Europe, China and North America. In our industrial machinery aftermarket business, we are strengthening our “caravan activities” in which our technical service units visit distributors and their customers.

As for our achievements in the first year of our “NTN 100,” we can highlight the following three.

The first was the strengthening of our rapid delivery system. To expand this system, we have identified products that have become hot-selling products from among our staple products. We developed a global automatic stock replenishment system for these staple items. By enhancing our inventory and our utilization of this system, we have strengthened quickly delivery system by which we can deliver products immediately,

when customers need them. We have already introduced this system in Japan, elsewhere in Asia, Europe, and North America, but we have been also introducing this system in China in the current term.

Our second achievement was the strengthening of our service system. We go out on the road with our technical service unit and present technical workshops to our customers. This service is in operation in more than 10 countries around the world. In addition, we offered our Aftermarket Academy, through which our customers visit us to undergo training. [⇒ See p. 27](#)

Our third achievement was to globally increase our market share by 0.5 percent points by strengthening our supply capability and service system, though the volume of sales decreased as a result of the economic slowdown in China and South America.

From now on, we will seek to further expand our market share to increase sales even in the environment of economic slowdown.



Technical Service Unit

### Initiatives for the Second Fiscal Year

Under the theme of “Expand Aftermarket Business,” we will address the following two issues in the second fiscal year of the plan.

The first is to enhance the brand image. At first, we will strengthen the relationship with our customers around the global. We offered our customers technical workshops, which were discussed in the Results for the Fiscal Period under Review, to a total of about 750 companies in more than 10 countries around the world. A simple calculation reveals that training courses were held at about two companies each day. Our customers evaluated these training courses very highly, and we intend to continue this initiative for the fiscal year ending March 31, 2017.

We are also expanding input ULTAGE Series bearings, which can boast world’s highest standard of bearing function such as world-leading load capacity and allowable number. [⇒ See p. 27](#) In terms of quality, we intend to further promote our competitive dominance over other companies while also extending our rapid delivery system.

Moreover, we will take steps to increase NTN’s market presence by expanding our industrial machinery aftermarket to emerging countries. While increasing the number of new distributors as we enhance our support systems, such as our technical support and supply capabilities, and we will increase the order accuracy of

maintenance, repair, and overhaul items by utilizing databases and other information technology.

Through these initiatives, we intend to enhance brand image.

Our second initiative is to expand our auto parts. This business has continued its steady volume growth, with Europe and North America in particular driving the growth of the business. We intend to enhance a greater lineup of auto parts with a focus on continued growth, particularly in Europe and North America.



## The Progress of “Manage Profitability”

### Structural Reform of the Driveshaft Business

“Profits are expanding considerably thanks to our promotion of valuable cost reductions, including local production of components even if exchange-rates do not affect the increased profit.”

#### Results for the Fiscal Year under Review

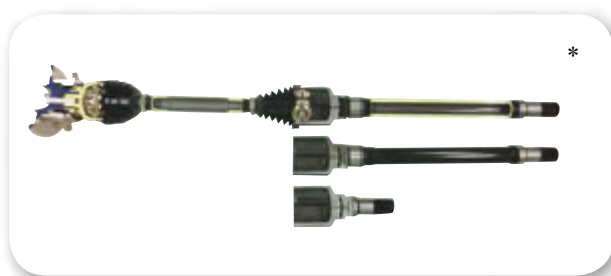
In terms of structural reform of the driveshaft business, we have identified expand profits as the most important item on an agenda that includes quality, cost, delivery date, and technical support. We are therefore revising our constitution in an effort to gain the title of “World No. 1 Customer Satisfaction Level” for NTN Driveshafts.

We can list two achievements for the first year of our “NTN 100” related to structural reform of our driveshaft business.

The first is improving profit growth through stabilization of the North American driveshaft supply system and advancement of decrease in valuable cost. Apart from the effects the increased profit effect of exchange rates resulting from increased local production of components, profits have improved.

Currently, we are establishing new factories outside Japan in response to increased automotive production and the construction of new automaker’s plants and we are strengthening our global supply system. In April 2015, mass production began at Xiangyang NTN-Yulon Drivetrain Co., Ltd., which became our third driveshaft production base in China. The factory of NTN MANUFACTURING DE MEXICO, S.A. de C.V. also began mass production in February 2016. Moreover, we established NTN DRIVESHAFT ANDERSON, Inc. as our third driveshaft production base in the USA. The company is scheduled to start mass production in April 2017. [⇒ See p. 5](#)

The second achievement is starting deploying high-value-added products in the market. For example, our “Advanced Drive-Shaft Module” represents a new approach to utilizing high-technology production by creating a module comprising a hub bearing, and driveshaft. This innovation contributes to significantly lower weight and shorter lead-time development for customers. Furthermore, we have released a “Light-weight Driveshaft for FR Vehicles” that contributes the greater fuel efficiency of the FR configuration that has been adopted in many premium and luxury vehicles.



Advanced Drive-Shaft Module

\* Photos are cross-sectional models of products.

### Initiatives for the Second Fiscal Year

Regarding future initiatives, we intend to push forward with further improvements low profitability product.

Regarding areas requiring strengthening in the second fiscal year, we are focused on further improving valuable costs. We will seek local procurement of the steel used in driveshaft components and will strengthen centralized purchasing of boots and grease and the like, thus reducing valuable costs. Moreover, we will improve our product mix by expanding the sale of products for large and premium vehicles, including high-value-added products. Through such measures, we intend to take strong measures to improve the profitability of driveshafts.



Lightweight Driveshaft for FR Vehicles

## The Progress of “Manage Profitability”

# “Monozukuri” with Next-Generation Technology

“Realizing integrated production system with new plant and expansion of global standardization of Monozukuri”

Following the theme of innovation with Monozukuri methods toward next 100 years we plan to increase our cost-competitive capabilities, reduce equipment unit costs, shorten lead-times, eliminate stock in process, and adopt energy and resource efficient process. What’s more, in view of the importance is strengthen global quality control, we will establish a quality assurance system exhibiting globally consistent standard quality assurance with “Made by NTN.”

For the current term, we decided to build a heat treatment plant in the Noto region. This new plant will be constructed on the site of NTN NOTO CORP. As the Noto region did not have any heat treatment facilities previously, the factory in Kuwana City in Mie Prefecture handled all its assigned heat treatment processes. Once the new heat treatment facility is completed

in the Noto region, the region will benefit by having its own integrated production system. In addition, we are supporting the global standardization of Monozukuri by developing such heat treatment plants worldwide as model facilities.



Image of the heat treatment plant at NTN NOTO Corp.

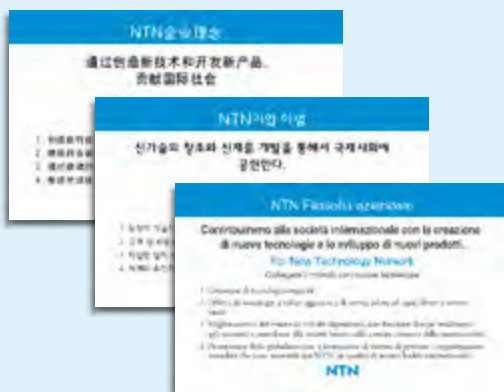
# The Progress of “Manage Foundation”

## Strengthen the Management Foundation

“We ensure all NTN Group employees are aware of our Corporate Philosophy, which represents our globally common code of conduct.”

One of the objectives of our “NTN 100” is to apply our Corporate Philosophy to all NTN Group employees as a globally common code of conduct while ensuring compliance and strengthen efforts for governance, and diversity as a global company.

In order to awareness our Corporate Philosophy across the global, we distributed a corporate philosophy chanting card in various languages to all employees as a means of highlighting our corporate philosophy globally and raising recognition. We also formulated development and implementation of education and training programs the understanding and empathy of our employees in order to link this philosophy to actual practices. We are also considering introducing the company award.



Corporate Philosophy chanting card (multilingual version)



NTN Technical Skills Competition



Global QC Circle Convention

Our Compliance Committee is focused mainly on ensuring compliance. The Fair Trade Monitoring Committee is concerned with thorough compliance with the Antimonopoly Act and Subcontracting Act.

Holding the “CSR Global Meeting” with the Overseas District Internal Control Section, we are strengthening our global internal control system, while enhance the governance system of affiliated companies. [⇒ See p. 42](#)

Furthermore, we are taking steps to strengthen our risk management system. Our Risk Management Committee is concerned with reducing or eliminating risks and promoting our Business Continuity Plan (BCP) for large-scale natural disasters. [⇒ See p. 47](#)

Regarding the issue of diversity, we have strengthened our training global person who can play an active role beyond their home countries and regions. We promote continuous Hitozukuri to enhance on-site capabilities through the NTN Technical Skills Competition and Global QC Circle Convention.

As for creating an environment that is more welcoming for women, we are expanding our system of offering reduce working hours for childcare and are improving our in-company day-care center for employees' children.

# The Progress of “Manage Foundation”

## Strengthen the Financial Foundation

“We are steadily promoting soundness of financial foundation.”

One of the targets of our “NTN 100” is strengthening profit control and improving asset efficiency. We are taking steps to improve our financial foundation, including reducing our interest-bearing debt, improving our inventory turnover ratio, reducing obligations for retirement benefits, and improving operating margin.

The targets for the final fiscal year of the plan include equity to capital ratio of 30% or more and reduction of the net D/E ratio to 1.0 or less. A minimum Return On Equity (ROE) of 14% is also targeted with strengthening earning capacity, with sufficient free cash flow generated in line with policies to achieve a 30% dividend payout ratio. We are committed long-term and reliable returns of profits to shareholders.

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

(Years ended/ending March 31)

	2016		2017	2018
	NTN 100	Actual	Forecast	NTN 100 3-year period
<b>1. Strengthen asset efficiency</b>				
Reduction of interest-bearing debt (excluding foreign exchange impact)	20.0 billion yen reduction	26.2 billion yen reduction	7.2 billion yen reduction	60.0 billion yen reduction/3 years
Inventory reduction (inventory turnover)	4.0 times/year	4.0 times/year	4.0 times/year	4.5 times/year
Capital expenditures	50.0 billion yen	36.3 billion yen	76.3 billion yen/2 years	135.0 billion yen/3 years
Sale of assets	Sale of assets with no prospective use			
FCF	17.9 billion yen	12.5 billion yen	10.0 billion yen	67.0 billion yen/3 years
Equity to capital ratio	30.0%	29.2%	30.0%	30.0% or more
Net D/E ratio	1.0	1.1	1.1	1.0 or less
ROE	12.0%	6.3%	8.2%	Over 14%
<b>2. Improvement of the profit margin on sales</b>				
Operating margin	6.9%	6.7%	5.1%*	8.8%
<b>3. Shareholder return</b>				
Dividends	Annual 10 yen Dividend payout ratio of 17%	Annual 10 yen Dividend payout ratio of 35%	Annual 12 yen Dividend payout ratio of 40%	Dividend payout ratio of 30% is basic idea

\* If exchange rates are at the same level as the previous year: 6.6%

## Implementing Our “NTN 100”

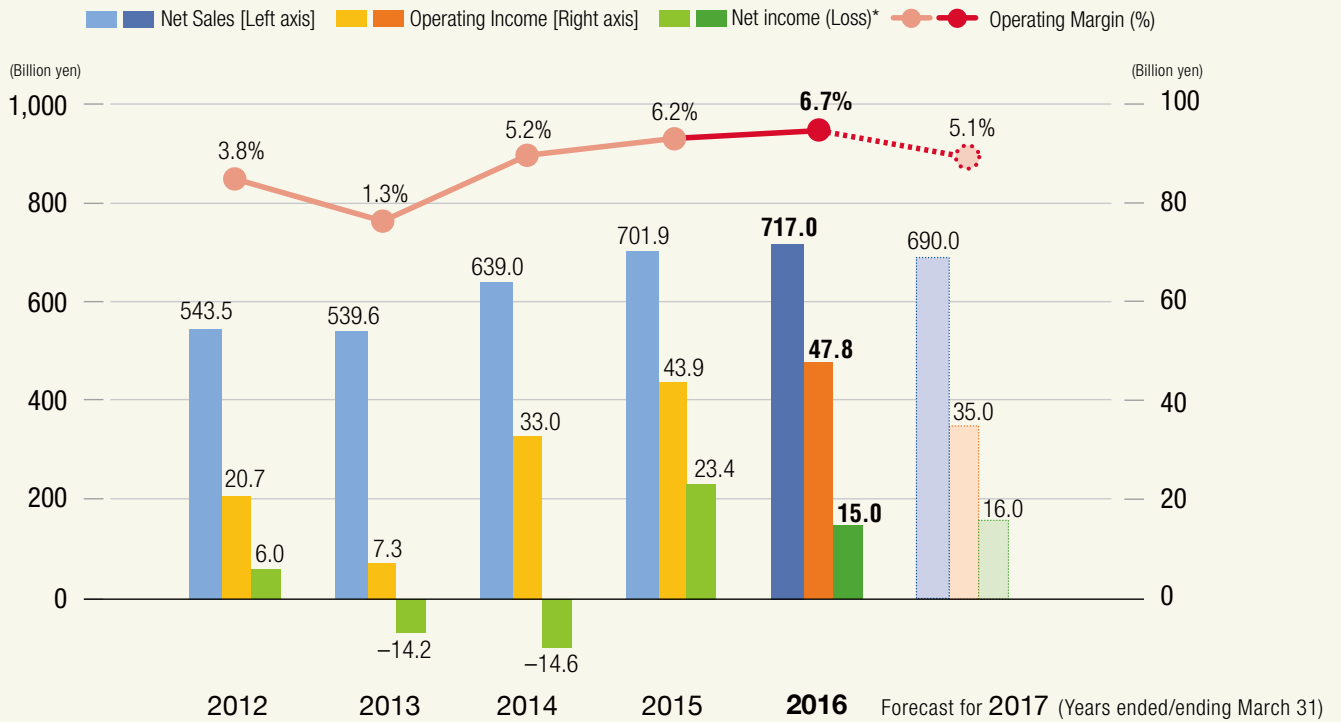


Looking to the economic environment in which the NTN Group operates, the troubling trends such as the strong yen is contributing to an increasing sense of uncertainty.

In such an environment, we are working steadily to implement the measures of our “NTN 100” and are implementing transformation and a building foundation for company’s 100th anniversary and for sustainable growth for the next 100 years.



### Changes in Consolidated Financial Results



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

### Net Sales by Region

#### Japan

**26.4%**  
189.6 billion yen

#### Americas

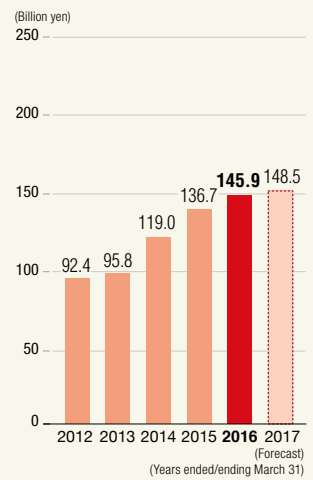
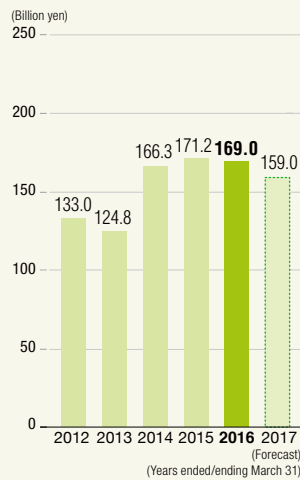
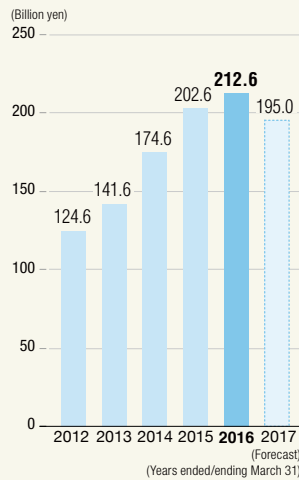
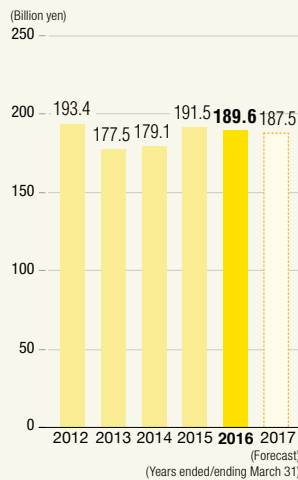
**29.6%**  
212.6 billion yen

#### Europe

**23.6%**  
169.0 billion yen

#### Asia and Others

**20.3%**  
145.9 billion yen



# Aftermarket Applications

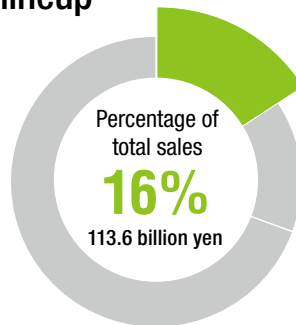
NTN's aftermarket business involves selling bearings for general machinery through dealerships, MRO\* for mining, paper-making, steel mills and other kinds of machinery, auto parts supply and engineering services. NTN is helping customers solve their problems not only by selling a wide range of bearings via a global supply network but also by providing engineering services.

\* MRO: Maintenance, Repair and Overhaul

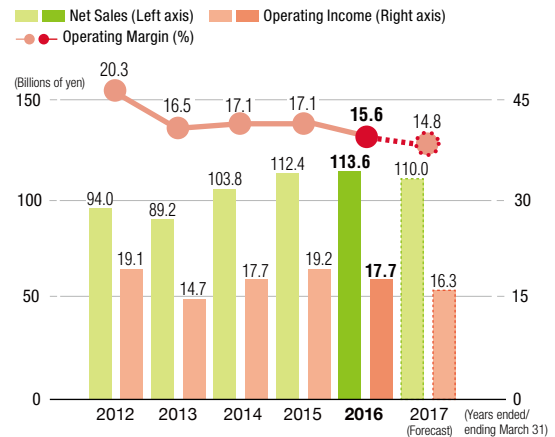
## Upping our market presence by strengthening our engineering services and increasing product lineup



Fukumatsu Kometani  
Executive Director



### Operating Income/Operating Margin



### Results in the Fiscal Year Ended March 31, 2016

This segment includes not only servicing of industrial machinery but also servicing and parts supply for vehicles.

Net sales in the aftermarket applications were 113.6 billion yen, up 1.2 billion yen (1.1%) over the previous fiscal year.

The impact from China's economic slowdown this fiscal year has been felt in Japan and other regions. A similar slowdown in the emerging economies of South America effected, but owing to MRO (Maintenance, Repair and Overhaul) engineering services and expanded sales of automotive parts, sales outside of China exceeded the previous fiscal year's numbers.

Operating income was 17.7 billion yen effected by exchange-rates, which was 1.5 billion yen (8.0%) less than the previous fiscal year.

### Overview of the Fiscal Year Ending March 31, 2017

In Japan, though business is likely to be impacted by the continuing economic slump, we will try to increase our market share amongst target customers by strengthening our engineering services. In Americas, we will seek out MRO projects by increasing cooperation with big name distributors, and add more distributors to our network in order to expand sales channels for our auto parts. In Europe and Asia, we will also hunt for MRO projects and expand sales channels for our auto parts, but we expect customer demand is slowdown in some emerging countries in Europe. In China, the current economic slowdown is expected to continue, but we will build up our sales network by expanding our sales reach to parts of the country where we do not have a presence.

### Comments of Director in Charge

In the aftermarket business, we are strengthening 4 pillar areas: 1. product supply force by shortening lead-time; 2. product appeal by expanding our ULTAGE series of world highest class quality bearings; 3. expanding global inventories for industrial machinery aftermarket and strengthening product lineup by developing auto parts for automotive aftermarket; 4. strengthening engineering services via technical workshops and technical service units. Going forward, we will be working to strengthen our brand image by improving packaging and taking action against imitation products, to achieve world's No.1 customer satisfaction level.

# PRODUCTS

\* Photos are cross-sectional models of products.

## Mining



Spherical roller bearing with compact seal



Bearing unit

Super large-sized split spherical roller bearing



Sealed four row tapered roller bearing



## Steel

## Paper-making



Constant velocity joint for industrial machinery



The rust guard series spherical roller bearings

## Oil and Gas



Spherical thrust roller bearings

## Food



"PolyLube" bearings

## Auto Parts



Parts kit for trucks



## Maintenance Tools

Arm shaped self-centering hydraulic puller



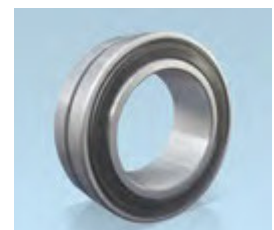
Induction heating device



## NEW PRODUCTS

### "ULTAGE Spherical Roller Bearings with Compact Seal" for Mining Transport Conveyors

Because they are used under harsh conditions where exposed to outdoor elements and dust, spherical roller bearings for mining conveyors must prevent foreign matter from penetrating its internal mechanism, besides withstanding heavy loads. By adopting a specially designed compact seal and optimizing the internal design of the bearing, NTN has realized a shielded spherical roller bearing of the highest rated load in the world and the same size dimensions of a standard bearing.





## Aftermarket Applications “NTN 100” strategy

Aiming world's No. 1 customer satisfaction level with product lineup and engineering services

### Enhancing brand image

Enhancing our brand image is an important theme in getting customers to buy our products. To do that on a global scale, we are strengthening our relationship with customers. In the fiscal year ended March 2016, we strengthened customer relations by visiting customers at their place of business to hold technical workshop for explaining technologies, and by having customers come to the Aftermarket Academy staged at our offices. These activities were held in more than 10 countries and drew some 750 companies. Thus we were able to strengthen relationship with customers. Those who actually attended these programs highly applauded the outcome, so we will be continuing these activities.

### Wider scope of auto parts

We are applying the knowhow of NTN-SNR ROULEMENTS (NTN-SNR) to expanding our product lineups and sales of kits products of in-house developed parts in the Americas and Europe. In Americas and Europe regions have been driving growth of our

Another way that we are trying to enhance our brand image is to launch our ULTAGE series of world's highest performance bearings onto more markets. Not only are we making quick deliveries by keeping larger inventories and putting the logistics in place, but we are also working to establish our superiority over competitors on a quality basis.

Furthermore, to enhance our brand image, we will be adding more new distributors in emerging countries by upgrading our support structure from both technical and supply perspectives.

aftermarket business with strong annual average growth rates of 22% and 4%, respectively, since 2013. We continue to position broader product lineups and new distributors as important pieces of our strategy, and will take the steps this year to accomplish that.

### Technical workshop and the Aftermarket Academy

We impart training on the basics skills of how to use bearings and maintenance techniques to customers and distributors. For the technical workshop, we visit the customer or distributors in their place of business, while, for the Aftermarket Academy, they come to our offices.



### ULTAGE series

“ULTAGE” is the name for NTN's new generation of the world's highest standard of bearing series. The name was coined from the words “ultimate” and “stage,” which we intend to mean the best and versatile for any kind of application.

\* Photos are cross-sectional models of products.



# NTN ACTION TODAY

## 01 Global four-regional expansion

### Japan

- Support distributors' sales from various perspectives to enhance brand strength.
- Make more technical information available by upgrading sales tools (e.g., sector specific guidebooks, etc.) and staging the Aftermarket Academy.
- Improve packaging quality to gain the trust of customers.
- Establish an integrated bearing production system in the Noto area that enables speedy production and stable delivery, by establishing a heat treatment plant at NTN NOTO Corp.



Improved packaging for a large spherical roller bearing

### Americas

- Capture new customers in the mining, steel-making, oil and gas, machine tool, food and paper industries by improving relations with large chain distributors.
- Expand product lineup in the auto parts business via parts kits for trucks and cars.
- Upgrade mobile engineering services that visit Central and South American customers in their place of business, by establishing an organizational structure that builds up the cooperation with NTN-SNR.



Strengthening relations by meeting with distributors

### Europe

- Develop activities from diverse angles that "enhance product lineup," "improve customer support" and "innovate services."
- For the automotive parts business, appeal the quality, safety and reliability of the many OEM parts delivered to manufacturers. Further develop our "TechScaN'R" technical information application for distributors and service shops, and use innovation to improve engineering services.
- For the industrial machinery business, better serve customers by launching user-safe greases demanded in the food and pharmaceutical industries.



"TechScaN'R" technical information application

### Asia and Others

- In China, strengthen MRO teams and enhance our presence in the steel, rolling stock and power plant businesses. In the automotive parts business, improve customer support from both engineering and supply perspectives, and add new distributors as a means for boosting sales.
- In ASEAN, make NTN better known in the MRO field so as to expand sales. In each country, set target industries and expand sales by offering technical seminars and technology proposals.



Instruction in how to use maintenance tools



NTN's booth

## 02 Automechanika Shanghai

In December 2015, the world's largest automotive aftermarket trade fair "Automechanika Shanghai 2015" was held in Shanghai, China where NTN ran a booth with the theme "Reliability and High-Performance." Highly reputed around the world, this tradeshow had amongst its exhibitors 5,300 aftermarket-related companies from 39 countries and, over the 4-day period, saw upwards of a million visitors from 143 countries. At its booth, NTN put on display a wide range of auto parts and appealed the high level of quality.

The aftermarket industry in China has grown rapidly in just the past few years. NTN saw an increased number of visitors to its booth, which was indicative of the rising interest in NTN products.

NTN is looking forward to exhibiting at this tradeshow again in an effort to enhance the company's brand image in the Chinese market and expand sales of its aftermarket products.

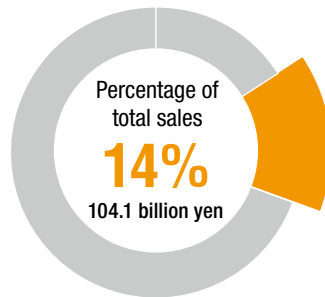
# Industrial Machinery Applications

The industrial machinery market covered a number of industry machinery sectors, including wind turbines, rolling stock, machine tools and more. To expand sales, NTN offers applying new technologies to the wide assortment of large and small bearings.

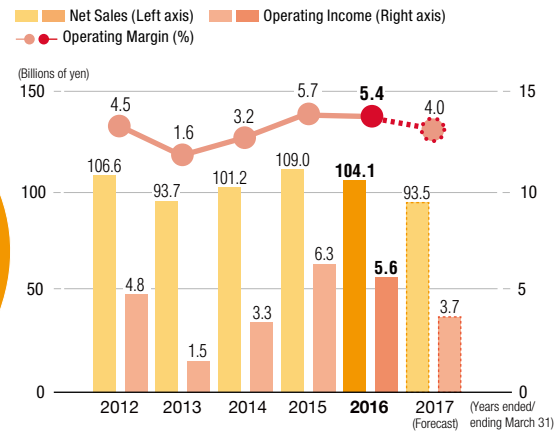
**NTN is dedicating time and resources to growth segments and creating new business areas.**



**Kazuki Kawashima**  
Director



### Operating Income/Operating Margin



### Results in the Fiscal Year Ended March 31, 2016

Net sales in the industrial machinery applications were 104.1 billion yen, down 4.9 billion yen (4.5%) over the previous fiscal year.

In Japan, NTN saw a decrease in sales for construction and mining machinery, and similarly for related gearbox bearings. In Americas, product sales for wind turbines grew, but fell for construction and mining machinery applications. In Europe and China, sales for wind turbines were strong.

Operating income was 5.6 billion yen. But, despite cost cutting efforts and favorable exchange rates, income was down 600 million yen (10.3%) from the previous fiscal year largely because of the decline amount of sales.

### Overview of the Fiscal Year Ending March 31, 2017

The outlook in Japan is for a further decrease in product sales for construction and mining machinery, and a projected slump in demand for steel mill equipment, machine tools and other industrial machinery. In Americas, we foresee a further decline in sales for construction and mining machinery similar to the current trend in Japanese market, but we expect an increase in sales of products for wind turbines. On the other hand, in Europe we expected increases in product sales for aircraft, gearbox, and general machinery. In Asia and other areas, sales for construction machinery and machine tool applications will decrease in Korea, we expect a momentary decline in sales for wind turbines in China as a backlash to the increased demand seen last year.

### Comments of Director in Charge

In the industrial machinery business, we are stepping up our technological development, production capacity and sales efforts in the wind turbine, aircraft, rolling stock and robot markets, which we view as growth areas. Moreover, we are directing development not only at bearings but also CMS\*, linear modules, and modular products that combine bearings and sensors.

In applications for construction machinery, agricultural machinery, machine tools and other forte areas of industry machinery applications, we are set on providing service support and solutions alongside a plethora of highly reliable products as part of our commitment to industrial advancement.

\* CMS: Condition Monitoring System

# PRODUCTS

\* Photos are cross-sectional models of products.



## Construction machinery bearings

Applications for resource mining and civil engineering



## Wind turbine bearings

Meets growing demand in renewable energy and other areas



## Agricultural machinery bearings

Helping to ensure stable food supplies



## Gearbox bearings

Underlying support for high productivity in robotic applications



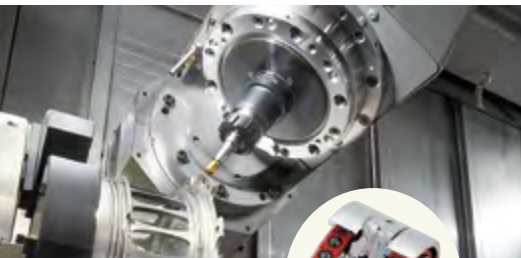
## Aerospace bearings

Applications for jet engines around the world

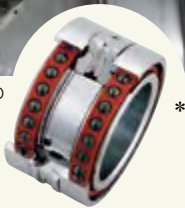


## Rolling stock bearings

Supports safety of the world's high-speed railways

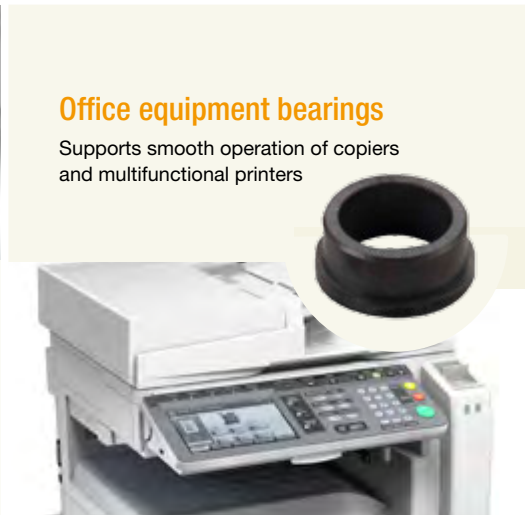


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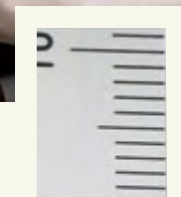
## Machine tool bearings

Fundamental components for ensuring high-precision processing



## Office equipment bearings

Supports smooth operation of copiers and multifunctional printers



## Hydrodynamic bearings

Used also for HDDs and thin fan motors



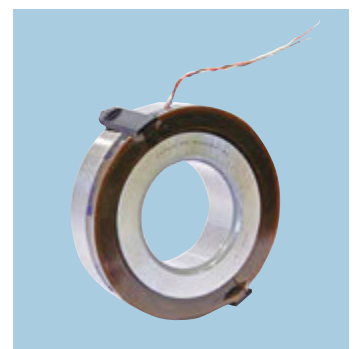
## Medical equipment bearings

Used for CT scanners and artificial hearts

## NEW PRODUCTS

### "Tapered Roller Bearings" with an early failure detection function

Flaking during bearing operation can ultimately damage the shaft and gear components. This has long been a problem because the risk of this occurring only gets worse the longer bearings go without being replaced. To prepare for this, NTN developed a product that detects and prevents broken-off fragments from exiting the bearing housing. This technology greatly helps to reduce the lifecycle costs of machinery.

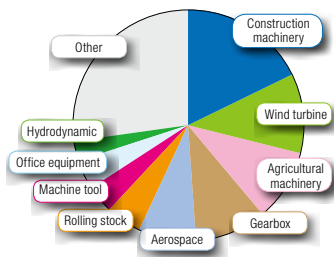




## Industrial Machinery Applications “NTN 100” strategy

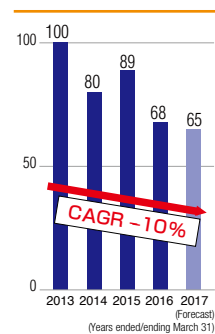
Focus our target on growth areas and enhance product development.

Sales share by business area

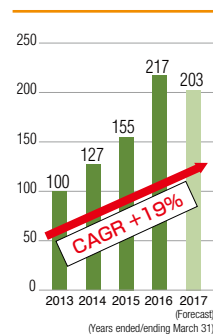


Shipped amount by industry (Benchmarked against 2013 figures)

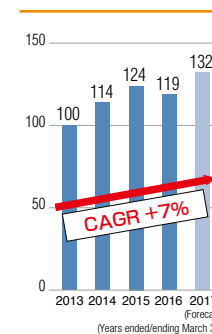
Construction machinery



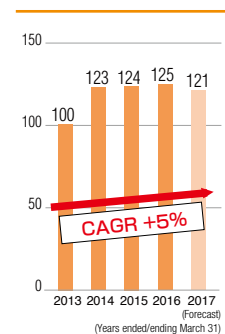
Wind turbine



Aerospace



Rolling stock



\* CAGR (Compound Annual Growth Rate): Average annual growth rate from the year ended March 2013 to the year ending March 2017

### Reorganization of engineering divisions in the Industrial Business Headquarters

Against today's backdrop of environmental issues, demand is growing for wind turbine, aerospace and rolling stock applications that the NTN Group focus on. Product sales for these applications have increased greatly while continuing to fall for construction machinery applications, which had until recently accounted for a large share of our sales in the industrial machinery applications.

Because of these changes in the business environment, the NTN Group reorganized its engineering divisions. Effective April 1, 2016, the 4 engineering divisions

underneath the Industrial Business Headquarters were reorganized into separate departments specialized respectively in robots, rolling stock, aerospace, CMS and large-scale wind turbines. Each was named for their field of business, therefore their roles and responsibilities are clear and distinct. Moreover, product development operations have been honed by focusing targets on growth fields and promoting product and technology development in new areas such as robotic applications.

#### Before



#### After





# NTN ACTION TODAY

01

## Integrated production of industrial machinery bearings in the Noto area

NTN established NTN HOUDATSU SHIMIZU Corp., NTN SHIKA Corp. and NTN NOTO Corp. in the Noto area of Japan after opening NTN HAKUI Corp. in 2007 as a second production base for making industrial machinery bearings, its lone predecessor being located in Kuwana, Mie Prefecture.

Currently in the Noto area, NTN is producing large bearings for wind turbines and a variety of bearings for the industrial machinery aftermarket. The process typically involves forging, machining, heat treatment, grinding and assembly in that order. The heat treatment part is key to determining the bearing's durability, but since there were no heat treatment systems in the Noto area, products had to be shipped to the production base in Mie Prefecture for heat treatment, which consumed much time after calculating transport in. However, a heat treatment plant is being built on the grounds of NTN NOTO Corp., which will give the Noto area its own integrated production system that will speed up production and stabilize supply.

The new heat treatment plant will serve as a model for additions at NTN's overseas production sites and will lead global standardization of Monozukuri.



Large bearing made in the Noto area



Large bearing during the manufacturing process

02

## Robot-related business

In our robot-related business, we are applying our Group's unique technology as seeds for developing products which match those seeds to new needs and expand these products on a global scale.

### Better and improved "Parallel Link High Speed Angle Control Equipment"

The positioning device that is used in production equipment must swiftly and accurately position the unit over a wide range of moving angle, with only a small amount of space to work with.

NTN seeks to improve that performance with its "Parallel Link High Speed Angle Control Equipment." An improved model has been downsized from conventional product by about 10% in the overall height. Moreover, positioning is 10% faster and more precise, so both tact time and down time are shorter, which contribute to improve productivity for the customer.



Parallel Link High Speed Angle Control Equipment

### Microscopic Coating Applicator with Microgeometry Measuring Function

The need for quality control by measuring the shape of all applied adhesive or the coating volume became apparent following developments in the mounting field calling for even smaller electronic components. Until now separate devices were required for application and measurement. Under this situation, NTN has started proposing the "Microscopic Coating Applicator with Microgeometry Measuring Function" that adds the "3D Microgeometry measuring" function, which measures 3D coated shapes, to the "Desktop Type High-speed Microscopic Coating Applicator" that is capable of high-accuracy coating of microscopic droplets of a few pl (picoliter)\* at a high speed of 0.1 seconds. The developed product is capable of coating at a high speed of 0.7 seconds as well as conducting measuring, which contributes to greater production efficiency.



Microscopic Coating Applicator with Microgeometry Measuring Function

\* pl (picoliter): 1 trillionth of a liter

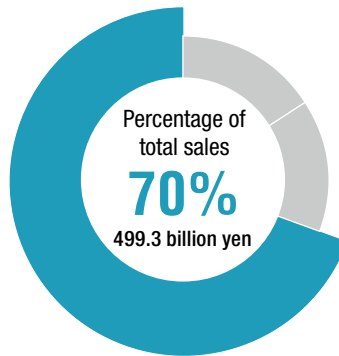
# Automotive Applications

Our business for automotive applications begins with us proposing new technologies and products, such as hub bearings, driveshafts and needle roller bearings, to automotive manufacturers and supporting industries around the world.

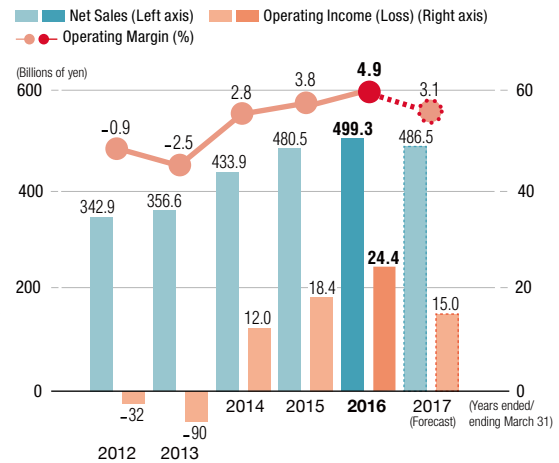
Accurately grasping customer needs is how we enhance brand value.



Hideaki Miyazawa  
Managing Director



### Operating Income/Operating Margin



### Results in the Fiscal Year Ended March 31, 2016

Net sales of the automotive applications were 499.3 billion yen, up 18.8 billion yen (3.9%) over the previous fiscal year. In Japan, compact vehicle sales were stymied by a tax hike, but NTN made up the difference via strong demand for vehicle exports to North America. Though demand in North America was strong, overall sales to the Americas were slightly down because of delays in the mass-production launch of some new vehicles and market slumps in South America. In Europe and China, customer demand grew.

After calculating in a decrease in variable costs and the effects of exchange rates, operating income was 24.4 billion yen, a 6.1 billion yen (33.2%) increase from the previous year. Operating margin also improved 4.9%.

### Overview of the Fiscal Year Ending March 31, 2017

New vehicle sales in Japan are expected to recover, as our automotive customers will be introducing new vehicle models. In Americas, sales of large vehicles like SUVs and pickup trucks should remain strong because of the weaker price of crude oil. This is also expected to benefit sales by NTN MANUFACTURING DE MEXICO, S.A.DE C.V., which commenced mass-production in December 2015. In Europe, the markets in Russia and other Eastern European countries will likely decline, but the overall tone is for strong sales to continue across the continent. In Asia, demand in China is projected to continue expanding customer demand, and sales of driveshafts and motor-cycles parts are expected to increase in India and ASEAN.

### Comments of Director in Charge

Today, there are continuous and drastic changes of automotive market needs as represented by “electrification” and “automated.” In this situation, our automotive business, pour a great amount of effort into “thinking from our customer’s standpoint and foretelling the future,” and pursue customer satisfaction by “improving quality” rather than “increasing quantity.” We are attentively focusing on growth areas and aggressively challenging new areas of business to achieve our goal of sustainable growth.

# PRODUCTS

\* Photos are cross-sectional models of products.  
 \*\* MCU: Mechanical Clutch Unit

**Transmission**

**Steering**

**Seat**

**Brake**

**CVT**

**Engine, accessories**

**Wheel applications**

Tapered roller bearings

Thrust needle roller bearings

Low torque seal ring

MCU \*\*

Constant-velocity joint for steering

Clutch for seat lifter

Ball screw drive module for electric hydraulic brake

Hub bearing \*

Needle roller bearings for rocker arm

Auto tensioner with the variable damper mechanism for ISG-equipped engine \*

Hollow ball screw unit \*

Low section high strength press pulley

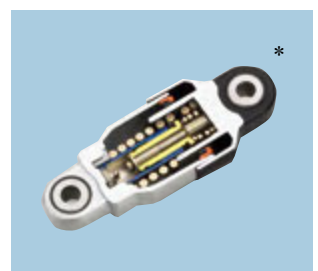
Driveshafts

## NEW PRODUCTS

### Auto Tensioner with the Variable Damper Mechanism for ISG-Equipped Engine

An ISG is the mainstream in idling stop mechanisms that vehicle manufacturers are increasingly adopting to improve fuel efficiency. The auto tensioner with the variable damper mechanism for ISG-equipped engines we developed can automatically optimize the tensioner setting to engine status, thus providing for the first time in the world both stable engine starts and better fuel efficiency when driving.

ISG (Integrated Starter Generator): A motor with an integrated generator (power generator) and starter (starter motor)





## Automotive Applications “NTN 100” strategy

Aiming at NTN driveshafts achieving world's No.1 customer satisfaction level

### Improving earnings in the driveshaft business

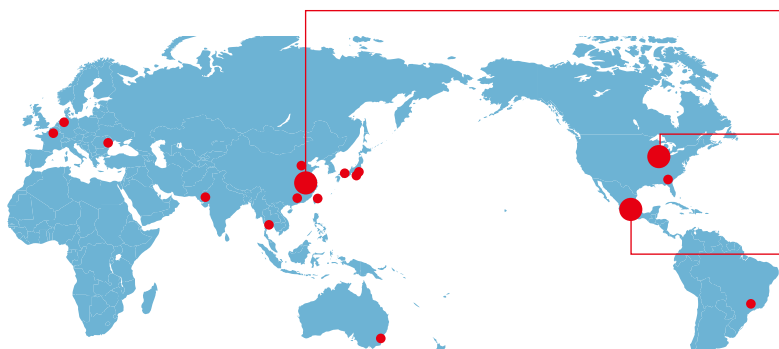
We have expanded profits as a top priority of our driveshaft business. We are also moving forward with the structural reform that goes as far as quality, costs, deliveries and engineering, in order to achieve the world's No.1 customer satisfaction level.

With regard to sales and engineering, we are building product lines of high added-value by developing “Advanced Drive-Shaft Modules” based on new concepts and hi-tech manufacturing and “Lightweight Driveshaft for FR Vehicles” that are optimally suited for rear-wheel drive adopted with many premium cars.

On the production, we are building new plants in

China, Mexico and the USA and strengthening our global supply system, to keep pace with increasing vehicle turnouts and to shadow automotive manufacturers who have expanded their production operations overseas. We are also working to cut variable costs in order to expand profits. Moreover, we are introducing innovative manufacturing technologies, enhancing our cost-competitiveness, reducing unit prices, shortening lead-times, eliminating intermediate inventories and conserving energy and resources. And, we are tuning globally consistent standard quality assurance with “Made by NTN.”

### Driveshaft production bases



#### Newly in China:

Xiangyang NTN Yulon Drivetrain Co., Ltd. began mass-production in April 2015.



#### Newly in USA:

NTN DRIVESHAFT ANDERSON, Inc. is scheduled to start mass-production in April 2017.



#### Newly in Mexico:

NTN MANUFACTURING DE MEXICO, S.A.DE C.V. began mass-production in February 2016.



### Lightweight Driveshaft for FR Vehicles

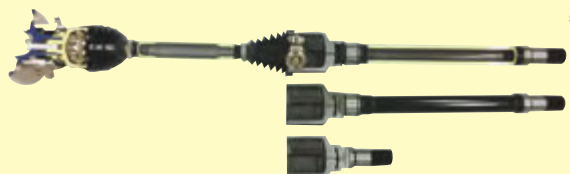
We successfully reduced driveshaft weight by 2.2 kg (approximately 30%) while ensuring the same load capacity of conventional driveshafts. Rear-wheel drive systems are widely used on luxury cars and future demand is expected to grow.



\* Photos are cross-sectional models of products.

### Advanced Drive-Shaft Modules

The length and configuration of these next-generation driveshafts differ according to the model of vehicle, but they are assembled with standardized CVJs that have been designed to deliver the required torque. The driveshafts are lighter in weight and higher performing than conventional driveshafts, and can halves the development lead time of driveshafts.



# NTN ACTION TODAY

## 01 Development of the “Electric Motor and Actuator” series

There is growing demand for automated driving and better fuel efficiency throughout the automotive industry in recent years, with electrification and by-wire control in particular being developed at a rapid pace as various systems are used more for drive and control.

NTN combined core technologies of bearings and ballscrew product technology, motor design technologies and electrical control technologies to develop highly versatile “Electric Motors and Actuators” series which is essential to by-wire control systems\*. Moreover, because common components and specifications are available with variations in shape and size which eliminates the need for individual designs for a shorter development time. In the future, NTN will apply these systems to other fields besides automotive market.

\* 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”



“New In-wheel Motor System”



Converted EV used at the Ise-Shima Summit

## 02 Helping to promote the use of EV with a “New In-Wheel Motor System”

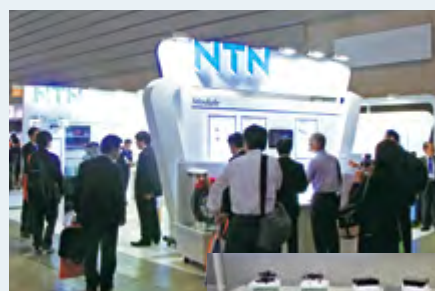
The “New In-wheel Motor System” that NTN internally developed is a great contribution to the development of the next generation of EV, because it is 25% narrower than earlier products and structurally works with existing suspensions and brakes used on compact cars.

NTN lent out 3 converted EVs that had been retrofitted with the “New In-wheel Motor System” for the Ise-Shima Summit in May 2016 and 2 for the Junior Summit in Kuwana City.

## 03 Automotive Engineering Exposition 2016

In May 2016, the Automotive Engineering Exposition was staged at Pacifico Yokohama and Port Messe Nagoya. The exposition showcases automotive technologies of engineers and researchers active at the forefront of the automotive industry. Over the 3 days in Yokohama, approximately 87,000 people visited the exposition.

NTN exhibited a wide range of its latest next-generation technologies under a theme of “New Technology Transforms the Next.”



NTN's booth



“Electric Motors and Actuators” on display

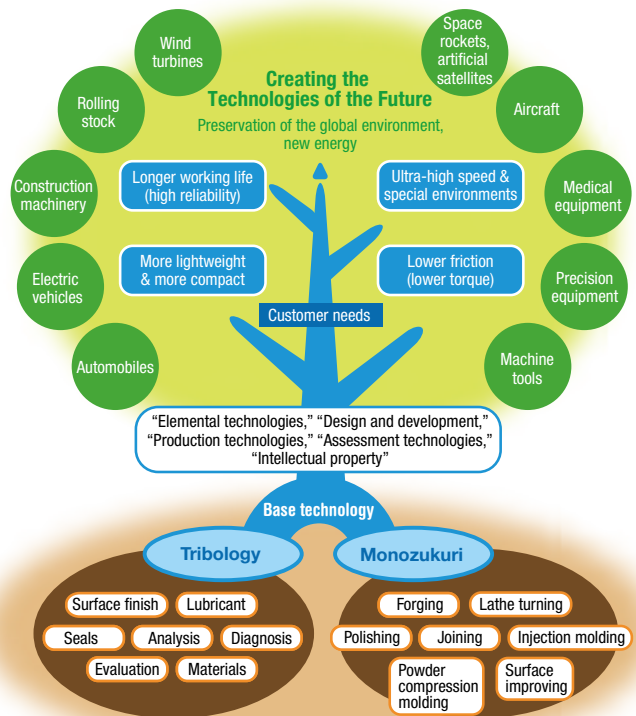
# We use original technologies to solve

## R&D Activities

The NTN Group creates new technologies in and around our core technological fields of Monozukuri and tribology. We promote development into cutting-edge technologies, products and production engineering with the intention of leaving our competitors behind. For the automotive, industrial machinery and aftermarket applications, we are seeking to lower torque demand and enhance other performance of our bearings and driveshafts. And we also combine products with their peripheral components into module and unit products on the other. These approaches to development can provide products that capable of high precision, high quality products on the market at optimum prices, and continually contribute to the industrial world. Also, we are currently promoting our 3-year Medium-term Management Plan “NTN 100” that will take us from April 2015 to March 2018, just prior to our 100th anniversary. Under this plan, we are promoting developing business in new areas as a major theme “Manage Growth.” For example, we developed Compact Wind Turbines and Micro Hydro Turbines that are highly efficient, utilizing natural energy. And, for EVs, we developed In-Wheel Motor Systems and Electric Motors and Actuators, and we are preparing for commercialization.

In the our core business of automotive business, tougher fuel economy regulations, we release products which realize lighter, smaller and greater fuel-saving such as Lightweight Driveshaft for FR vehicles, Auto Tensioner with the Variable Damper Mechanism for ISG-equipped Engine. By marketing new products like these around the world, we are making a major contribution to fuel economy and riding comfort. In the industrial machinery business, we have developed high durability rolling bearings with a Condition Monitoring System unit for use with large offshore wind turbines. We also have developed new products like tapered roller bearings sensors attached for detecting minute quantities of metallic dust for construction machinery, etc. In applications for rolling stock, aircraft, robots, and other machines, we are working to reduce the torque demand, size, weight and environmental load of bearings.

In addition to rolling bearings, we develop, manufacture and sell sliding bearings made of sintered and resin, magnetic products made of magnetic material. These strengths are applied to developing next generation products such as, magnetic cores that support the high current and frequency of electric vehicle power units, and also we use these strengths developing module products and system products, that differentiate us from competitors.



**Yoshinori Terasaka**  
Managing Director

### Message from the director of R&D

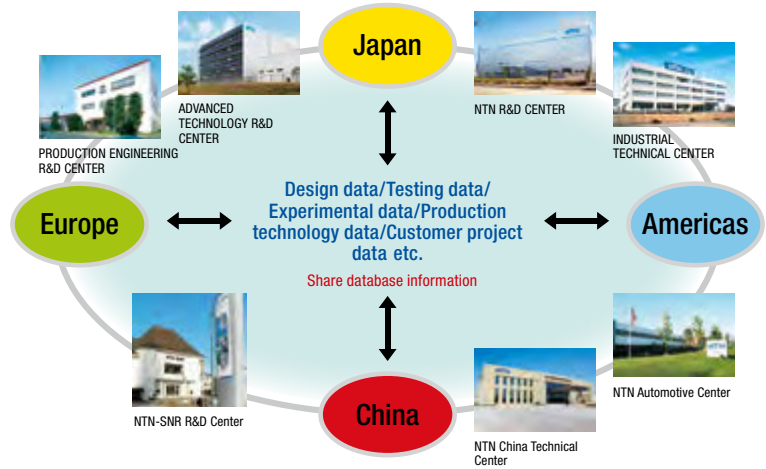
As major theme of our Medium-term Management Plan “NTN 100,” we are developing business in new areas, energy business, EV business, robots-related business, and service, solution business. Regarding the energy and EV businesses, new divisions were created in April 2016. In the robot-related and service, solution businesses, we are promoting product development and have begun developing business.

Till now, most of our business has been B-to-B dealings centered on bearings and driveshafts. However, going forward, we will be taking our core technologies as a bearing manufacturer to new depths and levels of enhancement in order to further improve the performance and quality of our core products, expand into the B-to-C realm, and make feel safe and reassured.

# various demands of the global society

## Global Four-region R&D system

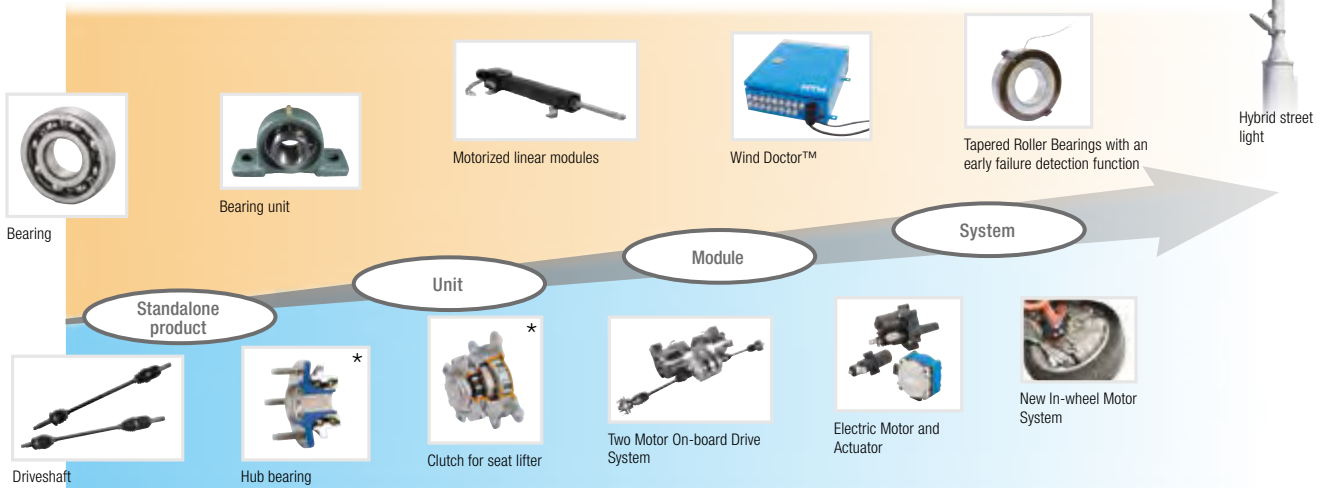
Within our global R&D system, our R&D bases in Japan conduct all operations concerning advanced technologies and guide activities for the world's markets. Our European R&D bases handle research and development for locally produced products. Efforts are also underway in each Japan, Americas, Europe and Asia to expand sales and speed up customer support via engineering services, certification evaluations, marketing studies and analyses.



## Product development and modularization

We develop "module products" by combining bearings, CVJs and other standalone products with their peripheral components, sensors, actuators or other parts. We then integrate these modules with mecha- tronics and control technologies to create "system products" out of them. Modularization and system- ization not only reduces the number of parts, size and

weight but also enhances the added-value of products by reducing the customer's assembly man-hours in their manufacturing process. New typical products are Electric Motors and Actuators for EVs and Hybrid Street Lights that very efficiently generate energy for industry machinery applications.



\* Photos are cross-sectional models of products.

## "Green Power Park" – an energy circulation model of natural energy

We are promoting the natural energy business as major theme of our Medium-term Management Plan "NTN 100." As one part of that, the company established a "Green Power Park" on the grounds of the Advanced Technology R&D Center in Kuwana, Mie Prefecture, as a natural energy circulation model that uses wind, water and solar power to generate electricity for EVs, vegetable farms and other loads. The amount of power generated, stored and consumed by each unit is constantly monitored and controlled in a control room as a low-carbon proposal for society. The facility is used for our in-house testing and is open to students from elementary to high school so that it can be useful for conserving energy and teaching about the environment.



# Activity Section

## Strengthening Governance

We are enhancing systems that increase the efficiency and soundness of our businesses.

P.41-50

Number of Board of Directors meetings held in the Fiscal Year Ended March 31, 2016

18

Ratio of non-Japanese top executives at overseas subsidiaries\*1

30%

Number of legal information bulletins

39

## Customers

We are striving to increase customer satisfaction, starting with the maintenance and improvement of product quality.

P.55-56

Quality management system certification rate\*2

100%

Number of participants in specialized quality education courses

137

Number of TQM activities implemented

223

## Business Partners

Promoting fair trade by developing business partners both inside and outside Japan.

P.57

Number of business sites that had independent subcontractor audits

22

Number of bases that had Subcontract Act workshops given by administrative departments

18

Rate of response regarding conflict minerals

100%





## Shareholders and Investors

Committed to disclosing accurate information in a fair and timely manner.

P.58

Dividend payout ratio (consolidated)

35.4%

Annual cash dividend per share

10 yen

Number of accounting and business briefing sessions held by top management (hosted by NTN)

5

## Employees

We strive to maintain a welcoming work environment that demonstrates respect for diversity and human rights.

P.59-62

Rate of workplace incidence (that require time off)

0.33%

Number of female managers

26

Employee three-year retention rate

94%

## Local Communities

We are actively undertaking a wide range of activities that contribute to society at our business sites around the world.

P.63

Number of blood donors\*1

1,695

Number of cleaning participants\*1

3,290

Number of participants in social contribution activities\*1

556

## Environmental Activities

We are working to protect the environment, by developing environmentally-friendly products and reducing environmental impacts.

P.64-75

Reduction of CO<sub>2</sub> emissions (Japan)

275,000 tons

Reduction of CO<sub>2</sub> emissions (Overseas)

330,000 tons

Recycle rate (Japan)

99.9%

\*1 Extent covered: NTN Group

\*2 Extent covered: consolidated subsidiaries involved in manufacturing (excluding bases which have not started mass-production)

Background photograph: Green Power Park  
See P.38 for details.



Control room



EV

# Strengthening Governance

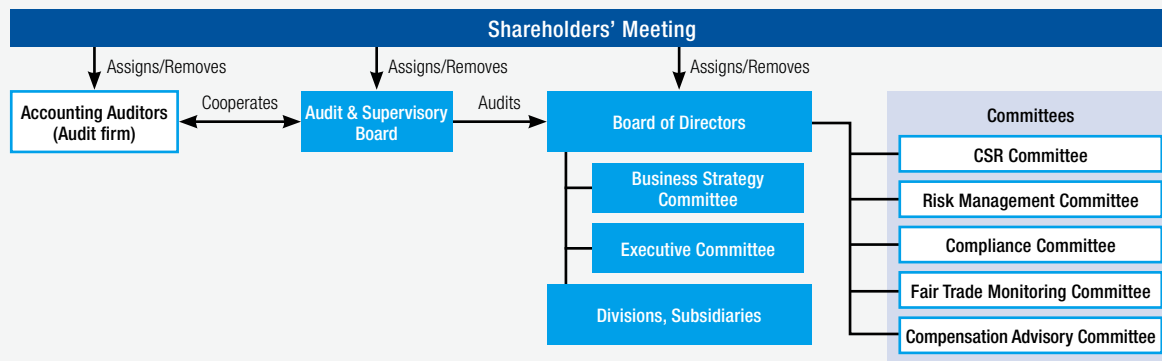
We are aiming to become “A company where all employees around the world behave in accordance with the corporate philosophy, comply with regulations and contribute to the local community” as part of “Our vision” raised in the new Medium-term Management Plan “NTN 100,” and are working on enhancing corporate governance to achieve this goal.

## Philosophy and System of Corporate Governance

We make the implementation of highly efficient corporate governance a top management priority and we build systems that are compatible with our corporate governance code to make management more efficient and robust.

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.

## Corporate Governance Structure



### Board of Directors

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

We have four Audit & Supervisory Board Members, two of who 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

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

### Executive Committee

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.

### CSR Committee

Implements various measures aimed at effectively promoting CSR activities.

### Risk Management Committee

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 Plans (BCP) and Business Continuity Management (BCM).

### Compliance Committee

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

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.

### Compensation Advisory Committee

In order to increase the motivation of directors to improve medium-term results and contribute to increasing shareholder value, we adopted a performance-based stock compensation program for our directors. For this purpose, we also established a Compensation Advisory Committee, which has outside officers as over half its members in June 2016.

## 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 Audit & Supervisory Board Members sit on the Board of Directors to give 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 the Tokyo Stock Exchange.

We also employ the Executive Officer System to ensure swift decision-making and business execution.

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. After director candidates are decided on at the Board of Directors, they are nominated and voted in at Shareholders' Meeting. This ensures transparency and fairness.

## Executive Compensation

The amount of compensation for executives has an upper limit set by a decision of the Shareholders' Meeting. The compensation of directors is based on the regulations of the Board of Directors with reporting from the Compensation Advisory Committee and determined by a decision of the Board of Directors. The compensation of directors is comprised of "base compensation" and "annual incentives (bonuses)," and we have adopted a new performance-based stock compensation program additionally. On the other hand, Audit & Supervisory Board Members decide their compensation after consultation at their Board.

## Internal Control

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 developed a basic policy for the design of internal control. 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 is responsible for internal audits, and has been established as an independent auditing organization to audit business execution throughout the NTN Group.

To further enhance internal control throughout the NTN Group, the Internal Audit Department, Five Overseas Offices of the General Manager and auditors at subsidiaries in Japan work together to audit subsidiaries and focus on strengthening internal control.

## Compliance

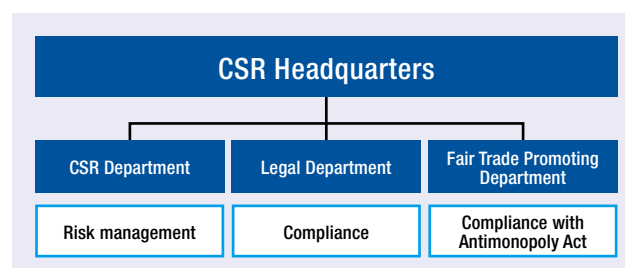
We define compliance as not only abiding by laws and regulations, but also complying with all social norms and rules, and operates a system that ensures thorough compliance in the global scope.

## Compliance (Business Ethics) Promotion Activities Establishment of CSR Headquarters

We recognize that thorough compliance is one of the most important issues to address, and is improving systems that ensure compliance with regulations and laws.

In April 2014, departments that covered efforts related to corporate social responsibility (CSR Department, Legal Department and Fair Trade Promoting Department) were consolidated to establish the "CSR Headquarters" that organizes global activities and ensures that the NTN Group maintains compliance and fulfills its corporate social responsibilities.

Within the CSR Headquarters, the CSR Department chiefly covers risk management, the Legal Department covers compliance and the Fair Trade Promoting Department ensures compliance with the Antimonopoly Act, and all three departments work together closely to implement various policies to ensure that we fulfill our corporate social responsibilities.



### In-house Rules Set for Compliance Promotion Activities

In April 2015, we established “Compliance Promotion Activities Rules” as our fundamental rules for activities to promote the compliance of the NTN Group globally.

In accordance with these rules, we launched a Compliance Committee in April 2015. In addition to convene this committee regularly, the details of their activities are reported to the Board of Directors.

### Activities of the Compliance Committee

From among the key management risks examined and set by the Risk Management Committee, the Compliance Committee handles the compliance risks that might result in legal violations, prioritizing them suitably and establishing and implementing measures to reduce them.

At present, responding to the recent global trend, which includes a tide of corruption prevention worldwide and the strengthening of various corruption regulations and exposure efforts by authorities in various countries, the Risk Management Committee has set violations of laws related to bribery as the key type of management risk second to the risk of Antimonopoly Act violation. The Compliance Committee is undertaking education and awareness-raising activities for the establishment and implementation of rules within the NTN Group as measures to prevent the violation of laws related to bribery. In the China region, the committee held an assembly workshop for executives of local subsidiaries in July 2016. Based on the most recent legal trends, the committee sought to stimulate caution in daily business activities from the perspective of preventing bribery, and also disseminated information about the bribery prevention regulations that are planned to be executed and put into use in the China region during the first half of fiscal 2016. Furthermore, bribery prevention regulations to be applied within Japan are also planned to be executed during fiscal 2016, so the committee is conducting briefing sessions and training activities for relevant divisions in Japan. With consideration for the

laws, social and cultural backgrounds and business conditions of other countries, the committee also plans to advance training activities and the establishment of rules for other regions.

Moreover, from the perspectives of preventing “fraudulent accounting,” which leads to various problems, as a unified group, and maintaining and improving suitable working environments, the Compliance Committee is advancing efforts related to the key management compliance risks of fraudulent accounting and “violations of laws related to labor.”

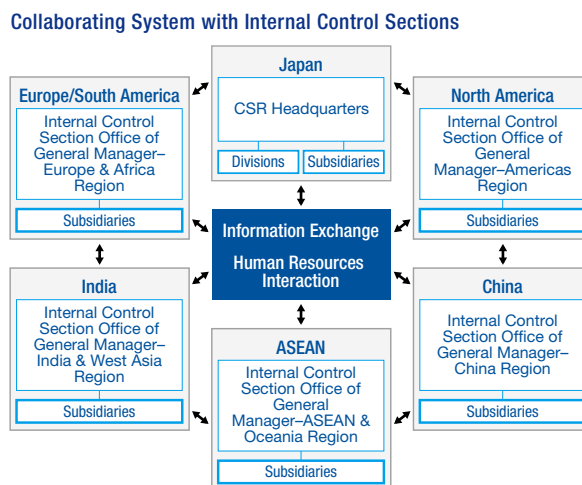
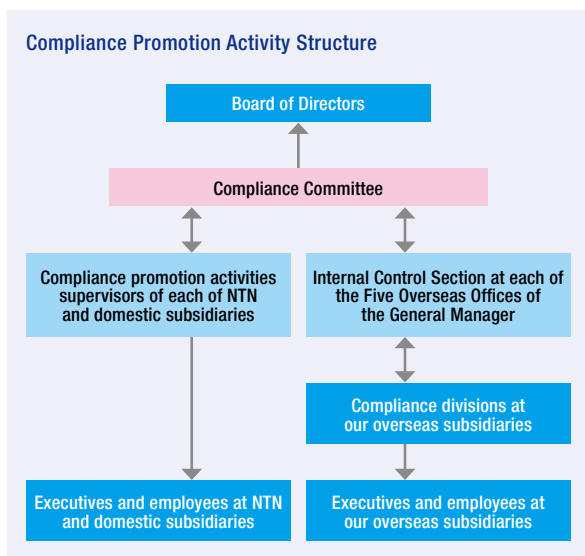
The committee is also advancing these efforts in our domestic divisions and our subsidiaries in Japan and abroad, coordinating with the compliance promotion activities supervisors of every domestic business site and the Internal Control Sections of the Five Overseas Offices of the General Manager.

### Cooperative Efforts with the Internal Control Sections of the Five Overseas Offices of the General Manager

We established an Internal Control Section at each of its Five Overseas Offices of the General Manager with the aim of developing and enhancing a system for ensuring compliance at companies located overseas.

The Internal Control Sections cooperate with the relevant departments of the CSR Headquarters for each topic related to the company’s social responsibility to implement policies for each region and country to suit the particular circumstances and characteristics there. This system allows the policies developed by NTN for corporate social responsibility to be shared globally between group companies, while also implementing individual policies on a global scale.

In January 2016, employees responsible for these efforts gathered in Japan from every region and held CSR Global Meeting, following the first in the previous year. (See P.46 for details.) Compliance is an important element of CSR, so during this meeting we shared information related to compliance promotion activities conducted in every region in fiscal 2015. In addition,



we had vigorous discussions about the creation of rules, education and awareness-raising activities, monitoring and other issues relevant to the future advancement of Compliance Committee efforts overseas, while considering the current conditions of each region.

### Education and Awareness-raising Activities

Education and awareness-raising activities are continually being conducted at all business sites throughout the NTN Group with the aim of improving broad-ranging and generalized knowledge and awareness related to compliance. At business sites and group companies in Japan, compliance promotion activities supervisors are mainly in charge of creating educational plans and holding training by level, topic or other categories for executives and employees.

In January 2016, as a new effort to realize the further expansion of compliance promotion activities within the NTN Group, we held an assembly training for the compliance promotion activities supervisors of our business sites and group subsidiaries in Japan. During this training, the supervisors shared the knowledge and ideas that had been gained at each business site from education and awareness-raising activities. In addition, they exchanged opinions about, for example, the training themes and methods that were thought to require enhancement in the future and investigated these topics together.

Self-learning by distributing textbooks and comprehension tests through e-learning are also held every year for employees promoted to project managers in particular, to ensure thorough compliance throughout the workplace. To ensure that this knowledge is ingrained, employees are required to repeat these tests until they reach a passing level.

The latest information is also provided via the intranet compliance database and legal information database, which outlines the latest trends related to compliance and various regulations, as well as case studies on violations of such regulations, all as a means of improving awareness amongst employees.

Group companies overseas are also focusing their efforts on compliance training. This is mainly covered by the Internal Control Sections, which conduct education and awareness-raising activities to suit regional characteristics and requirements while conforming to NTN policies.

Moreover, in order to evaluate the results of education and awareness-raising activities related to compliance, we are continuing to implement awareness surveys once per year. These results are useful in expanding our future promotion activities.



Group training for supervisors

### Helpline

We have set up internal and external helplines to offer consultation on matters related to compliance.

NTN's "Helpline Management Rules" were revised to ensure compliance, so that calls to the helpline related to compliance could be reported to the Compliance Committee and calls related to competition laws (Antimonopoly Act, Subcontract Act) to the Fair Trade Monitoring Committee. Based on faithful adherence to confidentiality duties related to the consultation, this system allows information included in whistle-blowing to be utilized by both committees.

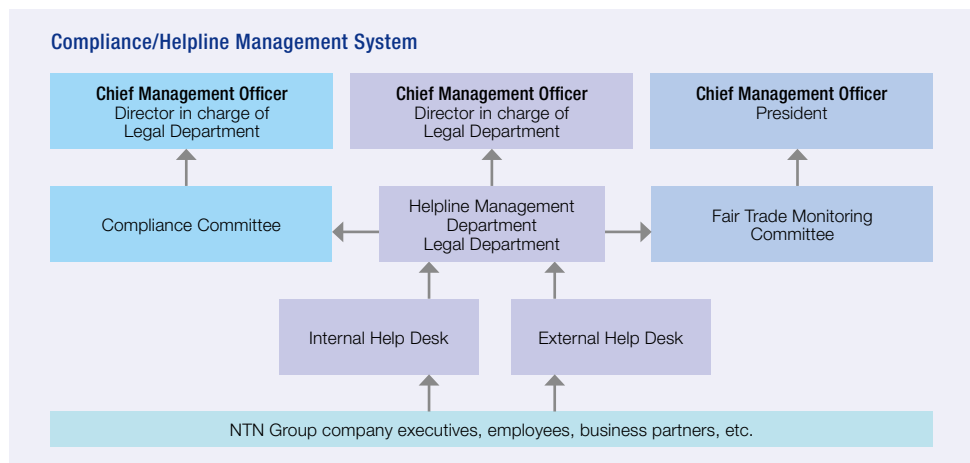
In addition to the helpline, we have also arranged a direct number for consultations with the Fair Trade Promoting Department.



Compliance information database



Legal information database



## NTN's Efforts to Comply with the Antimonopoly Act

The NTN Group recognizes that proper compliance is one of the most important issues to address, and is improving systems that ensure compliance with regulations and laws.

In June 2012, NTN and former executives received an indictment filed by the Tokyo District Prosecutors Office (TDPO) on suspicion of having violated Japan's Antimonopoly Act in relation to the domestic sale of bearings. In March 2013, we received a cease and desist order and surcharge payment order (for ¥7.231 billion) from the Japan Fair Trade Commission (JFTC). Because the assertions by the JFTC and TDPO are greatly different from NTN's views of the facts, NTN requested for resorting to hearing procedures beginning in September of the same year. Furthermore, we appealed the guilty judgment issued by the Tokyo District Court in a criminal proceeding in February 2015, but we received from Tokyo High Court a judgment rejecting our appeal in March 2016. NTN and the former executives have made a final appeal to the Supreme Court of Japan.

Overseas, consolidated subsidiaries in Korea and other regions have been subject to investigations by the authorities in those regions. NTN and its consolidated subsidiaries in the U.S. and Canada are defendants in a number of class action suits for suspected price-fixing of bearing sales with other businesses.

In February 2016, a lawsuit was filed against eight bearing manufacturers, including NTN, in The United Kingdom Competition Appeal Tribunal. It sought the joint payment of damages to Peugeot S.A. and its total 18 group companies.

NTN or its affiliated companies may be filed the lawsuit similar to the abovementioned lawsuit etc.

We at NTN express gratitude to all relevant personnel including shareholders for their understanding and their professional efforts during the past period.

The NTN Group will continue strengthening systems in place to ensure thorough compliance with laws and regulations, social norms, ethics, and in-house regulations on a global basis, to further drive business activities through fair and sincere competition.

## The construction of systems to ensure compliance with the Antimonopoly Act

To ensure compliance with the Antimonopoly Act and the Subcontracting Act, activities are chiefly conducted by the "Fair Trade Promoting Department" under the supervision of the "Fair Trade Monitoring Committee."

The CSR Headquarters that we established in 2014 covers the efforts of departments related to corporate social responsibility, including the Fair Trade Promoting Department, and ensures that the entire NTN Group complies with relevant regulations and implements social corporate responsibility. It also works more closely with the "Internal Control Sections" established within Five Overseas Offices of the General Manager to develop and enhance compliance systems overseas.

## Continuous compliance activities for the Antimonopoly Act

The Fair Trade Promoting Department covers internal training, and also 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.

Overseas, we work 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 activities that strengthen overall control over our compliance.



Training on strict compliance with the Antimonopoly Act

## Strengthening Global Implementation



### CSR Global Meeting

We hold CSR Global Meeting with the goal of promoting a variety of CSR activities, including establishing and strengthening compliance systems for the NTN Group with global information exchange and personnel interaction.



CSR Global Meeting

#### 1st Meeting: Build Foundation

In 2015, in order to build the foundation for promoting CSR activities globally, we gathered the Internal Control Sections from every region to our headquarters and explained our plans for making efforts on the global scale. This was followed by status reports from each internal control section. By sharing this information, we were able to identify and investigate issues that require handling.



#### 2nd Meeting: Strengthen Connection

In 2016, progress reports were given on the year of efforts made in each region. The meeting did not end with just presentations, however. By providing even more time for mutual discussions than the last meeting, vigorous exchanges of opinions occurred and we further strengthened the horizontal connection across national borders. As with the previous meeting, we identified and investigated issues that should be handled on the global level, and efforts for them are being made in every region. Although this meeting is held once a year, those in charge from every department supervise the progress on these issues whenever necessary.



#### 3rd Meeting: Step Together for Transformation

In 2017, focusing on the "transformation" in the NTN 100 plan, the theme of the meeting will be to advance together as a unified corporate group. Moreover, together with each location, we are currently applying creativity and making efforts related to the contents of the meetings and how they are conducted.

### Participation in "United Nations Global Compact"

In 2015, we endorsed (joined) the United Nations Global Compact, an international initiative for developing a global framework for sustainable worldwide growth with the aim of becoming a company trusted on the international stage.



### The Ten Principles of the United Nations Global Compact

Human Rights		Principle 1	Business should support and respect the protection of internationally proclaimed human rights; and
		Principle 2	make sure that they are not complicit in human rights abuses.
Labour		Principle 3	Business should uphold the freedom of association and the effective recognition of the right to collective bargaining;
		Principle 4	the elimination of all forms of forced and compulsory labour;
		Principle 5	the effective abolition of child labour; and
		Principle 6	the elimination of discrimination in respect of employment and occupation.
Environment		Principle 7	Business should support a precautionary approach to environmental challenges;
		Principle 8	undertake initiatives to promote greater environmental responsibility; and
		Principle 9	encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption		Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.

## Pursuing Risk Management

We have developed the “Risk Management Policy” and established “Risk Management Rule” which set out the systems and standards to follow in case of an emergency.

### Risk Management Policy

NTN Corporation hereby establishes the basic policy of the NTN Group to precisely manage the risk prevention and to quickly respond at the outbreak of various risks (i.e., the events that may prevent the accomplishment of business purpose and the operation of business) surrounding the business of the NTN Group.

- ① We shall make an effort to eliminate or reduce the various risks to the stakeholders, such as customers, suppliers, shareholders, investors and local communities, and executives and employees.
- ② We shall maintain the risk management system for prompt and proper measures against the risks and implement the company-wide and general risk management.
- ③ We shall implement the risk findings, risk analysis, risk assessment and risk measures according to the risk management plan and take proper preventive measures.
- ④ In the case of risk arising (emergency), we shall keep to minimize the damage expansion by initial risk countermeasures including the proper information transfer to inside and outside the Company.
- ⑤ We shall make an effort to keep and develop the stable business by monitoring the proper structure and implementation of the risk management on a daily basis.

## Philosophy and System of Risk Management Setting Key Management Risks to Handle with the PDCA Cycle

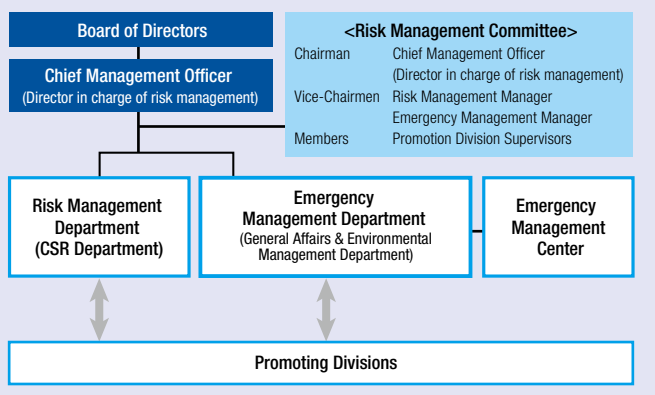
We established the Risk Management Committee as an advisory body for managing risks. The Risk Management Committee meets twice each fiscal year and reports to the Board of Directors about the status of execution for corrective measures and improvement measures related to risk management. This committee conducts comprehensive management of risks for the entire company and identifies and analyzes risks. Based on this, it takes measures to prevent key management risks with high levels of impact and high frequencies and responds to related dangers by executing countermeasure plans and result follow-ups.

Specifically, for risks that are subject to risk management, we implemented a survey of officers and division heads and identified the risks that they foresee as posing enormous damage to company businesses from the management perspective. We set these as the NTN Group’s risks.

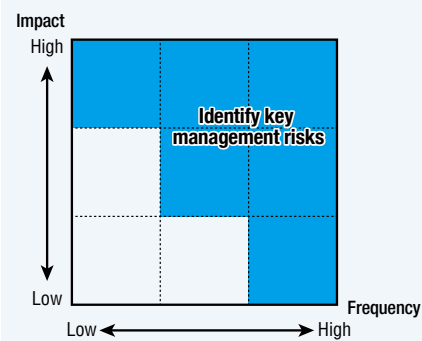
In addition, we located all of these set risks on a risk map (level of impact × frequency of occurrence), and selected the risks with the greatest impacts on business and highest rates of occurrence. From among these, taking the current status of their countermeasures and the cost-effectiveness of countermeasures into account, we have set the highest priority risks as key management risks.

Furthermore, at the committee meeting held in October 2015, the decision was made to quantify the progress levels and manage target levels for them.

### Risk Management System



### Risk Matrix (Approach to risk mapping)



### Philosophy and System of Risk Management





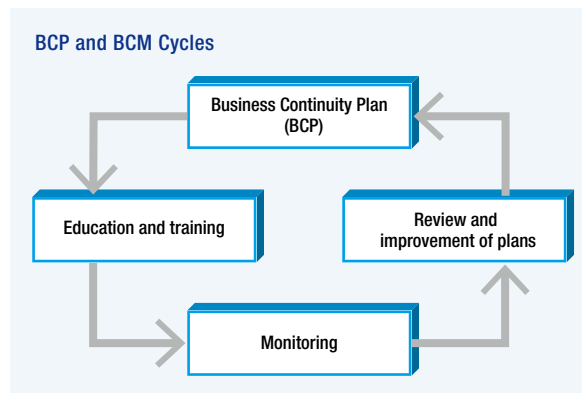
## Key Management Risks (Fiscal Year Ended March 31, 2016)

- ❶ Violation of Antimonopoly Act
- ❷ Violation of bribery-related laws
- ❸ Window dressing settlements / fraudulent accounting
- ❹ Shortage of human resources
- ❺ Violation of labor-related laws
- ❻ Earthquakes, eruptions and tsunamis
- ❼ Nuclear power accident
- ❽ Fires and explosions
- ❾ Operation stoppage due to disaster damage at our facilities
- ❿ Leakage of R&D information

## Business Continuity Planning (BCP) and Business Continuity Management (BCM)

We are advancing BCP and 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 assure safety and prevent the interruption of crucial work or resume such work as soon as possible.

Undertaking the advancement of BCM, we have completed the establishment of a BCP Document that includes NTN Domestic Subsidiaries with anticipated damages and a review of the cooperative framework through deliberations of the Risk Management Committee.



## Global Risks Management

We are advancing the comprehensive management of risks for the entire company. We have built a database to manage global risks, and we are working on measures for new risks.



Global Risk Management Database

## From the Chief Management Officer (Director in charge of Risk Management)

This is the third fiscal year of our CSR Headquarters, which we established in April 2014 to unify our CSR Department, Legal Department and Fair Trade Promoting Department. For risk management in our company, we have established countermeasure plans for the various risks that affect our business, and each of the promoting divisions is handling them. These risks include large-scale disasters, environmental issues, workplace environments, occupational health and safety, bribery, fraudulent accounting and window dressing settlements.

By not limiting coverage to just our company and related subsidiaries in Japan but also including related subsidiaries overseas, we are striving to improve our management level by advancing risk management on the global scale.

Moreover, the expansion of BCP and BCM is a long-term issue for me as the Chief Management Officer (Director in charge of Risk Management). I will continue to advance these efforts with “human life first, rapid recovery and business continuity” as the fundamental policy.



**Keiji Ohashi**  
Managing Director

# Officers (As of June 24, 2016)



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## Directors

**1 Hiroshi Ohkubo**  
President  
Representative Director

**Reason for being elected**

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 Medium-term Management Plan NTN 100 and the sustainable growth of corporate value.

**4 Yoshinori Terasaka**  
Managing Director  
Research, Engineering  
Quality Management Department  
Americas Region

**Reason for being elected**

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.

**7 Itsuji Goto**  
Managing Director  
Human Resources  
Cost Planning Department  
China Region

**Reason for being elected**

He has operational experience in areas such as the Finance Division and Overseas Divisions and broad knowledge based on these achievements.

**10 Takehiko Umemoto**  
Director  
Quality Management Department  
Corporate General Manager,  
EV Module Division  
Deputy Corporate General Manager,  
Automotive Business Headquarters

**Reason for being elected**

He has operational experience in areas such as Business Divisions for the industrial machinery market and technical divisions and board knowledge based on these achievements.

**2 Hironori Inoue**  
Executive Vice President  
Representative Director  
Green Energy Products Division  
Human Resources  
Project Director, Driveshaft Business  
Strengthening Project

**Reason for being elected**

He has operational experience in areas such as the Production Division and the Human Resources Division and broad knowledge based on these achievements.

**5 Keiji Ohashi**  
Managing Director  
Corporate General Manager, Finance  
Headquarters  
General Affairs, Environmental  
Management Department  
CSR Headquarters

**Reason for being elected**

He has operational experience in areas such as the Finance Division and the General Affairs Division and broad knowledge based on these achievements.

**8 Hiroshi Nakano**  
Director  
Corporate General Manager, CSR  
Headquarters  
Internal Audit Department

**Reason for being elected**

He has operational experience in areas such as the Legal Division and broad knowledge based on these achievements.

**11 Toshinori Shiratori**  
Director  
Corporate General Manager,  
Corporate Strategy Headquarters  
Project Director, Aftermarket Business  
Strengthening Project

**Reason for being elected**

He has operational experience in areas such as the Human Resources Division and the Corporate Strategy Division and board knowledge based on these achievements.

**3 Fukumatsu Kometani**  
Executive Director  
Aftermarket Business  
Headquarters  
NTN KOREA CO., LTD.

**Reason for being elected**

He has operational experience in areas such as Business Divisions for the aftermarket and Overseas Divisions and broad knowledge based on these achievements.

**6 Hideaki Miyazawa**  
Managing Director  
Corporate General Manager,  
Automotive Business Headquarters  
Europe & Africa Region  
Electric Module Products Division  
EV Module Division

**Reason for being elected**

He has operational experience in areas such as Divisions for the automotive market and Overseas Divisions and broad knowledge based on these achievements.

**9 Hidefumi Tsuji**  
Director  
Production  
Procurement, Logistics  
Department  
ASEAN & Oceania, India &  
West Asia Region

**Reason for being elected**

He has operational experience in areas such as the Production Division and Overseas Divisions and broad knowledge based on these achievements.

**12 Kazuki Kawashima**  
Director  
Corporate General Manager,  
Industrial Business Headquarters  
Composite Material Product  
Division

**Reason for being elected**

He has operational experience in areas such as Business Divisions for the automotive market and Business Divisions for the industrial machinery market and board knowledge based on these achievements.

## Outside Directors

**13 Akira Wada**  
Outside Director

**Reason for being elected**

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.

**14 Noboru Tsuda**  
Outside Director

**Reason for being elected**

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.



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### Audit & Supervisory 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

**Eiichi Ukai**  
Senior Executive Officer  
General Manager, ASEAN & Oceania Region  
General Manager, India & West Asia Region

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

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

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

**Masaki Egami**  
Executive Officer  
General Manager, New Product Development R&D Center

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

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

**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

**Pete Eich**  
Executive Officer  
Director and Vice Chairman, NTN Bearing Corp. of America

**Eiichi Nakamizo**  
Executive Officer  
Corporate General Manager, Aftermarket Business Headquarters  
Deputy Corporate General Manager, Industrial Business Headquarters  
Deputy Project Director, Aftermarket Business Strengthening Project

**Koji Ishikawa**  
Executive Officer  
General Manager, Green Energy Products Division

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

**Tetsuya Sogo**  
Senior Executive Officer  
General Manager, Americas Region  
President, NTN USA Corp.

**Takayuki Matsuo**  
Executive Officer  
Deputy Corporate General Manager, Corporate Strategy Headquarters

**Makoto Okasaka**  
Executive Officer  
Deputy Corporate General Manager, Automotive Business Headquarters

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

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

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

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

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

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

**Katsuaki Miyake**  
Executive Officer  
Deputy Corporate General Manager, Automotive Business Headquarters  
General Manager, Okayama Works

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

**Masayuki Nishiguchi**  
Executive Officer  
Deputy Corporate General Manager, Aftermarket Business Headquarters

# Contributing to Society

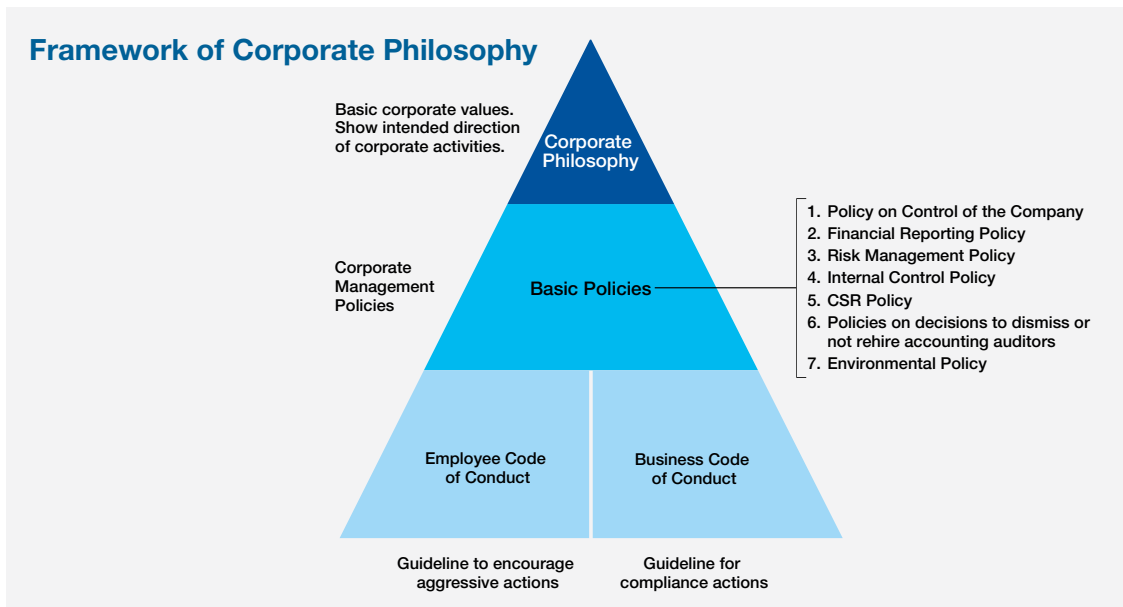
Creating value for all of our stakeholders, including customers, business partners, shareholders, investors, employees and local community members, is indispensable for the medium- to long-term growth of our company. As a business that grows together with society, the NTN Group is advancing proactive CSR activities.

## 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.

### Framework of Corporate Philosophy



We at NTN clearly recognize that, based on clear strategies for being competitive, producing efficiently, creating markets, extending sales and generating profits are indispensable for the realization of our corporate philosophy. Beyond this, however, as a good corporate citizen, we seek to be a business that is recognized by society for more than just pursuing profits. We also seek to be a business entity that, for employees in particular, provides the pride of fulfilling honorable roles which contribute to society and that is a place for all individuals to pursue self-realization, not just for making a living.

### CSR Policy

- ① Legal compliance / Policy for activities: We shall comply with laws and regulations, endeavor to engage in fair competition, and carry out our business activities in an honest and ethical manner.
- ② Customers: We shall strive to develop new technologies and new products, as well as to provide safe and reliable products.
- ③ Business partners: We shall engage in fair and free competition, and at the same time establish excellent partnerships with our business partners.
- ④ Stockholders / Disclosure of information: We shall work to develop this corporation and increase stockholder return, while at the same time communicating broadly with society and actively disclosing information.
- ⑤ Employees: We shall value the individuality and diversity of our employees, work to create a safe and pleasant work place, and achieve comfort and prosperity.
- ⑥ The environment: With ample consideration to preserving the global environment and protecting the ecosystem, we shall work toward the creation of a sustainable, progressing society.
- ⑦ Society: We shall make every effort to interact meaningfully with society on a local level, and to engage in activities that contribute to society.
- ⑧ International activities: We shall, as a matter of course, obey all international rules as well as the laws of each country and each region that we operate in; we shall also respect local cultures and practices and contribute to local development.

# CSR Management

## CSR as part of framework of corporate philosophy

### Employee Code of Conduct / Business Code of Conduct

We developed the “Employee Code of Conduct,” which set out guidelines for conducting CSR activities, and the “Business Code of Conduct,” which all officers and employees must abide by. We have distributed the CSR Guidebook and a portable card with this information to all employees of the NTN Group in Japan. In addition, for our corporate philosophy that is the foundation of these, we also have distributed corporate philosophy cards and posters to employees around the world in 13 languages. In these ways we are encouraging CSR activities efforts during daily work.



CSR Guidebook

New employees are provided with training together with the guidebook and the cards. These codes are read out aloud during morning meetings and other opportunities, to ensure that employees are fully aware of them.



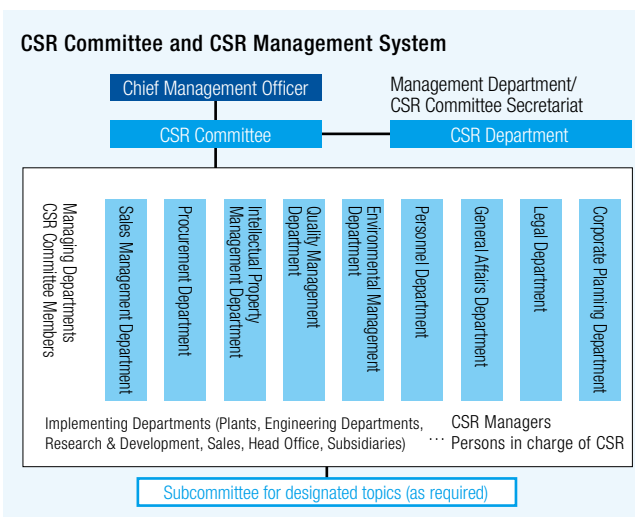
Corporate philosophy poster on a bulletin board



Corporate philosophy cards (in multiple languages)

### CSR Department and CSR Committee Lead Activities

We have established the CSR Department that is advancing CSR activities. It covers CSR activities conducted by the NTN Group and is in charge of



implementing efforts to improve CSR. The “CSR Committee” is chaired by the Manager of the CSR Department and made up of the heads of relevant divisions. It systematizes CSR activity plans and CSR policies, and it deliberates on CSR issues that span all divisions.

We implement CSR activities throughout the NTN Group by appointing CSR managers and staff in charge of CSR at all of our business sites and at the NTN Group companies in Japan.

In the NTN Group, along with advancing and focusing CSR activities globally, in order to advance toward the achievement of our medium-term business plan targets, for each department we are setting key performance indicators (KPI), which measure concretely the progress of their results toward their business targets. By quantifying targets and progress, we are working to make the progress visible for each department.

### Employee Code of Conduct

- ❶ We respect social ethics and act as good members of society.
- ❷ We have noble ambitions and always make efforts to brainstorm and achieve the set target.
- ❸ We accept changes, have broad vision and act voluntarily.
- ❹ We deepen mutual understanding and enhance the vitality of our work site.
- ❺ Management and supervisors in particular, as faces of the corporation, improve their qualifications, make efforts to develop individuals, always take care of safety and show leadership.

### Business Code of Conduct

- ❶ Compliance with laws and norms
- ❷ Pursuit of quality and safety
- ❸ Compliance with the Anti-Trust Law
- ❹ Fair trade with suppliers
- ❺ Honoring agreements
- ❻ Refusal to engage in improper conduct with business partners
- ❼ Proper labeling and specification
- ❽ Respect for intellectual property rights
- ❾ Proper control of confidential information
- ❿ Ensuring security by strengthening export controls
- ⓫ Compliance with industrial laws
- ⓬ Compliance with corporate accounting principles
- ⓭ Compliance with international rules
- ⓮ Promotion of environmental preservation
- ⓯ Positive contribution to society
- ⓰ Compliance with labor-related laws and company work rules
- ⓱ Realization of a safe and positive work environment
- ⓲ Respect for human rights
- ⓳ Prohibition of sexual harassment
- ⓴ Proper control of information about individuals
- ⓵ Strict distinction between public and private matters
- ⓶ Confronting harmful social forces
- ⓷ Proper utilization of our information system
- ⓸ Prohibition of insider trading
- ⓹ Self-restraint regarding entertainment and gifts
- ⓺ Lawful donations/political donations



## Stakeholder Dialog

In order to reflect stakeholder opinions in sustainable business activities, we held a stakeholder dialog with experienced academics and experts in different CSR fields on June 9, 2016, following on a similar meeting in 2015.

We had mutual discussions and received feedback on our Group's CSR activities.

### Stakeholder



**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**  
Senior Manager, Sekisui Integrated Research Inc.

### Facilitator



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

### Theme 1 | CSR at NTN

#### Opinion in 2015

- Further coordination between business activities and CSR activities will be important in the future.
- It is vital to include "Value Creation" as part of corporate activities for the further CSR development.



#### Progress

- In addition to energy conservation and global environmental protection in main businesses, we are coordinating business activities with natural energy utilization and contributions to local communities even in the natural energy business and other new business fields.
- As a way of "value creation" through products, with consideration for the global environment, local communities, personnel and other factors, we are incorporating CSR activities in our business activities from the perspective of achieving a sustainable society.



#### Opinion in 2016

- Taking CSR priority level and direction as CSR materiality indices, it is desirable to disclose related progress using nonfinancial KPI. Materiality should reflect changing conditions and may be adjusted every three years.
- CSR targets (as well as business targets) should not be just action plans. Maintaining them as benchmarks is also important during times of low growth.
- As a form of value creation, it is important to assess materiality in the medium and long term based on major objectives.
- Advancing local production for local consumption is necessary for energy as a whole in Japan. Businesses that contribute to this area are admirable.
- Reporting should clearly communicate the key points of this year (not across the board).

### Theme 2 | Global

#### Opinion in 2015

- Building up a global network is needed for the mutual interaction within the NTN Group.



#### Progress

We hold Global Management Conferences and CSR Global Meeting in English, and we advance the sharing of information by localizing various databases into English and publishing "e-Talk21" in-house electronic news (combined English and Japanese editions) and the seasonal "Blue Horizon" in-house bulletin (combined English and Japanese).

We also engage in mutual personnel exchanges, through overseas trainee and International Internship Program systems, as well as by receiving trainees from overseas factories.



#### Opinion in 2016

- The CSR Global Meeting is useful for sharing the issues of each area as they are different in every region.
- "For New Technology Network" is important for expanding networking ties.

NTN Participants

Hiroshi Nakano  
Director and Corporate General Manager,  
CSR Headquarters

Toshiyuki Matsutani  
General Manager, General Affairs &  
Environmental Management Department

Yasuyuki Kuroda  
General Manager, CSR Department



### Theme 3 | Compliance

**Opinion in 2015** • Sharing information with transparency is crucial.

**Progress** We established Internal Control Sections in the Overseas Offices of the General Manager in every region. As we strengthen the compliance promotion structures of the NTN Group Overseas, we are advancing measures for each region based on their conditions and characteristics. For these measures, we are conducting overall management in the head office and monitoring them in the Internal Auditing Department.

**Opinion in 2016** • The corporate governance code is being handled correctly. It is originally a medium and long term way of thinking, stating that it is for all stakeholders. Showing medium and long term value creation is important.

- There might be some cases that the compliance systems do not work properly. Distance between workplaces and management may result in a failure of compliance. Communication and feedback processes are important to keep encouragement from becoming pressure.

### Theme 4 | Environment

**Opinion in 2015** • We would like to see more information on environmentally friendly products designed as “value creation.”

**Progress** We are advancing businesses in fields that are “value creation” domains, including natural energy, EV business for the electrification and safety revolution of automobiles, robots that work and live with people, and service and solution businesses that utilize big data. In the natural energy field, we established Green Power Park as an energy recycling model. This empirical experiment utilizes power generated by vertical axis wind turbines and micro hydro turbines, to charge electric vehicles, to illuminate vegetable farms and for other purposes.

**Opinion in 2016** • Green Power Park is a good effort that strengthens public infrastructure not only for the company but for the community. It also represent a significant contribution to society.

- Bearings themselves, as the core business, probably still have considerable potential. We believe there would be more added value in rotation and movement of bearings in terms of ease of turning and stopping, etc. We expect them to have new functions as well.

### Theme 5 | 100th anniversary and future issues

**Opinion in 2016** • Approaching your 100th anniversary, we want you to devise new ways to show “value creation.” The corporate philosophy is a place to return as the company continues to thrive. We hope that you approach the 100th anniversary in a way that makes employees feel proud.

- Investigating, for example, the CSR consciousness of employees in areas other than compliance on a global scale could be valuable. Investigation is necessary to confirm the permeation of the philosophy.

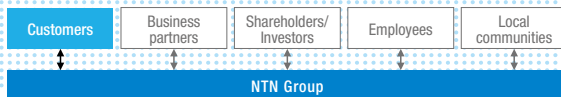


**Hiroshi Nakano**  
Director and Corporate General Manager, CSR Headquarters

#### 2016 dialog summary

Looking 10–20 years ahead, we have set “Our Vision” and established medium-term business plans. We also consider our CSR in spans longer than three years and will investigate CSR materiality in the near future.

As a manufacturing business that has value to society, we will not just focus our efforts on the businesses that we have now, but rather we will look into the creation and provision of new value. We have started a project as we approach our 100th anniversary, and we want to communicate, “This is NTN, and this is the value NTN creates,” as March 2018 nears. Moreover, regarding the opinions we received this time as in the previous year, we will set priorities for the medium and long terms and continue to respond to them. In addition, we will hold various stakeholder dialogs, and continue to grapple with issues, including those related to the environment, society and governance.



# Customers

We are striving to increase customer satisfaction, starting with the maintenance and improvement of product quality.

## Enhancing Customer Satisfaction

### NTN Sales Persons and Engineers for Each Customer

At the 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. We constantly work 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 take action after adopting the customer's perspective. For the year ended March 2016, in addition to increasing the marketing abilities of these people in charge, we have also placed emphasis on improving the organizational management skills of the managers who supervise them. Along with "customer strategy training" and "change leader training," we also conducted "sales manager training." In the future, our plan is to focus efforts on implementing trainings that look ahead to meeting changing customer needs.



Sales manager training

### NTN Engineers Provide Problem-Solving Opportunities

The NTN Group holds periodic sessions where customers can get to know our products and technologies better and speak directly about their needs with our engineers. We are expanding the utilization of technical service units and holding product explanations and lectures on the handling of bearings using maintenance tools around the world. About 14,000 people from 750 companies around the world visited us in 2015, earning us a favorable reputation.

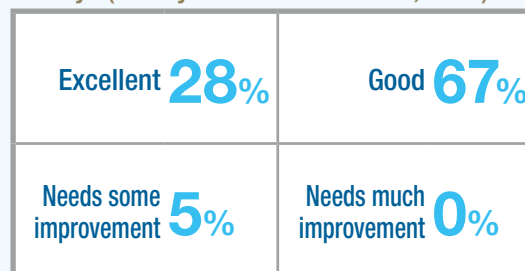


Product and technology explanation in the United States

## Customer Satisfaction Surveys

Every year, we conduct customer satisfaction surveys on our products and services in which customers choose one of four levels of satisfaction in six survey items including quality, cost, and delivery. Survey results go to relevant company divisions to be reflected in improved products and services.

### Overall Assessment of Customer Satisfaction Surveys (As of year ended March 31, 2016)\*



\* We received responses from 90 companies in Japan and abroad.

## Ensuring Global Quality

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. 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 overseas business sites as well, we dispatch support staff to locations from Mother Plants and the Quality Management Department. They audit the subject workplaces, investigate past troubles and improve production lines.

Moreover, with the goal of rapidly obtaining quality information from overseas business sites, we have incorporated the G-QUICK global quality information control system. This system allows related departments to share quality information and investigate the validity of causes and countermeasures, contributing to the minimization of impacts on customers and the prevention of recurrence companywide.



Quality inspection conducted abroad



## Quality Management Policy

### Basic Quality Policy, Quality Management Policy

Under our Basic Quality Policy, which forms the basic concept of all our manufacturing, we formulate quality

management policies for each fiscal year and define policies for maintaining and raising product quality.

#### 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.**



#### Quality Management Policy for Fiscal Year Ended March 31, 2016

As we start the first year of our New Medium-Term Management Plan which marks a significant milestone, the company's 100th anniversary, we will work to "overcome NTN's weak points," "achieve unrivaled quality compared with other products," in order to "improve NTN brand" and "ensure global quality," under the basic concept of laying the foundation of a company that will survive into the next century.

#### Quality Management Policy for Fiscal Year Ending March 31, 2017

Continuing from the last year in which our New Medium-Term Management Plan started, we will work on the "establishment of a global quality assurance system," "elimination of complaints" and "nurturing of human resources who specialize in quality" with an aim to "improve NTN brand" under the basic concept of laying the foundation of a company that will survive into the next century.

## Quality Management System

### Management Certification for Various Production Items

#### Working Toward ISO 9001, ISO/TS 16949 and Other Standards

The NTN Group has been working to obtain the certification for quality management standards for its various production items. Besides the certification for the ISO 9001 quality management system at production and sales bases in Japan and overseas, we have been aggressively working to obtain the certification for the ISO/TS 16949, a quality management standard that automotive manufacturers demand.

In 2010, NTN became Japan's first bearing manufacturer to obtain the certification under the International Railroad Industry Standard (IRIS), the quality standard for the European railway industry, and in 2014, NTN obtained the certification from CRCC (China Railway test & Certification Center). Together with the quality management certification of the Association of American Railroads (AAR) acquired in 1986, this shows that we are a supplier of high-quality bearings for rolling stock. NTN has also been certified for the JISQ9100 and NADCAP standards for aerospace quality management.

## Cultivating Strong Quality-Minded Personnel

We will promote our internal quality training for each level of employee at each skill/knowledge level so that we may cultivate strong quality-minded personnel.

All manufacturing sites will conduct quality training using the "Quality Control Handbook" during the initial employee training period. The handbook is available in eight languages including Japanese and is also utilized at overseas offices. Three training courses, "QC Basic Course," "QC Management Course," and "QC Advance Course" have been continuously held as specialized quality training. About 150 employees, both new and mid-level in manufacturing and engineering departments have been participating in the courses every year. We will put forth strong effort so that each individual is able to reinforce the importance of quality by understanding the seriousness of causing inconveniences to customers including the past quality defects training.

We are not only promoting group training but also promoting training utilizing e-learning and internal correspondence education system.



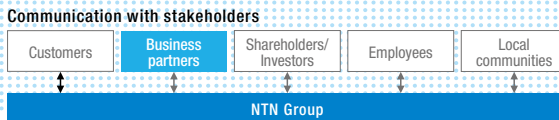
#### Major Certifications Acquired in Fiscal Year Ended March 31, 2016

##### ISO 9001 certification acquired at 39 bases

Region	Base	Date of Certification
Japan	NTN NOTO CORP.	Fiscal year ended March 31, 2016

##### ISO/TS 16949 certification acquired at 30 bases

Region	Base	Date of Certification
Thailand	NTN MANUFACTURING (THAILAND) CO., LTD. (Pinthong Plant)	Fiscal year ended March 31, 2016
China	NTN-RAB (CHANGZHOU) CORP.	Fiscal year ended March 31, 2016
China	Xiangyang NTN-Yulon Drivetrain Co., Ltd.	Fiscal year ending March 31, 2017 (planned)



## Business Partners Promoting fair trade by developing business partners both inside and outside Japan.

### CSR Procurement

#### Promoting CSR throughout the Supply Chain

By implementing various initiatives throughout the supply chain, the NTN Group is addressing social issues such as human rights, labor practices, the environment, anti-corruption, and the eradication of anti-social forces. We seek the cooperation of our trading partners in this endeavor through briefing sessions and the information we post on our website in line with our “CSR Procurement Guidelines” and “NTN’s Green Procurement Standards.” Under our CSR Procurement Guidelines, we are further promoting our CSR initiatives by highlighting and seeking our business partners’ cooperation on 28 issues including compliance, anti-corruption, human rights, labor practices, the environment, quality, safety, information security, business continuity, and contribution to society.

#### Responsible Mineral Procurement

We confirm that the materials and mineral resources included in the components used for our products are not associated with conflict minerals and have no adverse effects on society from the perspective of human rights and the environment. If adverse effects are assumed or can be confirmed, we seek out manufacturing methods that avoid the use of such conflict minerals.

### Supply Chain Management

#### Building Partners Worldwide

We place priority on CSR procurement and Green procurement by engaging business partners who actively implement CSR initiatives. With the Medium-term Management Plan “NTN 100,” we promote Global procurement in order to develop a system that allows for greater production in customer regions.

For the fiscal period ended March 31, 2016, we sought global sources for the steel used mainly in motor vehicle production. We placed priority on procuring such material mainly from local suppliers. However, if local sources lacked sufficient supply, we promoted the use of steel exported from Japan and elsewhere in Asia.

#### Clarifying Procurement Policy through Supplier Meetings

For our business partners, we hold periodic Supplier Meetings to clarify changes in our procurement policy and the production volumes at production bases. We held these meetings twice during the fiscal year ended March 31, 2016. At these events, we sought the cooperation of the 57 participating companies regarding the priority measures associated with our Medium-term Management Plan “NTN 100.” We also issued commendations to those business partners who had demonstrated exceptional cooperation in the area of cost reductions and the like.



Supplier Meetings

#### Thorough Compliance with the Subcontract Act

In January 1997, we formulated the Self-Audit Manual for Subcontractors. Our production bases conduct their own self-audits using this manual, and when necessary, our procurement division intervenes with periodic audits and guidance to ensure that Japan’s Subcontract Act is complied with.

Of our suppliers in Japan, 80% are subject to the Subcontract Act, so it is crucial that we ensure these suppliers are engaging their own subcontractors in a fair manner. In the fiscal year ended March 31, 2016, self-audits were held at 22 bases in Japan (21 production bases, 1 research center). Our procurement division intervened in all cases to ensure thoroughness of the audits.

We require all employees who are in charge of procurement to attend Subcontract Act workshops held by the Japan Fair Trade Commission as well as seminars held outside NTN. In addition, the procurement division held the “Workshop of Complying with Subcontract Act” to give all employees in factory a deeper understanding. In the fiscal year ended March 31, 2016, workshops were held at 18 bases. Those that seemed to be lack of understanding or have incorrect views of the Subcontract Act were provided with guidance, and are being monitored for continual improvements.

#### Working with Suppliers

The NTN Group strives to enhance quality by cooperating with the suppliers who provide us with raw materials and parts. During Quality Month in November every year, we hold the “Supplier Quality Improvement Challenge” to provide knowledge and know-how on improving quality to our suppliers through lectures and other events related to quality. Last year, 99 companies participated in this Challenge.

Quality audits are also conducted by the suppliers themselves using the NTN Group’s check sheet for quality criteria. Based on the results of these self-audits, we conduct our own on-site audits at supplier sites so that we are able to help them continuously solve their quality issues. In the fiscal year ended March 31, 2016, we conducted on-site audits at 340 suppliers.



# Shareholders and Investors Committed to disclosing accurate information in a fair and timely manner.

## An Open Shareholders' Meeting

We have taken the following steps, such as making it easy to take part in the Shareholders' Meeting, to streamline procedures for shareholders to exercise their voting rights.

Beginning in June 2016, as a courtesy to our non-Japanese-speaking shareholders, we issued an abridged English-language translation of the convocation notice for the Shareholders' Meeting. This notice also includes information about the election of officers and lists the reasons for selecting individual candidates.



Convocation notice for the Shareholders' Meeting

## Measures to Streamline Shareholder Voting Rights

Issuing our Shareholders' Meeting notice at an earlier date	We send notices regarding Shareholders' Meeting to shareholders three weeks before it is held, which is seven days earlier than the two weeks notification required by law.
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.
Shareholders' Meeting and other notices listed on the company homepage	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 convocation notice.
Voting rights over the Internet	<ol style="list-style-type: none"> <li>1. We accept shareholder votes via mail and the Internet by the 5:25 p.m. close of business up to the day before the Shareholders' Meeting.</li> <li>2. We have methods for dealing with cases in which there are overlapping votes by mail and the Internet, or where shareholders vote multiple times over the Internet.</li> <li>3. We participate in the Electronic Voting Platform, which is managed by Investor Communications Japan (ICJ), an entity formed by the Tokyo Stock Exchange and other bodies, and which makes it possible for institutional investors to vote.</li> </ol>
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.

Listing Regulations." On the NTN website, we also release timely information including our securities, quarterly report, business results, the NTN Report, annual and business reports, and materials from our results meetings.

For those who register on our website for the NTN newsletter, we send an email with the latest news as soon as it appears on our homepage.

## Explaining Policies at Seminars and Briefings

We provide as many opportunities as possible for stakeholders to hear about NTN management policy from the company's top management.

At seminars for individual investors hosted by large securities companies, NTN top management talk about our company. They also host visits to production bases in Japan.

On a regular basis, our executives convene results meetings, teleconferences, one-on-one gatherings, and other regular briefings for analysts and institutional investors.

In the fiscal year ended March 31, 2016, we held business briefing sessions and plant tours in addition to participating in events sponsored by securities firms. Moreover, we participated in an international road show for investors in order to provide information to potential investors both inside and outside Japan.

For the fiscal year ending March 31, 2017, we plan to follow up on the previous year's road shows by participating in a variety of other investor events including business briefing sessions and meetings for individual investors.



Factory tour for investors



Briefing sessions on the latest technologies

## Disclosing Accurate Information in a Fair and Timely Manner

We respond to the desire of shareholders and investors to receive accurate information in a fair and timely manner.

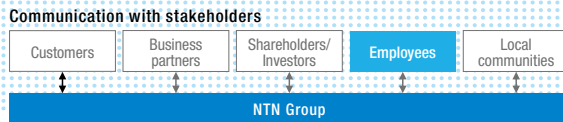
### Timely Disclosure on the Web

We focus on making information available for anyone to read by disclosing it on the Internet.

We disclose the required information through "the Company Announcements Disclosure Service" on the website of Tokyo Stock Exchange due to "the Securities

### NTN Included in SRI Indices

NTN has been included in several socially responsible investment (SRI) indices in the stock market for its aggressive efforts to protect the environment and contribute to society.



# Employees

We strive to maintain a welcoming work environment that demonstrates respect for diversity and human rights.

## Occupational Safety and Health

### Building a Management System Based on OSHMS

The NTN Group in Japan works to create safe work environments based on a “safety first” spirit that respects people. We have therefore created a safety and health management system based on the criteria of the “Occupational Safety and Health Management System” (OSHMS).

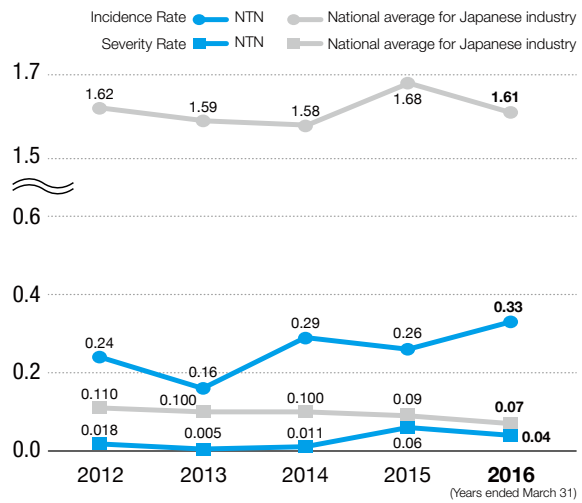
In the fiscal year ended March 31, 2016, NTN Kamiina Corp. received certification for its OSHMS. This brings to nine the number of subsidiaries that are OSHMS-certified. As of the end of that fiscal year, other subsidiaries also prepared to become eligible for OSHMS certification.

Moreover, in addition to implementing our conventional safety initiatives during the fiscal year under review, we employed portable 3D safety simulation devices in order to increase employee awareness of safety and gradually introduce concepts at our various sites. Despite this effort, however, the number of workplace incidents totaled 53 during the fiscal year, 15 more than had occurred during the preceding fiscal year. Clearly, we have not managed to suppress the rate of occurrence of accidents, and we have surmised that employee safety awareness remains insufficient. In order to address this situation and strengthen our disaster eradication efforts, we are taking steps to further enhance our risk assessment capabilities through safety audits, patrols, and examination of near-miss incidents (risk prediction).



Safety simulation devices

### Incidence Rate/Severity Rate



For the fiscal year ending March 31, 2017, we are focused on further strengthening our risk assessments in addition to enhancing our safety audits and patrols as part of our effort to eradicate accidents. In addition, by taking the lessons learned from past accidents, we are committed to eradicating the possibility of recurrence of such accidents and will continue to focus on improving health and safety throughout our Group.



### Major Initiatives and Achievements for the Fiscal Year Ended March 31, 2016

Initiatives for Fiscal Year Ended March 31, 2016	Achievements	Scope
Elimination of workplace accidents (through management of work-related risks and skills)	4 NTN works organized activities to reduce equipment risks at 4 subsidiaries in Ishikawa Prefecture, including special risk assessments training for the staff	NTN Group in Japan
	Training with safety simulation devices was conducted for employees, by each of their levels, by improving the practical safety education.	NTN Group in Japan
	Safety and health cross audits were conducted at 4 NTN works and 3 subsidiaries to provide guidance on issues identified during outside audits and to work to develop solutions	NTN Group in Japan
	Supervisor, who is in charge of safety / NTN Personnel Department, examined 7 out of 18 subsidiaries. As a result, safety management training for management auditors was conducted at NTN TADO CORP.	NTN Domestic Subsidiaries
	Focused on providing support to subsidiaries, low level of safety (for 2 years).	NTN Domestic Subsidiaries
Thorough education on safety and health	Safety and health consultants conducted training related to laws to improve the level of safety and health at 18 subsidiaries	NTN Domestic Subsidiaries
	Provided safety and health education to employees with poor experience	NTN
	Provided mental health education to management staffs and supervisors	NTN
	Held individual back pain workshops with applicants, amount to 36 participants in total.	NTN
Health promotion	Conducted risk assessment training at NTN, KUWANA WORKS, NTN MIE CORP. and others	NTN Group in Japan
	Public health nurses from our head office provide personalized health advice for employees at all the sales bases of the NTN Group.	NTN Group in Japan
Mental health activities	3,840 employees underwent specific health checkups, and 378 received specific counseling guidance	NTN
	Held the "Oasis NTN" counseling service twice a month	NTN
	The quick medical interview "MINI Diagnosis" was conducted for all employees to check for problems such as depression, panic disorder, and obsessive-compulsive disorder	NTN
	Mental health checks were conducted for employees before transferring overseas	NTN
Raised the occupational safety and health standard of the NTN Group	Established a policy for our Stress Check System	NTN
	Focused on supporting the NTN Group in Japan by conducting the above activities	NTN

## Building Systems of Mental Health Care

We hold mental health training for managers and supervisors, while outside counselors offer counseling during regular medical check-ups.

Employees can also receive counseling through NTN's in-house counseling service, called the "Oasis NTN" (held twice a month) and the "Mental and Physical Health Counseling Service" by phone or email.

In addition to ordinary mental health services, we will address issues using the Stress Check System in line with the guideline of Ministry of Health, Labour and Welfare throughout the fiscal year ending March 31, 2017.

## Human Resources Development

### Global Human Resources Development

Currently, the employee composition ratio of the NTN Group includes 66% from countries other than Japan. For the fiscal year ended March 31, 2016, we focused on developing talented individuals capable of playing an active role anywhere in the world.

In the future, we will expand the number of bases participating in the Global QC Circle Convention and the NTN Technical Skills Competition and will promote active intercommunication among personnel. By further enhancing training in order to nurture global operational expertise by work position for everyone from younger employees to executives, we will foster personnel who can work globally with ease.

### Employee Composition Ratio (Inside and Outside Japan)

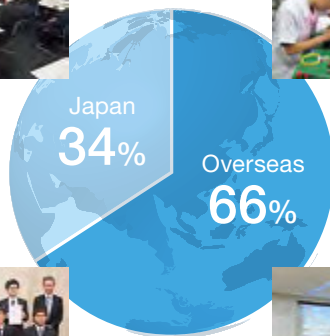
We are committed to training and interchanging our personnel on a global scale.



Training of Top Management at a Subsidiary



NTN Technical Skills Competition



NTN School (Production Engineer Training School)



Global QC Circle Convention



Japanese-style Skills Training for the employees from Thailand

## Promoting Self-Development and Higher Motivation

We provide a wide variety of education and training opportunities so that our employees can cultivate a sense of purpose in their work and design their future career paths by gaining a wider perspective. In the future, we plan to promote the early acquisition of business skills as a means of further improving position-specific education and strengthening language training while employing innovations such as e-learning and distance education.

### Major Achievements for the Fiscal Year Ended March 31, 2016

- ① Position-specific education includes recommended courses offered through distance education.
- ② Expanding the campaign of monetary incentives for language-based qualifications
- ③ Expansion of education by position: Additional training for newly graduated employees in their third year of employment with the company
- ④ Implementation of motivational training for young employees
  - Implementation of training for freshman hires
  - Providing aid for the reconstruction of East Japan



Employment training for freshman hires (hand-copying of Sutras at Daigo-ji Temple)



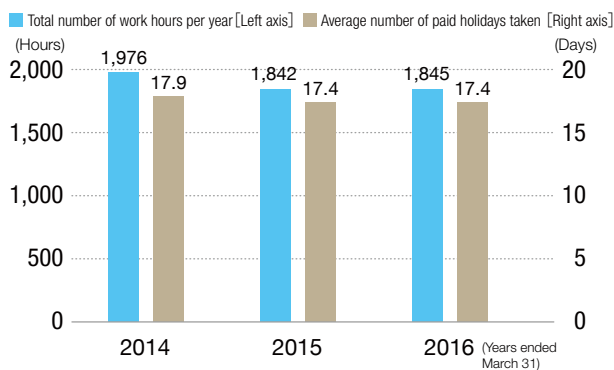
Supporting the reconstruction of East Japan (construction of a raft for use in oyster cultivation)

## Employment and Working Conditions/Employee Evaluation

We take employment working conditions and employee evaluation into consideration. We recognize global efforts to stamp out forced labor and child labor, and require that all permanent employees join the NTN labor union so that they can have the right to organize.

In evaluating our employees, all are subject to uniform evaluation standards, and multiple managers conduct employee evaluations, each viewing the individual being evaluated with a unique perspective. A self-certification system and face-to-face interviews held twice a year are used to as ways to verify individual intentions in order to increase transparency. Salary is composed of a base salary combining age consideration and job ability, as well as various allowances, however with greater diversity with work styles and employees, we will be reviewing our employee system so that it is in line with the most recent employment and working situations.

### Total Number of Work Hours per Year/Average Number of Paid Holidays Taken



Compiling the Diversity News



Diversity News



Recruiting booklet

## Employee Inventions

To reward our employees' inventions, we have established the Patent Management Rule and the Patent Reward Rule and we have clarified how patent rights are attributed and how the value of a reward is calculated. Rewards are also made for foreign patents and for inventions — in the form of knowledge and expertise — considered to be trade secrets. There is no upper limit to actual rewards.

In the fiscal year ended March 31, 2016, we pursued an intellectual property strategy linked directly to business strategy and R&D strategy with the goal of boosting our competitiveness in key product areas. As a result, 304 employees (cumulative) were rewarded for obtaining rights for 135 patents.

## Respecting Human Rights and Diversity

### A Workplace Free of Discrimination

The NTN Group strives to create a discrimination-free workplace where all human rights are respected. At the NTN business sites and group companies in Japan, we include human-rights education as part of training for new employees, supervisors, and managers. We place particular emphasis on measures against harassments such as sexual harassment and power harassment, and we have ongoing education on these issues for new employees and newly appointed managers.

We also participate in the activities of regional human rights organizations and take part in a variety of human rights exhibitions and seminars. We also have "Helpline" (whistle-blowing) inside and outside the company that make it easy for employees and others to seek advice when they feel that someone's human rights have been violated.

The NTN Group Overseas has also built systems that help them continue to respect human rights.

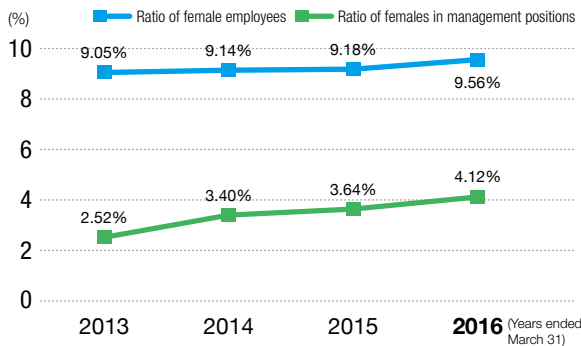
### Diversity

#### Promoting the Employment of Women, Seniors, Foreign Residents, and Persons with Disabilities

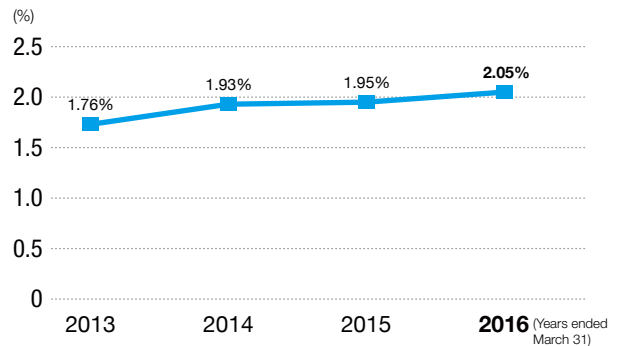
To promote the ongoing participation of women, the company has prepared a welcoming recruitment booklet to increase the ongoing participation of women in recruitment activity and create a foundation for success in encouraging women to play an active part in the company. We have implemented a variety of measures with the goal of doubling the number of women in management position between March 2015 and March 2018.

We plan to continue raising awareness through a number of future initiatives including the periodic release of diversity messages, the distribution of our handbook, and training for management positions with the aim of supporting greater diversity in the future.

### Ratio of Female Employees in Management Positions (NTN, nonconsolidated basis)



### The employment rate of persons with disabilities (NTN, nonconsolidated basis)



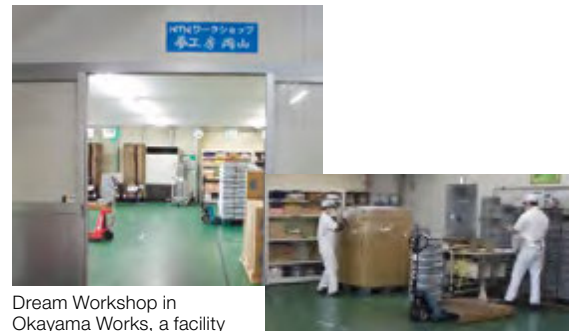
### Helping Employees Continue Working While Raising Children

We strive to support employees in both their work and child-rearing.

In Japan, for example, there are numerous such programs, including the Mom-back system to rehire women who have retired to give birth or raise a child; and the Bear Kids Land, an in-company day-care center for employees' children. We also provide support beyond legal requirements with our system for reduced working hours for childcare, which now covers employees until their children have finished the third grade of elementary school, and staggered work shifts in the Tokyo and Osaka areas for those raising children. In addition, we are considering the introduction of a new system aimed at reforming our approach to work.

### Dream Workshops

Working in cooperation with special needs schools, we established three "Dream Workshops" at our Iwata, Kuwana, and Okayama Works. These are workplaces that encourage people with intellectual disabilities to play a leading role.



Dream Workshop in Okayama Works, a facility supporting people with intellectual disabilities

### Major Initiatives and Achievements for the Fiscal Year Ended March 31, 2016

Initiatives for the fiscal year ended March 31, 2016	Achievements
Increasing awareness of diversity	Since last year, executives, those in management positions, and women had been lobbying for change from various perspectives, so a number of seminar participants were assigned management positions. Notably, the number of women promoted to management was three times the number of the preceding fiscal year.
Proactively supporting women	Among university graduates, the ratio of women increased 10.7 points from the preceding fiscal year, with the women accounting for 31.9% of new hires during the fiscal year ended March 31, 2016. This ratio reached almost half for those hired for office positions.
Employing seniors and persons with disabilities	Our employment rate for people with disabilities for the fiscal year ended March 31, 2016, was 2.05% (130 persons), exceeding the legal requirement.

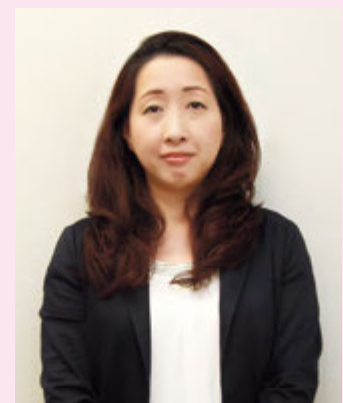
### Encouraging All Employees to Work with Enthusiasm

We believe that the full participation of women and all other employees leads to the sustained growth of the company, optimal personnel training, and the creation of an easier work environment. We consider increased diversity to be one of our corporate strategies.

Through the training and seminars, we are taking steps to raise awareness and reform the corporate culture, and are changing the way we work by improving relevant systems. The ratio of women in management positions and the employment rate for persons with disabilities are now gradually increasing.

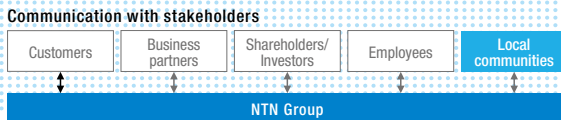
It is important that our commitment to diversity be continuous and not a transient phenomenon.

In future, we will further address our goal of where anyone regardless of sex, age, race, or ability can work with enthusiasm.



**Tomoko Tanaka**

Deputy General Manager, Global Human Resources Development Dept.



# Local Communities

**We follow the CSR Policy which states that we shall do all we can to interact with and contribute to local communities. Based on this policy, the NTN Group is working together with enthusiasm to participate in a wide range of activities, particularly in the areas of organizing blood drives, local clean-up activities, and marathon races as common activities that the NTN Group promotes globally.**

## Organizing Blood Drives

The NTN Group conduct blood drives at 27 bases in 6 countries. In May 2016, NTN Manufacturing de Mexico S.A. de C.V., only recently established, hosted its first group blood drive. According to a Mexican blood donation agency, this was the first such drive to be suggested by the company itself. As a result, this initiative gained coverage on local TV and in print media.



Blood drive in Mexico

Number of NTN Group Employees Participating in Blood Drives



## Clean-up Activities

With the aim of maintaining open communication with local residents, we have been engaged in cleaning up our grounds and neighboring communities for many years. For the fiscal year ended March 31, 2016, a total of 3,290 employees participated at 34 of our bases in 6 countries.



Indonesia



China (Changzhou)



Canada



Japan

Number of NTN Group Employees Participating in Clean-up Activities



## Marathon Racing

The NTN Group believes that participation and contribution in regional sporting activities are important. Marathon racing for charity is especially popular, as 7 bases across 6 countries have participated in various charity marathons throughout the year. One such event was the 36th Marathon of Lake Annecy in France, held in April 2016. This popular competition brought together more than 7,500 participants not only from France but also from countries such as Kenya and Ethiopia.

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



France



Panama

## Collaborating with Our Local Communities

NTN Track and Field Club participates in domestic and international track and field competitions, including the All-Japan Corporate Ekiden Championship (New Year Ekiden). Through sports exchanges such as track and field classes at elementary schools and communication with local residents at our sites who support us every day, we are actively contributing to local communities and raising the next generation.



New Year Ekiden Team



# Environmental Activities

**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 “contributing to international society through creating new technologies and developing new products.”**

## Medium- and Long-term CO<sub>2</sub> Emissions Targets in Japan

In December 2015, at the “21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21),” the “Paris Agreement” was adopted with the goal of mitigating the adverse effects of global warming, evidence of which is beginning to appear in all parts of the world. Japan has committed to reducing its CO<sub>2</sub> emissions with the specific goal of reducing CO<sub>2</sub> emissions by 26.0% below fiscal 2013 levels by fiscal 2030.

In the future, it is likely that governmental authorities, customers, institutional investors and other stakeholders will also require that we further reduce its CO<sub>2</sub> emissions.

Japan’s commitment in the draft of the Paris Agreement was a 6.3% increase relative to fiscal 2013 levels by fiscal 2030 as the assumption for energy consumption by the industrial division. In light of this situation, we have established a medium- and long-term CO<sub>2</sub> emissions targets in Japan with the goal of limiting our energy consumption in fiscal 2025 to a mere 4.4% increase above fiscal 2013 levels.

In addition, we have adopted a new energy-efficient budget framework in order to aggressively and effectively implement energy efficiencies in order to achieve this medium- and long-term target.

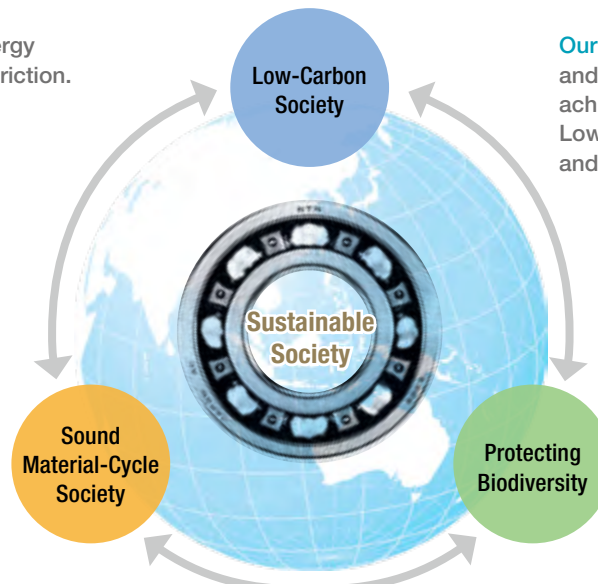
We intend to incorporate our medium- and long-term CO<sub>2</sub> emissions targets in Japan into our annual environmental targets in addition to applying our energy-efficient budget framework. Moreover, we intend to continue promoting a variety of such initiatives.

	NTN 100 Target (FY 2017)	Long-term Target (FY 2025)
CO <sub>2</sub> emissions*	+1.7% relative to FY 2013 level (Compared to BAU** -5.0%)	+4.4% relative to FY 2013 level (Compared to BAU -15.0%)
CO <sub>2</sub> emissions intensity*	-20.3% relative to FY 1997 level	-28.7% relative to FY 1997 level

\* Target business sites: Business sites with ISO 14001 multi-site certification + KAMEYAMA Plant of NTN Advanced Materials Corporation (AMC)  
Electricity emissions coefficient: Fixed at 0.381

\*\* BAU (business as usual): Assumed CO<sub>2</sub> emissions if no reduction measures are applied to current conditions.

Our products minimize energy consumption by reducing friction.



Our products are “eco-products” and are necessary in order to achieve a society committed to Low-Carbon, Sound Material-Cycle and Protecting Biodiversity.

Through our bearing products, we are contributing to the emergence of a sustainable society.

# Company-Wide Environmental Performances for the Fiscal Year Ended March 31, 2016

## 16 of 25 Targets Achieved

Every year, the NTN Group sets and works towards the achievement of targets in line with four items of NTN Environmental Policy, the purpose of which is to reduce environmental impact and ensure continuous development of society.

For the fiscal year ended March 31, 2016, as a result of focusing our efforts on “development of energy-efficient products,” “prevention of global warming,” “Reduce, reuse, and recycle,” “management and reduction of environmentally

hazardous substances” etc., we achieved 16 out of 25 target items including the reduction of the CO<sub>2</sub> emissions etc.

We achieved our CO<sub>2</sub> emissions target with a reduction of 12,000 tons/year (5,000 tons/year in Japan; 7,000 tons/year overseas). For the fiscal year ending March 31, 2017, we are committed to minimizing global warming by achieving our emissions target of 619,000 tons/year (273,000 tons/year in Japan; 346,000 tons/year overseas).

Company-Wide Environmental Results for the Fiscal Year Ended March 31, 2016					😊 Achieved	☹ Not achieved	
NTN Environmental Policy	Environmental Purpose	Environmental Targets		Results	Evaluation		
Development and sales of environmentally-friendly products	(1) 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	(1) Prevention of global warming	Wherever possible, save energy and cut peak energy use		Being implemented in each business site	😊		
		Make existing manufacturing equipment more energy efficient		Disseminated examples of energy efficiency and practices being implemented in each business site	😊		
		Reduction of CO <sub>2</sub> emissions	Japan	280,000 tons/year or less* <sup>1</sup>	275,000 tons/year	😊	
			Overseas	337,000 tons/year or less	330,000 tons/year	😊	
	Reduction in CO <sub>2</sub> emissions intensity	Japan	Improvement over the fiscal year ended March 31, 1998, -23.0%	-21.2%	☹		
		Overseas	Improvement over the fiscal year ended March 31, 2007, -13.0%	-12.8%	☹		
	(2) Reduce, reuse, and recycle	Raise the recycling rate	Japan	99.8% or more	99.9%	😊	
			Overseas	98% or more	97.1%	☹	
	(3) Preserve resources	Reduction in waste generation intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -4.8%	1.0%	☹	
			Overseas	Reduction over the fiscal year ended March 31, 2011	16.4%	☹	
		Reduction in water consumption intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -17.6%	-14.6%	☹	
			Overseas	Reduction over the fiscal year ended March 31, 2015, -3.0%	-5.3%	😊	
(4) Management and reduction of environmentally hazardous substances	Reduction in use of Styrofoam	Japan	In comparison with the fiscal year ended March 31, 2000, -99% maintained	-99.6%	😊		
		Manage and reduce PRTR-designated substances		Being implemented in each business site	😊		
Observance of laws and regulations and implementation of thorough environmental management systems	(1) Compliance with environmental laws	Manage CFC emissions stringently according to 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		Completed at all business sites	😊		
		Continue strict management of poisonous materials		Strict management continuing	😊		
		Follow-up operation of the soil purification and its completion at the former site of TAKARAZUKA WORKS		Completed soil purification work	😊		
	(2) Expansion and improvement of environmental management systems	ISO 14001 certificate	Certification at NTN do Brasil Produção de Semi-Eixos Ltda. (as of December 2015)		Obtained in May 2016	☹	
		Preparation for revision in ISO 14001	Collection of information and preparation in view of the planned revision (in September)		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		Received an RoHS directive on additional prohibited substances; content is currently under review	☹	
			Clarification of responsibilities for green procurement in each division				
		Zero complaints of environmentally hazardous substances		No complaints from customers	😊		
Activities to contribute to society and protect the natural environment	(1) Protecting biodiversity	NTN Kigyo no Mori and other greening and environmental protection activities		Under way at each business site, etc.	😊		

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

# Company-Wide Environmental Targets for the Fiscal Year Ending March 31, 2017

## NTN Environmental Action Policy for the Fiscal Year Ending March 31, 2017

NTN Environmental Policy	Environmental Purpose
1. Development and sales of environmentally-friendly products	(1) Development of energy-efficient products
2. Reduction in environmental impact	(1) Prevention of global warming (2) Reduce, reuse, and recycle (3) Preserve resources (4) Management and reduction of environmentally hazardous substances
3. Observance of laws and regulations and implementation of thorough environmental management systems	(1) Compliance with environmental laws (2) Expansion and improvement of environmental management system
4. Activities to contribute to society and protect the natural environment	(1) Protecting biodiversity

### Company-Wide Environmental Targets for the Fiscal Year Ending March 31, 2017

NTN Environmental Policy	Environmental Purpose	Environmental Targets		
Development and sales of environmentally-friendly products	(1) Development of energy-efficient products	Develop environmentally contributing products to meet needs of expanding new energy and greater number of electric cars		
		Begin assessment of environmental efficiency in new product development		
Reduction in environmental impact	(1) Prevention of global warming	Promote energy efficiency by using the new energy-efficient budget framework		
		Reduction of CO <sub>2</sub> emissions	Japan	273,000 tons/year or less**
			Overseas	346,000 tons/year or less***
		Reduction in CO <sub>2</sub> emissions intensity	Japan	Improvement over the fiscal year ended March 31, 1998, -21.1%
	Overseas		Improvement over the fiscal year ended March 31, 2007, -14.0%	
	(2) Reduce, reuse, and recycle	Raise the recycling rate	Japan	99.8% or more
			Overseas	98% or more
		Reduction in waste generation intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -0.1%
			Overseas	Reduction over the fiscal year ended March 31, 2015, -6.4%
	(3) Preserve resources	Reduction in water consumption intensity	Japan	Reduction over the fiscal year ended March 31, 2011, -16.0%
			Overseas	Reduction over the fiscal year ended March 31, 2015, -6.4%
		Reduction in paper purchased intensity	Japan	Increase paper consumption by +13.6% over the fiscal year ended March 31, 2011
Japan			In comparison with the fiscal year ended March 31, 2000, -99% maintained	
(4) Management and reduction of environmentally hazardous substances	Manage and reduce PRTR-designated substances			
Observance of laws and regulations and implementation of thorough environmental management systems	(1) Compliance with environmental laws	Introduce management that reflects the Act on Rational Use and Proper Management of Fluorocarbons		
		Continue to create measures to prevent leak accidents and carry out improved and full-scale emergency drills (Prevention of water pollution)		
		Continue strict management of poisonous materials		
	(2) Expansion and improvement of environmental management systems	ISO 14001 certificate	Prepare to transfer the multi-site certification of AMC KAMEYAMA Plant	
		Accommodate revisions to ISO 14001	Begin operating the ISO 14001:2015 of the Management System	
		Promote green procurement	Ensuring the understanding of the revision of the Green Procurement Standards and the guidelines for activities to preserve biodiversity	
			Clarification of responsibilities for green procurement in each division	
			Zero complaints of environmentally hazardous substances	
Activities to contribute to society and protect the natural environment	(1) Protecting biodiversity	NTN Kigyō no Mori and other protecting biodiversity activities		

\*\* AMC KAMEYAMA Plant has been included.

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

**Environmental Impact of Business Activities**

**Reducing Environmental Impact in All Production Processes**

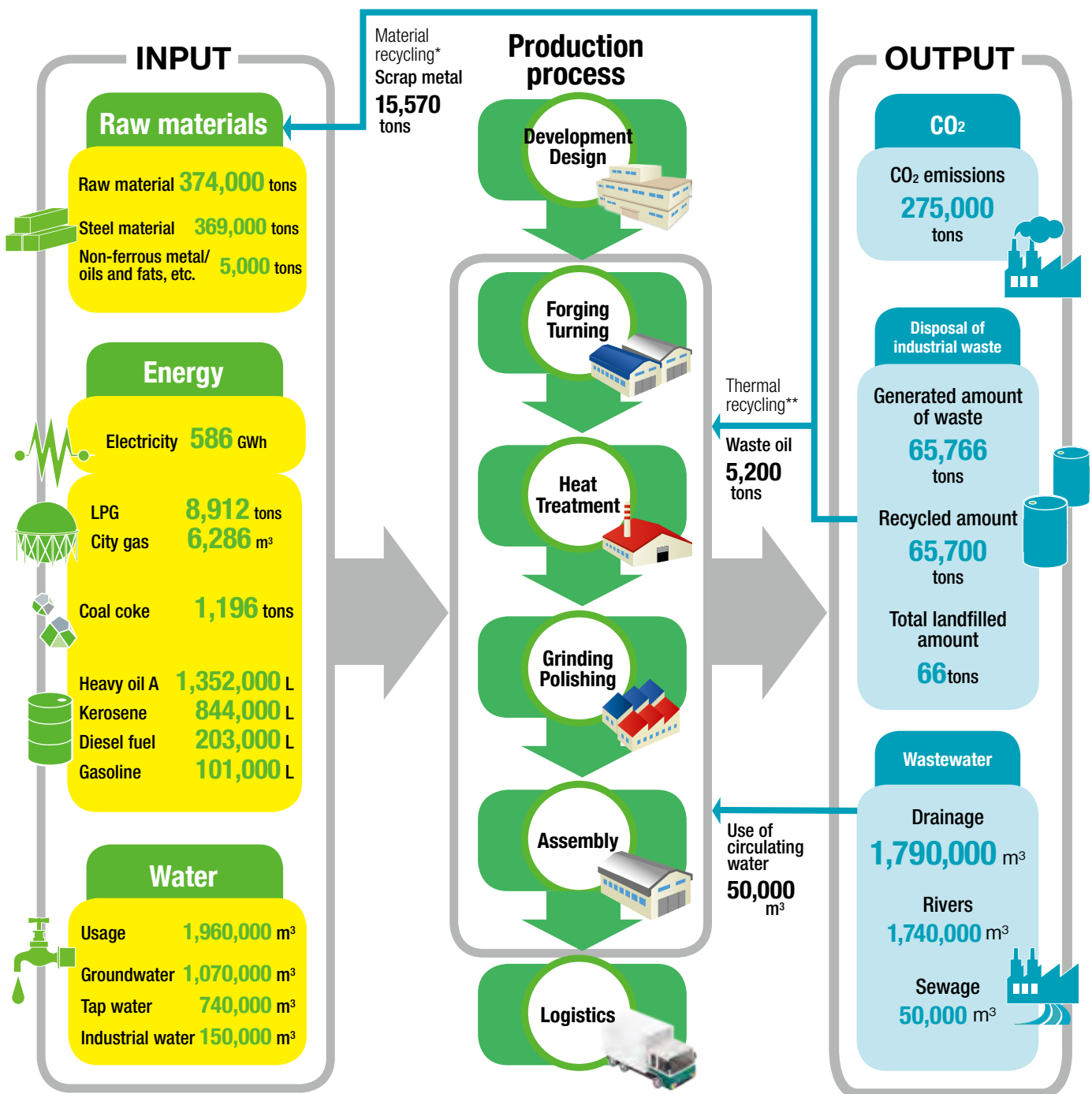
The NTN Group strives to reduce environmental impact in all processes, from development, designing to logistics. For that purpose, grasping the entire picture of the INPUT in the

manufacturing process (raw material, energy, water) and the OUTPUT from the manufacturing process (CO<sub>2</sub>, waste, wastewater), we are working to reduce them.

**Environmental impact from production activities in Japan**

Target: the NTN Group in Japan

(Fiscal Year ended March 31, 2016)



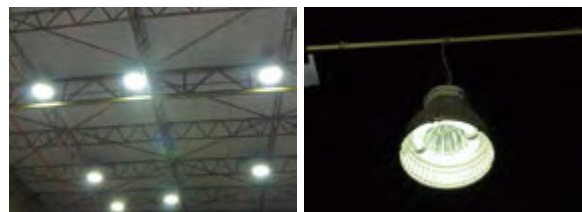
\* Material recycling: To recycle for use as a raw material  
\*\* Thermal recycling: To recycle for use as fuel

For business site-specific data, please refer to the site reports.

## Environmental Accounting

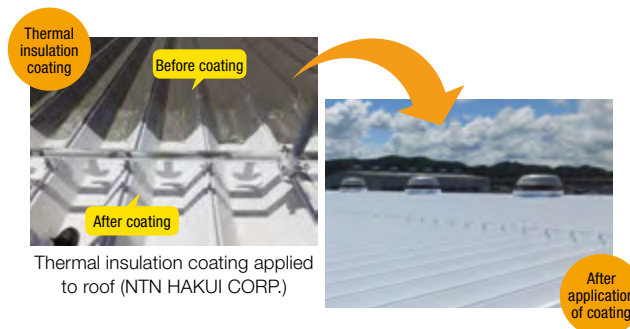
### Investment in Natural Energy Research and Development

The NTN Group in Japan uses environmental accounting to quantitatively assess its environmental protection activities. Environmental preservation costs in the fiscal year ended March 31, 2016 were 7,248 million yen, up 79% from the previous fiscal year. This consisted of 1,580 million yen in environment-related equipment investment, up 142%, and related costs of 5,668 million yen, up 67%. The total costs increased mainly due to higher research and development investments (including our businesses concerned with natural energy) related to environmental preservation and by including the soil purification expense at the former site of our TAKARAZUKA WORKS. This significantly increased the total amount invested. There were also costs for items like energy-efficient equipment and waste recycling.



LVD\* lighting installed in the ball bearing plant (IWATA WORKS)

\* Low Voltage Discharge



Thermal insulation coating applied to roof (NTN HAKUI CORP.)

After application of coating

### Environmental Preservation Costs

(Millions of yen/year)

Classification		Equipment investment		Amount	
		Costs	Details	Costs	Details
Work areas internal costs	Pollution prevention costs	4	Environmental equipment (dust collectors, particulate smoke removal devices, and wastewater treatment equipment)	184	Cost of maintaining, inspecting, etc., environmental facilities (including dust collectors and wastewater treatment equipment)
	Expenses to preserve the global environment	110	Energy-conserving equipment (upgrading of equipment including compressors, lighting, and air conditioning)	204	Cost of installing energy-conserving equipment
	Resource recycling expenses	0		585	Cost of waste-recycling and waste-reduction measures; cost of treating general and industrial waste
Upstream/downstream costs		0		1	Costs of analysis related to green procurement
Costs of management activities		0		402	Disclosure of information on labor costs related to the EMS (advertising and NTN Reports) and the greening and beautification of company grounds
R&D costs		1,466	R&D equipment related to environmental preservation	2,444	R&D equipment cost related to environmental preservation
Costs of social activities		0		3	Greening and beautification outside the company
Environmental remediation expenses		0		1,845	Cost of soil sampling (Includes cost of soil purification of former site of the TAKARAZUKA WORKS)
Total		1,580		5,668	<b>Grand total</b> 7,248
(Reference) Total amount for fiscal year ended March 31, 2015		652		3,401	4,053

### Impact on Environmental Preservation

Indicator	Fiscal year ended March 31, 2015	Fiscal year ended March 31, 2016
CO <sub>2</sub> emissions	279,000 tons	275,000 tons
Reduction of waste	Recycle rate 99.9%	Recycle rate 99.9%

### Financial Effect of Environmental Preservation Activities

(Millions of yen/year)

Item	Amount	Details
Global environment preservation expenses, effects	99	Benefit from the use of energy-efficient air conditioning, compressors, and lighting
Resource recycling expenses, effects	428	Profit from sealable materials such as metallic sludge
Total	527	
(Reference) Total for fiscal year ended March 31, 2015	800	

# Prevention of Global Warming

The NTN Group strives to reduce CO<sub>2</sub> emissions generated during production and transportation.

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

### Efforts in the NTN Group in Japan

#### CO<sub>2</sub> emissions target achieved

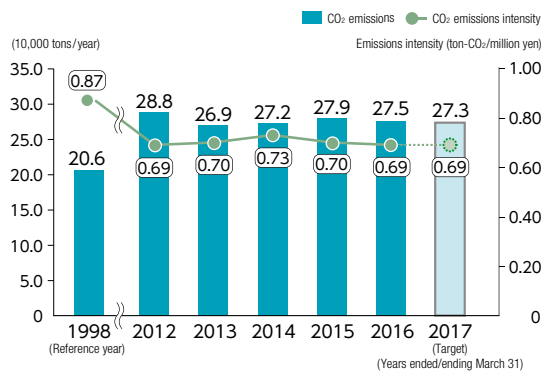
For the fiscal year ended March 31, 2016, our CO<sub>2</sub> emissions were 275,000 tons/year, exceeding our emissions reduction target by 5,000 tons. As for our target of reducing our emissions intensity by 23.0% (to 0.67 ton-CO<sub>2</sub>/million yen) relative to that of the fiscal year ended March 31, 1998, we couldn't achieve our target; however, we succeeded in reducing our emissions intensity (from 0.70 ton-CO<sub>2</sub>/million yen of the previous fiscal year to 0.69 ton-CO<sub>2</sub>/million yen), which represented a 21.2% reduction relative to that for the fiscal year ended March 31, 1998, due to a decrease in our production scale.

For the fiscal year ending March 31, 2017, we set targets of CO<sub>2</sub> emissions of 273,000 tons/year and CO<sub>2</sub> emissions intensity reduction of 21.1% as compared with that of the fiscal year ended March 31, 1998, (0.69 tons-CO<sub>2</sub> / million yen).

#### Conversion to a High-Frequency Induction Furnace

In December 2015, NTN CASTING CORP. introduced a high-frequency induction furnace. By switching to induction furnace from cupola furnace using conventional coal coke, we were able to reduce our CO<sub>2</sub> emissions by almost half. Moreover, we succeeded in reducing both energy consumption and the quantity of dust generated. In addition, we achieved a higher level of safety because the new induction furnace no longer requires that material be bailed out from the furnace.

#### CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity



High-frequency induction furnace

#### Two business sites of the NTN Group are awarded commendations as “Excellent Energy Management Company.”

NTN FUKUROI CORP. and NTN Advanced Materials Corp. were commended by the chairman of the Chubu Electricity Use Rationalization Committee as “Excellent Energy Management Company.”

The Chubu Electricity Use Rationalization Committee raises awareness about electricity and engages in activities to promote electricity utilization. Every year, it commends individuals, companies, and groups who promote rationalization and management of energy use.

NTN FUKUROI CORP. was a recipient of a commendation because it engaged in energy-efficiency initiatives covering about 40 items, including adopting inverters for machinery coolant pumps and grinder coolant pumps and adjusting the operating schedules of facilities with the cooperation of all divisions. In

addition, NTN Advanced Materials Corp. was evaluated for its various energy-efficiency initiatives, which included reducing the load on its air compressors and decreasing overall energy consumption by 9% compared with the level of the preceding fiscal year.



Commendation ceremony (NTN representatives are fourth and fifth from the right)

### Reducing CO<sub>2</sub> emissions in logistics

For the fiscal year ended March 31, 2016, we achieved our target for CO<sub>2</sub> emissions reduction attributable to logistics by emitting only 12,800 tons/year (exceeding our reduction target by 400 tons). Moreover, we reduced our logistics-related CO<sub>2</sub> emissions intensity to 0.0345 tons-CO<sub>2</sub>/million yen from 0.0349 tons-CO<sub>2</sub>/million yen, thus meeting our target. As for the fiscal year ending March 31, 2017, we will make efforts to achieve our target of CO<sub>2</sub> emissions set to 12,800 tons/year and of the emissions intensity to 0.0345 ton-CO<sub>2</sub>/million yen.

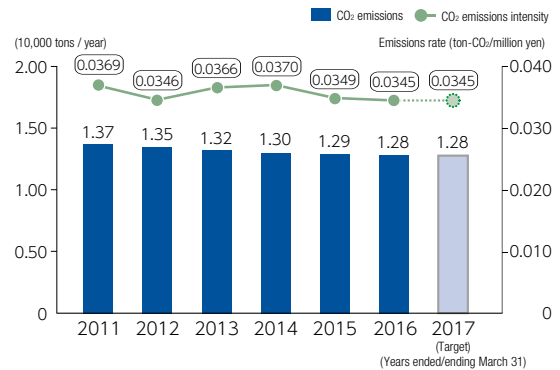
### Extending Third-Party Verification to include Scope 3 emissions

Continuing the achievement set the preceding fiscal year, we received third-party verification of the “CO<sub>2</sub> emissions attributable to in-company practices (Scopes 1 and 2).” We also received third-party verification by SGS Japan Inc.

regarding the “CO<sub>2</sub> emitted throughout the supply chain by practices outside the company (Scope 3).”

In the future, we will expand the verification range of Scope 3 and will take steps to reduce CO<sub>2</sub> emissions throughout our supply chain.

### CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity in logistics

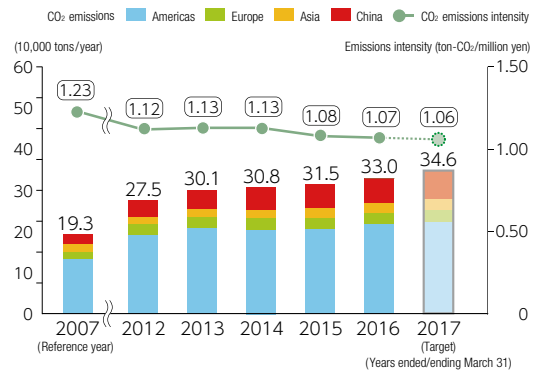


### Efforts in the NTN Group Overseas

#### CO<sub>2</sub> emissions targets achieved

For the fiscal year ended March 31, 2016, our CO<sub>2</sub> emissions totaled 330,000 tons/year, which satisfied our target (exceeding our reduction target by 7,000 tons). As for our target of reducing our emissions intensity by 13.0% (to 1.067 ton-CO<sub>2</sub>/million yen) relative to that of the fiscal year ended March 31, 2007, we couldn't achieve our target; however, we did succeed in reducing our emissions intensity (from 1.08 ton-CO<sub>2</sub>/million yen of the previous fiscal year to 1.072 ton-CO<sub>2</sub>/million yen), which represented a 12.8% reduction relative to that for the fiscal year ended March 31, 2007. For the fiscal year ending March 31, 2017, we set targets of CO<sub>2</sub> emissions of 346,000 tons/year and CO<sub>2</sub> emissions intensity reduction of 14% as compared with that of the fiscal year ended March 31, 2007, (1.06 tons-CO<sub>2</sub>/million yen).

### CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions Intensity



### Introduction of Solar Power Generation in Shanghai

Shanghai NTN Corp. (Shanghai NTN) installed about 30,000 photovoltaic panels (representing an area of about 90,000 square meters) on the roofs of all six plants and began generating electricity from January 2016. This system is expected to generate 7 million kWh annually at a rated output of 5,200 kW, which will be devoted to about 12% of the electricity consumption of Shanghai



Photovoltaic panels installed on plants

NTN in future. Moreover, by reducing CO<sub>2</sub> emissions by 7,000 tons annually, this initiative will help to take measures to reduce the summer heat.

### One business site in Germany and two in France obtained ISO 50001\* registration

Since 2013, NTN Kugellagerfabrik (Deutschland) G.m.b.H. (DMF) in Germany has been preparing for the introduction of the ISO 50001 standard. Under the leadership of its management, it has pushed forward with company-wide energy-efficiency initiatives and obtained a detailed understanding of energy management with respect to individual processes. The company thus improved its energy efficiency and reduced its costs, and as a result it was able to obtain certification of registration in December 2015. At the same time, NTN-SNR ROULEMENTS (NTN-SNR) and NTN TRANSMISSIONS EUROPE (NTE), both in France, obtained the same certification.



Members of the DMF Energy Management Committee and ISO certificate

\* ISO 50001 was published by the International Organization for Standardization in June 2011 as the international standard for energy management systems. It is intended to encourage companies to manage their energy consumption and implement continuous improvements.

# Protecting Biodiversity

**The NTN Group conducts nature conservation activities and strives to preserve biodiversity around its business sites in collaboration with local residents and NGOs, etc.**

## Volunteering to Maintain Firefly Habitat “Hotaru no Sato”

A total of 102 volunteers, including the NTN Group employees in the Kuwana district and their family members, participated in a clean-up of protected firefly habitat in Kuwana, Mie Prefecture. This event is sponsored by the “Hotaru to Nakama Committee,” a local volunteer organization that works to protect fireflies and maintain a healthy habitat for them. We have participated as a member of this group since 2010. On February 13, 2016, the volunteers took part in a clean-up to remove dead leaves, dead branches, and silt from waterways while cooperating with local residents in the clean-up of firefly habitat “Hotaru no Sato” in order to create an environment that supports the growth of firefly larvae. In March, we released about 6,000 larvae and prepared for a firefly viewing session in June.



Cleaning up of waterways

## Nakaumi Shinji-ko Lake Simultaneous Cleaning 2015

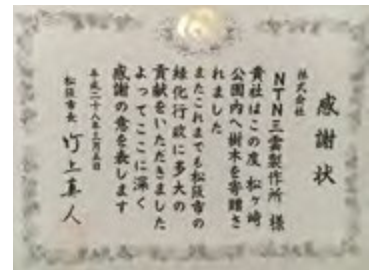
On June 14, 2015, a group of 7,500 volunteers — including the governor of Shimane Prefecture, the mayor of Izumo city, members of local governments, company employees, and local residents — participated in a simultaneous cleaning of the shores of Nakaumi Shinji-ko Lake in Shimane Prefecture. These lake regions have been registered as wetlands under the Ramsar Convention. A total of 31 people (including employees of NTN CASTING CORP. and their children) participated in the lakeshore cleaning as an activity for Environment Month. In the future, we will continue to protect the natural environments of Nakaumi Shinji-ko Lake so that we can preserve these lakes for posterity.



Employees and the family members participating in cleaning activities

## A Letter of Gratitude from Matsuzaka City

As part of its environmental protection activities, NTN MIKUMO CORP. has planted cherry trees and zelkova trees in Matsugasaki Park in Matsuzaka City. On March 5, 2016, 24 people (including NTN employees and their family members) visited this park to take part in a commemorative tree planting of two crepe myrtles standing about three meters high and 100 Hirado rhododendrons standing about 50 centimeters high. In recognition of this, the ninth such volunteer activity by the company, the mayor of Matsuzaka city took the occasion to present the company with a letter of gratitude for its long participation in this tree-planting activity. We plan to continue engaging in similar initiatives to protect the natural environmental.



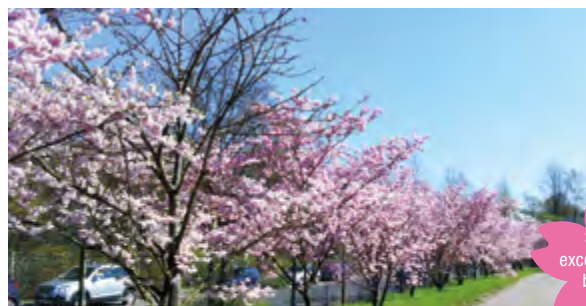
## Biodiversity Initiatives of Our Plant in Germany

In order to create a natural preserve where small animals could dwell, NTN Kugellagerfabrik of Germany planted sawtooth oaks and other oaks and fir trees when construction began on its site in 1971. In 1998, the company planted 80 cherry trees contributed by employees to commemorate the 80th anniversary of NTN. In later years, employees continued to improve the area by clearing undergrowth, planting trees and thinning a forest while also working to protect biodiversity.

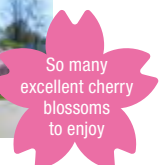


Greenery on the factory site

A resident hedgehog



A row of cherry trees in bloom in 2016





# Protection of Resources

We are working to reduce waste and water use as well as to make efficient use of resources in each process including production and distribution processes.

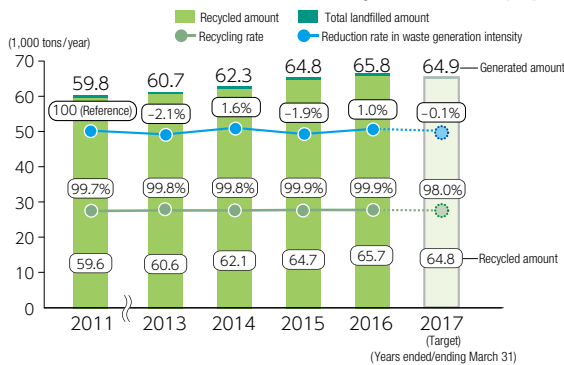
## Efforts in the NTN Group in Japan

### Promote Recycling and Waste Reduction at Each Business Site

For the fiscal year ended March 31, 2016, we achieved a recycling rate of 99.9%, which met our target for the year. However, due to the scrapping of some production facilities and increased need for coolant replacement, the amount of waste generated totaled 65,800 tons (about 1,400 tons above the target and an increase of 1.5% compared with the total for the preceding fiscal year), while the amount landfilled totaled 66 tons (16 tons above the target, and a decrease of 6.3% compared with the total for the preceding fiscal year). The waste generation intensity increased 1.0%, although our target was a decrease of 4.8% compared with the result for the fiscal year ended March 31, 2011. As a result, we couldn't achieve three of our targets.

We will continue promoting recycling and waste reduction in the fiscal year ending March 31, 2017.

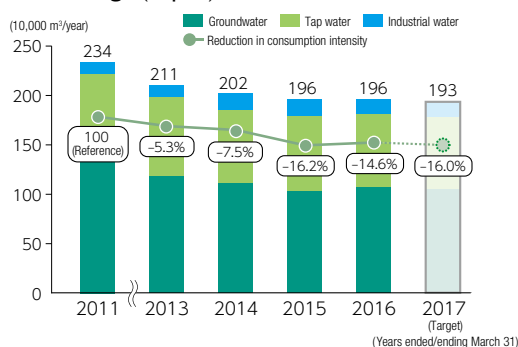
#### Generated amount of waste and recycled amount (Japan)



### Promoting Reduced Water Consumption

For the fiscal year ended March 31, 2016, our water consumption totaled 1.96 million cubic meters (60,000 cubic meters above the target due to increased coolant replacement and a decrease of 0.02% compared with the total for the preceding fiscal year). Our water consumption intensity declined only to 14.6%; thus, we couldn't achieve our target of a 17.6% reduction compared with the rate for the fiscal year ended March 31, 2011. In both instances, we couldn't achieve our targets.

#### Water usage (Japan)



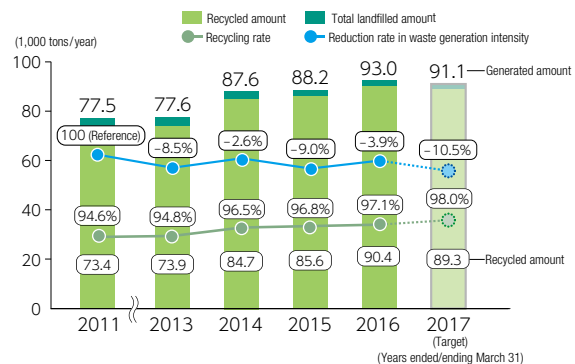
For the fiscal year ending March 31, 2017, we will work to meet our target of reducing our water consumption intensity by 16.0% as compared with those of the fiscal year ended March 31, 2011 and of reducing our water consumption to 1.93 million cubic meters (a decrease of 30,000 cubic meters relative to the preceding fiscal year).

## Efforts in the NTN Group Overseas

### Pursuing an Improved Recycling Rate

For the fiscal year ended March 31, 2016, our recycling rate was 97.1%, and we couldn't achieve our targeted minimum of 98%. For the fiscal year ending March 31, 2017, we intend to continue working to meet our targeted minimum recycling rate of 98%.

#### Generated amount of waste and recycled amount (overseas)

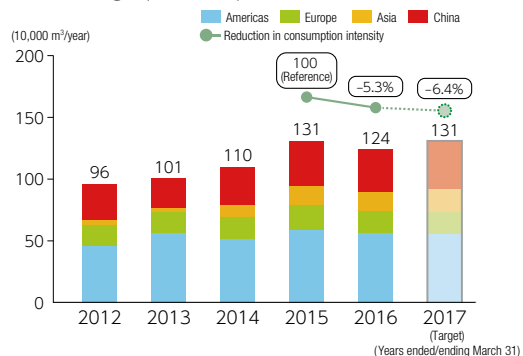


### Achieving our Targets for Both Total Water Consumption and Water Consumption Intensity

For the fiscal year ended March 31, 2016, our water consumption totaled 1.236 million cubic meters (exceeding our targeted reduction by 55,000 cubic meters) while our water consumption intensity declined by 5.3% against our targeted 3.0% reduction, which met our targets.

For the fiscal year ending March 31, 2017, we will focus on meeting our targets of reducing our water consumption intensity by 6.4% relative to the fiscal year ended March 31, 2015, and achieving total water consumption of 1.31 million cubic meters.

#### Water usage (overseas)



# Management and Reduction of Environmentally Hazardous Substances

**We are managing and reducing environmentally hazardous substances while complying with worldwide laws and regulations.**

## Management of Environmentally Hazardous and Harmful Substances

### 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.

### Workshop on the Act on Rational Use and Proper Management of Fluorocarbons

In order to strengthen our management following enforcement of the Act on Rational Use and Proper Management of Fluorocarbons, NTN MIE CORP. held a workshop for all maintenance workers in June 2015. Led by a specialist supplier, the workshop familiarized employees with all legal requirements and provided explanations of methods of inspecting facilities and how to enter data into the record book.



Workshop in progress

### Expanding the Capacity of the Sewage Treatment Facility

Guangzhou NTN-Yulon Drivetrain Co., Ltd. (Guangzhou NTN), located in the city of Guangzhou, China, expanded its sewage treatment facility as a means of reducing sludge and treating its wastewater. Its sewage treatment process incorporates an oil-water separation system, a microbe treatment system, and a phosphorus and manganese removal system. With this system, the company was able to reduce its sludge volume by about 25%. The company is committed to strengthening its sewage management and taking further steps to reduce the release of environmentally hazardous and harmful substances.



New sewage treatment facility

### Soil Purification Completed at Former Site of the TAKARAZUKA WORKS

In March 2009, the TAKARAZUKA WORKS ended production and closed its operations. Following a soil survey conducted as part of the sale of the site, it was determined that soil contamination exceeded the standard values specified in the Soil Contamination Countermeasures Act.

As a result, soil purification work was conducted under administrative guidance and was completed in the fiscal year ended March 31, 2016. The site will now be used for housing, commercial facilities, and relevant facilities of Takarazuka city.

In the future, all business sites will conduct thorough voluntary soil surveys, manage any soil contamination detected, and prevent contamination of the water and soil through regular monitoring of plumbing and tank pits.

### Disposal of Capacitors Containing High Concentrations of PCBs

To comply with the Law Concerning Special Measures against PCB Waste, the NTN Group in Japan systematically dispose of PCBs. In the fiscal year ended March 31, 2016, the NTN Group disposed of 24 capacitors containing high concentrations of PCBs and four storage containers containing high concentrations of PCBs in the IWATA WORKS. In the fiscal year ending March 31, 2017, the Group is scheduled to continue with the disposal of 46 capacitors containing high concentrations of PCBs and 11 storage containers containing high concentrations of PCBs in the IWATA WORKS.



Removal of capacitors containing PCBs

# Environmental Management

The NTN Group strives to enhance the level of environmental activities throughout the Group by establishing and operating an Environment Management System (EMS) in line with the international standard ISO 14001.

## Environmental Management System

### Building a Management System Based on “NTN Environmental Policy”

Based on the NTN Environmental Policy, the purpose of which is to reduce environmental impact and ensure continuous development of society, the NTN Group has built an environmental management system centered around the Company-wide Environmental Management Committee. We also create and revise rules and manuals when necessary as part of ongoing improvement efforts.

### ISO Certifications Obtained at Business Sites Outside Japan

Three of our business sites in Europe — NTN-SNR, NTE and DMF — obtained certification of ISO 50001 registration during the fiscal year ended March 31, 2016 (For details,

see P. 70). In May 2016, NTN do Brasil Produção de Semi-Eixos Ltda. (NDB) in Brazil obtained certification of ISO 14001 registration.



ISO 14001 management system certificate (NDB)

### Accommodating Revisions to the ISO 14001 Standard

In September 2015, the 2004 version of the ISO 14001 standard was revised to the 2015 version; The NTN Group in Japan is scheduled to undergo assessments in July 2017 as part of the transition process. Because relevant data must be revised during the first half of fiscal 2016 in preparation for the migration assessments, we must first prepare to add or delete data as part of the revision of our Environmental Management Manual for compliance with the new standard.

We will continue to promote certification of the NTN Group overseas as well as the NTN Group in Japan.

### Business Sites with ISO 14001 Certification

Region	Name of the business site		Date of certification		Registration	
	Company	Plant	Year	Month	Registration No.	Registration body
Japan	Multi-site certification		1999	11	JSAE176	JSA
	(Business sites included) Head Office, KUJAWA WORKS, IWATA WORKS, OKAYAMA WORKS, NAGANO WORKS, NTN KONGO CORP., NTN ENGINEERING PLASTICS CORP., NTN ADVANCED MATERIALS CORP., NTN MIKUMO CORP., NTN CASTING CORP., NTN KINAN CORP., HIKARI SEKI INDUSTRY CO., LTD., NTN MIE CORP., NTN OMAEZAKI CORP., NTN FUKUROI CORP., ADVANCED TECHNOLOGY R&D CENTER, NTN KAMIINA CORP., NTN BIZEN CORP., NTN HODATSU SHIMIZU CORP., NTN HAKUI CORP., NTN SHIKA CORP., NTN NOTO CORP., NTN AKAWA CORP.					
	NTN ADVANCED MATERIALS CORP. KAMEYAMA Plant		2000	8	JQAE0956	JQA
	NTN TADO CORP.		2005	3	JSAE1058	JSA
U.S.A.	AMERICAN NTN BEARING MFG. CORP.	Elgin Plant	2000	6	111994	LRQA
		Schiller Park Plant	2000	9	112115	LRQA
	NTN-BOWER CORP.	Macomb Plant	2000	6	111998	LRQA
		Hamilton Plant	2000	6	111999	LRQA
	NTN DRIVESHAFT, INC.		1999	12	A8478	UL
	NTN USA CORP. Head Office		2000	4	112005	LRQA
	NTK PRECISION AXLE CORP.		2008	4	4000717	LRQA
NTA PRECISION AXLE CORP.		2013	4	C0094458-EM1	NSF	
Canada	NTN BEARING CORP. OF CANADA LTD.		1999	7	287	KPMG
Brazil	NTN do Brasil Produção de Semi-Eixos Ltda.		2016	5	200668	DNV
Germany	NTN Kugellagerfabrik (Deutschland) G.m.b.H.		1999	6	201167-2	LRQA
France	NTN TRANSMISSIONS EUROPE		2003	1	19479	AFAQ
	NTN-SNR ROULEMENTS*		2009	1	0448-4	UTAC
Thailand	NTN MANUFACTURING (THAILAND) CO., LTD.		2003	3	31634	TÜV
China	Guangzhou NTN-Yulon Drivetrain Co., Ltd.		2005	4	104043247	TÜV
	Shanghai NTN Corp.		2005	7	CH05/0489	SGS
	NTN-LYC (Luoyang) Bearing Corp.		2014	12	00615E20208ROM	OAC
India	NTN NEI Manufacturing India Private Ltd.		2011	6	104071903	TÜV

\* Obtained through Multi-site certification

### NTN Environmental Policy

Harmony with the global environment is our most important issue and we will continuously strive to contribute to the harmonious development of society and work to reduce the impact of our corporate activities on the environment.

#### 1. Development and sales of environmentally-friendly products

- NTN will contribute to world-wide energy conservation by developing and providing eco-products using tribological technologies and high precision processing technologies.

#### 2. Reduction of environmental impact

- NTN will work to prevent global warming by improving energy efficiency activities throughout the business process, from procurement of materials and parts, through to manufacture, distribution and sales.
- NTN will strive to reduce waste by paying heed to efficient use of raw materials, and thorough application of the 3Rs (reduce, reuse, recycle).
- NTN will avert environmental pollution by rigorous management of substances having an environmental impact that are used in products or processes, and by active substitution of chemical substances suspected of having harmful effects.

#### 3. Observance of laws and regulations and implementation of thorough environmental management systems

- In addition to observing laws, regulations and ordinances, NTN will actively seek to comply with requests from regional communities and customers by imposing tighter self-determined standards and internal rules, and keeping to them.
- NTN will establish an environmental management organization and operational methods, and will conduct environmental audits to maintain and improve corporate environmental management systems. We will also advance communication with society at large by publishing information about our environmental initiatives.
- NTN will conduct environmental education. NTN will promote improved awareness of this Environmental Policy and environmental protection to all persons working on behalf of the NTN Group.

#### 4. Activities to contribute to society and protect the natural environment

- By actively participating in regional social contribution activities and natural environmental protection activities, NTN will interact with the immediate community, aiming to develop together with the local region.

### Response to Laws

#### Response to Legal Reforms

The NTN Group keeps abreast of the latest environmental laws and regulations and keeps relevant divisions and sections up to date with the necessary information.

During the fiscal year ended March 31, 2016, we established a system capable of managing the history of implementation of simplified inspections and periodic inspections of all target devices specified under the Act on Rational Use and Proper Management of Fluorocarbons (put into force on April 1, 2015). This system applied to inspection and repair and quantity of refrigerant recharged or recapture as a maintenance record. In this way, we have enhanced our legal compliance.

### Environmental Communication

#### Exhibit at the “4th International Wind Energy Expo & Conference WIND EXPO 2016”

We take part in environment- and technology-related trade fairs in order to promote its products and technologies that contribute to protecting the environment.

From March 2 to 4, 2016, we presented an exhibit at the Tokyo Big Sight exhibition facility under the theme “NTN Transformation for Next 100 – Wind Power Revolution.” Small wind turbine, Micro Hydro Turbine and Hybrid Street Light that combines small wind turbine and solar power panel were exhibited.

We have expanded our business into the field of natural energy by exploiting the technologies and expertise that we have cultivated to date. We emphasized to exhibition

visitors that we would continue to contribute to solving both global environmental issues and energy issues.



Natural energy-related equipment exhibited at the NTN booth

### Environmental Audits

#### Two Types Internal Audits Conducted

The NTN Group in Japan has internal site audits (once a year), which are conducted by each business site's internal auditors, and cross-audits (every three years), which are conducted between business sites. Also part of improving the level of environmental management systems are external audits by ISO certification institutes.

In the fiscal year ended March 31, 2016, internal audits were held at all business sites and cross-audits were held at seven business sites. ISO audits were held at 8 business sites in July 2015, and these sites kept their multi-site certification designation up to date without any indication of violation.

#### Number of Internal Environmental Auditors Reaches 328

The NTN Group in Japan holds training once a year to increase the number of internal environmental auditors. In the fiscal year ended March 31, 2016, internal environmental auditor training with 24 participants from 14 business sites was held in December led by a top instructor from L.M.J. Japan, an institute that trains ISO auditors. This training brought the number of NTN internal environmental auditors to a total of 328.

#### Enhancing the Skills of Internal Environmental Auditors

From November 2015 to January 2016, we held briefing sessions at six districts in Japan in line with revision of “The Manual for Internal Environmental Auditors and Audits of Hazardous Substances”; moreover, we set out to enhance the skills of our internal environmental auditors. The content covered recent significant revisions to environmental laws, items identified by external examining bodies, and details of the manual revisions. Participants included a total of 113 auditors, who became thoroughly familiar with the content.

### Environmental Education

#### Providing Environmental Education to Employees of Distributors in Japan

We held environmental workshops for a total of 58 employees of distributors who work on the front lines with customers. These workshops were held in our WEST JAPAN SALES OFFICE in August, in our EAST JAPAN SALES OFFICE in September, and in our CENTRAL JAPAN SALES OFFICE in November. In these workshops, we introduced ways of responding to the presence of environmentally hazardous materials, which are the main subject of customer inquiries for the latest environmental information. We provided thorough explanations and requested their understanding and cooperation.



Workshop at the WEST JAPAN SALES OFFICE

# Third-Party Opinion

## NTN Report 2016 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.

In 2015, he moved to London to study responsible investment and non-financial information disclosure in the U.K. and Europe.

Other appointments include being a member of the Central Environment Council's Special Committee on the Environment and Finance (2009 to 2010), chair of the Japanese Institute of Certified Public Accountants' Technical Committee on Environmental Accounting (2005 to 2010), and auditor-secretary of the Society for Environmental Economics and Policy Studies (SEEPS) (2008 to 2014). His areas of expertise cover responsible investment, disclosure of non-financial information and environmental accounting.

Major publications include "Responsible Investment" (Iwanami Shoten, winner of SEEPS Commentary Award) and "The Environment and Financial/Investment Trends" (author/editor, Chuo Keizai-sha).

In this year's report, "NTN's Value Creation Process" has been presented as a cycle that introduces human capital, intellectual capital and natural capital that leads — through the creation of social value — to an increase in both financial capital and non-financial capital. In the preceding fiscal year, the indices of human capital and natural capital were presented under the heading of "Value Creation," but it seems the concept of "integrated thinking" that relates social value to shareholder value has become clearer this year.

On the other hand, looking internationally, two global agreements closely related to CSR were entered into in 2015. These were the Sustainable Development Goals (SDGs) adopted by the United Nations and the Paris Agreement adopted at the 21st Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21). The Paris Agreement, in calling for standards intended to limit the rise in Earth's mean temperature to less than 2 degrees Celsius, aims to achieve a balance between the release and absorption of manmade greenhouse gasses in the latter half of this century. It may be said that the real goal of achieving zero emissions is to make significant changes in longstanding business assumptions. We may be entering an era in which the approach of integrated thinking is officially adopted.

Regarding climate change mitigation as presented in this report, I appreciate the steady steps that have been taken toward reducing CO<sub>2</sub> emissions in manufacturing processes and logistics. But in order to achieve a real zero-emissions society as a whole, a variety of approaches are required.

In this regard, I think it is quite appropriate for this report to identify the company's natural energy business and

electric vehicle business as the new enterprises that will support the company for the next 100 years. The section covering technical features explains a variety of technologies, but I expect that a breakthrough will be needed in order to limit the rise in Earth's mean temperature to less than 2 degrees Celsius.

I also appreciate that the company is focused on the aftermarket business. I believe this business will increase in importance in the future, especially as the EU promotes its "Circular Economy."

Alongside climate change is another social issue attracting global attention, and that is human rights concerns in the supply chain. The company's CSR procurement guidelines do address the issues of human rights and labor. In particular, they specify employment and working conditions in the following terms: "We recognize global efforts to stamp out forced and compulsory labor and child labor." Therefore, my view is that the company's response in this regard is progressing. However, because the supply chain can contain problems that are difficult to uncover, I hope the company will continue to monitor the situation.

I would also like to address the company's initiatives to support its employees in both their work and in childrearing in light of the social issue of declining birthrates. I think there should be more disclosure of the results of this effort. Moreover, the disclosure of the number of non-Japanese in the upper management of overseas subsidiaries is another step forward in the promotion of diversity. The stakeholder dialog was a positive element as well that was continued from last year. I think that maintaining continuity of membership is important too, but I think that it can be gradually expanded.

## Responding to the Third-Party Opinion

I would like to express my sincere gratitude to Mr. Mizuguchi for once again submitting his invaluable opinions following his previous effort last year.

We endeavored to reflect the third party opinions and the comments we received at the stakeholder dialog last year.

And "NTN Report 2016" represents the various initiatives we are implementing, including prevention of global warming, our entry into the natural energy business, promoting CSR across the supply chain, strengthening of our global network, promoting diversity, and our initiative involving sustainable social contribution.

At the same time, we are visualizing the relationship between NTN's value creation, operations and CSR initiatives. We give serious consideration to the invaluable opinions we received, including those addressing our response to "climate change" and "protection of human rights in the supply chain," and we refer to these opinions as sources of informative advice on our future development. We intend to meet our responsibilities as a manufacturing company in order to contribute further to international society.



### Hiroshi Nakano

Director and Corporate General Manager, CSR Headquarters

# Financial Review

## Summary for the fiscal year ended March 31, 2016

- Net sales: 717.0 billion yen, an increase of 15.1 billion yen (2.2%) year-on-year
- Operating income: 47.8 billion yen (Operating margin 6.7%)
- Interest-bearing debt: 325.2 billion yen, a decrease of 33.9 billion yen from the previous fiscal year end
- Capital expenditures: 36.3 billion yen, an increase of 5.0 billion yen (16.1%) year-on-year
- Dividends: 10 yen (5 yen at 2nd quarter end, 5 yen at fiscal year end)

## ■ Net Sales and Incomes

### ● Sales Performance

Consolidated net sales for the fiscal year ended March 31, 2016 were 716,997 million yen, an increase of 15,097 million yen (2.2%) year-on-year. Overseas sales totaled 527,440 million yen, an increase of 17,000 million yen (3.3%) year-on-year. Overseas sales accounted for 73.6% of net sales overall (Americas 29.6%, Europe 23.6%, Asia and others 20.3%), an increase of 0.9 percentage points from the previous fiscal year.

### Net Sales and Incomes by Business Sector

In the aftermarket applications, development of new demand, increased customer demand and exchange rate effects pushed up net sales to 113,628 million yen. Meanwhile, operating income was 17,702 million yen.

In the industrial machinery applications, while customer demand increased for wind turbine and others, decreases in construction machinery and other applications resulted in net sales of 104,110 million yen. Operating income was 5,618 million yen.

In the automotive applications, increased customer demand in Europe and China coupled with exchange rate effects resulted in net sales of 499,259 million yen. Operating income was 24,448 million yen thanks to the effects of increased sales, reduced proportional costs, exchange rates and other factors.

### Net Sales and Incomes by Region

In terms of sales in Japan, looking at aftermarket applications, there was an increase in industrial machinery aftermarket applications in Japan, but exports decreased, resulting in almost the same level of sales as the previous year, as a whole. As for sales of industrial machinery applications, while construction machinery and other applications decreased, automotive applications grew thanks partly to expanded demand from customers. As a whole, net sales amounted to 189,557 million yen (down 1.0% from the previous fiscal year).

In terms of sales in Americas, looking at aftermarket applications, there was an increase in industrial machinery aftermarket applications. Regarding industrial machinery applications, sales dropped in construction machinery applications. Sales of automotive applications also increased backed by increased customer demand and other factors. As a whole, net sales grew to 212,550 million yen (up 4.9% from the previous fiscal year), helped partly by exchange rate effects.

In terms of sales in Europe, there was an increase in aftermarket applications, which was mainly by increased customer demand for automotive aftermarket applications. Meanwhile, sales of industrial machinery applications saw declines in wind turbine, aircraft and other applications. Sales also fell in automotive applications. As a whole, net sales amounted to 169,039 million yen (down 1.3% from the previous fiscal year), due partly to exchange rate effects.

In terms of sales in Asia and other areas, there was an increase in aftermarket applications thanks to increased customer demand for industrial machinery aftermarket applications primarily in the ASEAN region. Looking at industrial machinery applications,

while sales of wind turbines and other products increased, construction machinery and other applications decreased, resulting in an overall decrease. Sales of automotive applications increased thanks to mass-production in new projects and increased customer demand in China. As a whole, net sales grew to 145,851 million yen (up 6.7% from the previous fiscal year), helped partly by exchange rate effects.

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

The cost of sales was 576,651 million yen, down 0.8 percentage points and representing 80.4% of consolidated net sales. This was mainly due to decreased proportional costs.

Selling, general and administrative expenses were 92,576 million yen, representing 12.9% of consolidated net sales, or up 0.4 percentage points compared to the previous year.

### ● Incomes

As for the profits of the fiscal year under review, factors contributing to increased earnings included a decrease in proportional costs and favorable effects of exchange rates. Meanwhile, factors that led to decreased earnings included sales price level and an increase in personal costs.

As a result, the operating income for the term was 47,770 million yen, up 3,919 million yen from the previous fiscal year.

Other expenses amounted to a net expense of 20,827 million yen.

The major contributing factors were income totaling 8,078 million yen, including a gain on sale of fixed assets of 2,880 million yen and a gain on change in equity of 1,552 million yen, and expenses of 28,905 million yen that included loss associated with arbitration award of 13,013 million yen and impairment losses of 2,688 million yen.

As a result, the net income before taxes and equity in earnings of affiliated companies for the previous fiscal year was 37,063 million yen, and for the fiscal year under review it was 26,943 million yen. Net income per share was 28.28 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.

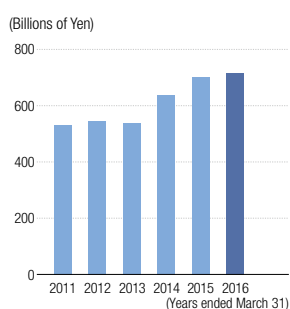
## ■ R&D and Capital Expenditures

### ● R&D Expenditures

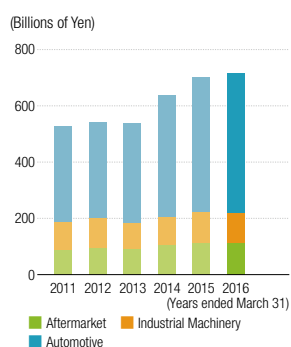
R&D expenditures of the entire group for the fiscal year under review were 18,481 million yen (up 393 million yen over the previous fiscal year), representing 2.6% of consolidated net sales.

The NTN Group is proactively working to develop bearings, driveshafts and other products, as well as to create new technologies centered on precision processing, material/heat treatment and tribology, which are our fundamental technologies, for the industrial machinery, automotive and aftermarket applications. We seek to develop unrivaled one-of-a-kind technologies and products, advanced technologies and production technologies. For rolling bearings and driveshafts, development is underway to enhance function by reducing torque demand, as well as to create module

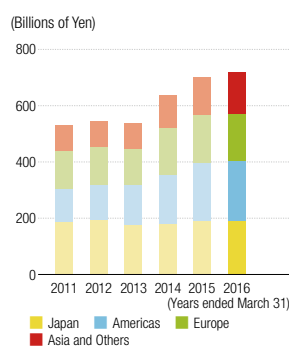
Net Sales



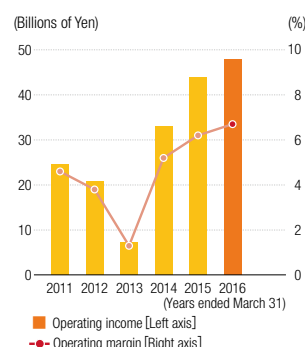
Net Sales by Business Sector



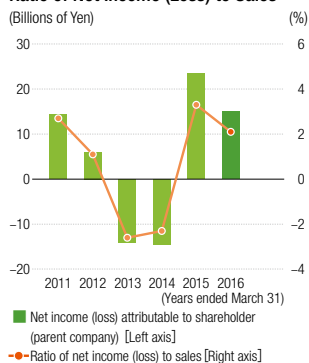
Net Sales by Region



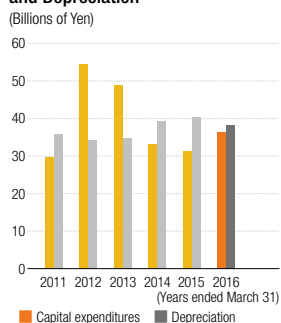
Operating Income / Operating Margin



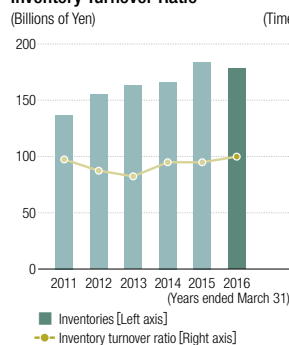
### Net Income (Loss) Attributable to Shareholder (Parent Company) / Ratio of Net Income (Loss) to Sales



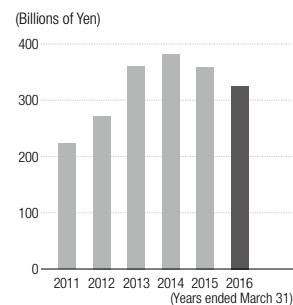
### Capital Expenditures and Depreciation



### Inventories / Inventory Turnover Ratio



### Interest-Bearing Debt



and units products by integrating bearings and peripheral parts. Through these development efforts, we are contributing to industry as we put products of high precision and high quality on the market at fair prices.

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." For example, we have developed and conducted demonstration tests on high-efficiency compact wind turbines and micro hydro turbines utilizing natural energy. Preparation for commercialization is also underway parallel to that. In addition to these operations, we are aggressively pushing forward with new businesses in new areas, such as In-wheel Motor System for electric vehicles and car-mounted Electric Actuator.

#### ● 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 were 13,039 million yen, with projects including the constant velocity joint (CVJ) production equipment at NTN FUKUROI CORP., and the expansion of bearing production equipment at NTN's OKAYAMA WORKS.

In Americas, capital expenditures were 7,445 million yen, with projects including the construction of bearing and CVJ production equipment at NTN MANUFACTURING DE MEXICO, S.A.DE C.V. and the construction of a new plant for newly established NTN DRIVE-SHAFT ANDERSON, INC.

In Europe, capital expenditures were 8,274 million yen, with projects including the expansion of bearing production equipment at NTN-SNR ROULEMENTS and NTN Kugellagerfabrik (Deutschland) G.m.b.H.

In Asia and other areas, capital expenditures were 7,725 million yen. Projects included expanding our bearing production equipment at NANJING NTN CORP., CVJ production equipment at XIANGYANG NTN-YULON DRIVETRAIN CO. LTD., bearing and CVJ production equipment at SHANGHAI NTN CORP., and bearing production equipment at NTN MANUFACTURING (THAILAND) CO., LTD. and NTN NEI Manufacturing India Private LTD.

After adjusting for -185 million yen in equipment transfers between segments, total capital expenditures for the fiscal year were 36,300 million yen.

All expenditures were funded from internal funds and short-term loans. Depreciation for the fiscal year under review amounted to 38,278 million yen (down 2,114 million yen from the previous fiscal year).

#### ■ Financial Position and Cash Flows

**Interest-bearing debt decreased by 33.9 billion yen compared to the previous fiscal year. Free cash flow came to 12.5 billion yen.**

Total current assets at March 31, 2016 amounted to 422,293 million yen, a year-on-year decrease of 38,687 million yen (or 8.4%).

Major factors included a 20,467 million yen decrease in cash and cash equivalents, a 10,342 million yen decrease in notes and accounts receivable-trade and a 5,908 million yen decrease in inventories.

Total fixed assets at the fiscal year-end amounted to 296,401 million yen, a decrease of 19,651 million yen (or 6.2%) against the end of the previous fiscal year. Major factors included a decrease of 8,032 million yen in machinery, equipment and vehicles, and a decrease of 6,032 million yen in construction in progress.

As a result, total assets amounted to 794,651 million yen, a year-on-year decrease of 61,626 million yen (or 7.2%).

Current liabilities were 288,771 million yen, a year-on-year decrease of 12,759 million yen (or 4.2%).

Major factors included a decrease of 7,232 million yen in trade payables and a decrease of 3,683 million yen in accrued income taxes.

Total long-term liabilities amounted to 257,375 million yen, a year-on-year decrease of 34,813 million yen (or 11.9%). This is mainly due to a 35,768 million yen decrease in long-term debt and lease obligations, and a 2,060 million yen increase in liabilities for retirement benefits. As a result, total liabilities were 546,146 million yen, a year-on-year decrease of 47,572 million yen (or 8.0%).

Total net assets were 248,505 million yen, a year-on-year decrease of 14,054 million yen (or 5.4%).

Major factors included a decrease of 16,438 million yen in translation adjustments, a decrease of 6,008 million yen in net unrealized holding gains on securities, a decrease of 1,105 million yen in non-controlling interests and an increase of 10,516 million yen in retained earnings.

The equity to capital ratio was 29.2%, up 0.6 percentage points. Total net assets per share, based on the number of shares outstanding over the end of the previous fiscal year, were 436.97 yen per share (a decrease of 24.24 yen per share over the previous fiscal year). Interest-bearing debt amounted to 325,174 million yen, a decrease of 33,931 million yen (9.4%) from the end of the previous fiscal year. Factoring in the 7,780 million yen decrease from currency effects, the actual decrease was 26,151 million yen. The ratio of interest-bearing debt to total assets was 40.9% (down 1.0 percentage points compared to the end of the previous fiscal year).

Net working capital was 133,522 million yen, a decrease of 25,928 million yen from the end of the previous fiscal year. The current ratio was 146.2% (down 6.7 percentage points over the end of the previous fiscal year).

The inventory turnover ratio was 4.02 times (0.21 times up over the end of the previous fiscal year), while the turnover ratio of total assets was 0.90 times (up 0.08 times).

Net cash from operating activities was 46,247 million yen (a year-on-year increase of 21,126 million yen, or 84.1%).

Major items included proceeds of 38,278 million yen from depreciation and amortization, and 26,943 million yen from income before income taxes. In contrast to these items, payments included a disbursement of 14,441 million yen for income taxes paid and a decrease of 5,408 million yen in trade payables.

Net cash from investing activities was 33,771 million yen (a year-on-year increase of 2,477 million yen, or 7.9%). This was mainly due to expenditure of 34,441 million yen in the purchase of property, plant and equipment.

Net cash from financing activities was 27,958 million yen (a year-on-year decrease of 9,534 million yen, or 25.4%). Major factors included expenditures of 45,039 million yen to repayment from long-term loans and decrease in short-term loans, net of 19,529 million yen, compared to 37,297 million yen in proceeds from long-term loans.

After adding a decrease of 172 million yen in translation adjustments and a decrease of 4,813 million yen in cash and cash equivalents resulted from exclusions from consolidation to the above changes, cash and cash equivalents as of the end of the current fiscal year were 67,311 million yen, a decrease of 20,467 million yen (23.3%) from 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 12,476 million yen. The proportion of net cash provided by operating activities to net sales was 6.5%.

# Main Financial Indexes: 11-Year Summary

Years ended March 31

		2006	2007	2008	2009
<b>FOR THE YEAR DATA</b>					
Net sales	(Millions of yen)	434,837	483,818	533,985	527,100
Operating income	(Millions of yen)	37,645	46,793	49,612	9,479
Operating margin	(%)	8.7	9.7	9.3	1.8
Income (loss) before income taxes	(Millions of yen)	30,370	45,170	44,313	(10,104)
Net Income (loss) Attributable to Shareholder (parent company)	(Millions of yen)	19,550	27,014	27,431	(8,985)
Capital expenditures	(Millions of yen)	49,284	59,347	59,504	49,594
Depreciation	(Millions of yen)	28,586	32,693	39,547	45,759
R&D costs	(Millions of yen)	14,771	14,221	15,006	17,402

## YEAR-END DATA

Total assets	(Millions of yen)	561,494	611,944	629,464	627,613
Net assets/Shareholders' equity	(Millions of yen)	183,247	215,815	216,401	192,223
Inventories	(Millions of yen)	107,047	107,131	109,969	140,466
Interest-bearing debt	(Millions of yen)	183,198	197,911	212,874	275,996
Number of employees		14,631	17,306	18,960	20,679

## PER SHARE DATA

Net assets	(Yen)	396.73	445.61	445.98	376.77
Net income (loss)					
- Basic	(Yen)	41.94	58.34	58.43	(19.14)
- Diluted	(Yen)	38.55	53.74	54.59	-
Cash dividends	(Yen)	11.00	16.00	19.00	13.00

## OTHER INFORMATION

Inventory Turnover Ratio	(Times)	4.1	4.5	4.9	3.8
Net D/E ratio	(Times)	0.80	0.79	0.86	1.38
Net income (loss)/Average total assets (ROA)	(%)	3.6	4.6	4.4	(1.3)
Net income (loss)/Average shareholders' equity (ROE)	(%)	11.5	13.8	13.1	(4.3)
NTN-ROI*2	(%)	7.7	8.6	8.6	1.5
Shareholders' equity ratio	(%)	32.6	34.2	33.3	28.2

\*1. In Financial Section, U.S. dollar amounts have been converted from yen, for convenience only, using the approximate exchange rate on March 31, 2016, which was U.S.\$1 = ¥112.68

\*2. NTN-ROI = Net operating income after tax / (Inventories + tangible fixed assets)



Thousands of US dollars\*\*  
(except per share amounts)

2010	2011	2012	2013	2014	2015	2016	2016
452,746	530,056	543,468	539,595	638,971	701,900	<b>716,997</b>	<b>6,363,126</b>
1,399	24,560	20,724	7,278	33,004	43,851	<b>47,770</b>	<b>423,944</b>
0.3	4.6	3.8	1.3	5.2	6.2	<b>6.7</b>	<b>6.7</b>
(1,838)	22,855	16,357	(13,898)	(2,451)	37,063	<b>26,943</b>	<b>239,111</b>
(2,015)	14,399	5,993	(14,196)	(14,648)	23,353	<b>15,037</b>	<b>133,449</b>
21,504	29,700	54,440	48,979	33,162	31,266	<b>36,300</b>	<b>322,151</b>
40,702	35,936	34,175	34,841	39,315	40,392	<b>38,278</b>	<b>339,705</b>
14,687	15,697	17,157	16,174	17,821	18,088	<b>18,481</b>	<b>164,013</b>
618,802	632,001	693,258	768,462	848,037	856,277	<b>794,651</b>	<b>7,052,281</b>
214,551	210,353	212,126	211,743	213,369	262,559	<b>248,505</b>	<b>2,205,405</b>
126,663	136,985	155,107	163,287	166,484	184,128	<b>178,220</b>	<b>1,581,647</b>
231,638	223,284	271,978	360,802	381,767	359,105	<b>325,174</b>	<b>2,885,818</b>
17,959	19,172	20,789	21,398	22,156	23,360	<b>24,109</b>	<b>24,109</b>
374.19	376.05	370.19	375.84	374.68	461.21	<b>436.97</b>	<b>3.88</b>
(4.00)	27.08	11.27	(26.69)	(27.54)	43.91	<b>28.28</b>	<b>0.25</b>
-	-	-	-	-	-	-	-
8.00	10.00	10.00	0	2.00	6.00	<b>10.00</b>	<b>0.09</b>
3.6	3.9	3.5	3.3	3.8	3.8	<b>4.0</b>	
1.00	0.92	1.11	1.37	1.27	1.11	<b>1.11</b>	
(0.3)	2.3	0.9	(1.9)	(1.8)	2.7	<b>1.8</b>	
(1.1)	7.2	3.0	(7.2)	(7.3)	10.5	<b>6.3</b>	
0.2	4.2	3.4	1.1	4.6	6.3	<b>6.5</b>	
32.2	31.6	28.4	26.0	23.5	28.6	<b>29.2</b>	

# 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 27, 2016).

## 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 affect 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 affect on the business performance or the financial state of the Group.

# Consolidated Balance Sheet

March 31, 2016

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2016	2015	2016
<b>Assets</b>			
Current assets:			
Cash and cash equivalents (Note 15)	¥ 67,311	¥ 87,778	\$ 597,364
Short-term investments (Note 15)	924	1,321	8,200
Trade receivables (Note 15):			
Notes	12,252	13,027	108,733
Accounts	121,944	131,511	1,082,215
Electronically recorded monetary claims	2,285	1,786	20,279
Allowance for doubtful accounts	(899)	(939)	(7,978)
	135,582	145,385	1,203,249
Inventories (Note 6)	178,220	184,128	1,581,647
Deferred income taxes (Note 23)	8,928	11,062	79,233
Other current assets (Note 15)	31,328	31,306	278,026
Total current assets	422,293	460,980	3,747,719
Property, plant and equipment, at cost (Note 7):			
Land (Note 2(g))	33,488	34,237	297,196
Buildings and structures (Note 2(g))	197,815	198,483	1,755,547
Machinery, equipment and vehicles (Note 2(g))	777,730	785,762	6,902,112
Construction in progress	15,705	21,737	139,377
	1,024,738	1,040,219	9,094,232
Less accumulated depreciation	(728,337)	(724,167)	(6,463,765)
Property, plant and equipment, net (Note 25)	296,401	316,052	2,630,467
Investments and other assets:			
Investment securities (Notes 8 and 15)	30,213	40,251	268,131
Investments in unconsolidated subsidiaries and affiliates (Note 15)	19,089	16,734	169,409
Goodwill	139	193	1,234
Deferred income taxes (Note 23)	12,449	9,377	110,481
Other assets	14,067	12,690	124,840
Total investments and other assets	75,957	79,245	674,095
Total assets (Note 25)	¥ 794,651	¥ 856,277	\$ 7,052,281

See accompanying notes to the consolidated financial statements.

# Consolidated Balance Sheet

March 31, 2016

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2016	2015	2016
<b>Liabilities and net assets</b>			
Current liabilities:			
Short-term bank loans (Notes 9 and 15)	¥ 54,091	¥ 75,097	\$ 480,041
Current portion of long-term debt and lease obligations (Notes 9 and 15)	69,000	45,833	612,354
Trade payables (Note 15):			
Notes	1,349	1,300	11,972
Accounts	53,898	59,791	478,328
Electronically recorded obligations	56,390	57,778	500,444
	111,637	118,869	990,744
Accrued income taxes (Notes 15 and 23)	4,236	7,919	37,593
Deferred income taxes (Note 23)	17	4	151
Provision for loss on support to a related company	1,496	1,562	13,276
Other current liabilities	48,294	52,246	428,594
Total current liabilities (Note 25)	288,771	301,530	2,562,753
Long-term liabilities:			
Long-term debt and lease obligations (Notes 9 and 15)	203,688	239,456	1,807,668
Liability for retirement benefits (Note 10)	47,137	45,077	418,326
Provision for product defect compensation	308	940	2,733
Deferred income taxes (Note 23)	1,073	2,564	9,523
Other long-term liabilities	5,169	4,151	45,873
Total long-term liabilities (Note 25)	257,375	292,188	2,284,123
Contingent liabilities (Note 12)			
Net assets:			
Shareholders' equity (Note 11):			
Common stock:			
Authorized – 1,800,000,000 shares			
Issued – 532,463,527 shares in 2016 and 2015	54,347	54,347	482,313
Capital surplus	67,351	67,370	597,719
Retained earnings	116,644	106,128	1,035,179
Treasury stock, at cost:			
795,969 shares in 2016 and 670,098 shares in 2015	(616)	(559)	(5,467)
Total shareholders' equity	237,726	227,286	2,109,744
Accumulated other comprehensive (loss) income:			
Net unrealized holding gain on securities (Note 8)	8,554	14,562	75,914
Translation adjustments	(1,537)	14,901	(13,640)
Retirement benefit liability adjustments	(12,421)	(11,478)	(110,232)
Total accumulated other comprehensive (loss) income, net	(5,404)	17,985	(47,958)
Non-controlling interests	16,183	17,288	143,619
Total net assets	248,505	262,559	2,205,405
Total liabilities and net assets	¥794,651	¥856,277	\$7,052,281

See accompanying notes to the consolidated financial statements.

## Consolidated Statement of Income

Year ended March 31, 2016

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2016	2015	2016
Net sales (Note 25)	¥716,997	¥701,900	\$6,363,126
Cost of sales (Note 17)	576,651	570,197	5,117,599
Gross profit	140,346	131,703	1,245,527
Selling, general and administrative expenses (Note 17)	92,576	87,852	821,583
Operating income (Note 25)	47,770	43,851	423,944
Other income (expenses):			
Interest and dividend income	1,429	1,156	12,682
Interest expense	(4,730)	(4,769)	(41,977)
Equity in earnings of affiliates	801	987	7,108
Gain on reversal of reorganization expenses	760	—	6,745
Gain on reversal of provision for product defect compensation	656	—	5,822
Foreign exchange loss	(6,824)	(2,335)	(60,561)
Gain on sales of fixed assets (Note 18)	2,880	4,287	25,559
Gain on change in equity (Note 19)	1,552	—	13,773
Loss on arbitration ruling (Note 20)	(13,013)	—	(115,486)
Loss on impairment of fixed assets (Notes 7 and 25)	(2,688)	—	(23,855)
Payment of prior year customs duties	—	(3,567)	—
Loss on surcharge payments under the Anti-Monopoly Act (Note 21)	—	(2,094)	—
Loss on liquidation of a subsidiary	—	(432)	—
Other, net	(1,650)	(21)	(14,643)
	(20,827)	(6,788)	(184,833)
Income before income taxes	26,943	37,063	239,111
Income taxes (Note 23):			
Current	10,490	12,156	93,096
Deferred	405	888	3,594
	10,895	13,044	96,690
Net income	16,048	24,019	142,421
Net income attributable to:			
Non-controlling interests	(1,011)	(666)	(8,972)
Owners of parent	¥ 15,037	¥ 23,353	\$ 133,449

See accompanying notes to the consolidated financial statements.

## Consolidated Statement of Comprehensive Income

Year ended March 31, 2016

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2016	2015	2016
<b>Net income</b>	¥ 16,048	¥24,019	\$ 142,421
<b>Other comprehensive (loss) income</b> (Note 22):			
Net unrealized holding (loss) gain on securities (Note 8)	(6,008)	6,489	(53,319)
Translation adjustments	(17,345)	17,513	(153,932)
Retirement benefit liability adjustments	(934)	(284)	(8,289)
Share of other comprehensive (loss) income of affiliates accounted for by the equity method	(726)	1,023	(6,443)
Other comprehensive (loss) income, net	(25,013)	24,741	(221,983)
<b>Comprehensive (loss) income</b>	¥ (8,965)	¥48,760	\$ (79,562)
<b>Total comprehensive (loss) income attributable to:</b>			
Owners of parent	¥ (8,352)	¥46,104	\$ (74,122)
Non-controlling interests	¥ (613)	¥ 2,656	\$ (5,440)

See accompanying notes to the consolidated financial statements.

# Consolidated Statement of Changes in Net Assets

Year ended March 31, 2016

	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, 2014	532,463,527	¥54,347	¥67,370	¥ 82,856	¥(534)	¥ 8,073	¥ (1,728)	¥(11,111)	¥14,096	¥213,369
Cumulative effect of change in accounting principle	—	—	—	2,312	—	—	—	—	—	2,312
Restated balance at April 1, 2014	532,463,527	54,347	67,370	85,168	(534)	8,073	(1,728)	(11,111)	14,096	215,681
Cash dividends paid	—	—	—	(2,393)	—	—	—	—	—	(2,393)
Net income attributable to owners of parent	—	—	—	23,353	—	—	—	—	—	23,353
Purchases of treasury stock	—	—	—	—	(25)	—	—	—	—	(25)
Sales of treasury stock	—	—	—	—	0	—	—	—	—	0
Other changes	—	—	—	—	—	6,489	16,629	(367)	3,192	25,943
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)
Net income 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)
<b>Balance at March 31, 2016</b>	<b>532,463,527</b>	<b>¥54,347</b>	<b>¥67,351</b>	<b>¥116,644</b>	<b>¥(616)</b>	<b>¥ 8,554</b>	<b>¥ (1,537)</b>	<b>¥(12,421)</b>	<b>¥16,183</b>	<b>¥248,505</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, 2015	\$482,313	\$597,888	\$ 941,853	\$(4,961)	\$129,233	\$ 132,242	\$(101,864)	\$153,426	\$2,330,130	
Cash dividends paid	—	—	(40,123)	—	—	—	—	—	(40,123)	
Net income attributable to owners of parent	—	—	133,449	—	—	—	—	—	133,449	
Purchases of treasury stock	—	—	—	(515)	—	—	—	—	(515)	
Sales of treasury stock	—	—	—	9	—	—	—	—	9	
Change in equity resulting from transactions with non-controlling interests	—	(169)	—	—	—	—	—	—	(169)	
Other changes	—	—	—	—	(53,319)	(145,882)	(8,368)	(9,807)	(217,376)	
<b>Balance at March 31, 2016</b>	<b>\$482,313</b>	<b>\$597,719</b>	<b>\$1,035,179</b>	<b>\$(5,467)</b>	<b>\$ 75,914</b>	<b>\$ (13,640)</b>	<b>\$(110,232)</b>	<b>\$143,619</b>	<b>\$2,205,405</b>	

See accompanying notes to the consolidated financial statements.

# Consolidated Statement of Cash Flows

Year ended March 31, 2016

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2016	2015	2016
<b>Cash flows from operating activities:</b>			
Income before income taxes	¥ 26,943	¥ 37,063	\$ 239,111
Adjustments for:			
Depreciation and amortization	38,278	40,392	339,705
Loss on impairment of fixed assets (Note 7)	2,688	—	23,855
Amortization of goodwill	53	55	470
Decrease in provision for surcharge payments under the Anti-Monopoly Act	—	(35)	—
Increase (decrease) in provision for loss on support to a related company	33	(40)	293
(Decrease) increase in allowance for doubtful accounts	(6)	32	(53)
Increase in allowance for directors' and audit & supervisory board members' bonuses	31	92	275
(Decrease) increase in provision for product defect compensation	(632)	5	(5,609)
Increase (decrease) in liability for retirement benefits	1,529	(8,559)	13,569
Decrease in account payable for Anti-Monopoly Act	—	(27,926)	—
Decrease in account payable for reorganization expenses	(2,412)	(889)	(21,406)
Surcharge payment under Anti-Monopoly Act	—	30,058	—
Payments for loss on arbitration ruling	11,651	—	103,399
Interest and dividend income	(1,429)	(1,156)	(12,682)
Proceeds from insurance income	(2,146)	—	(19,045)
Interest expense	4,730	4,769	41,977
Translation adjustments and foreign exchange loss, net	1,433	459	12,717
Equity in earnings of affiliates	(801)	(987)	(7,108)
Gain on sales of fixed assets, net	(2,880)	(4,287)	(25,559)
Gain on change in equity	(1,552)	—	(13,773)
Contribution to employees' retirement benefit trust	—	5,000	—
Decrease (increase) in trade receivables	4,599	(6,892)	40,815
Increase in inventories	(2,148)	(10,522)	(19,063)
(Decrease) increase in trade payables	(5,408)	11,794	(47,994)
Other	32	2,644	284
Subtotal	72,586	71,070	644,178
Interest and dividend income received	2,396	1,820	21,264
Interest paid	(4,789)	(4,645)	(42,501)
Payment for loss of Anti-Monopoly Act	—	(30,058)	—
Payment for loss on arbitration ruling	(11,651)	—	(103,399)
Payment for contribution to employees' retirement benefit trust	—	(5,000)	—
Proceeds from insurance income	2,146	—	19,045
Income taxes paid	(14,441)	(8,066)	(128,159)
Net cash provided by operating activities	¥ 46,247	¥ 25,121	\$ 410,428
<b>Cash flows from investing activities:</b>			
Decrease (increase) in short-term investments	336	(78)	2,982
Purchases of property, plant and equipment	(34,441)	(31,131)	(305,653)
Proceeds from sales of property, plant and equipment	3,121	5,117	27,698
Purchases of other assets	(3,179)	(4,645)	(28,213)
Proceeds from redemption of investment securities	1,000	—	8,875
Other	(608)	(557)	(5,396)
Net cash used in investing activities	(33,771)	(31,294)	(299,707)
<b>Cash flows from financing activities:</b>			
Decrease in short-term bank loans, net	(19,529)	(27,390)	(173,314)
Proceeds from long-term debt	37,297	29,524	330,999
Repayment of long-term debt, including current portion	(45,039)	(37,463)	(399,707)
Proceeds from issuance of common stock assigned to non-controlling interests	4,652	980	41,285
Cash dividends paid	(4,521)	(2,393)	(40,123)
Repayment of lease obligations	(249)	(274)	(2,210)
Other	(569)	(476)	(5,049)
Net cash used in financing activities	(27,958)	(37,492)	(248,119)
Effect of exchange rate changes on cash and cash equivalents	(172)	1,772	(1,526)
Net decrease in cash and cash equivalents	(15,654)	(41,893)	(138,924)
Cash and cash equivalents at beginning of the year	87,778	129,671	779,002
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries from consolidation	(4,813)	—	(42,714)
Cash and cash equivalents at end of the year	¥ 67,311	¥ 87,778	\$ 597,364

See accompanying notes to the consolidated financial statements.

# Notes to Consolidated Financial Statements

March 31, 2016

## 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 net income 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 ¥112.68 = U.S.\$1.00, the exchange rate prevailing on March 31, 2016. 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

Property, plant and equipment are stated at cost. Depreciation of the Company and domestic consolidated subsidiaries is computed by the straight-line method over the estimated useful lives of the respective assets. Depreciation of foreign consolidated subsidiaries is principally computed 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, 2016 and 2015 were reduced by the following amounts:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Land	¥ 799	¥ 799	\$ 7,091
Buildings and structures	434	478	3,852
Machinery, equipment and vehicles	195	332	1,731
	¥1,428	¥1,609	\$12,674

### (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 due to 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.

The Company continues to account for finance lease transactions not involving the transfer of ownership that commenced prior to April 1, 2008 as operating leases.

**(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 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 net income 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. Accounting Changes

#### Accounting Standards for Business Combinations

The Company and its domestic subsidiaries adopted "Revised Accounting Standard for Business Combinations" (Accounting Standards Board of Japan ("ASBJ") Statement No. 21 of September 13, 2013), "Revised Accounting Standard for Consolidated Financial Statements" (ASBJ Statement No.22 of September 13, 2013), "Revised Accounting Standard for Business Divestitures" (ASBJ Statement No.7 of September 13, 2013) and other standards. These revised accounting standards are applied from the fiscal year ended March 31, 2016. Accordingly, differences resulting from changes in ownership interest in a subsidiary when control over the subsidiary is retained are recognized under capital surplus, and acquisition-related costs are recorded as expenses for the period in which they arise. For business combinations conducted on or after the beginning of the year ended March 31, 2016, the accounting method has been changed to reflect adjustments of the allocation of acquisition costs on the finalization of provisional accounting treatments in the consolidated financial statements for the year in which the business combination occurs. In addition, the presentation method of net income was amended, and "minority interests" were changed to "non-controlling interests." Certain reclassifications were made to the previous year's consolidated financial statements to reflect these changes in presentation.

In the consolidated statement of cash flows for the year ended March 31, 2016, cash flows related to the acquisition or sale of shares of subsidiaries not resulting in a change in the scope of consolidation are classified into "cash flows from financing activities", while cash flows related to expenses arising from acquisition of shares of subsidiaries resulting in a change in the scope of consolidation or expenses arising from acquisition or sale of shares of subsidiaries not resulting in a change in the scope of consolidation are classified into "cash flows from operating activities."

From April 1, 2015, these revised standards are applied prospectively in accordance with the transitional treatment provided in Article 58 – 2 (4) of ASBJ Statement No.21, Article 44 – 5 (4) of ASBJ Statement No.22 and Article 57 – 4 (4) of ASBJ Statement No.7.

The effect on operating income, ordinary income, income before income taxes and capital surplus for the year ended and as of March 31, 2016 was immaterial.

### 4. Changes in Accounting Policies Which are Difficult to Distinguish from Changes in Accounting Estimates

#### Change in Depreciation Method

Effective April 1, 2015, the Company and its domestic consolidated subsidiaries have changed the depreciation method from the declining-balance method, which was previously applied to property, plant and equipment, other than buildings (except for structures attached to the buildings), to the straight-line method. In conjunction with the formulation of the Mid-term Management Plan "NTN100," the Company reassessed the actual usage conditions and the operating conditions of the manufacturing facilities of the Company and its domestic consolidated subsidiaries. As a result, manufacturing facilities are expected to operate stably over the long term because

the Company and its domestic consolidated subsidiaries are proceeding with the foundation of the global manufacturing system to supply products stably and the domestic manufacturing system to supply high-value added products stably through the strengthening of the manufacturing system for growing markets where an increase in demand is expected, in the context of the expansion of the overseas business. Accordingly, the Company and its domestic consolidated subsidiaries determined that it is more appropriate to adopt the straight-line method as the depreciation method.

The effect of this change was to increase operating income, ordinary income and income before income taxes by ¥2,979 million (\$26,438 thousand), respectively.

## 5. Standards Issued but Not Yet Effective

### Implementation Guidance on Recoverability of Deferred Tax Assets

On March 28, 2016, the ASBJ issued "Revised Implementation Guidance on Recoverability of Deferred Tax Assets" (ASBJ Guidance No.26) which basically transferred the accounting guidance included in the Japanese Institute of Certified Public Accountants Audit Committee Report No.66 "Audit Treatment on Determining the Recoverability of Deferred Tax Assets" (JICPA Report No.66) to the ASBJ. The ASBJ basically continues to apply the framework of the

JICPA Report No.66, whereby companies are categorized into five categories and deferred tax assets are calculated based on each of these categories. However, the ASBJ conducted a necessary review regarding the partial accounting treatments for the categorizing criteria and recoverability of deferred tax assets and established the guidance in applying "Accounting Standard for Tax Effect Accounting" (Business Accounting Council of Japan), regarding the recoverability for deferred tax assets.

The Company expects to adopt the revised implementation guidance from the beginning of the year ending March 31, 2017.

The Company is currently evaluating the effect of adopting the revised accounting guidance on the consolidated financial statements.

## 6. Inventories

Inventories at March 31, 2016 and 2015 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Finished goods	¥103,195	¥103,307	\$ 915,823
Work in process	45,808	46,512	406,532
Raw materials and supplies	29,217	34,309	259,292
	¥178,220	¥184,128	\$1,581,647

## 7. 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.

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 any future use for them and do not expect them to be recoverable. Consequently, the Company and its consolidated subsidiaries recorded related losses on impairment of fixed assets of ¥2,688 million (\$23,855 thousand) in the accompanying consolidated statement of income for the year ended March 31, 2016:

Location	Usage	Classification	Millions of yen	Thousands of U.S. dollars
			2016	2016
Japan	Production equipment	Construction in progress	¥ 226	\$ 2,006
Asia and other areas	Production equipment and other	Construction in progress	2,462	21,849
			¥2,688	\$23,855

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.

## 8. Securities

(a) Information regarding marketable securities classified as other securities at March 31, 2016 and 2015 is summarized as follows:

	Millions of yen					
	2016			2015		
	Carrying value	Acquisition costs	Unrealized gain (loss)	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:						
Equity securities	¥25,002	¥11,717	¥13,285	¥37,244	¥16,170	¥21,074
Securities whose carrying value does not exceed their acquisition costs:						
Equity securities	3,825	5,080	(1,255)	595	627	(32)
Other	2,000	2,000	—	10,000	10,000	—
Subtotal	5,825	7,080	(1,255)	10,595	10,627	(32)
Total	¥30,827	¥18,797	¥12,030	¥47,839	¥26,797	¥21,042

	<i>Thousands of U.S. dollars</i>		
	<b>2016</b>		
	Carrying value	Acquisition costs	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition costs:			
Equity securities	<b>\$221,885</b>	<b>\$103,985</b>	<b>\$117,900</b>
Securities whose carrying value does not exceed their acquisition costs:			
Equity securities	<b>33,946</b>	<b>45,084</b>	<b>(11,138)</b>
Other	<b>17,749</b>	<b>17,749</b>	<b>—</b>
Subtotal	<b>51,695</b>	<b>62,833</b>	<b>(11,138)</b>
Total	<b>\$273,580</b>	<b>\$166,818</b>	<b>\$106,762</b>

(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, 2016 and 2015.

## 9. 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 1.05% and 0.65% at March 31, 2016 and 2015, respectively.

Long-term debt and lease obligations at March 31, 2016 and 2015 consisted of the following:

	<i>Millions of yen</i>		<i>Thousands of U.S. dollars</i>
	<b>2016</b>	2015	<b>2016</b>
Loans from banks and other financial institutions, due through 2025, at an average annual interest rate of 1.39%	<b>¥271,083</b>	¥284,009	<b>\$2,405,777</b>
Lease obligations due through 2035	<b>1,605</b>	1,280	<b>14,245</b>
	<b>272,688</b>	285,289	<b>2,420,022</b>
Less current portion	<b>(69,000)</b>	(45,833)	<b>(612,354)</b>
	<b>¥203,688</b>	¥239,456	<b>\$1,807,668</b>

The aggregate annual maturities of long-term debt and lease obligations subsequent to March 31, 2016 are summarized as follows:

<i>Year ending March 31,</i>	<i>Millions of yen</i>	<i>Thousands of U.S. dollars</i>
2017	<b>¥ 69,000</b>	<b>\$ 612,354</b>
2018	<b>72,041</b>	<b>639,341</b>
2019	<b>60,130</b>	<b>533,635</b>
2020	<b>17,392</b>	<b>154,349</b>
2021	<b>27,020</b>	<b>239,794</b>
2022 and thereafter	<b>27,105</b>	<b>240,549</b>
	<b>¥272,688</b>	<b>\$2,420,022</b>

## 10. 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, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Retirement benefit obligation at the beginning of the year	¥109,664	¥106,253	\$973,234
Cumulative effect of change in accounting principle	—	(3,557)	—
Restated balance at the beginning of the year	109,664	102,696	973,234
Service cost	3,340	2,995	29,641
Interest cost	1,994	1,993	17,696
Actuarial gain and loss	(2,821)	6,437	(25,035)
Benefits paid	(6,281)	(7,038)	(55,742)
Other	(918)	2,581	(8,147)
Retirement benefit obligation at the end of the year	¥104,978	¥109,664	\$931,647

\*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, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Plan assets at fair value at the beginning of the year	¥64,587	¥52,004	\$573,190
Expected return on plan assets	2,122	1,945	18,832
Actuarial gain and loss	(6,128)	4,525	(54,384)
Contributions by the employers	2,172	7,328	19,276
Benefits paid	(3,639)	(3,964)	(32,295)
Other	(1,273)	2,749	(11,298)
Plan assets at fair value at the end of the year	¥57,841	¥64,587	\$513,321

(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, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Funded retirement benefit obligation	¥ 96,786	¥102,203	\$ 858,946
Plan assets at fair value	(57,841)	(64,587)	(513,321)
Unfunded retirement benefit obligation	38,945	37,616	345,625
Net amount of liabilities and assets recognized in the consolidated balance sheet	47,137	45,077	418,326
Liability for retirement benefits	47,137	45,077	418,326
Net amount of liabilities and assets recognized in the consolidated balance sheet	¥ 47,137	¥ 45,077	\$ 418,326

(4) The components of retirement benefit expenses for the years ended March 31, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Service cost	¥ 3,340	¥ 2,995	\$ 29,641
Interest cost	1,994	1,993	17,696
Expected return on plan assets	(2,122)	(1,945)	(18,832)
Amortization:			
Actuarial loss	2,500	2,210	22,187
Past service cost	(162)	(195)	(1,437)
Retirement benefit expenses	¥ 5,550	¥ 5,058	\$ 49,255

(5) The components of retirement benefit liability adjustments included in other comprehensive income (before tax effect) for the years ended March 31, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Actuarial gain and loss	¥(808)	¥ 298	\$(7,171)
Past service cost	(149)	(203)	(1,322)
Total	¥(957)	¥ 95	\$(8,493)

(6) The components of retirement benefit liability adjustments included in accumulated other comprehensive income (before tax effect) as of March 31, 2016 and 2015 are as follows:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Unrecognized actuarial loss	¥(17,593)	¥(16,785)	\$(156,132)
Unrecognized past service cost	(297)	(148)	(2,636)
Total	¥(17,890)	¥(16,933)	\$(158,768)

(7) The fair value of plan assets, by major category, as a percentage of total plan assets as of March 31, 2016 and 2015 are as follows:

	2016	2015
Equities	43.7%	49.5%
Bonds	19.7	20.7
General accounts at life insurance companies	17.1	16.2
Other	19.5	13.6
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:

	2016	2015
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
	2016	2015	2016
Contributions to defined contribution pension plans	¥1,568	¥1,444	\$13,916

## 11. 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 (\$76,668 thousand) at March 31, 2016 and 2015.

(b) Movements in shares issued and treasury stock during the years ended March 31, 2016 and 2015 are summarized as follows:

	Number of shares			
	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
	2015			
	April 1, 2014	Increase	Decrease	March 31, 2015
	532,463,527	—	—	532,463,527
Treasury stock: Common stock	619,746	51,285	933	670,098

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 increase in treasury stock was due to purchases of shares of less than one voting unit for the year ended March 31, 2015. The decreases in treasury stock were due to sales of shares at requests of shareholders owning less than one voting unit for the years ended March 31, 2016 and 2015.

## 12. 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 to 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 (\$64,173 thousand) from the Japan Fair Trade Commission (hereinafter referred to 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 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 have been filed against the Company and its subsidiaries for suspected price-fixing of bearing sales with business competitors.

(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 (\$575,489 thousand, provisional amount) to Peugeot S.A. and its total 19 group companies (hereinafter referred to as the Plaintiffs). The suit has been filed because the Plaintiffs 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. The Company insists on the legitimacy of its counter argument.

(4) The Company or its related companies may be subject to lawsuits similar to the above mentioned lawsuits, etc. 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.

## 13. Finance Lease Transactions That Do Not Transfer Ownership

### Lessees' accounting

The following pro forma amounts represent the acquisition costs, accumulated depreciation and net book value of property leased to the Company and its consolidated subsidiaries at March 31, 2016 and 2015, which would have been reflected in the accompanying consolidated balance sheets if finance leases other than those which transfer the ownership of the leased property to the Company and its consolidated subsidiaries (which are currently accounted for as operating leases) had been capitalized:

	Millions of yen					
	2016			2015		
	Acquisition costs	Accumulated depreciation	Net book value	Acquisition costs	Accumulated depreciation	Net book value
Buildings and structures	¥1,412	¥1,308	¥104	¥1,412	¥1,252	¥160

	Thousands of U.S. dollars		
	2016		
	Acquisition costs	Accumulated depreciation	Net book value
Buildings and structures	\$12,531	\$11,608	\$923

Lease payments relating to finance leases accounted for as operating leases in the accompanying consolidated financial statements amounted to ¥56 million (\$497 thousand) and ¥58 million for the years ended March 31, 2016 and 2015, respectively. Depreciation of the leased assets computed by the straight-line method over the respective lease terms with a nil residual value amounted to ¥56 million (\$497 thousand) and ¥58 million for the years ended March 31, 2016 and 2015, respectively.

Future minimum lease payments subsequent to March 31, 2016 for finance leases accounted for as operating leases are summarized as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
	2017	¥ 57
2018 and thereafter	47	417
Total	¥104	\$923

The acquisition costs and future minimum lease payments under finance leases presented in the above tables include the imputed interest expense.

No loss on impairment was allocated to any leased assets for the years ended March 31, 2016 and 2015.

## 14. Operating Leases

Future minimum lease payments subsequent to March 31, 2016 for non-cancelable operating leases were as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
2017	¥1,023	\$ 9,079
2018 and thereafter	4,427	39,288
Total	¥5,450	\$48,367

## 15. 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 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 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 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 9 years or less, at the longest, subsequent to March 31, 2016. 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, 2016. 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 loans 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 16 “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, 2016 and 2015, 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					
	2016			2015		
	Carrying value	Fair value	Difference	Carrying value	Fair value	Difference
(1) Cash and cash equivalents	¥ 67,311	¥ 67,311	¥ —	¥ 87,778	¥ 87,778	¥ —
(2) Short-term investments	924	924	—	1,321	1,321	—
(3) Notes and accounts — trade receivables	134,196	134,196	—	144,538	144,538	—
(4) Electronically recorded monetary claims	2,285	2,285	—	1,786	1,786	—
(5) Investment securities	28,827	28,830	3	37,839	37,844	5
(6) Short-term loans receivable included in other current assets	2	2	—	17	17	—
Total assets	¥233,545	¥233,548	¥ 3	¥273,279	¥273,284	¥ 5
(7) Short-term bank loans	54,091	54,091	—	75,097	75,097	—
(8) Current portion of long-term debt	68,701	68,701	—	45,561	45,561	—
(9) Notes and accounts — trade payables	55,247	55,247	—	61,091	61,091	—
(10) Electronically recorded obligations	56,390	56,390	—	57,778	57,778	—
(11) Accrued income taxes	4,236	4,236	—	7,919	7,919	—
(12) Long-term debt	202,382	205,662	3,280	238,448	239,362	914
Total liabilities	¥441,047	¥444,327	¥3,280	¥485,894	¥486,808	¥914
Derivative transactions (*)	¥ 480	¥ 480	¥ —	¥ (489)	¥ (489)	¥ —

	Thousands of U.S. dollars		
	2016		
	Carrying value	Fair value	Difference
(1) Cash and cash equivalents	\$ 597,364	\$ 597,364	\$ —
(2) Short-term investments	8,200	8,200	—
(3) Notes and accounts — trade receivables	1,190,948	1,190,948	—
(4) Electronically recorded monetary claims	20,279	20,279	—
(5) Investment securities	255,831	255,858	27
(6) Short-term loans receivable included in other current assets	17	17	—
Total assets	\$2,072,639	\$2,072,666	\$ 27
(7) Short-term bank loans	480,041	480,041	—
(8) Current portion of long-term debt	609,700	609,700	—
(9) Notes and accounts — trade payables	490,300	490,300	—
(10) Electronically recorded obligations	500,444	500,444	—
(11) Accrued income taxes	37,593	37,593	—
(12) Long-term debt	1,796,077	1,825,186	29,109
Total liabilities	\$3,914,155	\$3,943,264	\$29,109
Derivative transactions (*)	\$ 4,260	\$ 4,260	\$ —

\*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

The fair value of long-term debt 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 16 "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
	2016	2015	2016
Unlisted stocks			
Stocks of subsidiaries and affiliates	<b>¥19,089</b>	¥16,734	<b>\$169,409</b>
Other	<b>288</b>	291	<b>2,556</b>
Unlisted foreign bonds	<b>1,098</b>	1,121	<b>9,744</b>
Unlisted domestic bonds	<b>—</b>	1,000	<b>—</b>
Total	<b>¥20,475</b>	¥19,146	<b>\$181,709</b>

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, 2016 and 2015 are as follows:

	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	<b>¥ 67,311</b>	<b>¥—</b>	<b>¥—</b>	<b>¥—</b>
Short-term investments	<b>924</b>	<b>—</b>	<b>—</b>	<b>—</b>
Trade receivables	<b>134,196</b>	<b>—</b>	<b>—</b>	<b>—</b>
Electronically recorded monetary claims	<b>2,285</b>	<b>—</b>	<b>—</b>	<b>—</b>
Short-term loans receivable included in other current assets	<b>2</b>	<b>—</b>	<b>—</b>	<b>—</b>
Total	<b>¥204,718</b>	<b>¥—</b>	<b>¥—</b>	<b>¥—</b>

	Millions of yen			
	2015			
	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	<b>¥ 87,778</b>	<b>¥—</b>	<b>¥—</b>	<b>¥—</b>
Short-term investments	<b>1,321</b>	<b>—</b>	<b>—</b>	<b>—</b>
Trade receivables	<b>144,538</b>	<b>—</b>	<b>—</b>	<b>—</b>
Electronically recorded monetary claims	<b>1,786</b>	<b>—</b>	<b>—</b>	<b>—</b>
Short-term loans receivable included in other current assets	<b>17</b>	<b>—</b>	<b>—</b>	<b>—</b>
Total	<b>¥235,440</b>	<b>¥—</b>	<b>¥—</b>	<b>¥—</b>

	Thousands of U.S. dollars			
	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	<b>\$ 597,364</b>	<b>\$—</b>	<b>\$—</b>	<b>\$—</b>
Short-term investments	<b>8,200</b>	<b>—</b>	<b>—</b>	<b>—</b>
Trade receivables	<b>1,190,948</b>	<b>—</b>	<b>—</b>	<b>—</b>
Electronically recorded monetary claims	<b>20,279</b>	<b>—</b>	<b>—</b>	<b>—</b>
Short-term loans receivable included in other current assets	<b>18</b>	<b>—</b>	<b>—</b>	<b>—</b>
Total	<b>\$1,816,809</b>	<b>\$—</b>	<b>\$—</b>	<b>\$—</b>

Note 4: The redemption schedule for long-term debt is disclosed in Note 9 "Short-Term Bank Loans, Long-Term Debt and Lease Obligations" section of these Notes to Consolidated Financial Statements.

## 16. 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, 2016 and 2015 is summarized as follows:

#### Currency-related transactions

		Millions of yen			
		2016			
Classification	Transaction	Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	Euro	¥ 6,956	¥ 1,338	¥ 19	¥ 19
Over-the-counter transactions	U.S. dollars	4,983	480	80	80
	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>

		Millions of yen			
		2015			
Classification	Transaction	Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	U.S. dollars	¥12,370	¥—	¥(441)	¥(441)
Over-the-counter transactions	Thai baht	392	—	(13)	(13)
	British pounds	92	—	3	3
	Buying:				
	Euro	6,131	—	(38)	(38)
	<b>Total</b>	<b>¥18,985</b>	<b>¥—</b>	<b>¥(489)</b>	<b>¥(489)</b>

		Thousands of U.S. dollars			
		2016			
Classification	Transaction	Notional amount	More than one year	Fair value	Valuation gain (loss)
	Forward foreign currency exchange contracts				
	Selling:				
	Euro	\$ 61,732	\$ 11,874	\$ 169	\$ 169
Over-the-counter transactions	U.S. dollars	44,223	4,260	710	710
	Other	10,871		(53)	(53)
	Interest-rate and cross currency swaps				
	Receive / fixed yen and pay/fixed Euro	89,262	89,262	3,434	3,434
	<b>Total</b>	<b>\$206,088</b>	<b>\$105,396</b>	<b>\$4,260</b>	<b>\$4,260</b>

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, 2016 and 2015 is summarized as follows.

		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	(*)
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	(*)

		Millions of yen		
		2015		
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	¥27,000	¥27,000	(*)
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	(*)

		Thousands of U.S. dollars		
		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	\$204,118	\$164,182	(*)
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	\$ 13,312	\$ 13,312	(*)

\*Because interest rate swap agreements and cross currency 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 15 "Financial Instruments – Fair Value."

## 17. Research and Development Costs

Research and development costs included in cost of sales and selling, general and administrative expenses totaled ¥18,481 million (\$164,013 thousand) and ¥18,088 million for the years ended March 31, 2016 and 2015, respectively.

## 18. Gain on Sales of Fixed Assets

Gain on sales of fixed assets for the years ended March 31, 2016 and 2015 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Gain on sales of land at former TAKARAZUKA Works	¥2,694	¥3,982	\$23,908
Others	186	305	1,651
	¥2,880	¥4,287	\$25,559

## 19. 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 (\$13,773 thousand) for the year ended March 31, 2016.

## 20. 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 (\$115,486 thousand), which is the final arbitration amount less the proceeds from insurance income, for the year ended March 31, 2016.

## 21. Loss on Surcharge Payments under Anti-Monopoly Act

In August 2014, the National Development and Reform Commission of China made a decision to impose on the Company a monetary penalty of RMB119,160 thousand on charges of violating the Anti-Monopoly Act of China in connection with the sales of bearings in China. The Company recorded ¥2,094 million as a loss on surcharge payments under the Anti-Monopoly Act for the year ended March 31, 2015.

## 22. Other Comprehensive Income (Loss)

The following table presents the analysis of other comprehensive income (loss) for the years ended March 31, 2016 and 2015.

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Net unrealized holding (loss) gain on securities:			
Amount arising during the year	¥ (9,038)	¥ 8,838	\$ (80,209)
Reclassification adjustments for gains and losses included in net income	—	—	—
Before tax effect	(9,038)	8,838	(80,209)
Tax effect	3,030	(2,349)	26,890
Total	(6,008)	6,489	(53,319)
Translation adjustments:			
Amount arising during the year	(17,363)	17,513	(154,091)
Reclassification adjustments for losses included in net income	18	—	159
Before tax effect	(17,345)	17,513	(153,932)
Tax effect	—	—	—
Total	(17,345)	17,513	(153,932)
Retirement benefit liability adjustments:			
Amount arising during the year	(3,276)	(2,223)	(29,073)
Reclassification adjustments for losses included in net income	2,224	1,888	19,737
Before tax effect	(1,052)	(335)	(9,336)
Tax effect	118	51	1,047
Total	(934)	(284)	(8,289)
Share of other comprehensive (loss) income of affiliates accounted for by the equity method:			
Amount arising during the year	(726)	1,023	(6,443)
Other comprehensive (loss) income, net	¥(25,013)	¥24,741	\$(221,983)

## 23. Income Taxes

Income taxes applicable to the Company and its domestic subsidiaries comprise corporate tax, inhabitants' taxes and enterprise tax which, in the aggregate, resulted in statutory tax rates of 32.4% and 35.0% for the years ended March 31, 2016 and 2015. Overseas subsidiaries are subject to the income taxes of the respective countries in which they operate.

The effective tax rate for the year ended March 31, 2016 differs from the Company's statutory tax rate for the following reasons:

	2016
Statutory tax rate	32.4%
Permanent non-deductible expenses	0.9
Permanent non-taxable income	(5.8)
Elimination of dividend income	7.9
Equity in earnings of affiliates	(0.9)
Difference in overseas consolidated subsidiaries' applicable tax rate	(3.2)
Increase in valuation allowance	10.6
Decrease in deferred tax assets due to change in statutory tax rates	2.5
Tax credit for research and development expenses	(3.1)
Gain on change in equity	(1.9)
Other	1.0
Effective tax rate	40.4%

The details of the differences between the statutory tax rate and effective tax rate for the year ended March 31, 2015 is omitted because the difference was less than 5% of the statutory tax rate.

The tax effects of temporary differences which gave rise to significant portions of the deferred tax assets and liabilities at March 31, 2016 and 2015 are presented below:

	Millions of yen		Thousands of U.S. dollars
	2016	2015	2016
Deferred tax assets:			
Liability for retirement benefits	<b>¥ 18,594</b>	¥ 18,670	<b>\$ 165,016</b>
Inventories	<b>3,237</b>	3,322	<b>28,727</b>
Tax loss carryforwards	<b>13,266</b>	14,036	<b>117,732</b>
Accrued expenses	<b>3,874</b>	3,177	<b>34,380</b>
Other	<b>5,138</b>	5,361	<b>45,598</b>
Gross deferred tax assets	<b>44,109</b>	44,566	<b>391,453</b>
Less: valuation allowance	<b>(2,426)</b>	(1,390)	<b>(21,530)</b>
Total deferred tax assets	<b>41,683</b>	43,176	<b>369,923</b>
Deferred tax liabilities:			
Depreciation and amortization	<b>(14,757)</b>	(15,768)	<b>(130,964)</b>
Unrealized holding gain on securities	<b>(3,666)</b>	(6,697)	<b>(32,535)</b>
Reserve for deferred gain on property included in retained earnings	<b>(1,329)</b>	(1,243)	<b>(11,794)</b>
Retained earnings of overseas consolidated subsidiaries	<b>(309)</b>	(134)	<b>(2,742)</b>
Other	<b>(1,335)</b>	(1,463)	<b>(11,848)</b>
Total deferred tax liabilities	<b>(21,396)</b>	(25,305)	<b>(189,883)</b>
Net deferred tax assets	<b>¥ 20,287</b>	¥ 17,871	<b>\$ 180,040</b>

The “Act for Partial Amendment of the Income Tax Act and Others” (Act No. 15, 2016) and “Act for Partial Amendment of Local Tax Act and Others” (Act No. 13, 2016) were enacted in the Japanese Diet session on March 29, 2016.

In line with these revisions, the Company changed the statutory tax rate used to calculate deferred tax assets and liabilities from 32.4% to 30.2% and to 30.0% for the temporary differences expected to be realized or settled in the years beginning April 1, 2016 and 2017, and for the temporary differences expected to be realized or settled from April 1, 2018, respectively.

As a result of these changes, net deferred tax assets (after offsetting deferred tax liabilities) decreased by ¥609 million (\$5,405 thousand), income taxes-deferred increased by ¥665 million (\$5,902 thousand), net unrealized holding gain on securities increased by ¥183 million (\$1,624 thousand) and retirement benefit liability adjustments decreased by ¥127 million (\$1,127 thousand) as of and for the year ended March 31, 2016.

## 24. Amounts per Share

Amounts per share at March 31, 2016 and 2015 and for the years then ended were as follows:

	Yen		U.S. dollars
	2016	2015	2016
Net assets	<b>¥436.97</b>	¥461.21	<b>\$3.88</b>
Net income:			
Basic	<b>28.28</b>	43.91	<b>0.25</b>
Cash dividends	<b>10.00</b>	6.00	<b>0.09</b>

Amounts per share of net assets are computed based on the number of shares of common stock outstanding at the year end.

Basic net income per share is computed based on the net income attributable to shareholders of common stock and the weighted-average number of shares of common stock outstanding during the year. Diluted net income per share has not been presented because there were no potentially dilutive shares of common stock for the years ended March 31, 2016 and 2015.

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.

## 25. 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, income 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.

(Accounting Standards for Business Combinations)

The Company and its domestic subsidiaries adopted "Revised Accounting Standard for Business Combinations" and other standards. These revised accounting standards are applied from the fiscal year ended March 31, 2016. Accordingly, differences resulting from changes in ownership interest in a subsidiary when control over the subsidiary is retained are recognized under capital surplus, and acquisition-related costs are recorded as expenses for the period in which they arise. For business combinations conducted on or after the beginning of the year ended March 31, 2016, the accounting method has been changed to reflect adjustments of the allocation of acquisition costs on the finalization of provisional accounting treatments in the consolidated financial statements for the year in which the business combination occurs.

The effect of this change on the segment income for the year ended March 31, 2016 was immaterial.

(Change in depreciation method)

Effective April 1, 2015, the Company and its domestic consolidated subsidiaries have changed the depreciation method from the declining-balance method, which was previously applied to property, plant and equipment other than buildings (except for structures attached to the buildings), to the straight-line method.

The effect of this change was to increase segment income by ¥2,979 million (\$26,438 thousand) in the "Japan" segment.

### 3. Information as to net sales, income or loss, assets, liabilities, and other items for each reporting segment for the years ended March 31, 2016 and 2015

Reportable segment information for the years ended March 31, 2016 and 2015 are summarized as follows:

	Millions of yen						
	2016				Total	Adjustments	Consolidated
Reporting segments							
	Japan	Americas	Europe	Asia and other areas			
<b>Sales, income 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 income	¥ 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

	Millions of yen							
	2015							
	Reporting segments					Total	Adjustments	Consolidated
Japan	Americas	Europe	Asia and other areas					
<b>Sales, income and assets or liabilities by reporting segments:</b>								
Net sales:								
Sales to third parties	¥205,780	¥193,410	¥181,642	¥121,068	¥ 701,900	¥ —	¥701,900	
Inter-segment sales and transfers	137,536	5,502	5,564	11,857	160,459	(160,459)	—	
Total	343,316	198,912	187,206	132,925	862,359	(160,459)	701,900	
Segment income	¥ 27,557	¥ 1,410	¥ 3,701	¥ 10,082	¥ 42,750	¥ 1,101	¥ 43,851	
Segment assets	¥538,515	¥188,125	¥140,607	¥177,295	¥1,044,542	¥(188,265)	¥856,277	
Segment liabilities	¥373,039	¥138,155	¥ 84,647	¥ 62,928	¥ 658,769	¥ (65,051)	¥593,718	
<b>Other items:</b>								
Depreciation and amortization	¥ 15,708	¥ 10,379	¥ 7,278	¥ 7,027	¥ 40,392	¥ —	¥ 40,392	
Capital expenditures	¥ 12,957	¥ 5,186	¥ 6,072	¥ 11,887	¥ 36,102	¥ (190)	¥ 35,912	

	Thousands of U.S. dollars							
	2016							
	Reporting segments					Total	Adjustments	Consolidated
Japan	Americas	Europe	Asia and other areas					
<b>Sales, income and assets or liabilities by reporting segments:</b>								
Net sales:								
Sales to third parties	\$1,775,879	\$1,809,381	\$1,593,237	\$1,184,629	\$6,363,126	\$ —	\$6,363,126	
Inter-segment sales and transfers	1,220,971	39,918	35,703	130,245	1,426,837	(1,426,837)	—	
Total	2,996,850	1,849,299	1,628,940	1,314,874	7,789,963	(1,426,837)	6,363,126	
Segment income	\$ 214,324	\$ 51,242	\$ 27,512	\$ 111,990	\$ 405,068	\$ 18,876	\$ 423,944	
Segment assets	\$4,906,044	\$1,503,843	\$1,277,636	\$1,421,050	\$9,108,573	\$(2,056,292)	\$7,052,281	
Segment liabilities	\$3,147,435	\$1,076,012	\$ 854,295	\$ 505,911	\$5,583,653	\$ (736,777)	\$4,846,876	
<b>Other items:</b>								
Depreciation and amortization	\$ 105,041	\$ 99,814	\$ 62,877	\$ 71,973	\$ 339,705	\$ —	\$ 339,705	
Capital expenditures	\$ 143,583	\$ 66,143	\$ 73,891	\$ 71,193	\$ 354,810	\$ (1,642)	\$ 353,168	

The total amount of segment income 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. The adjustments for segment assets consist of inter-segment elimination of ¥276,943 million (\$2,457,783 thousand) and ¥258,544 million and the corporate assets of the Group of ¥45,240 million (\$401,491 thousand) and ¥70,279 million for the years ended March 31, 2016 and 2015, respectively. The corporate assets are investments held by the Company, mainly cash and cash equivalents and investment securities.

#### 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, 2016 and 2015 are summarized as follows:

	Millions of yen			
	2016			
	Aftermarket	Industrial machinery	Automotive	Total
Sale to third parties	¥113,628	¥104,110	¥499,259	¥716,997
	Millions of yen			
	2015			
	Aftermarket	Industrial machinery	Automotive	Total
Sale to third parties	¥112,433	¥108,993	¥480,474	¥701,900
	Thousands of U.S. dollars			
	2016			
	Aftermarket	Industrial machinery	Automotive	Total
Sale to third parties	\$1,008,413	\$923,944	\$4,430,769	\$6,363,126

(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, 2016 and 2015 are summarized as follows:

Millions of yen				
2016				
Japan	Americas	Europe	Asia and other areas	Total
<b>¥189,557</b>	<b>¥212,550</b>	<b>¥169,039</b>	<b>¥145,851</b>	<b>¥716,997</b>

Millions of yen				
2015				
Japan	Americas	Europe	Asia and other areas	Total
¥191,460	¥202,561	¥171,218	¥136,661	¥701,900

Thousands of U.S. dollars				
2016				
Japan	Americas	Europe	Asia and other areas	Total
<b>\$1,682,259</b>	<b>\$1,886,315</b>	<b>\$1,500,169</b>	<b>\$1,294,383</b>	<b>\$6,363,126</b>

“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 ¥188,391 million (\$1,671,912 thousand) and ¥174,392 million for the years ended March 31, 2016 and 2015, respectively. The sales of the “Asia and other areas” segment above include the sales to customers in China of ¥77,612 million (\$688,782 thousand) for the year ended March 31, 2016.

(b) Property, plant and equipment

Property, plant and equipment categorized by country and region within the Group at March 31, 2016 and 2015 are summarized as follows:

Millions of yen				
2016				
Japan	Americas	Europe	Asia and other areas	Total
<b>¥111,877</b>	<b>¥75,580</b>	<b>¥46,400</b>	<b>¥62,544</b>	<b>¥296,401</b>

Millions of yen				
2015				
Japan	Americas	Europe	Asia and other areas	Total
¥111,640	¥85,242	¥46,307	¥72,863	¥316,052

Thousands of U.S. dollars				
2016				
Japan	Americas	Europe	Asia and other areas	Total
<b>\$992,874</b>	<b>\$670,749</b>	<b>\$411,785</b>	<b>\$555,059</b>	<b>\$2,630,467</b>

1. Property, plant and equipment in “Americas” in the amount of ¥67,151 million (\$595,944 thousand) and ¥77,890 million is located in the U.S.A. at March 31, 2016 and 2015, respectively.
2. Property, plant and equipment in “Europe” in the amount of ¥35,487 million (\$314,936 thousand) and ¥35,565 million is located in France at March 31, 2016 and 2015, respectively.
3. Property, plant and equipment in “Asia and other areas” in the amount of ¥49,028 million (\$435,108 thousand) and ¥57,143 million is located in China at March 31, 2016 and 2015, respectively.



## 5. Loss on impairment of fixed assets

Loss on impairment of fixed assets by reporting segment for the year ended March 31, 2016 is summarized as follows:

Millions of yen				
2016				
Japan	Americas	Europe	Asia and other areas	Total
¥226	¥—	¥—	¥2,462	¥2,688

Thousands of U.S. dollars				
2016				
Japan	Americas	Europe	Asia and other areas	Total
\$2,006	\$—	\$—	\$21,849	\$23,855

## 26. Business Combination

### Business Combination of a subsidiary company

PT.NTN MANUFACTURING INDONESIA, a former consolidated subsidiary, implemented a capital increase through the issuance of new shares to a third party on January 4, 2016. As a result, PT.NTN MANUFACTURING INDONESIA changed from being a consolidated subsidiary to an affiliate due to a decrease in ownership interests held by the Company and its subsidiary.

#### 1. Overview of business combination

(1) Company name and business description of combined company  
 Combined company: PT.NTN MANUFACTURING INDONESIA  
 Business description: Manufacture of CVJs

#### (2) Main purpose for business combination

The Company aims to strengthen price competitiveness in ASEAN markets by making PT.NTN MANUFACTURING INDONESIA a joint venture company with said third party.

#### (3) Date of the business combination

January 4, 2016

#### (4) Legal description of business combination

Decrease of shares through the issuance of new shares to a third party

#### 2. Overview of accounting treatment applied

PT.NTN MANUFACTURING INDONESIA changed from being a consolidated subsidiary to an affiliate due to a decrease in ownership interests 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 (\$13,773 thousand). In addition, the Company eliminated PT.NTN MANUFACTURING INDONESIA from consolidation, and revalued its securities owned by the Company and its subsidiary based on the equity method.

#### 3. Reporting segment which combined company belonged

Asia and other area

#### 4. Operating loss of combined company recorded in consolidated statement of income

Operating loss: ¥21 million (\$186 thousand)

## 27. 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, 2016 and for the year then ended, was approved at the annual general meeting of the shareholders held on June 24, 2016:

	Millions of yen	Thousands of U.S. dollars
Year-end cash dividends (¥5.0 (U.S. \$0.04) per share)	¥2,658	\$23,589

# Independent Auditor's Report



Ernst & Young Shin Nihon 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, 2016, 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, 2016, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

### *Emphasis of Matter*

We draw attention to Note 4 to the consolidated financial statements, which describes that NTN Corporation and its domestic consolidated subsidiaries have changed the depreciation method from the declining-balance method, which was previously applied to property, plant and equipment other than buildings (except for structures attached to the buildings), to the straight-line method from the year ended March 31, 2016. Our opinion is not qualified in respect of this matter.

### *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.

June 27, 2016  
Osaka, Japan

*Ernst & Young Shin Nihon LLC*

# Investor Information

As of March 31, 2016

## Head Office

NTN Corporation  
3-17, 1-chome, Kyomachibori,  
Nishi-ku,  
Osaka 550-0003, Japan

## Investor Relations

Corporate Communications Dept.  
Phone: +81-6-6449-3528  
Fax: +81-6-6443-3226  
E-mail: 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/>

## Common Stock

Authorized 1,800,000,000 shares  
Issued and outstanding  
532,463,527 shares

## Number of Shareholders

27,120

## Transfer Agent for Common Stock

Mitsubishi UFJ Trust Banking Corporation 4-5, 1-chome,  
Marunouchi, Chiyoda-ku,  
Tokyo 100-8212, Japan

## Stock Exchange Listings

First Section of Tokyo Stock Exchange  
(#6472)

## Independent Auditor

Ernst & Young ShinNihon LLC

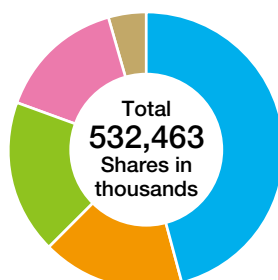
## General Meeting of Shareholders

The General Meeting of Shareholders was held on June 24, 2016 in Osaka

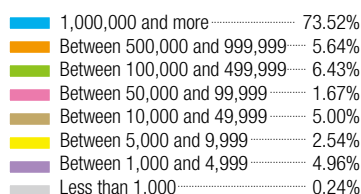
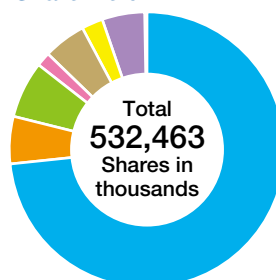
## Stock Price Range in the Fiscal Year Ended March 31, 2016

High: ¥819  
Low: ¥322

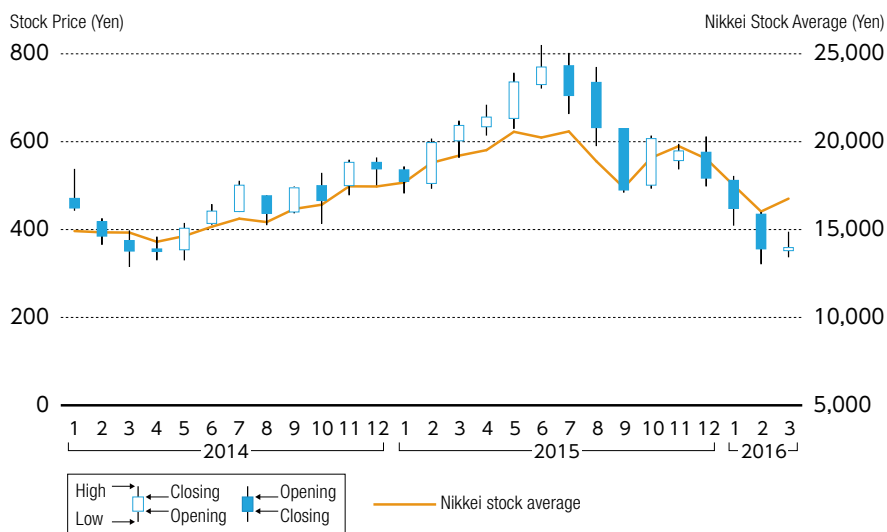
## Breakdown of Shareholders



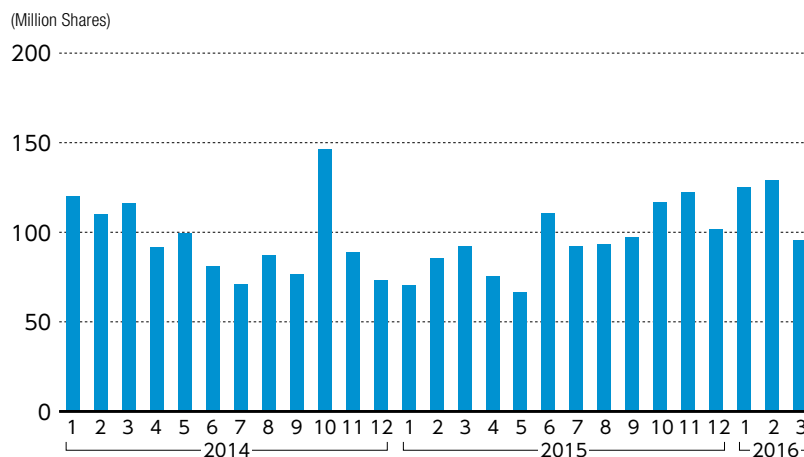
## Breakdown of Number of Share Held



## Tokyo Stock Price Range



## Monthly Volume Traded



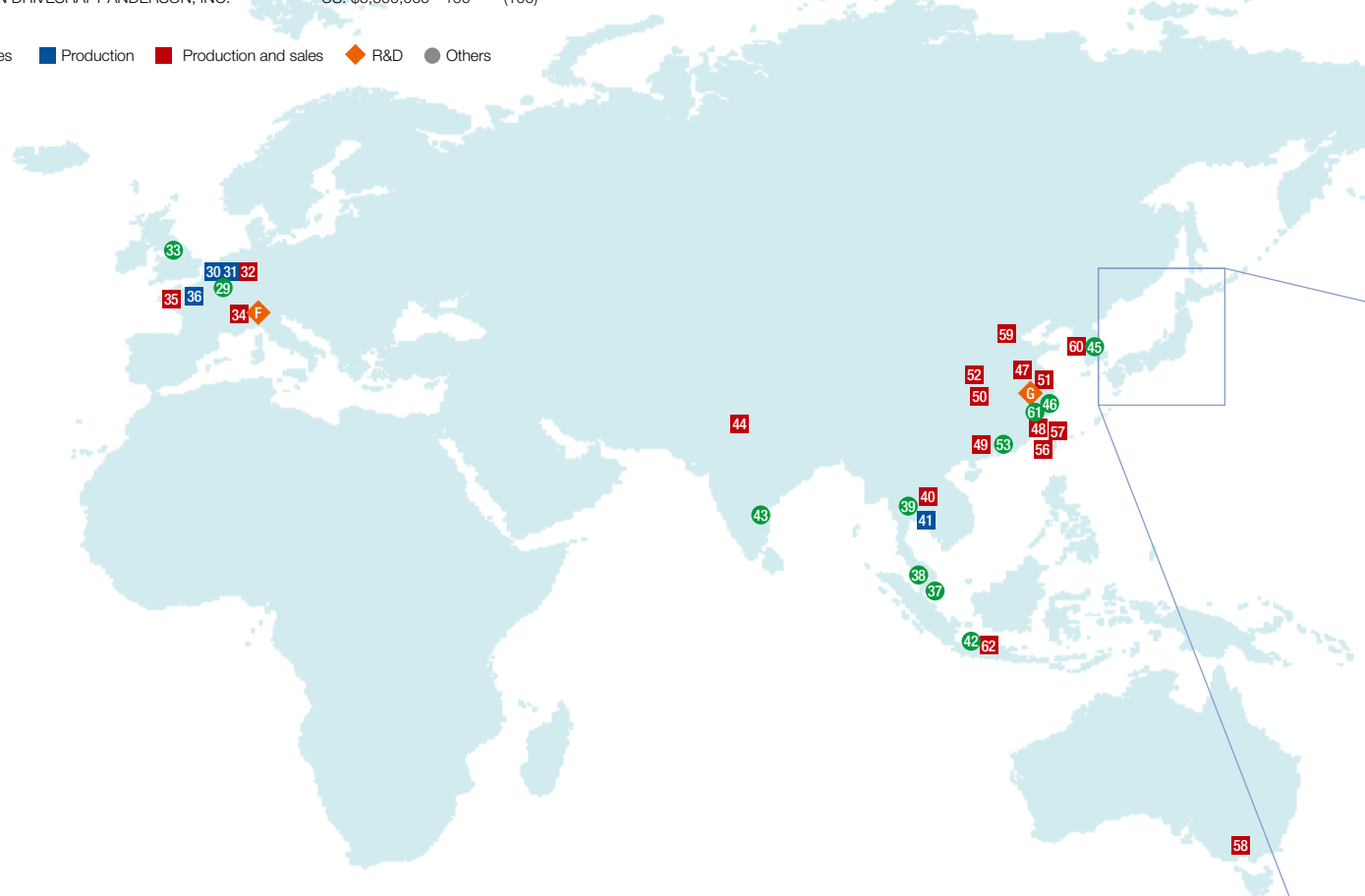
# Global Network

As of March 31, 2016

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 HODATSU 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. \$186,620,000	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. \$5,500,000	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-Exos Ltda.	BRL 79,479,763	100 (13.37)
29 NTN Wälzlager (Europa) G.m.b.H.	EURO14,500,000	100
30 NTN Kugellagerfabrik (Deutschland) G.m.b.H.	EURO 18,500,000	100
31 NTN Mettmann (Deutschland) G.m.b.H.	EURO 25,000	100 (100)
32 NTN Antriebstechnik G.m.b.H.	EURO 50,000	75
33 NTN BEARINGS (UK) LTD.	STG. £2,600,000	100 (0.04)
34 NTN-SNR ROULEMENTS	EURO 123,599,542	100
35 NTN TRANSMISSIONS EUROPE	EURO 82,843,207	100
36 NTN TRANSMISSIONS EUROPE CREZANCY	EURO 11,500,000	100 (100)
37 NTN BEARING-SINGAPORE (PTE) LTD.	S. \$36,000,000	100 (0.969)

● Sales ● Production ● Production and sales ◆ R&D ● Others



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 ASAHU FORGE OF AMERICA CORP.	US. \$7,100,000	28.2	(28.2)
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

A NTN R&D CENTER

B PRODUCTION ENGINEERING R&D CENTER

C INDUSTRIAL TECHNICAL CENTER

D ADVANCED TECHNOLOGY R&D CENTER

E NTN Automotive Center

F NTN-SNR R&D Center

G NTN China Technical Center

Notes 1. The scope of consolidation as of March 31, 2016 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 (3 companies decreased, one company increased)

◇ Affiliates (One company increased)

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.



For New Technology Network



## NTN Corporation

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