

The background of the slide features a blue gradient. On the left side, two hands are shown holding a glowing lightbulb. The top hand is a lighter-skinned hand, and the bottom hand is a darker-skinned hand. The lightbulb is illuminated, creating a bright glow. The overall composition is centered and professional.

For New Technology Network

NTN®

Consolidated Financial Results for the First Half of FY2017

November 6, 2017

NTN Corporation

I . Financial Results for First Half and Forecast for FY2017

II. Initiatives of “NTN 100”

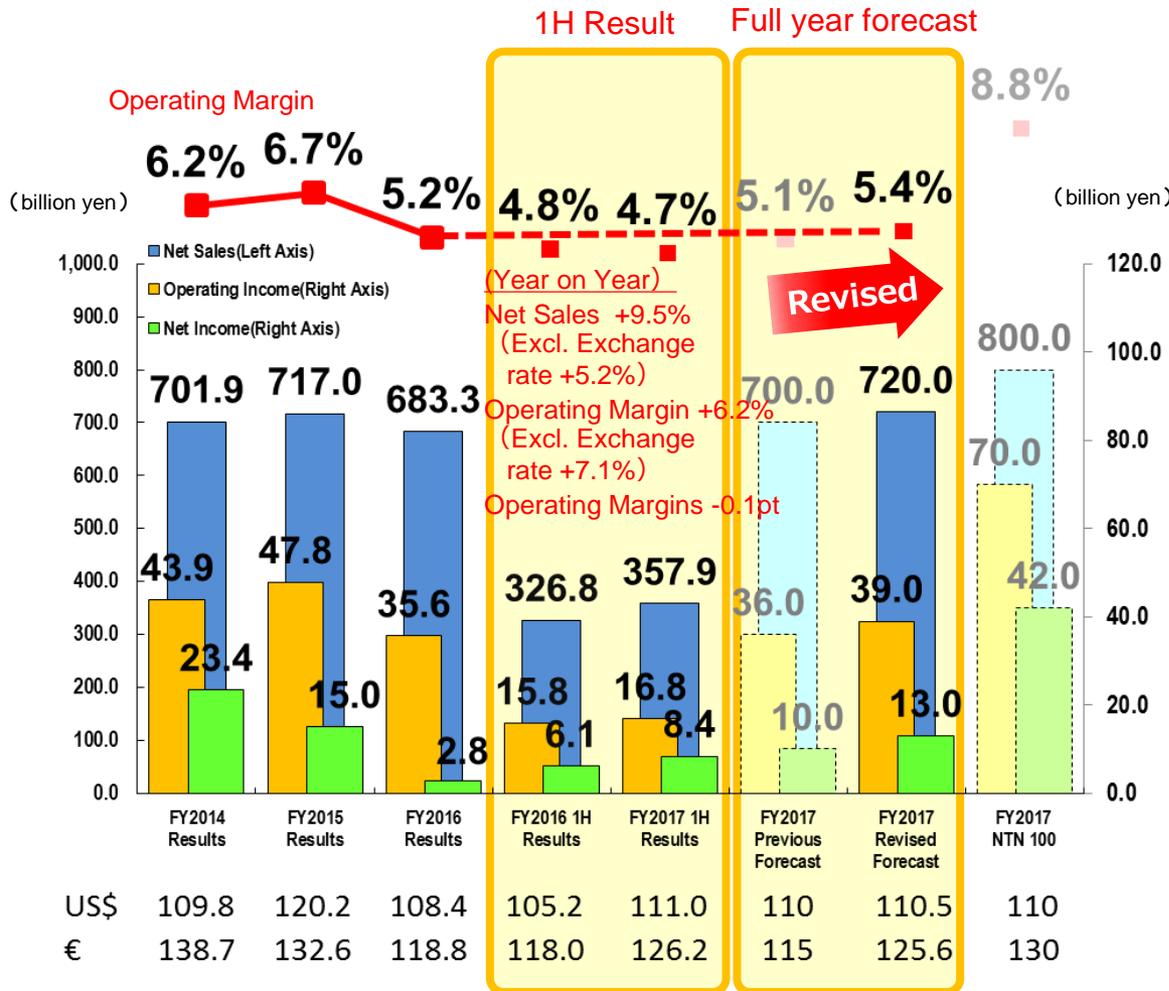
III. For next 100 years

- This presentation and comments made in this conference or during the following Q&A session include forward-looking statements about future performance and future business strategies, all of which are based on decisions of the management of the Company currently available.
- These statements represent the best judgment of the management of the Company based on the information currently available. However, there can be no assurance that future results will meet any expectation, estimate or projection conveyed by these statements or comments. Actual results may differ materially from Management projections depending on various factors such as changes in product demand, exchange rates and interest rates, and contingent liabilities.

Trends in consolidated financial results: Results of 1H and Full year Forecast

Income and profit increased in this 1H due to the favorable sales in Industrial Machinery Business.

Financial forecast in this fiscal year will be revised upward due to favorable sales in Industrial Machinery and Aftermarket Business and exchange-rate although there is still concern for automotive production in North America.



FY2017 1H Result

in brackets are previous announcement

Net Sales: **¥357.9 billion** (¥345.0 billion)
YoY+9.5%, Excl. exchange rate effect +5.2%

Operating Income: **¥16.8billion** (¥15.0 billion)
YoY+6.2%, Excl. exchange rate effect +7.1%

Net Income: **¥8.4 billion** (¥3.0 billion)
YoY+36.8%

Interim dividend: **¥7.5**

Incl. commemorative ¥2.5

FY2017 Full year Forecast

in brackets are previous announcement

Net Sales: **¥720.0 billion** (¥700.0 billion)
YoY+5.4%, Excl. exchange rate effect +3.1%

Operating Income: **¥39.0 billion** (¥36.0 billion)
YoY+9.5%, Excl. Exchange rate effect +8.3%

Net Income: **¥13.0 billion** (¥10.0 billion)
Incl. extraordinary loss ¥10.0 billion

Annual dividend: ¥15 *interim ¥7.5, year-end ¥7.5
Incl. commemorative ¥5.0(Annual)

I . Financial Results for First Half and Forecast for FY2017

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★ Financial Results for FY2017 First Half : Key Factors

1. Consolidated Statements of Operation
2. Net Sales by Region
3. Net Sales and Operating Income by Business Sector
4. Results by Business Sector (Quarterly Trend)
5. Analysis of Operating Income
6. Net Sales and Operating Income by Company Location
 - (1) Japan, Americas
 - (2) Europe, Asia and others
7. Inventories
8. Interest-Bearing Debt
9. Capital Expenditure and Depreciation
10. Cash Flows

Results of FY2017 Second Quarter

- ◇ Net Sales: **¥357.9 billion**
 - Increase of **¥31.1 billion**, year-on-year
(Excluding exchange rates: increase of **¥16.9 billion**, increased by **5.2%**)
- ◇ Operating Income: **¥16.8 billion**
 - Increase of **¥1.0 billion**, year-on-year
(Excluding exchange rates : increase of **¥1.1 billion**, increased by **7.1%**)
- ◇ Ordinary Income: **¥13.6 billion**
 - Increase of **¥2.1 billion** year-on-year
(Excluding exchange rates: increase of **¥2.3 billion**, increased by **19.7%**)
- ◇ Net income attributable to shareholder(parent company): **¥8.4 billion**
 - Increase of **¥2.3 billion**, year-on-year
(Excluding exchange rates: increase of **¥1.7 billion**, increased by **27.2%**)
- ◇ Free Cash Flow: **¥12.2 billion**, decrease of **¥1.4 billion**, year-on-year

Revised FY2017 Full year forecast

- ◇ Net Sales: **¥720.0 billion**,
increase of **¥20.0 billion** compared with previous forecast (¥700.0 billion)
- ◇ Operating income: **¥39.0 billion**,
increase of **¥3.0 billion** compared with previous forecast (¥36.0 billion)
- ◇ Extraordinary losses: **¥10.0 billion**
No revise from the previous forecast
- ◇ Net income attributable to Shareholder (parent company): **¥13.0 billion**,
increase of **¥3.0 billion** compared with previous forecast (¥10.0 billion)
- ◇ In regards to dividends, the Company plans **¥15** for this fiscal year
No revise from the previous forecast
(an interim and year-end dividend of **¥5** and
a commemorative dividend of **¥2.5**)
- ◇ Exchange-rate form the third quarter: 1USD = **¥110** (previous forecast, ¥110)
and 1EURO = **¥125** (previous forecast, ¥115)

(billion yen)

		FY2016			FY2017		Year on year		
		1H Results	2H Results	Full year Results	1H Results	Full year Forecast	FY2017 1H ②-①		
		①			②		Total	Excl.Forex	Forex
Net sales		326.8	356.5	683.3	357.9	720.0	31.1	16.9	14.2
Operating income		15.8	19.8	35.6	16.8	39.0	1.0	1.1	-0.1
Operating margin		(4.8%)	(5.5%)	(5.2%)	(4.7%)	(5.4%)	(-0.1%)		
Ordinary income		11.5	18.1	29.6	13.6	32.0	2.1	2.3	-0.2
Extraordinary income/loss		-0.1	-14.6	-14.7	-	-10.0	0.1	0.1	0.0
Net income attributable to shareholder (parent company)		6.1	-3.3	2.8	8.4	13.0	2.3	1.7	0.6
Exchange rate	US \$	105.2	111.5	108.4	111.0	110.5	5.8		
	EURO	118.0	119.5	118.8	126.2	125.6	8.2		

2. Net Sales by Region

(billion yen)

	FY2016			FY2017		Year on year		
	1H Results ①	2H Results	Full year Results	1H Results ②	Full year Forecast	FY2017 1H ②-①		
						Total	Excl.Forex	Forex
Japan	92.8	98.7	191.5	99.5	201.5	6.7	6.7	-
Americas	93.4	101.4	194.8	98.8	198.5	5.4	0.1	5.3
Europe	75.2	79.8	155.0	82.5	167.0	7.3	2.0	5.2
Asia and others	65.5	76.6	142.1	77.2	153.0	11.7	8.1	3.6
Total	326.8	356.5	683.3	357.9	720.0	31.1	16.9	14.2

3. Net Sales and Operating Income by Business Sector

<Net Sales by Business Sector>

(billion yen)

	FY2016			FY2017		Year on year		
	1H Results ①	2H Results	Full Year Results	1H Results ②	Full year Forecast	FY2017 1H ②-①		
						Total	Excl.Forex	Forex
Aftermarket	50.7	53.8	104.5	56.2	112.5	5.5	3.2	2.4
Industrial machinery	46.1	52.5	98.6	57.3	114.5	11.2	9.2	2.0
Automotive	230.0	250.2	480.2	244.4	493.0	14.4	4.6	9.8
Total	326.8	356.5	683.3	357.9	720.0	31.1	16.9	14.2

<Operating Income by Business Sector>

(billion yen)

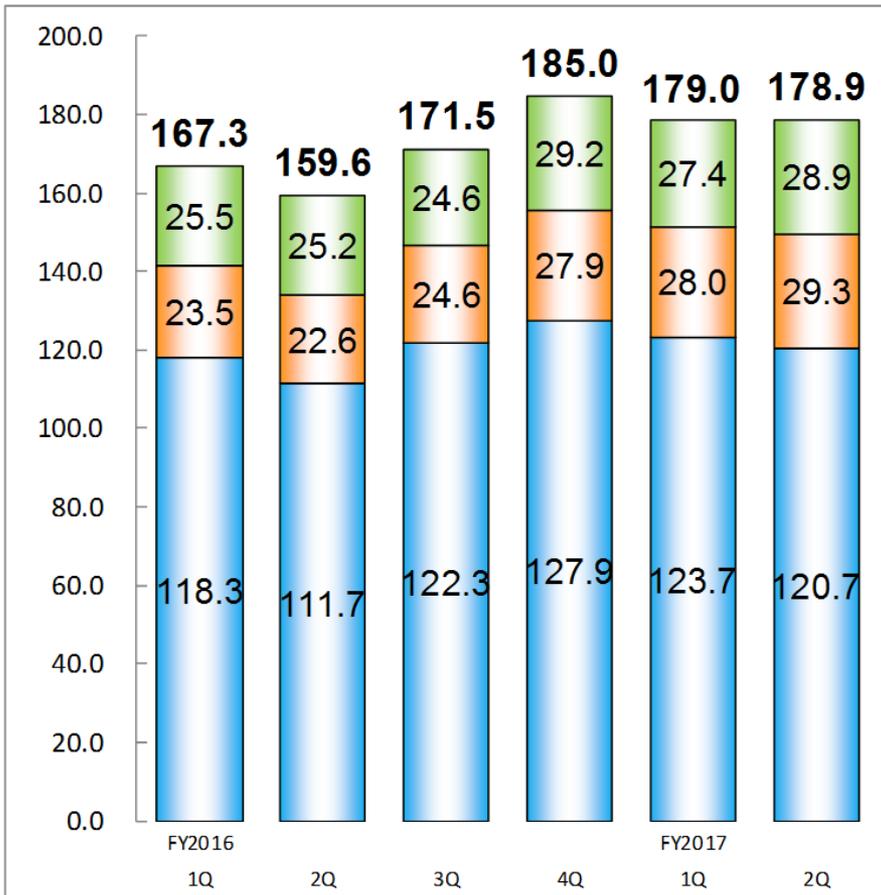
	FY2016			FY2017		Year on year		
	1H Results ①	2H Results	Full Year Results	1H Results ②	Full year Forecast	FY2017 1H ②-①		
						Total	Excl.Forex	Forex
Aftermarket	6.7	7.3	14.0	6.8	15.0	0.1		
Industrial machinery	0.4	1.3	1.6	0.8	2.8	0.5		
Automotive	8.8	11.3	20.0	9.2	21.2	0.4		
Total	15.8	19.8	35.6	16.8	39.0	1.0		

4. Results by Business Sector (Quarterly Trend)

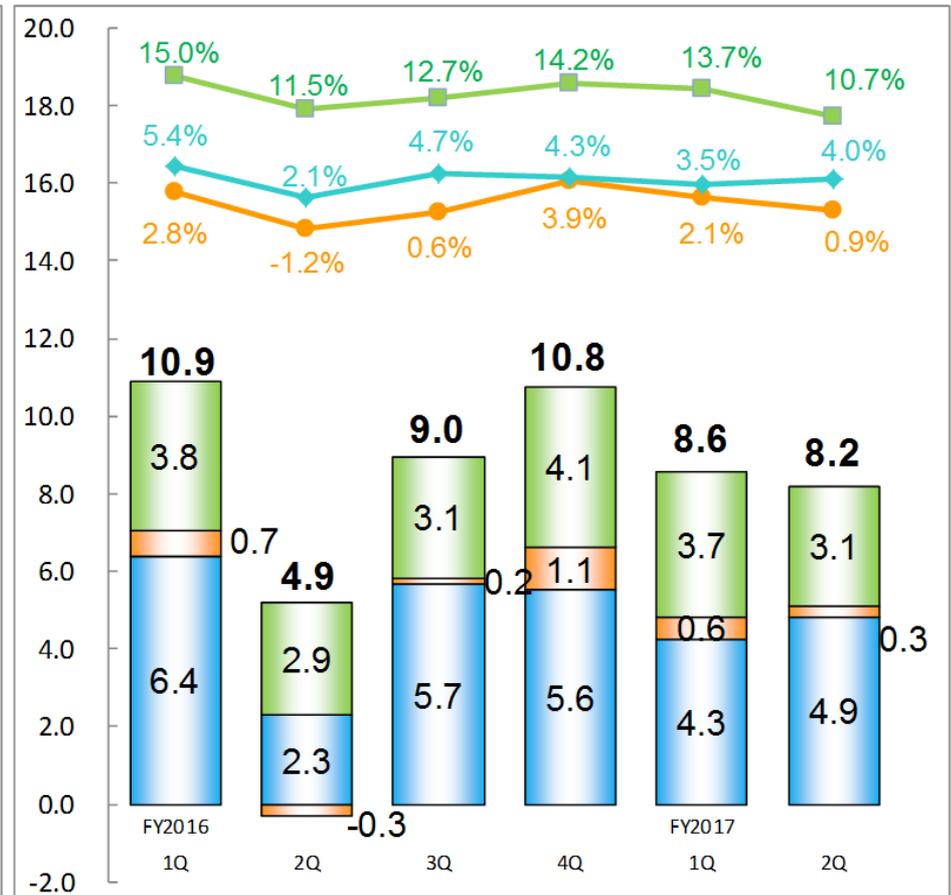
* All figures in billion yen.

■ Automotive
 ■ Industrial machinery
 ■ Aftermarket

Net Sales

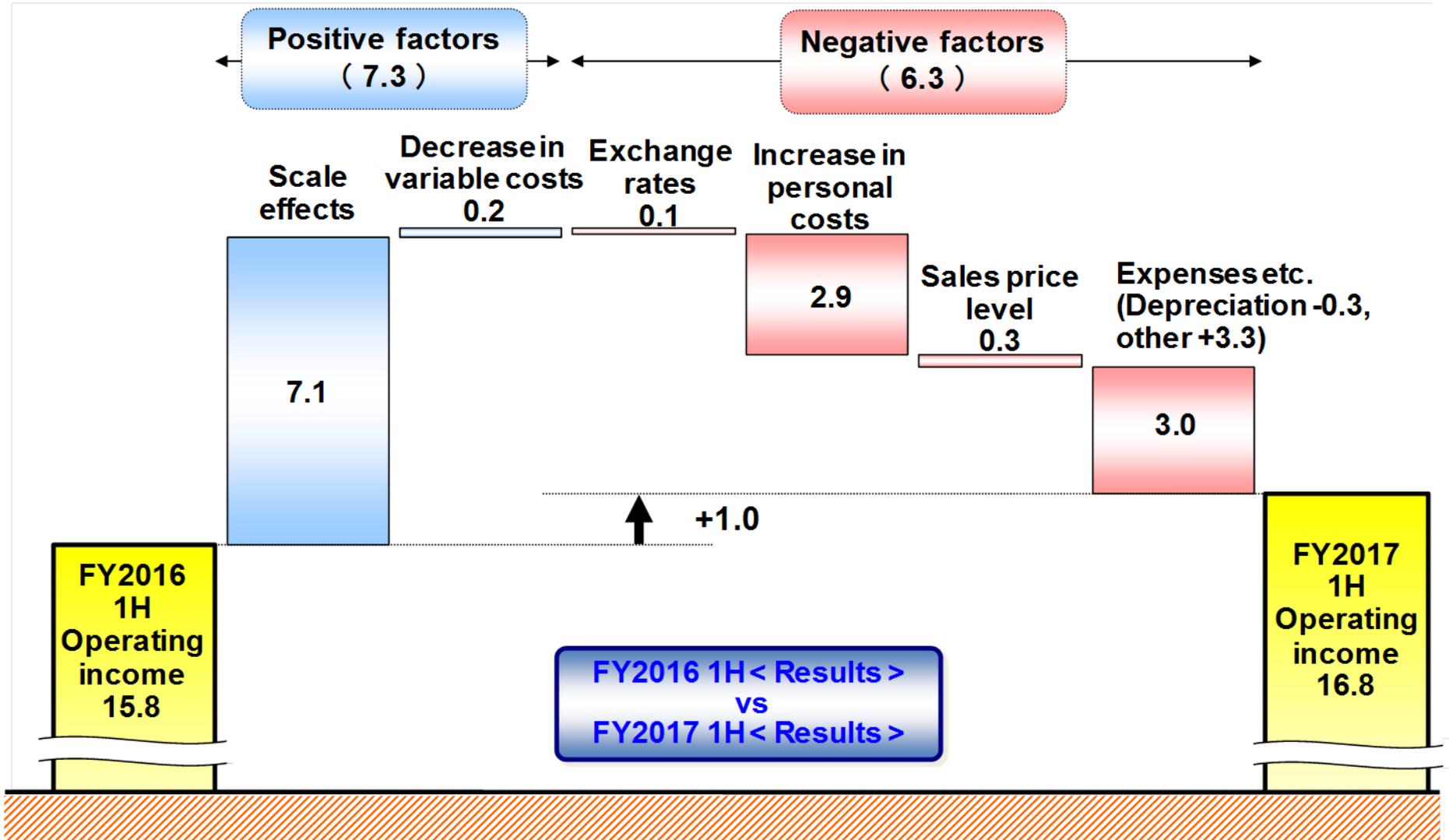


Operating Income/Operating Margin



5. Analysis of Operating Income (FY2017 1H)

* All figures in billion yen.

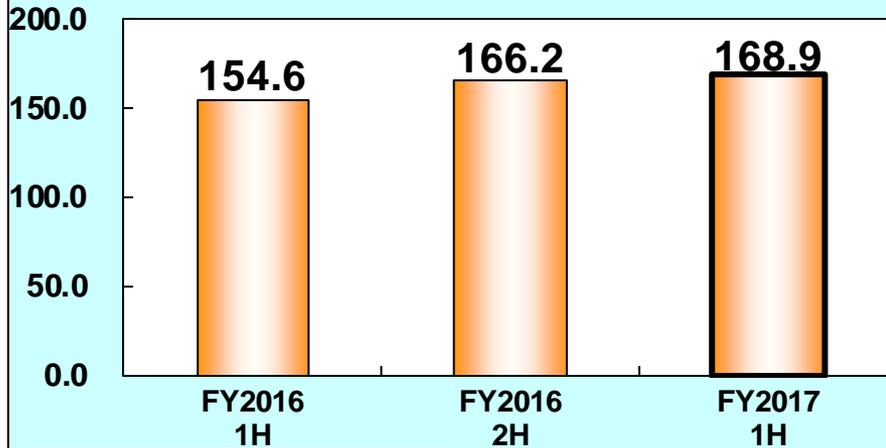


6. Net Sales and Operating Income by Company Location

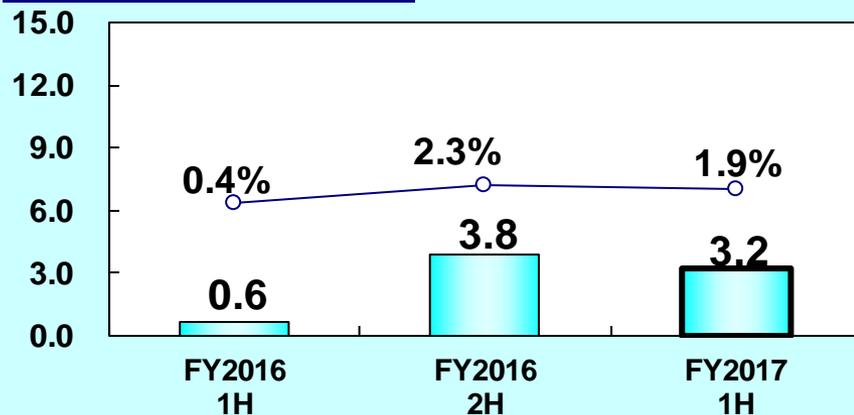
* All figures in billion yen

《 Japan 》

Net Sales

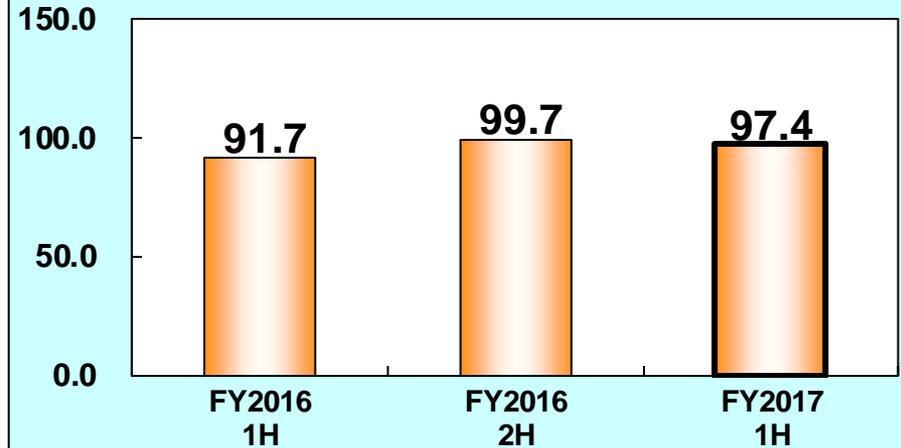


Operating Income

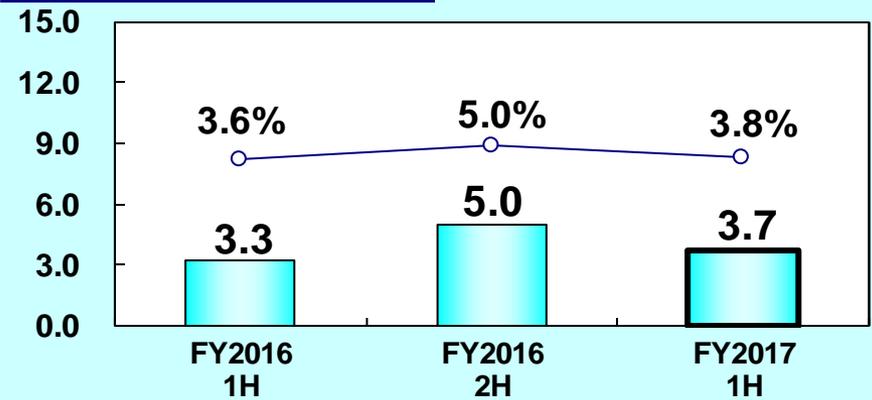


《 Americas 》

Net Sales



Operating Income

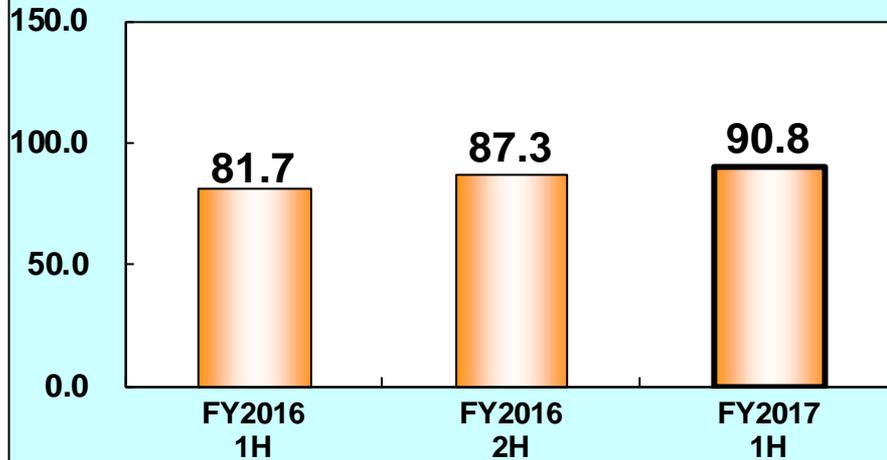


6. Net Sales and Operating Income by Company Location

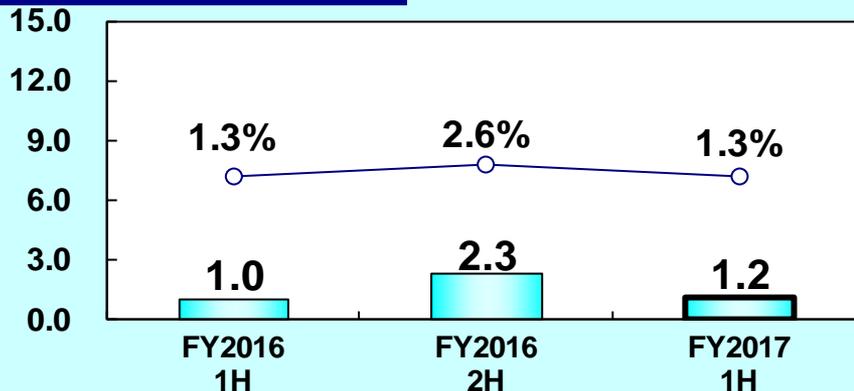
* All figures in billion yen

《 Europe 》

Net Sales

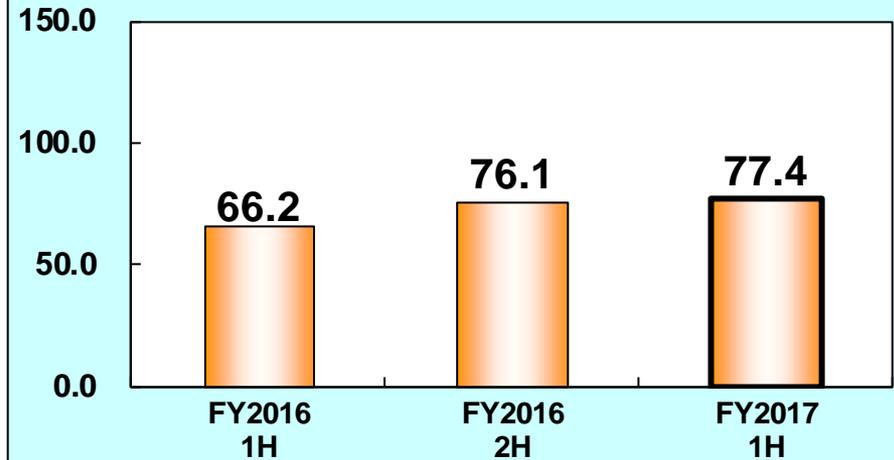


Operating Income

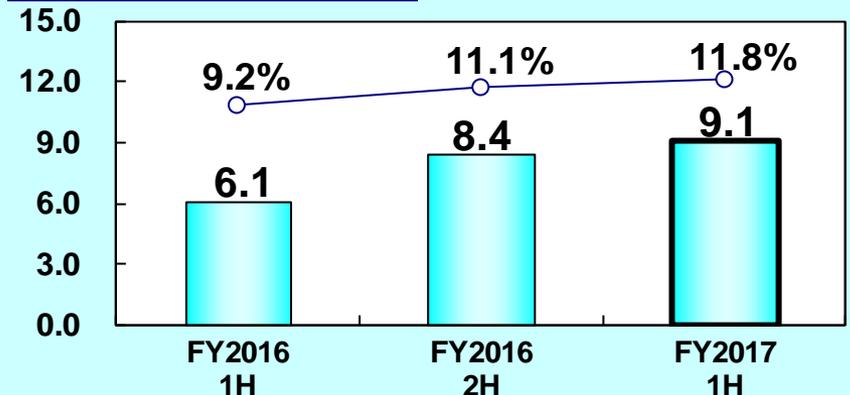


《 Asia and others 》

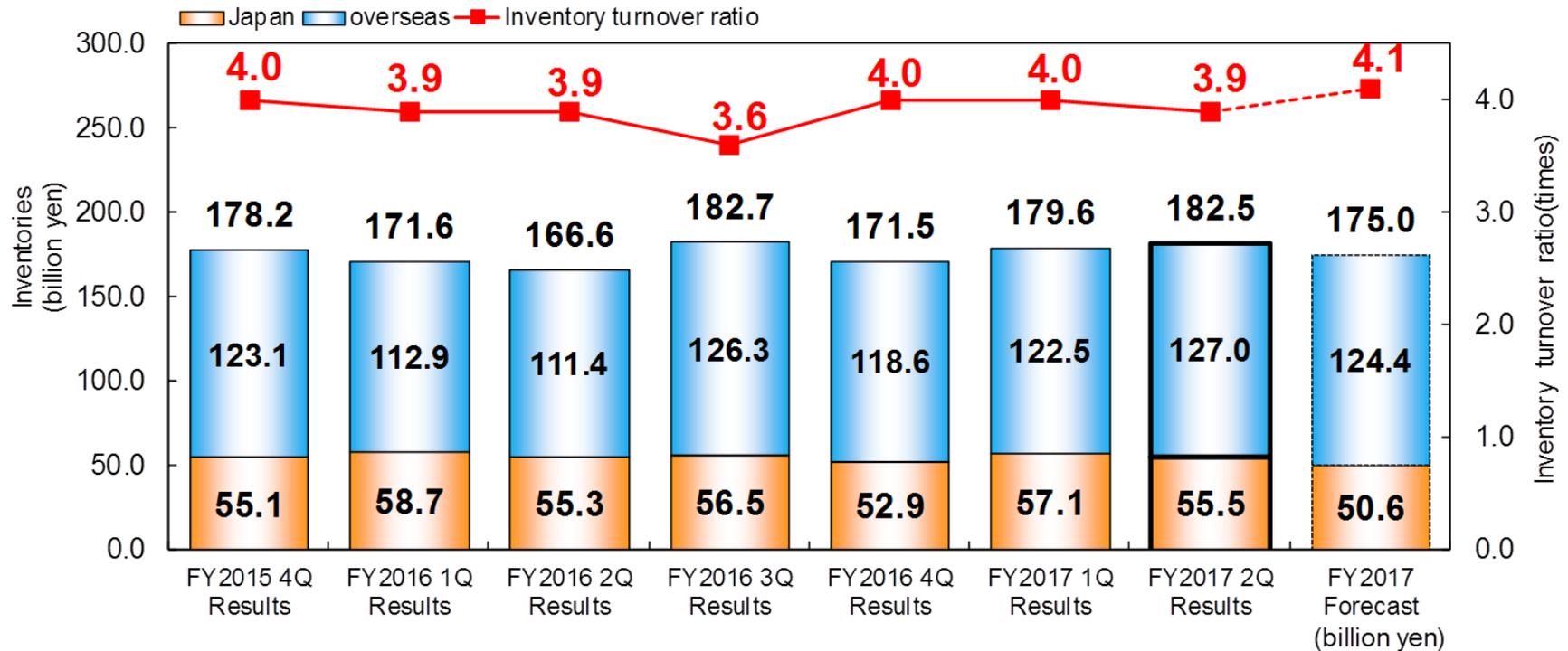
Net Sales



Operating Income

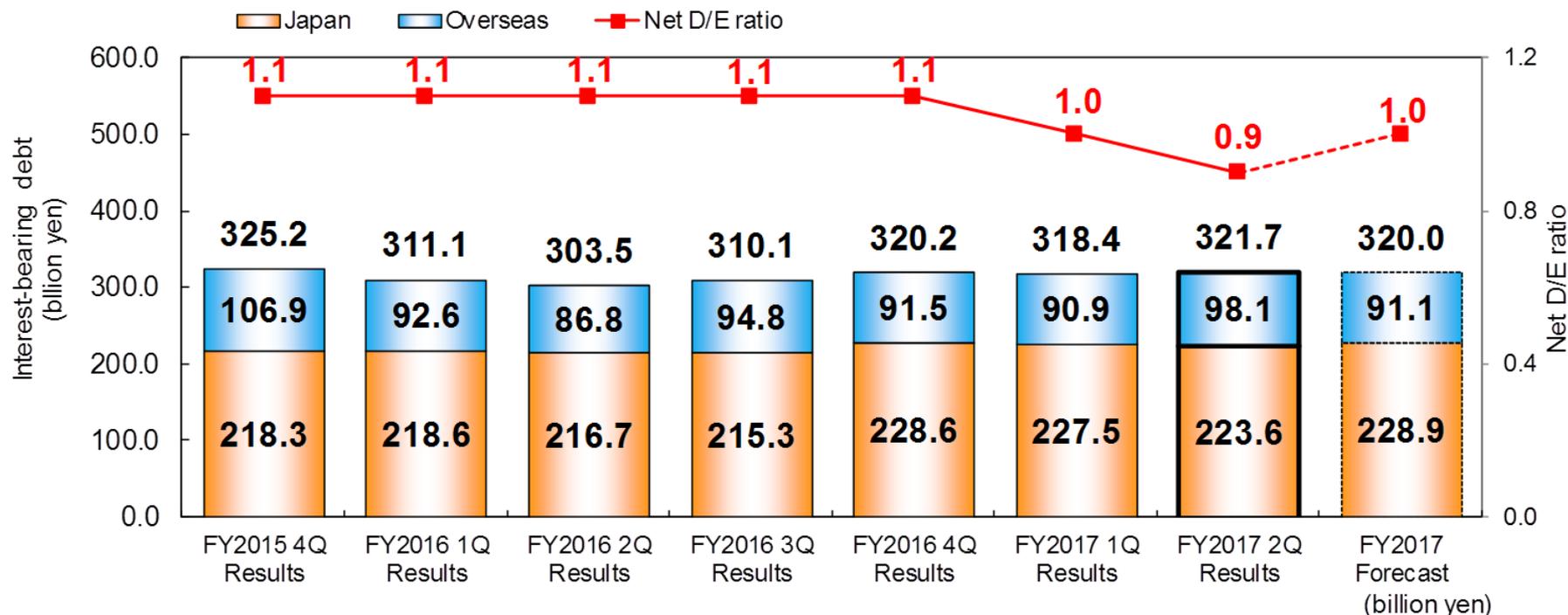


7. Inventories



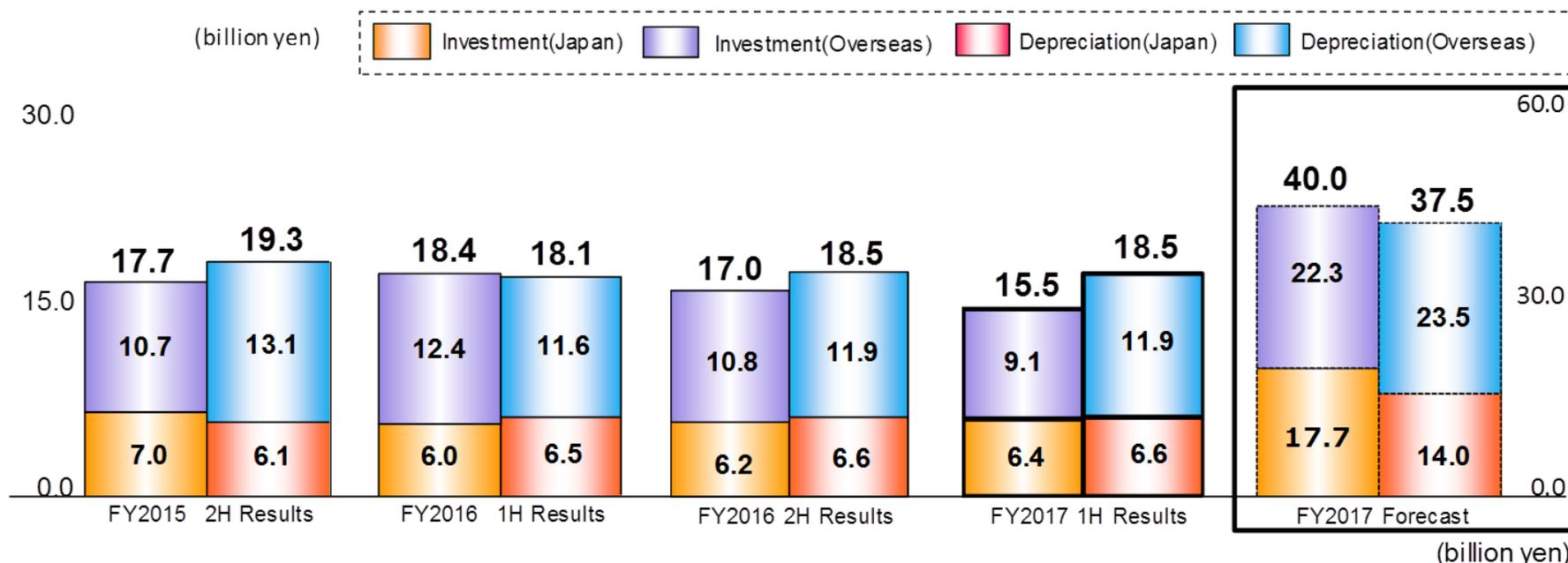
	FY2015 4Q Results	FY2016 1Q Results	FY2016 2Q Results	FY2016 3Q Results	FY2016 4Q Results	FY2017 1Q Results	FY2017 2Q Results	FY2017 Forecast
Inventories	178.2	171.6	166.6	182.7	171.5	179.6	182.5	175.0
(Overseas)	(123.1)	(112.9)	(111.4)	(126.3)	(118.6)	(122.5)	(127.0)	(124.4)
(Japan)	(55.1)	(58.7)	(55.3)	(56.5)	(52.9)	(57.1)	(55.5)	(50.6)
Inventory turnover ratio (times)	4.0	3.9	3.9	3.6	4.0	4.0	3.9	4.1

8. Interest-Bearing Debt



	FY2015 4Q Results	FY2016 1Q Results	FY2016 2Q Results	FY2016 3Q Results	FY2016 4Q Results	FY2017 1Q Results	FY2017 2Q Results	FY2017 Forecast
Interest-bearing debt	325.2	311.1	303.5	310.1	320.2	318.4	321.7	320.0
(Overseas)	(106.9)	(92.6)	(86.8)	(94.8)	(91.5)	(90.9)	(98.1)	(91.1)
(Japan)	(218.3)	(218.6)	(216.7)	(215.3)	(228.6)	(227.5)	(223.6)	(228.9)
Net Interest-bearing debt	257.9	243.2	238.0	252.6	240.9	239.2	234.8	240.0

9. Capital Expenditure and Depreciation



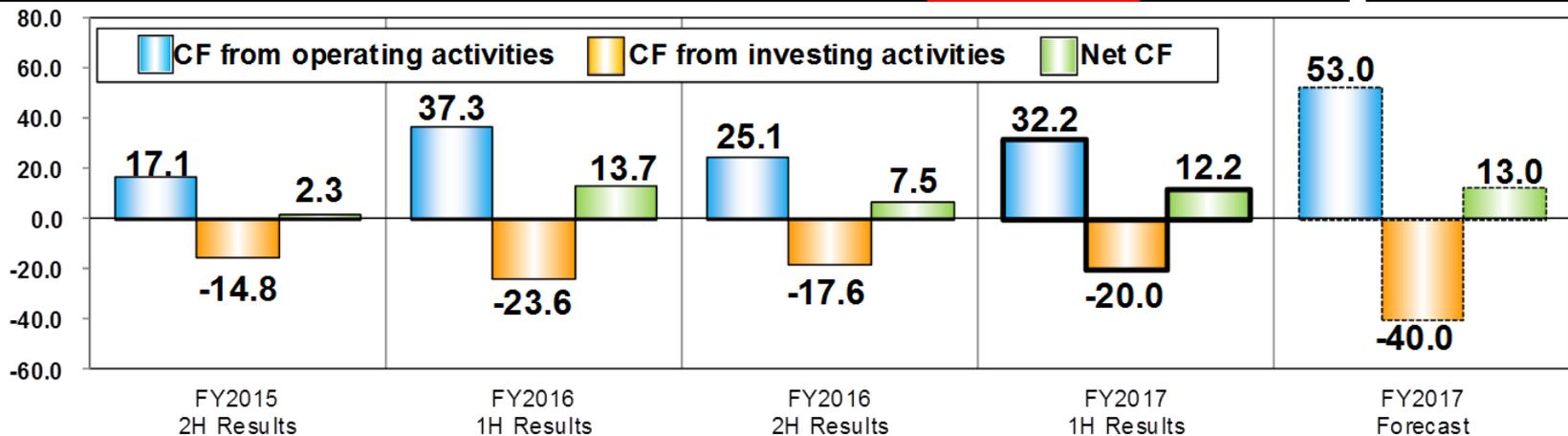
(billion yen)

	FY2015 2H Results	FY2016		FY2017 1H Results	FY2017 Forecast
		1H Results	2H Results		
Capital expenditure	17.7	18.4	17.0	15.5	40.0
(Overseas)	(10.7)	(12.4)	(10.8)	(9.1)	(22.3)
(Japan)	(7.0)	(6.0)	(6.2)	(6.4)	(17.7)
Depreciation	19.3	18.1	18.5	18.5	37.5
(Overseas)	(13.1)	(11.6)	(11.9)	(11.9)	(23.5)
(Japan)	(6.1)	(6.5)	(6.6)	(6.6)	(14.0)

10. Cash Flows

- Cash flows of FY2017 forecast are ¥13.0 billion including ¥10.0 billion of extraordinary losses.

(billion yen)	FY2015	FY2016		FY2017	FY2017	② - ①
	2H Results	1H Results①	2H Results	1H Results②	Forecast	
I . Cash flow from operating activities	17.1	37.3	25.1	32.2	53.0	-5.1
II . Cash flow from investing activities	-14.8	-23.6	-17.6	-20.0	-40.0	3.6
I + II . Net cash flow	2.3	13.7	7.5	12.2	13.0	-1.4
III . Cash flow from financing activities	-6.7	-12.9	4.7	-5.3	-14.0	7.5
IV . Effect of exchanging rate translation on cash and cash equivalents	-7.6	-2.6	1.6	0.7	1.7	3.3
V . Net increase in cash and cash equivalents	-12.0	-1.8	13.7	7.6	0.7	9.4

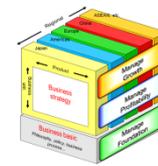


I . Financial Results for First Half and
Forecast for FY2017

II . Initiatives of “NTN 100”

III . For next 100 years

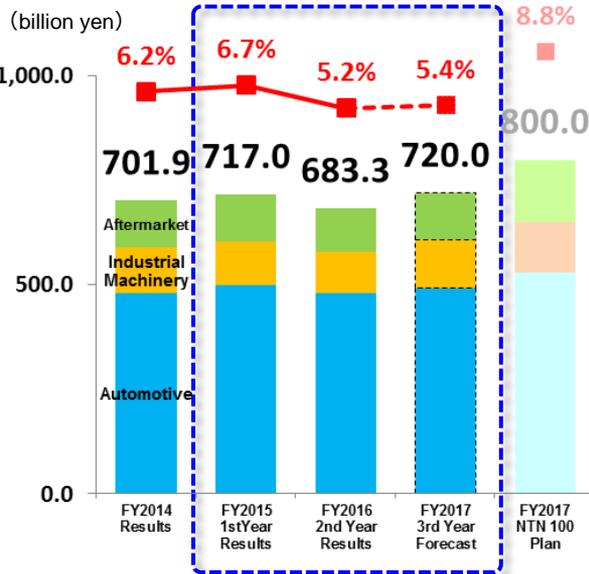
Initiatives of NTN 100: Manage Growth



Due to the sluggish economy in emerging countries, the net sales and operating income in Aftermarket Business and Industrial Machinery Business did not increase. Although the initial target is not expected to be achieved in the Final Fiscal year, the sales in this fiscal year is in good condition due to each initiative.

Transition in Net Sales and Operating Income

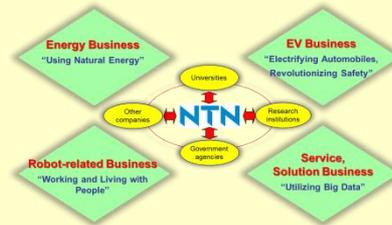
NTN100



Transition in physical quantity of sales (the index is FY2014 as 100)

	FY2014 Results	FY2015 1st Year Results	FY2016 2nd Year Results	FY2017 3rd Year Forecast	FY2017 NTN 100 Plan
Aftermarket	100	100	100	105	137
Industrial Machinery	100	94	96	109	112
Automotive	100	102	107	108	112
Total	100	100	104	107	116

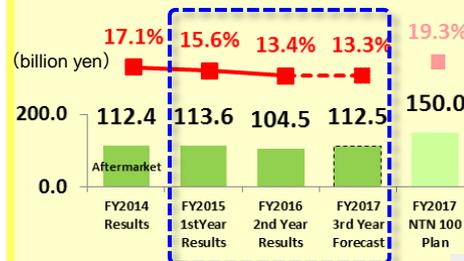
1. Develop New Businesses



- Natural Energy Products and EV related business have been commercializing and the products are on sale.
- Early commercialization of Robot-related Business and Service, Solution Business has been promoted.
- Details explained on Page 24 and after

2. Expand Aftermarket business

Transition in sales of Aftermarket Business

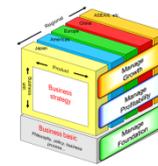


- Each initiative has been promoting although sales and income did not achieve the target
- Increase the number of technical training session at a customer site. Visit 750 companies in FY2015, 900 in FY2016
- Achieved 10% in global market share
- Improvement of the brand image and measurement against counterfeit product



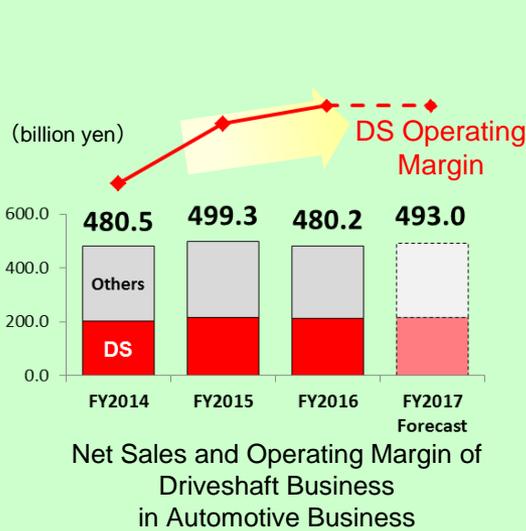
Renew package design of precision bearing

Initiatives of NTN 100: Manage Profitability



Structural Reform of the Driveshaft Business is going smoothly.
Introducing of innovative manufacturing technologies, establishment of new plant and Monozukuri with next-generation technology.

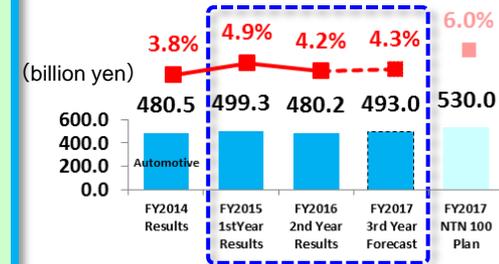
1. Structural Reform of the Driveshaft Business



- Improve the selling price of low-profitable products
 - Increase volume and expand the sales for luxury vehicle
 - Adjust the production load between each business site
 - Increase use of the local material, etc.
- **Operating Margin: Improved more 3pt (target) than expected.**

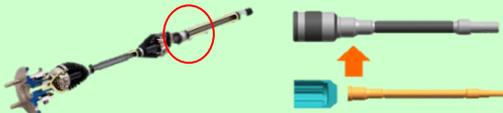


Transition in sales of Automotive Business

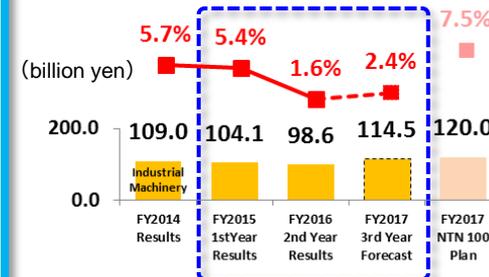


2. Monozukuri with Next-Generation Technology

- Introducing the innovative manufacturing technologies
- Realize the standardization and high yield rate by EBW
- Construct new HT plant in NTN Noto Corp. to establish integrated production system in Noto Region
- Shorten the LT with latest HT technology and strengthen the competitiveness in Industrial Machinery Business and Aftermarket Business

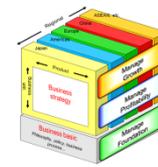


Transition in sales of Industrial Machinery Business



Initiatives of NTN 100: Manage Foundation

Strengthen management and financial foundation



1. Promote the supply chain CSR

Action for social issues regarding human rights, labor practices, environment and anti-corruption.

Signed onto U.N's Global Compact

2. Observance the laws and regulations

Holding "Compliance Committee,"

"Fair Trade Monitoring Committee," "CSR Global Meeting"



CSR Global Meeting

3. Strengthen Risk Management System

Prevent and mitigate globally risk occurrence, promote BCM

4. Investment for strengthening the business and financial foundation

Investment in intangible fixed assets to re-build IT core systems

(FY2016: 5.9 billion yen, FY2017: 8.5 billion yen plan)

TOPIX:

100th anniversary activities

- Sponsor for cycle road race
- "NTN Rotating Work Shop" held for the ties between local communities and training of next generation



Sponsor for TOJ



NTN Rotating Workshop



TOPIX : NTN included in ESG indices

NTN included in ESG indices selected by GPIF in July 2017

- FTSE Blossom Japan Index
- MSCI Japan ESG Select Leaders Index
- MSCI Japan Empowering Women Index



Source : GPIF

TOPIX: NTN participated in Asahi World Forum 2017

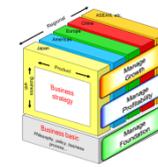
Participated in Panel Discussion of Asahi World Forum 2017
Discuss contribution with natural energy product to local communities through the theme of "Invigorating Communities through Local Production and Consumption of Energy."



Asahi World Forum 2017

Initiatives of NTN 100: Manage Foundation

Key Management Indicators



Creation of FCF for 2 years exceeded expected with the effects of improving profitability and inventory reduction. However, related indicators decreased, because net income decreased due to loss related to Anti-monopoly Act and lawsuits and others.

1. Strengthen asset efficiency	3-year period				NTN 100 target
	FY2016 Result	FY2017 Result	FY2018 Full year forecast	Total amount Average rate	
Reduction of interest-bearing debt (excluding foreign exchange impact)	¥ 26.2 billion reduction	¥ 1.8 billion reduction	¥ 0.2 billion increase	¥ 27.7 billion reduction	¥ 60.0 billion reduction / 3 years
Inventory reduction (inventory turnover ratio)	4.0 times / year	4.0 times / year	4.1 times / year	4.0 times / year	4.5 times / year
Capital expenditure	¥ 36.3 billion / year	¥ 35.4 billion / year	¥ 40.0 billion / year	¥ 111.7 billion / 3 years	¥ 135.0 billion / 3 years
FCF	¥ 12.5 billion	¥ 21.2 billion	¥ 13.0 billion	¥ 46.6 billion	¥ 67.0 billion / 3 years
Equity to capital ratio	29.2%	28.7%	30.3%	29.4%	30.0% or more
Net D/E ratio	1.1	1.1	1.0	1.0	1.0 or less
ROE	6.3%	1.2%	5.4%	4.3%	Over 14%

2. Improvement of the profit margin on sales	3-year period				NTN 100 target
	FY2016 Result	FY2017 Result	FY2018 Full year forecast	Average	
Operating margin	6.7%	5.2%	5.4%	5.8%	8.8%

3. Shareholder return	3-year period				NTN 100 target
	FY2016 Result	FY2017 Result	FY2018 Full year forecast	Average	
Dividends	Annual ¥ 10 Dividend payout ratio of 35%	Annual ¥ 10 Dividend payout ratio of 188%	Annual ¥ 15 Dividend payout ratio of 61%	- Dividend payout ratio of 60%	- Dividend payout ratio of 30% is basic idea

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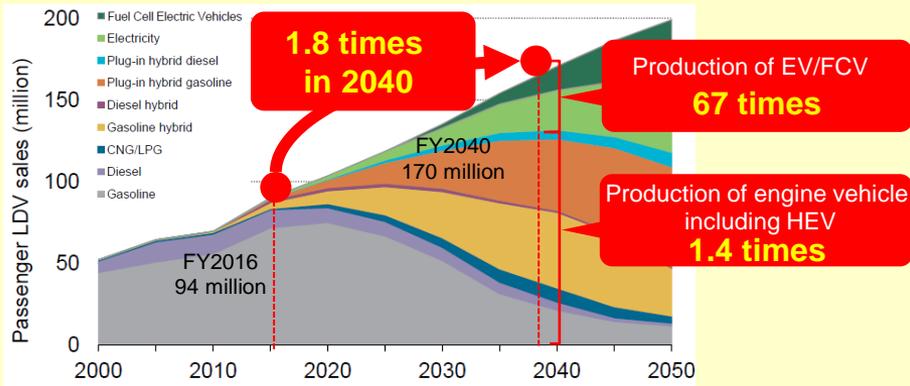
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III . For next 100 years

For Next 100 years: Initiatives for EV and Electrification in Automotive Business

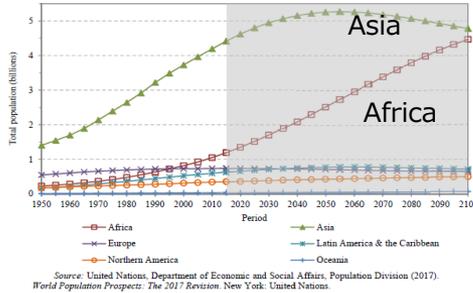
Automotive production will increase by 1.8 times in 2040 and 25% of the production will be EV.
ICE Vehicles including HEV is also expected to increase by 1.4 times.

Increase of Global Automotive Production



Source: IEA/ETP

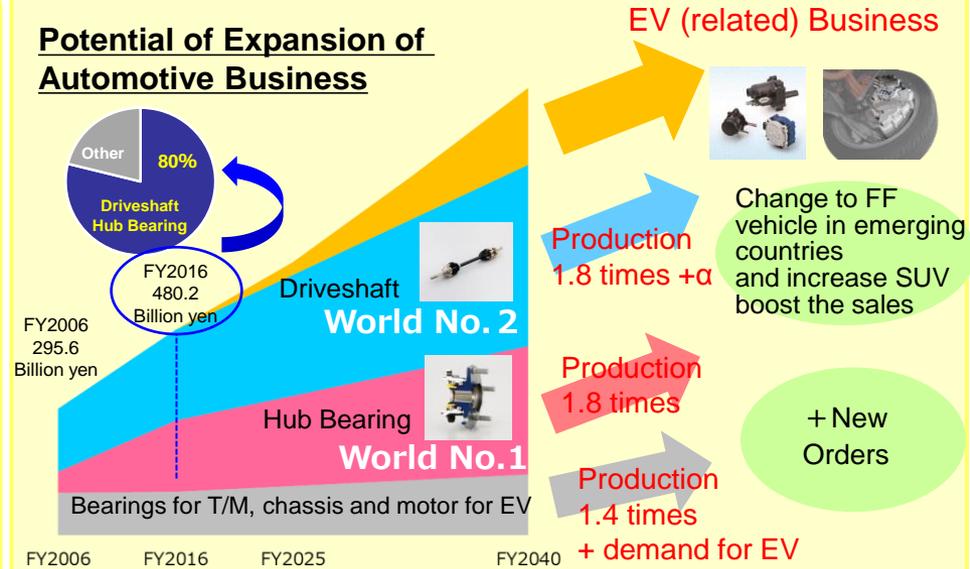
Figure 3. Population by region: estimates, 1950-2015, and medium-variant projection, 2015-2100



Population is growing in Asian and African countries according to population statistics in U.N.
→ Demand for vehicle will increase

Source: WPP2017, UN

Potential of Expansion of Automotive Business



- Hub bearing and driveshaft, NTN main products are essential for both engine vehicle and EV.
- Sales for automotive market are expanding by new products through commercialization of EV-related business, demand for bearing of EV and new orders.

For Next 100 years: Initiatives for EV and Electrification in Automotive Business

Promote development of new products utilizing AI and NTN core technology such as Tribology and sensor.

NTN Core Technology + AI

1. Autonomous Driving and ADAS

High-Resolution Sensor
Safe and Secure



HB with an Integrated High-Resolution Rotation Sensor
(40 times higher than ABS sensor)



In-wheel Motor

Sensor Technology Upgrading

Trend Management at Driving
Damage prevention

2. EV and Electrification

High-Rigidity
Weight Reduction
Quietness and low-vibration
Low-friction



ADS Module



Composite Material Products



Products for electrification (Actuator)



3. Ride Sharing and Car Sharing

Solidity
Long Operating Life
Early Diagnosis
Condition Monitoring System (CMS)



ULTAGE Tapered Roller Bearing for Automotive Application



Auto Parts



“eHUB,” hub bearing with motor generator function

Module for “48V Mild Hybrid System”
Utilize the technologies for hub bearing which hold the world No.1 shares and technologies for motor control and modular cultivated from the development of the In-wheel Motor.
Improve the fuel efficiency by 25%



Low Friction Hub Bearing II

Reduce rotational friction by 50% due to the development of newly designed seal structure and adopting low-friction grease. This eco product **improves the fuel efficiency by approximately 0.42%**



Prediction of operating life Condition Monitoring Technology



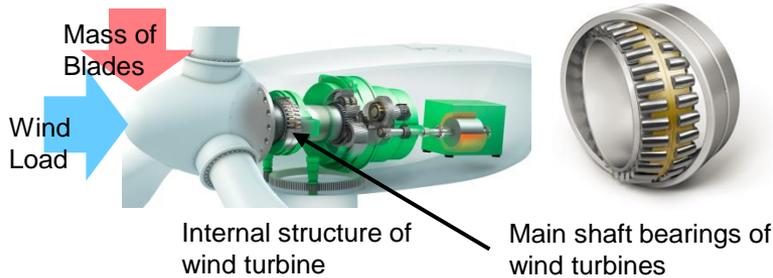
Prediction of bearing operating life utilizing AI

Estimate the damage condition and deterioration of lubricant

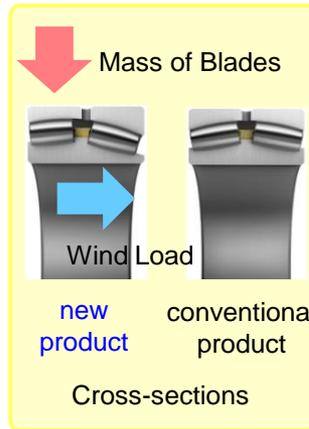
For Next 100 years: Technology Development, Robot-related Business and Service, Solution business

Create new business and new product with unique technology development
 Promote the joint-research with academito strengthen the upper R&D system

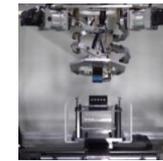
1. Unique product development and sale: “Asymmetrical Spherical Roller Bearings”



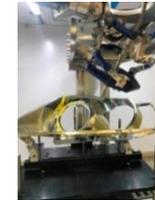
Develop **unique main shaft bearing for large size wind turbine** **Longer operating life** approximately by **2.5 times** with asymmetrical design of left and right roller. Unique design to support the load of rotor and blades at front low and the axial load of wind at rear low.



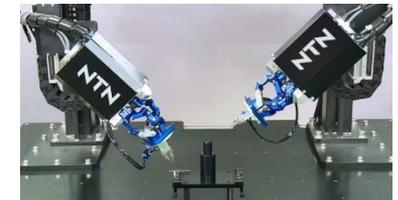
Parallel Link High Speed Angle Control Equipment



Applying driveshaft technology, robot arm product which has **90 operating degrees** and can turn **360 degrees** is released. It enables the same motion as wrist joint in narrow space and **contributes to save manpower**.



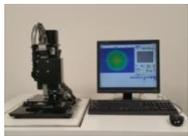
Collaboration with precision cleaning system of Air Water Inc, (photo by Air Water Inc)



Applying to the wrist joint of two-arm robot

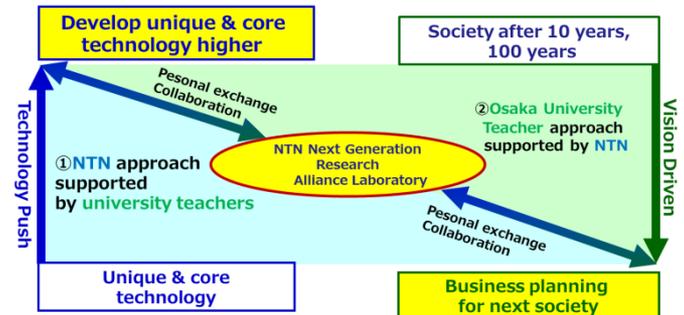
2. Promote collaboration between industry and academic Establish “NTN Next Generation Research Alliance Laboratory”

Establish “NTN Next Generation Research Alliance Laboratory” in the Graduate School of Osaka University which has latest technology to strengthen upper R&D system



- Artificial 3D cellular tissue for drug discovery and applications for regenerative medicine(Expand application of unique technology utilizing microscopic coating).
- Prediction of bearing operating life utilizing AI.
- Trend management and damage prevention of bearing by multi-functional sensor.
- Research advanced CAE analysis technology for low fuel consumption.

Desktop Type Microscopic Coating Applicator



For Next 100 years: Commercialization of Natural Energy Products

Promoting the commercialization of natural energy product utilizing the innovative “blade” technology

1. “NTN Micro Hydro Turbine” launched in addition to “NTN Hybrid Street Light”

“[NTN Hybrid Street Light](#)” (Operating about 80 units in Japan. Getting more and more inquiries)



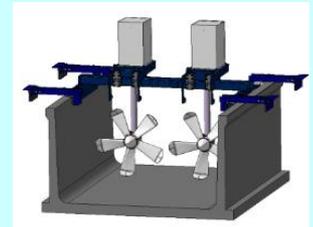
- Generate power from wind and solar power and LED lights **automatically** turn on at night
- Joint research with Osaka University for creating mechanisms regarding disaster prevention monitoring and tourism
- Adapted in “Mimamori Robokun III” and under demonstration test
- Supplying **the light and Wi-Fi communication**, etc. in no wires area around the world
- As 100th anniversary activity, donated in 5 location for reconstruction and crime prevention



“[NTN Micro Hydro Turbine](#)” (Launched from July 2017)



- **Easy installation** to minimize cost and time
- **Generate much power by installing several units** in series and in parallel for optimum power generation
- High-efficiency power generation to harness the energy of water
- Supplied to TEPCO HD and demonstration test is conducting



2. “NTN Vertical Axis Wind Turbine(10kW)” will be launched from 2018

“[NTN Vertical Axis Wind Turbine\(10kW\)](#)” (From 2018 plan)



Demonstration Unit
in Iwata Eco Park

- Excellent quietness and Safety
Almost no wind noise and **very quiet**
- High Efficient Power Generation
Keeping the rotational speed with the wind,
high efficient power generation with natural wind
- High operating rate
Achieve **high operating rate** with winglet



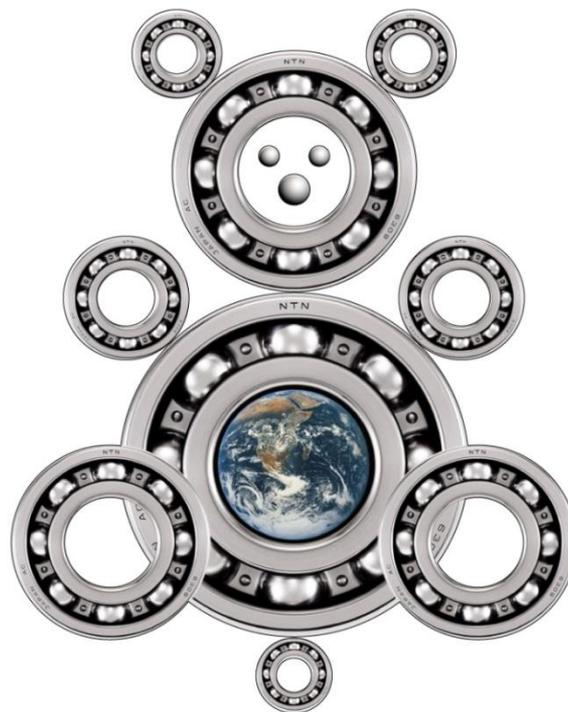
**NK approval
within FY2017(plan)**

Unit for NK approval in
Hibiki Nada, Kita-Kyushu city

世界をなめらかにする仕事。

NTN

100th
ANNIVERSARY



NTNは、2018年に創業100周年を迎えます。

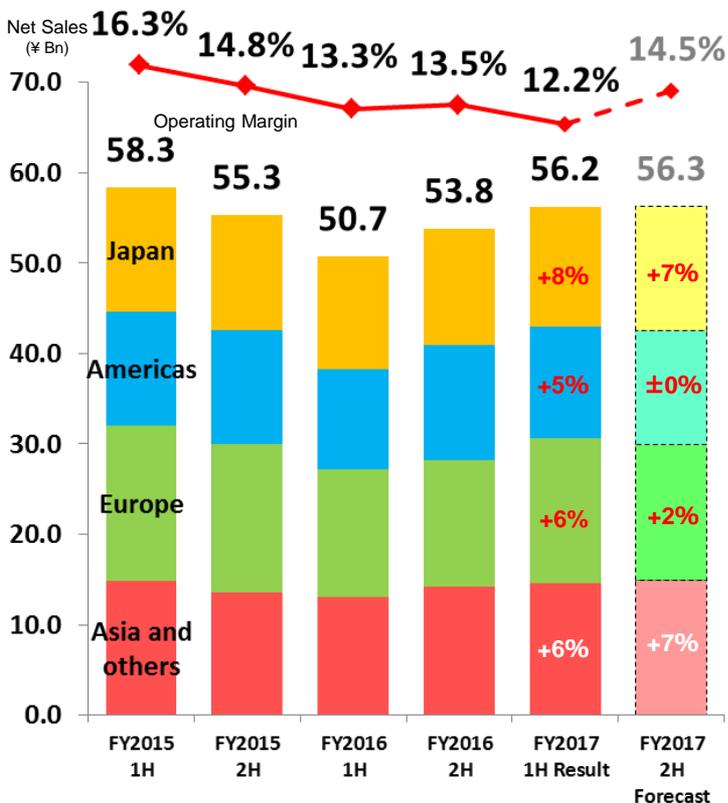
(Reference) Aftermarket Business :

Result for the First Half and Forecast for the Second Half

<Results for FY2017 1st Half (compared with FY2016 1st Half)>

Net sales: ¥56.2 billion (+10.9%), Operating income: ¥6.8 billion (+1.9%)

- In Americas, industrial machinery aftermarket was steady.
In Europe, increased in industrial machinery aftermarket and auto parts.
- Asia and others including China, industrial machinery aftermarket was strong.



<Forecast for FY2017 2nd Half (compared with FY2016 2nd Half)>

Japan	Increase industrial machinery aftermarket
Americas	Industrial machinery aftermarket and auto parts remain almost flat
Europe	Increase sales mainly for major distributors in industrial machinery aftermarket
Asia and others	Although anticipate decrease of auto parts, increase in industrial machinery aftermarket

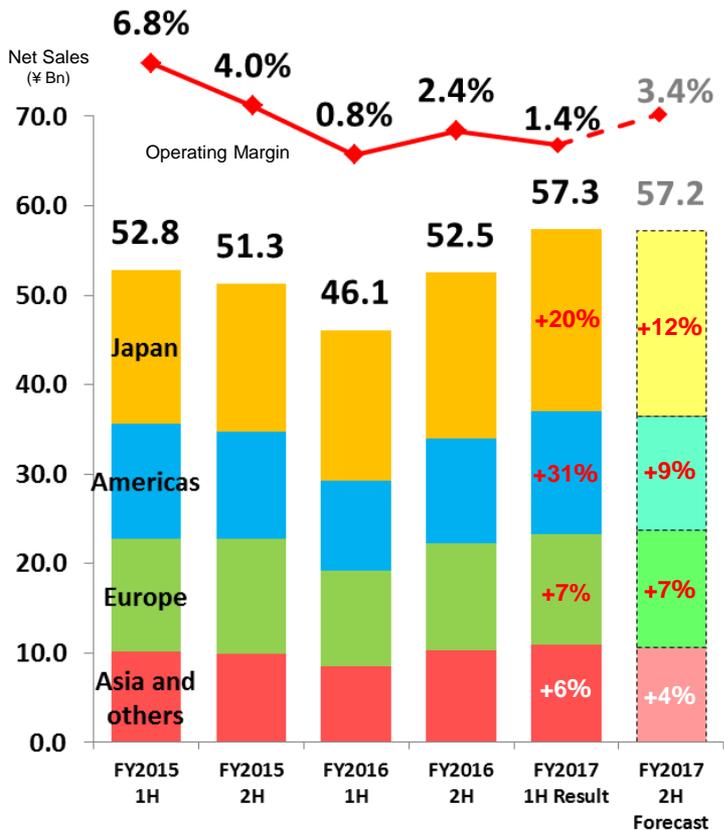
(Reference) Industrial machinery Business :

Result for the First Half and Forecast for the Second Half

<Results for FY2017 1st Half (compared with FY2016 1st Half)>

Net sales: ¥57.3 billion (+24.3%), Operating income: ¥0.8 billion (+123.2%)

- In Japan, increased demand for construction machinery. Gearboxes for construction machinery and robot also increased.
- In Americas, increased demand for construction machinery. For wind turbines and construction machinery increased in Asia and others.



<Forecast for FY2017 2nd Half (compared with FY2016 2nd Half)>

Japan Demands for construction and mining machine are steady. Gearboxes mainly for robots will increase

Americas Continue to increase construction machinery production, and increase demand of repair parts via manufacturer. Also agricultural machinery production will increase.

Europe Increase demands for gearboxes and hydraulic equipment. In aerospace, start delivery for new model.

Asia and others Increase demand of construction machinery and machine tool. Recovery demand of agricultural machinery.

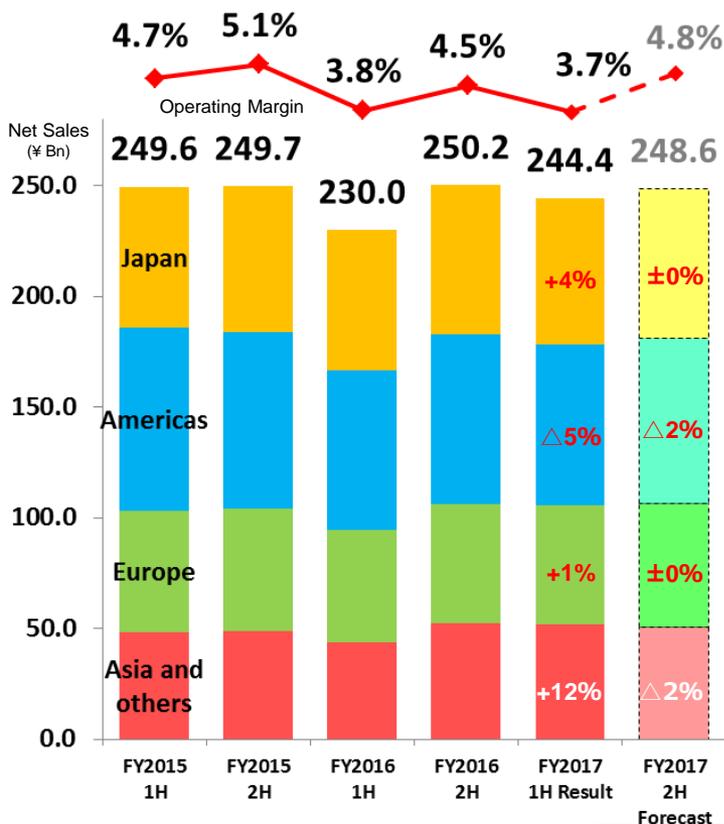
(Reference) Automotive Business :

Result for the First Half and Forecast for the Second Half

<Results for FY2017 1st Half (compared with FY2016 1st Half)>

Net sales: ¥244.4 billion (+6.2%), Operating income: ¥9.2 billion (+4.6%)

- In Japan, increased sales due to launch of the new model and favorable customer's sales of automotive using NTN products.
- In Americas, sluggish demand for the sedan of major manufacturer. In Asia and others, sales increased due to launch new model of Japanese manufacturer.



<Forecast for FY2017 2nd Half (compared with FY2016 2nd Half)>

Japan	Almost flat due to increase customers' sales and launch new model, although effect of transfer of management of our production.
Americas	Decrease sales due to demand for the sedan of major manufacturer, although effect of launching new model and strong demand in South America
Europe	Sales increase a little due to steady demand of European manufacturer.
Asia and others	Decrease sales due to decrease demand in ASEAN, although effect of launch new model in China.