

Presentation for 2nd Quarter Finance March 2017

November 10, 2016

JTEKT Corporation

1. Results for 2nd Quarter of March 2017

2. Forecasts for March 2017

3. Progress of Mid-Term Management Plan

1-1) Consolidated Performance

Net profit of the quarter will significantly decrease, largely due to effects of foreign exchange and due to Anti Trust-related loss, QA cost incurred, etc.

(100 million yen)

	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease	Increase/ Decrease (%)
Net Sales	7,018	6,403	△615	△8.8%
Operating Income	(5.8%) 403	(5.6%) 358	△45	△11.2%
Ordinary Income	(6.0%) 421	(5.3%) 339	△81	△19.4%
Profit attributable to owners of parent	(4.0%) 283	(2.0%) 126	△157	△55.6%
Exchange rate	¥122/USD ¥135/EUR	¥105/USD ¥118/EUR	¥17 strong Yen ¥17 strong Yen	

() : Profit margin on sales

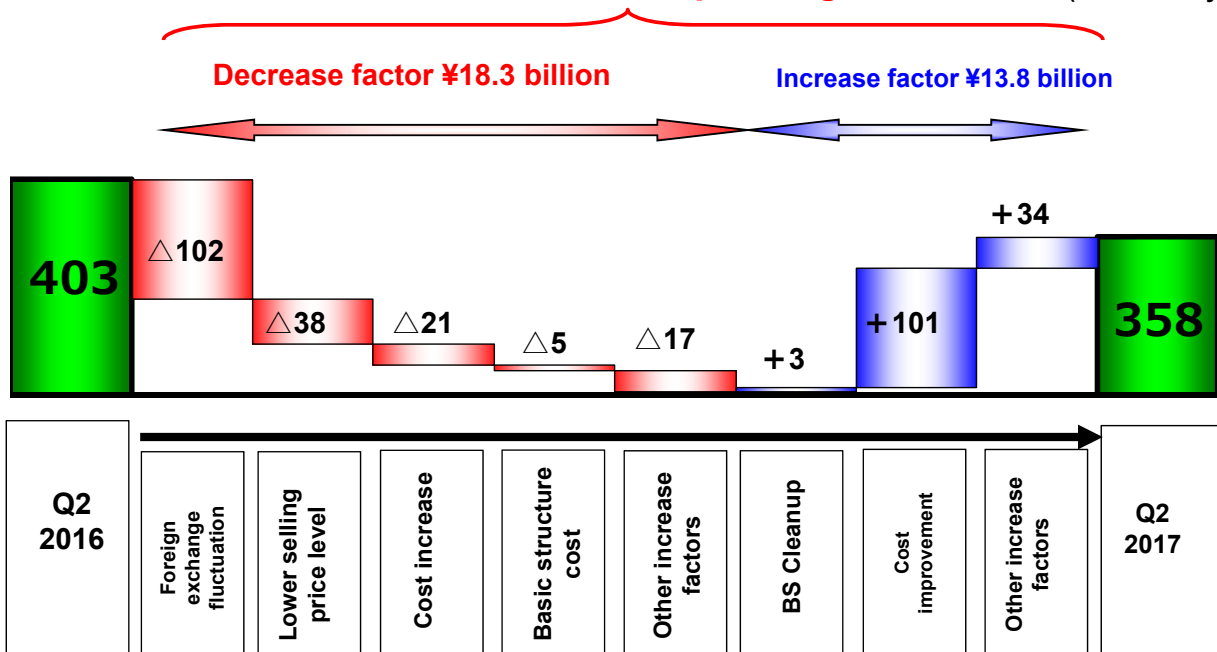
		FY 2016	FY 2017	Increase/Decrease
Dividend	Interim	21 yen	21 yen	0 yen
	Annual	21 yen	21 yen	0 yen

1-2) Operating Income Change Analysis

Despite the significant effects of foreign exchange, cost improvement activities and overseas structure reform are solidly underway

Decrease in the ¥4.5 billion Operating Income

(100 million yen)



1-3) Financial Results by Business (Mechanical Components)

Decrease in the income due to the effects of foreign exchange and a decrease in the demand for domestic bearings; decrease in profits despite cost improvement

(100 million yen)

Mechanical Components	FY 2016 Total of 2Q	FY 2017 Total of 2Q	Increase/ Decrease	Increase/ Decrease (%)
Sales	6,198	5,649	△ 549	△8.9%
Steering	3,391	3,077	△ 314	△9.3%
Drivelines	744	726	△ 18	△2.4%
Bearing	2,062	1,845	△ 217	△10.5%
Operating Income (Operating Income Rate)	357 (5.8%)	306 (5.4%)	△ 50 -	△14.2% -

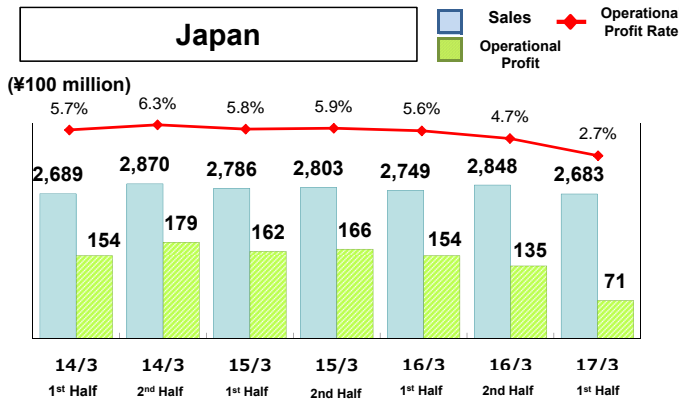
1-4) Financial Results by Business (Mechanical Components and Others)

Despite the decrease of income due to the effects of foreign exchange and a decrease in demand of JTEKT Corp. and domestic subsidiaries, profit increase is secured through cost improvement at JTEKT Corp.

(100 million yen)

Machine Tool, etc.	FY 2016 Total of 2Q	FY 2017 Total of 2Q	Increase/ Decrease	Increase/ Decrease (%)
Sales	819	753	△ 65	△8.0%
Machine Tool	758	694	△ 64	△8.4%
Other	60	59	△ 1	△2.4%
Operating Profit (Profit Rate)	46 (5.6%)	52 (6.9%)	+5 -	+12.5% -

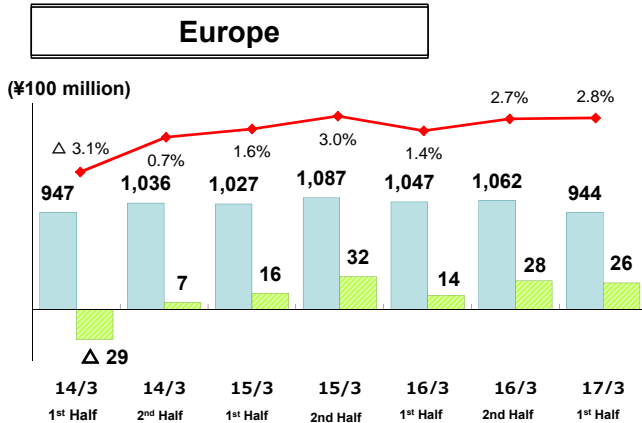
1-5) Financial Results by the company location [1]



	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	2,749	2,683	△ 66
Operational Profit	154	71	△ 82
Profit Rate	5.6%	2.7%	

Decrease in income/profit

Despite a decrease in income and profit due to cost not included in plans and effects of foreign exchange, effects of the improvement is shown in machine tools.

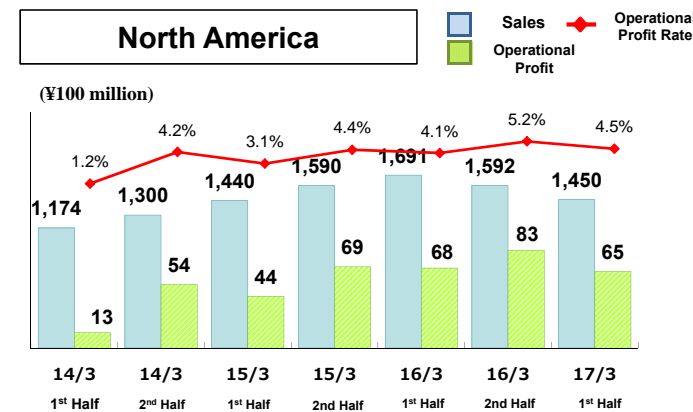


	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	1,047	944	△ 102
Operational Profit	14	26	+12
Profit Rate	1.4%	2.8%	

Increase/Decrease

Income and profit decreased due to the cost not included in the plan and effects of foreign exchange, but machine tools showed the effects of the reform.

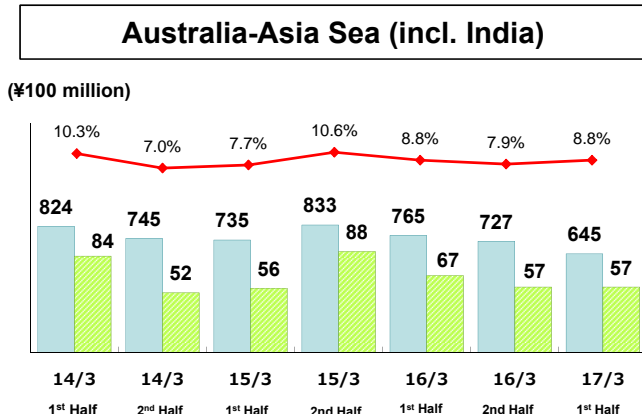
1-6) Financial Results by Company Locations [2]



	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	1,691	1,450	△ 240
Operational Profit	68	65	△ 2
Profit Rate	4.1%	4.5%	

Decrease in income/profit

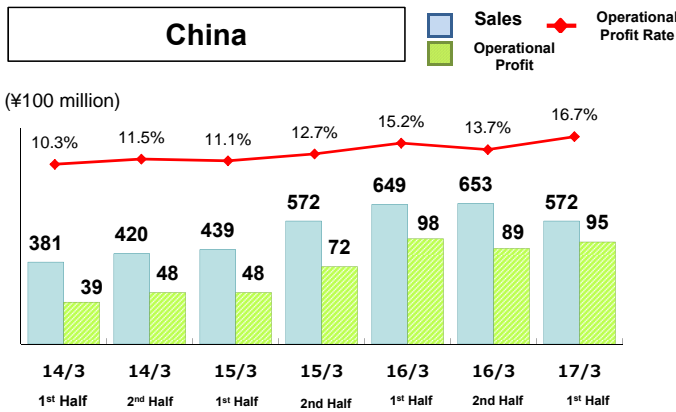
Despite the decrease in income due to the effects of foreign exchange, profit decrease remained slight as a result of significant effects of steering/driveline cost improvement.



	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	765	645	△ 119
Operational Profit	67	57	△ 10
Profit Rate	8.8%	8.8%	

Decrease in income/profit

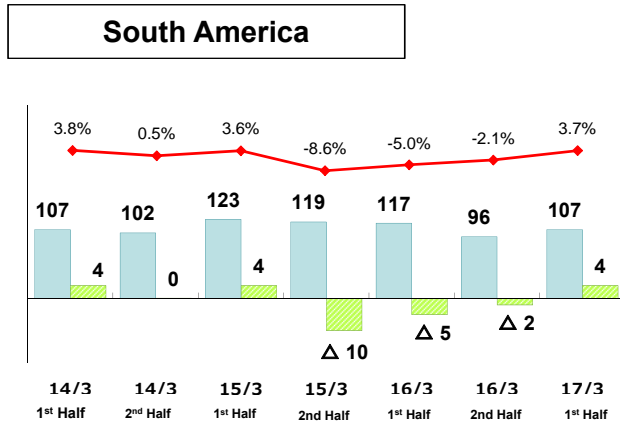
Despite the decrease in income/profit due to the effects of foreign exchange and sales decrease in Thailand, effects of bearing structure reform were seen.



	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	649	572	△ 77
Operational Profit	98	95	△ 2
Profit Rate	15.2%	16.7%	

Decrease in income/profit

Despite the income decrease due to the foreign exchange effects, profit decrease was slight due to the increased income from good sales of Japanese cars and good results of the bearing structure reform



	FY 2016 Total of 2Q	Q3 2017 Total of 2Q	Increase/Decrease
Sales	115	107	△ 8
Operational Profit	△ 7	4	+11
Profit Rate	△ 6.1%	4.3%	

Increase/Decrease

Despite the launch of a new PJ and a slight decrease in income due to the effects of foreign exchange, there was an increase in the profit as a result of improved steering selling price and reduction of cost.

1. Sales Results for the March 2016 Period

2. March 2017 Period: Sales Forecast for the Business Year

3. Progress of the interim management plan

2-1) Forecast for Business Environment

Developed countries

- North America is steady but concerned with smaller demand
- Europe maintains a mild recovery

Developing countries

- China is concerned with a decrease as a reaction to the completion of tax reduction
- Future is unclear for developing countries in general

Japan

- There is a sign of partial recovery in manufacture, etc., but economy in general is flat

2-2) March 2017 Period: Sales Forecast for the Business Year

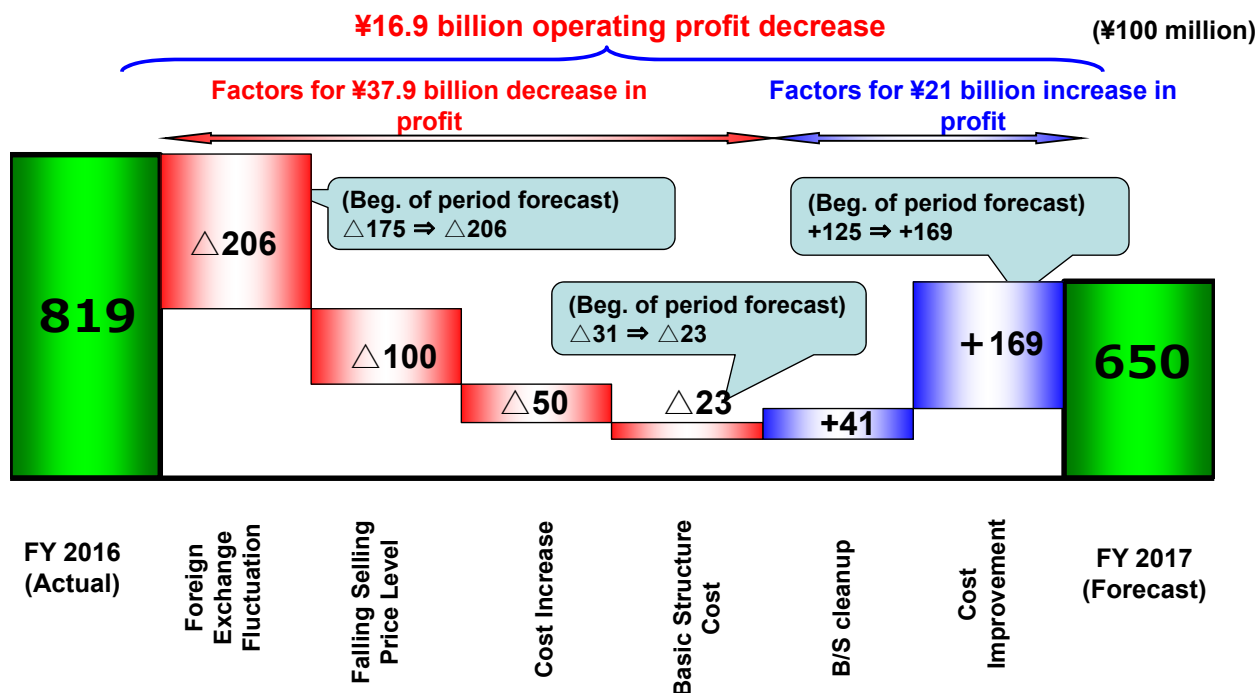
The yen continues to be stronger than the previous period; despite the decrease in income/profit, an upward correction was made to operating/ordinary profit for this business year through sales expansion and cost improvement

	FY 2016 Year (Actual)	FY 2017			Increase/ Decrease Amt.	Increase/ Decrease Rate	FY 2017 Year (Beginning of Period)
		1 st Half(Actual)	2nd Half(FCST)	Year (Forecast)			
Sales	13,999	6,403	6,297	12,700	△1,299	△9.3%	13,000
Operational Profit	(5.9%) 819	(5.6%) 358	(4.6%) 292	(5.1%) 650	△169	△20.7%	600
Ordinary Profit	(5.8%) 812	(5.3%) 339	(4.4%) 281	(4.9%) 620	△192	△23.7%	610
Net Profit	(3.5%) 486	(2.0%) 126	(3.2%) 204	(2.6%) 330	△156	△32.2%	410
Exchange rate (Apr.-Mar.)	¥120/USD ¥133/EUR	¥105/USD ¥118/EUR	¥100/USD ¥110/EUR	¥103/USD ¥114/EUR	¥17 Strong Yen ¥18 Strong Yen		¥105/USD ¥120/EUR
Capital Investment Amt.	631	236	564	800	+168	26.7%	800
Amortization	584	270	320	590	+5	1.0%	590
Dividend	¥42	¥21	¥21	¥42	—		¥42

() refers to sales profit rate

2-3) Analysis of Operating Income Increase/Decrease in Comparison with the Previous Period

A decrease of profit is expected due to the effects of foreign exchange and increase in the cost of engineering research such as ADAS and IoE and accrued retirement benefit



1. Sales Results for the March 2016 Period

2. March 2017 Period: Sales Forecast for the Business Year

3. Progress of the interim management plan

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1. Review of the 1st Half Period

2. Progress Status of Mid-term Management Plan

- 1) Steering Systems Business
 - 2) Drivelines Business
 - 3) Bearing Business
 - 4) Machine Tools & Mechatronics Business
- (Enhancement of Fundamentals)
- 5) Global HR Management
 - 6) Operational Reform of Indirect Departments

1. Review Of the 1st Half Period

Summary

Profit & Loss Trend
(Management Rate)

Management Index (Consolidated)

3-1) Review – Summary

[Review of 1st Half Period 2016]

Despite the continued severe situation caused by the ever strong yen, securely implemented were the profit structural improvement focusing on the bearing structural reform and acceleration and promotion of ADAS / IoT businesses for the future.

Major activities

Solidifying footing

- (Bearing) Improvement of profit in China/Asia as a result of structural reform
- (Bearing) Establishment of technology exchange meetings with important industrial machinery customers
- (Bearing) Development new distributors in Asia/developing countries
- (Machine Tool/Mechatronics) Production start at the machining center in China

Bullet Loading

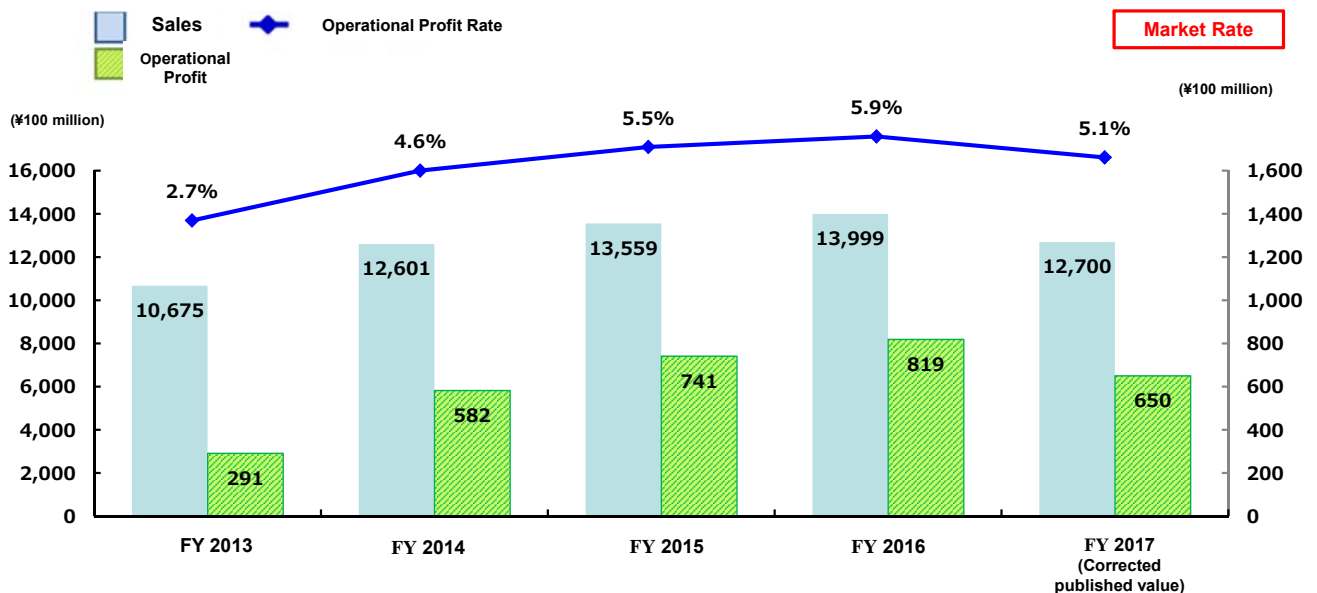
- (STG) Accelerate development of STG for ADAS
- (STG) Currently considering North African supply strategy
- (Machine Tool/Mechatronics) Promotion of starting an loE manufacturing service division

Priority Tasks

- (Bearing) [JAPAN] Proceeded as scheduled but not-budgeted cost increased
- (Bearing) [Europe] Delay of the European NRB structural reform

3-1) Review – Profit & Loss Trend (Market rate)

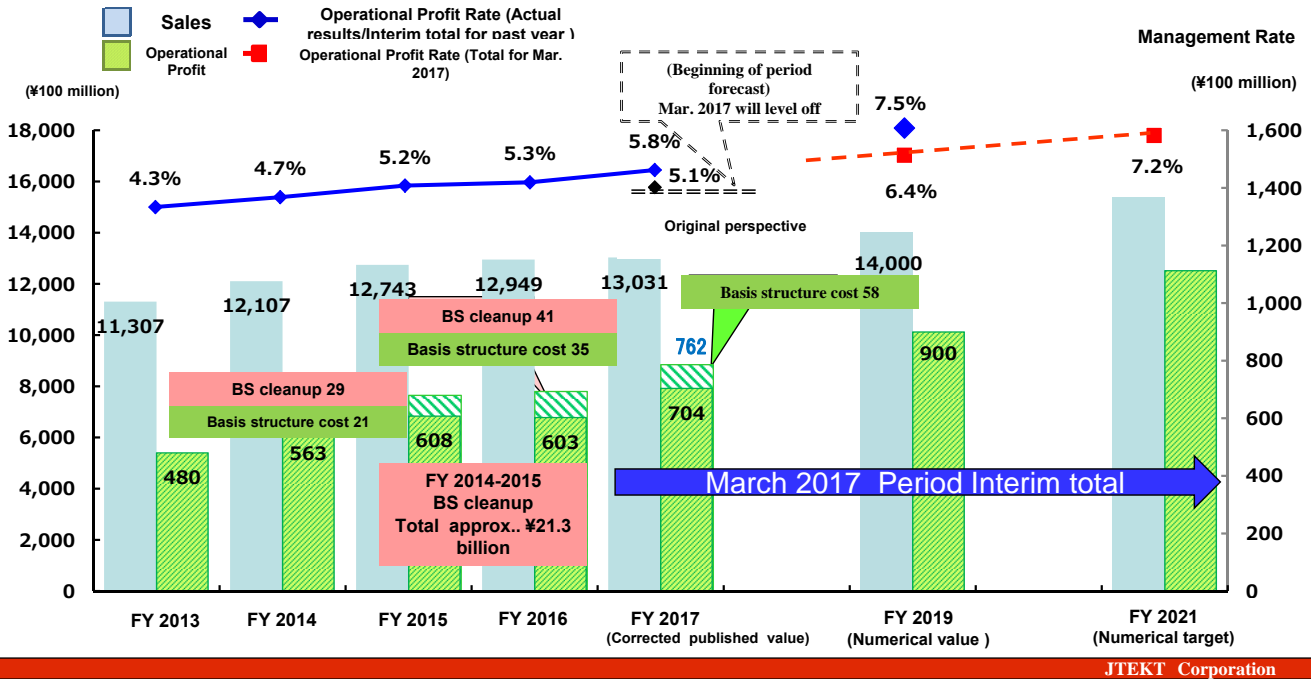
Income/profit is expected to fall in comparison to the previous period due to the effects of foreign exchange, although beginning-of-term prediction for operational/ordinary profits will have an upward correction in Q3 of 2017



Exchange Rate	¥83/USD	¥100/USD	¥110/USD	¥120/USD	¥103/USD
	¥107/EUR	¥134/EUR	¥139/EUR	¥133/EUR	¥114/EUR

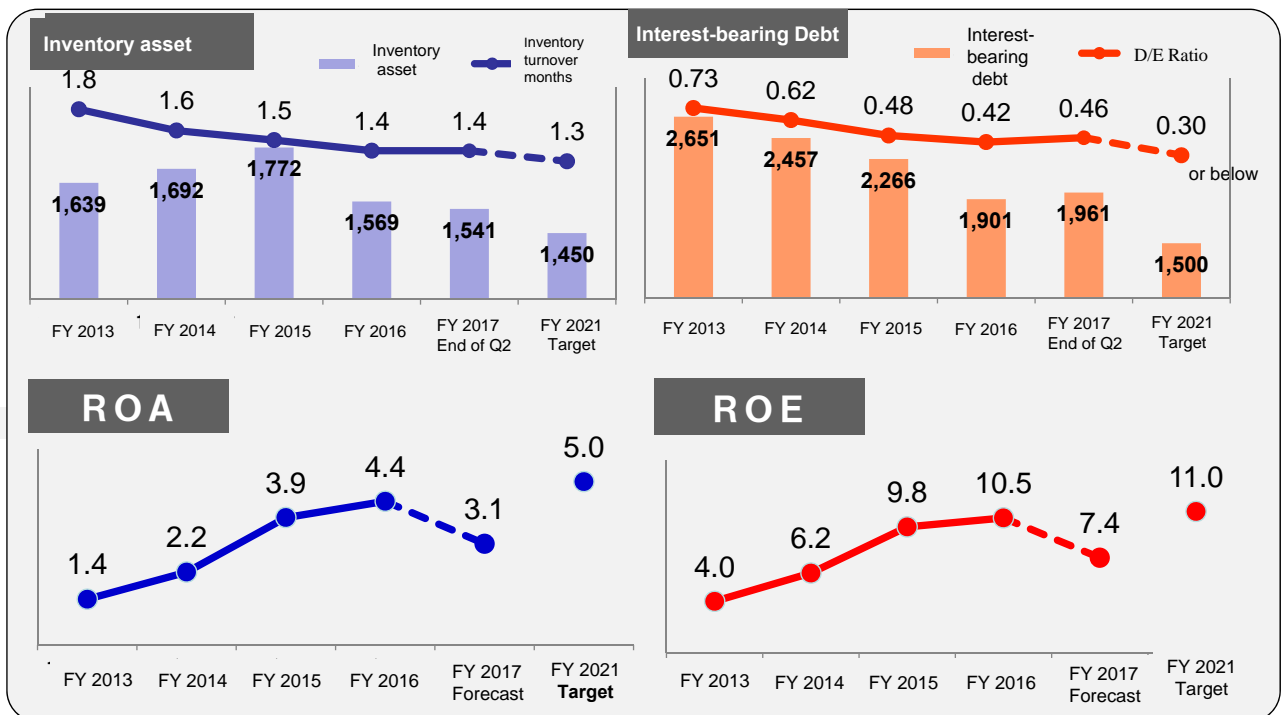
3-1) Review – Profit & Loss Trend (Management rate)

<Business structure evaluation (fixed exchange rate)>
 (Operational rate: \$/¥95; EURO: ¥130)
 The structure is solidly improving as a result of the overseas structural reform
 ⇒ Complete the structural reform to lay the course for solid profit structure



3-1) Review – Management Index (Consolidated)

ROA/ROE deteriorates due to Anti-trust Law losses



1) Steering Systems Business Operations

* Abbreviations

- STG : Steering
- EP-EPS : Electric Power Steering
- DP/DP-EPS : Dual Pinion-Type Electric Power Steering
- RP/RP-EPS : Rack Parallel Type Electric Power Steering
- SBW : Steer by Wire
- PM System : Project Management System

3-2-1) Roles & Aims

Roles & Aims

With the “World’s No. 1” & “Only One” spirit, continually deliver value to our customers and keep evolving as the all-time leading supplier on the market

Mid-term target Steering systems	Maintain the top global share for automotive steering systems	Share 25%
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Priority activities

Strengthen product potential	<ul style="list-style-type: none"> • Corresponding to functional safety, small/lightweight, fuel-saving • Introduce competitive products to the market • Accelerate promotion of ADAS development
Business model revolution	<ul style="list-style-type: none"> • Strengthen global negotiations/front loading activities • Strengthen sales price strategy/cost planning potential
Improve supply method	<ul style="list-style-type: none"> • Organize a global supply system • Establish a global production preparation PM system • Clarify MCU/column business deployment

Sales/profit forecast for FY 2018

(Based on management rate)

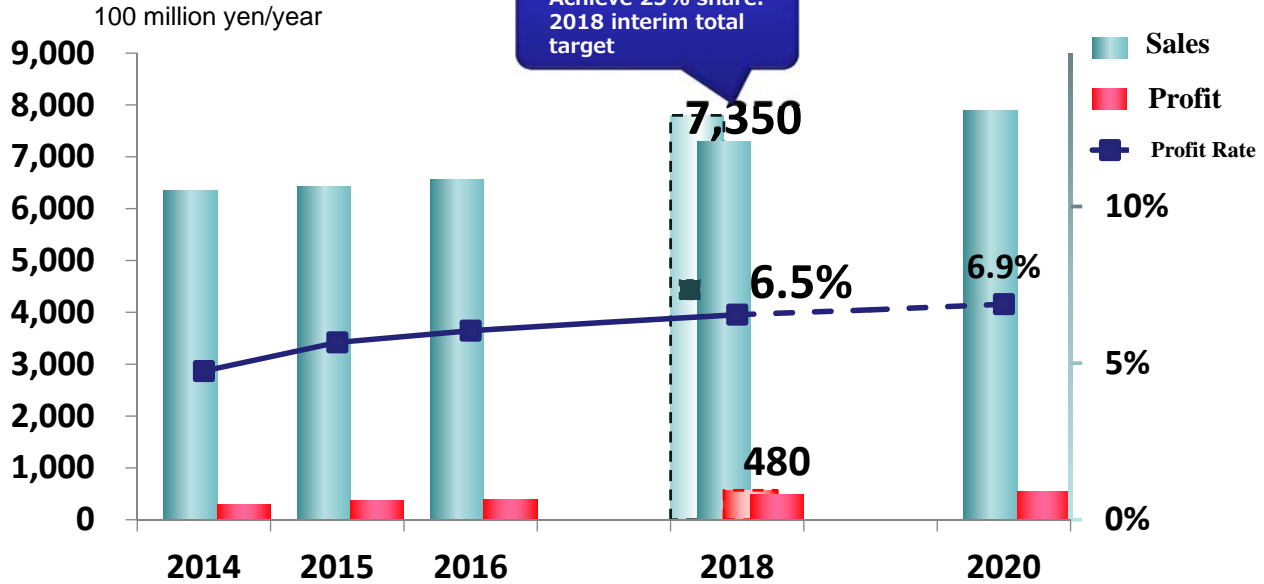
Both sales and profit will steadily increase toward 2018

- Sales Stagnant market growth is steadily growing
- Profit Cost reductions will be strongly promoted against intense market competition

2020 and beyond

Accelerate developing ADAS-compatible steering, etc. in response to the 2020+ trend

Achieve 25% share:
2018 interim total target



3-2-1) 1st Half Period Review

		2016 1st Half action items and review	2016 2nd Half activities
Sales reform	Achievements	<ul style="list-style-type: none"> ✓ Continue PM System strengthening ✓ Complete building the Global manufacture standard PM system (PM = Project Management) 	<ul style="list-style-type: none"> ➢ PM System Promotion of sales expansion to Detroit 3 ➢ Global manufacture standard PM System Promoting toward 2018 global PJ
	Challenges	<ul style="list-style-type: none"> ✓ Despite strengthened sales expansion of Detroit 3, results are yet to be seen 	
Enhance profitability	Achievements	<ul style="list-style-type: none"> ✓ Continue promoting the Sales price/cost strategy activities (* activities to plan standard prices that can win with the new PJ) - Re-build a winnable scenario - Expand applicable goods (set up RP sectional meeting) 	<ul style="list-style-type: none"> ➢ Continue promotion of strengthened sales price/ cost activities <ul style="list-style-type: none"> - Horizontal development of items with decreased cost - Start the Period II China price/cost sectional meeting
	Challenges	<ul style="list-style-type: none"> ✓ More competitive market 	
Business strategies for strengthening product potential	Achievements	<ul style="list-style-type: none"> ✓ Activities for developing next-generation goods - Promote development of ADAS-compatible STG - Next-generation internally manufactured MCU prototype: complete evaluation 	<ul style="list-style-type: none"> ➢ Continue promoting activities to develop next-generation goods ADAS, next-generation MCU, high-output DP RP-EPS for large vehicles
	Challenges	--	
Global supply system	Achievements	<ul style="list-style-type: none"> ✓ Aim for Japanese domestic RPEPS manufacture ✓ Promoting strengthening of North America business foundation ✓ Evaluating expansion to North Africa 	<ul style="list-style-type: none"> ➢ Complete manufacture of Japanese domestic RPEPS and PF3 columns ➢ Continue activities based on North America business foundation ➢ Continue promoting the discussion on expanding to North Africa ➢ Plan China's EPS manufacture strategies
	Challenges	<ul style="list-style-type: none"> ✓ Evaluate China's EPS manufacturing system 	

2) Drivelines Business Operations

*** Abbreviations**

- ITCC : Intelligent Torque-Controlled 4WD Coupling
- ASSY : Assembly (components made of plural units)
- PM System : Project Management System

3-2-2) Roles & Aims

With the “World’s No. 1” & “Only One” spirit, continually deliver value to our customers and keep evolving as the all-time leading supplier on the market

Mid-term target Drivelines Advance to be a leading global company as a supplier of driveline systems

Priority activities

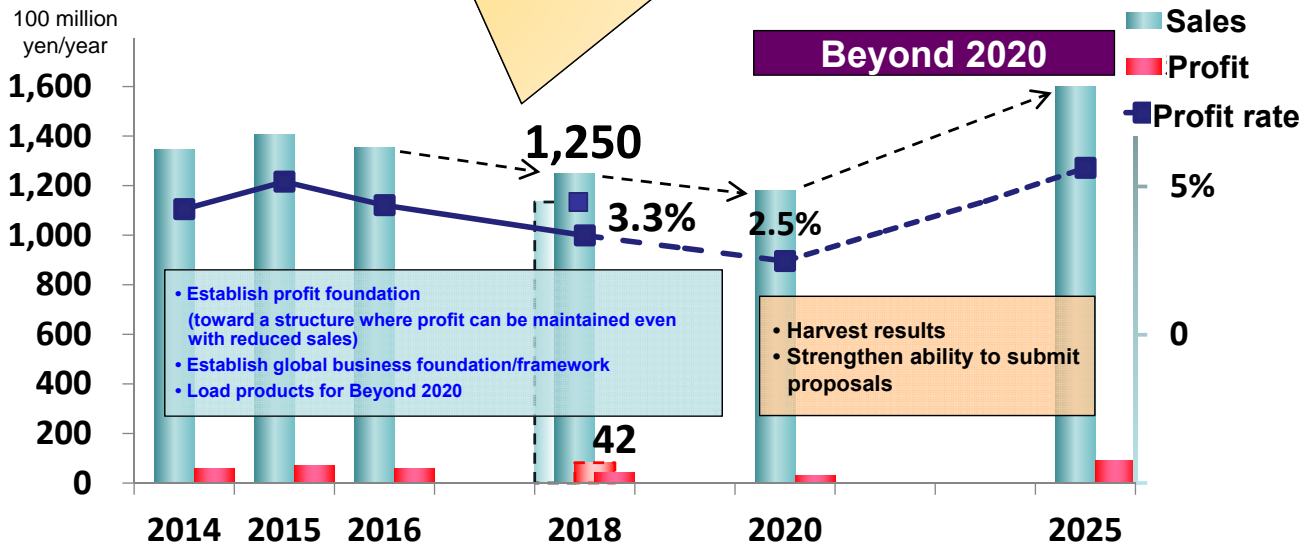
Business model reform	<ul style="list-style-type: none"> • Strengthen global business negotiation capabilities/ frontloading activities • Strengthen sales price strategy/cost planning ability • Enhance the drive shaft CVJ business operations foundation • Strengthen system responsiveness/capabilities
Strengthening product potential Business operations strategies	<ul style="list-style-type: none"> • Size reduction/Cost reduction/High performance • Unitization/Modularization • Product development in new fields
Global supply system	<ul style="list-style-type: none"> • Re-establishment of global production hubs fully through maximum use of production capacity

3-2-2) Forecast for Achievement in 2018: Mid-term Business Plan

Severe environment continues from 2016 to 2020.
Sales • Concentration of the drive shaft CVJ business reduces workload
 • Delayed modularization reduces ITCC workload in North America
Profit • Reduced due to decrease in sales
 • Intensified market competition
 • Increased fixed costs

(Based on management rate)

Aim at becoming a leading company growing continuously after 2020



3-2-2) 1st Half Period Review

		Action items in 1st Half 2016 and review	2016 2nd Half activities
Sales Innovation	Achievements	<ul style="list-style-type: none"> Continue PM System strengthening Continue EU/North America markets survey activity (Promote joint activities by Europe and North America) 	<ul style="list-style-type: none"> Continue activities of PM system and market survey Agreement on the cooperative structure with differential gear manufacturer
	Challenges	<ul style="list-style-type: none"> Detailed cooperation scheme with differential gear manufacturer Take orders for detailed projects 	
Enhance profitability	Achievements	<ul style="list-style-type: none"> Continue promoting sales price/cost strategy meetings <ul style="list-style-type: none"> Expand applicable products (set up Torsen sectional meetings) Continue promoting large-room activities (* Cost reduction activities for mass-production projects) 	<ul style="list-style-type: none"> Continue promoting sales price/cost activities <ul style="list-style-type: none"> Strengthen/promote the torque control device parts Continue promoting large-room activities <ul style="list-style-type: none"> Global sharing of VA item Promote cost reduction including fixed cost
	Challenges	--	
Strategies for strengthening product potential Business operations	Achievements	<ul style="list-style-type: none"> Strengthen development/project for new products <ul style="list-style-type: none"> Determine the direction of differential modules Promote the development of next-generation FCV 	<ul style="list-style-type: none"> Enhancement of new product development planning <ul style="list-style-type: none"> Continue promoting toward taking orders for differential modules development Aim for taking orders of uniform-velocity joints for propellers Evaluate commercialization of propeller shafts in North America Aim for completing the development of valves for next-generation fuel battery cars
	Challenges	<ul style="list-style-type: none"> Delayed incoming orders for uniform-velocity joints Improve the performance of valves for next-generation fuel/battery cars 	
Global supply system	Achievements	<ul style="list-style-type: none"> Strategies for reorganization of plants in North America <ul style="list-style-type: none"> Promoting jointly with the North America locals 	<ul style="list-style-type: none"> Restructure North American plants/plan on the direction <ul style="list-style-type: none"> Incorporate into the 2017 interim total
	Challenges	--	

3) Bearing Business Operations Strategies

*** Abbreviations**

- HUB: Hub Unit
- T-HUB: Tapered Roller Hub Unit
- TRB: Tapered Roller Bearing
- NRB: Needle Roller Bearing
- SBB: Single Ball Bearing
- SBW: Steer-by-Wire

Long-term vision for bearing business operations

Continue creating value, impress customers, and be praised for business operations
 — Lift the "Koyo" brand to be the top brand in the world —

Target image	Overall Business	<ul style="list-style-type: none"> • Be a highly profitable business unit by transitioning from quantity to quality • Build lean and competitive structure (Enhance the business structure to solidify footing for growth)
	Automotive BRG	<ul style="list-style-type: none"> • Enhance frontloading activities • Bring high value-added products to the market in a timely manner by forecasting changes • Maintain position as one of Top 2 suppliers in the world
	Industrial/aftermarket BRG	<ul style="list-style-type: none"> • Implement solution proposal-type business that exceeds expected values • Create No. 1 & Only One products and provide new technologies/services • Aftermarket field: Improve presence in the global market

3-2-3) Forecast for achieving Mid-term Plan

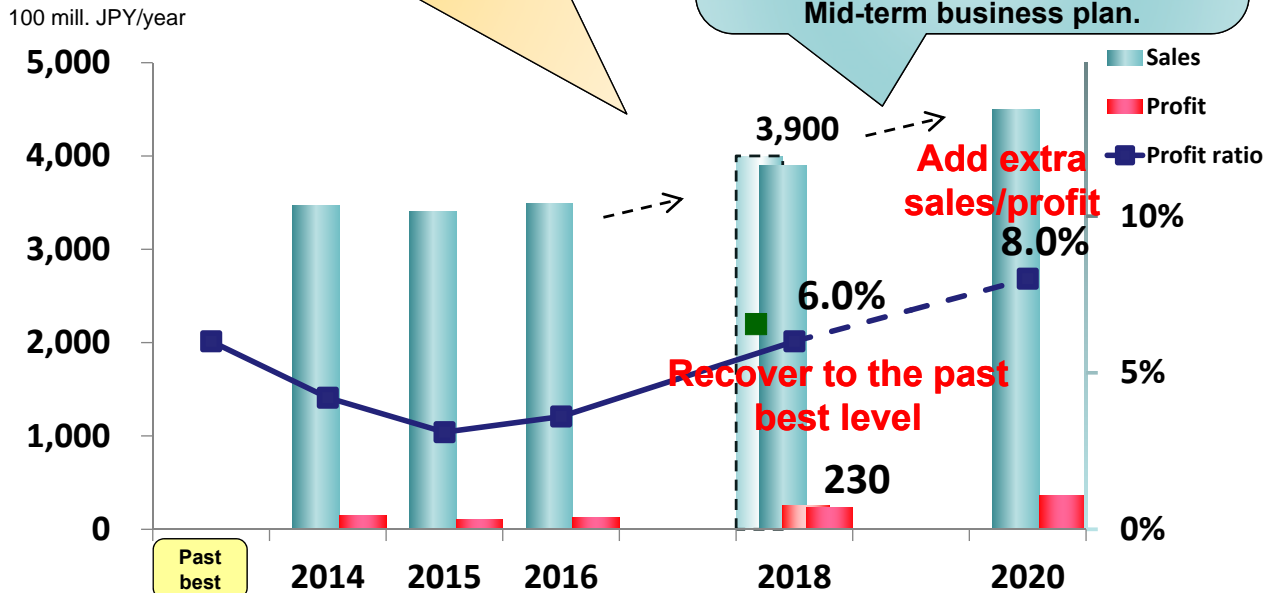
<Actions for priority tasks>

Analyze internal/external environmental factors for the past best and establish a structure that can deal with changes flexibly (carry out structural reform). Then, achieve 2018 Mid-term business plan with new measures.

(Management rate)

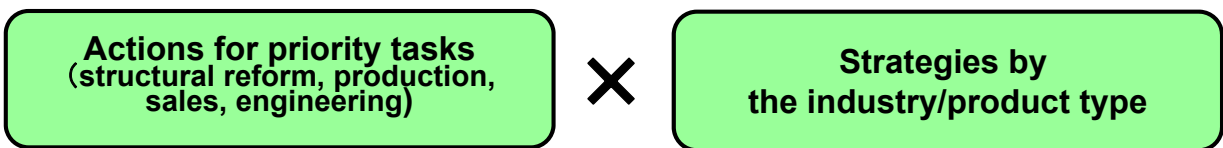
<Realize strategies by industry/bearing type>

Add extra profit to the past best level by realizing strategies by industry/bearing type, then, achieve 2020 Mid-term business plan.



3-2-3) Table of Contents for detailed explanation

◆ Framework of Mid-term Management Plan of bearing business



5 items from above, which will be focused on, are explained below.

Short term

- ① Completion of structural reform
- ② Significantly accelerate the enhancement of aftermarket business

Medium term

- ③ Strengthening of industrial machinery
- ④ Strengthening of HUB
- ⑤ Strengthening of NRB

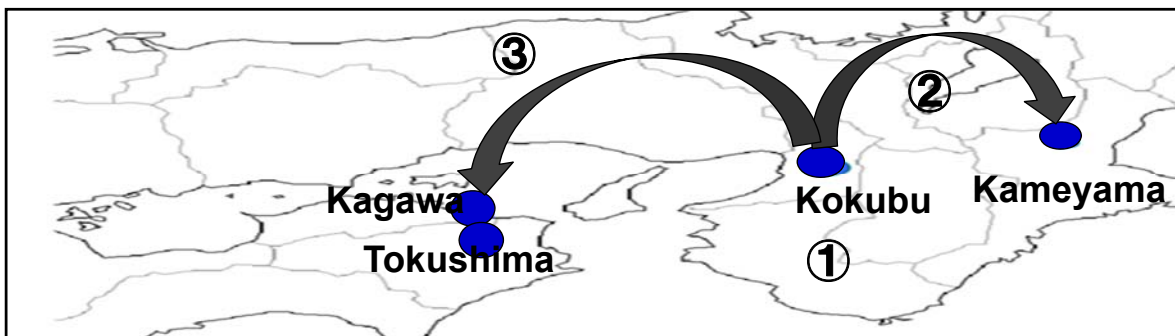
Detail of the structural reform activities	
1)	Business reorganization in Japan (Kokubu Plant: Profit improvement of Kokubu Plan as a flagship plant for industrial machine bearings and competitiveness improvement due to HUB/TRB forging line transfer)
2)	Completion of Europe NRB revival plan
3)	Indonesia/India: Management stabilization through structural reform
4)	North America/UK/China: Execution of fundamental reform toward profitable business operations

◆ Achievements and Challenges

	Item	Situation	Evaluation
1)	Business Reorganization in Japan	Operated as scheduled, but increase in the cost not included in the plan Delay in the handling of selected reform	×
2)	Europe NRB	About moving of the factory in France, there was a big delay and cost increase	×
3)	Indonesia India	Big improvement in profit as a result of structural reform Aimed well for making surplus in 2017	○
4)	North America	Strengthening of the HUB manufacture capability and improvement of TRB profit underway	△
	UK	Complete making a HUB-only factory; surplus throughout 2016	○
	China SBB	Complete separating by the size; to surplus in the 2 nd half of 2015 and continued to 2016	○

Explained in detail in the following page

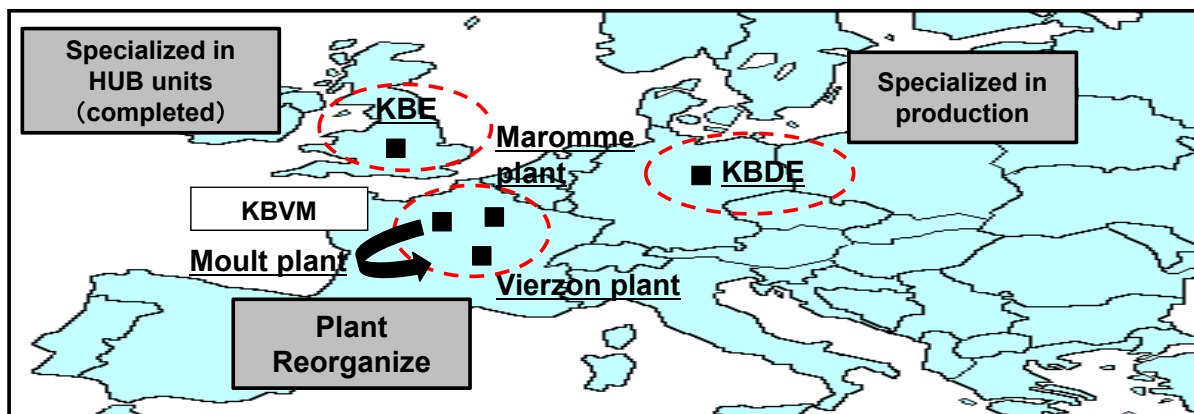
◆ Business reorganization in Japan



	Concept	Items to implement and future activities
①	Kokubu Plant: Reform as a flagship plant for industrial machine bearings	Install mid-/large-sized small-lot bearing production lines, install innovative production lines for machine tools-- completed Delay in selected reform (improve the profitability of medium/large sized bearings) ...Prioritize measures against stagnant machine tools market
②	Improve HUB competitiveness	The line is being moved to the Kameyama Factory, but there was an increase in new building maintenance cost, distribution cost, etc.; improve cost competitiveness by implementing an innovative line and compact line
③	Relocate TRB forging and turning process in Shikoku area	Implementing measures to improve competitiveness including re-evaluation of our supply chain Recovering cost increase including the cost for delayed launch of facility

◆ Structural reform map of bearing plants in Europe

Enhance profit foundation mainly by reorganizing NRB plant



Plant (Country)	Concept	Actions taken and to be taken
KBVM (France)	Reorganize plant	For transfer from Moulton Plant to Vierzon Plant, long delay has occurred in startup, resulting in cost increase; increase in back orders (Measures against facility deterioration, increase in outsourcing cost, and labor issues) The back order issue will be resolved by the end of 2016 by prioritizing the issue resolution, and aim for generating surplus throughout 2017
KBDE (Germany)	Specialized in production	The inventory center function is being merged to the main office in the Netherlands Currently revivifying it as the manufacturing site → More support from Japan

3-2-3) Strengthening Aftermarket business

◆ Review of the 1st Half period and future activities

Achievements

- Improve the brand effects; **introduced a new individual box that can be distinguished from counterfeits.** (April)
- More items in the central warehouse
25% increase in number of sizes (Mar. 2015 ⇒ Sept. 2016)
- Strengthen education and training activities for distributors
More frequent training programs for sales staff of distributors

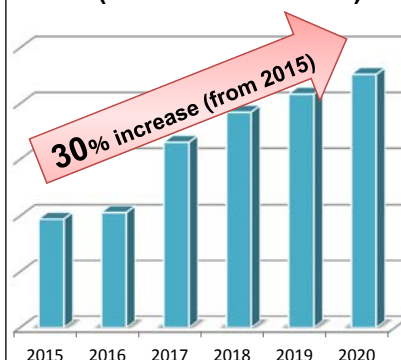
New design box (w/ Hologram)



Challenge (issues to be improved)

1. Sales network
Japan: Still need to improve it for aftermarket business
Overseas: insufficient number of distributors in some regions
2. Central warehouse/logistics system
Domestic: Need to improve capability of instant delivery to distant locations
Overseas: Need to improve product availability in stock and quick delivery system in main regions
3. Expand product range for aftermarket business
Need to improve product coverage specially for automotive aftermarket

Mid-term plan (Aftermarket sales)



Actions to challenges

1. Strengthen sales network (expand the whole network from primary distributor to end users)

Japan: Expand the sales network of 2nd or 3rd distributors/retailers → Expand areas can be covered by our network

Overseas: Measures for regions with weaker sales network

- Develop new distributors → 30 companies mainly in emerging countries
- Expand network of existing distributors → Increasing branch offices, convert specialized dealers to general distributors, etc.

2. Expansion of product range

Introduction of new products into automotive aftermarket by applications

⇒ Add new times from current running sizes for OEM and introduce AM dedicated items, too

3. Strengthen quick delivery system

Japan: Improve inventory ranges in central warehouse

⇒ Increase number of item by 50% (Mar.2015 ⇒ Mar. 2017)

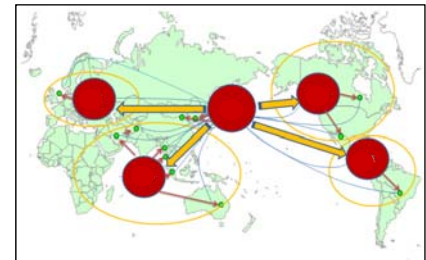
Improve local warehouse ⇒ 1st step (Hokkaido, Tohoku, and Kyushu)

Overseas: Improve regional hub warehouse

⇒ Set up 4 regional hub warehouses to promote aftermarket sales by using common inventory within the regions

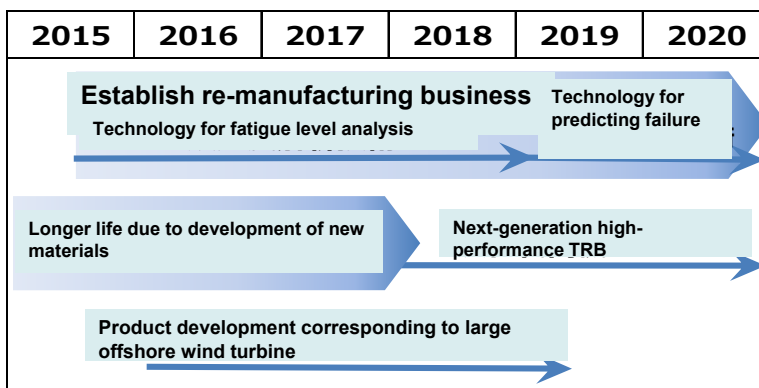
4. Strengthen organization

New organization to establish and promote sales strategies through the whole period of life cycle from original equipment to aftermarket



3-2-3) Strengthening of Industrial Machinery

◆ Establish re-manufacturing business and Establish technologies for further increasing performance level (Approach to steel, farming/construction machinery, and wind power)



<Achievements/Challenges>

Drive shaft: start the re-manufacturing business

Complete basic development – currently under evaluation

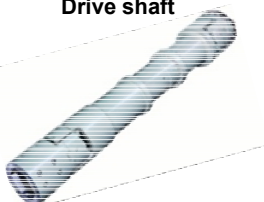
Currently developing products

Representative products for steel mill equipment

4-row cylindrical roller bearing

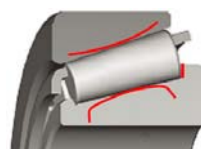


Drive shaft



Representative product for agricultural/construction equipment

High-performance tapered roller bearing



Representative product for wind power generator

High-performance spherical roller bearing



3-2-3) Strengthening of H U B

◆ Strengthen cost competitiveness; expand T-HUB business

Segment	2015	2016	2017	2018	2019	2020	<Achievements/Challenges>
Mini-sized vehicle	Develop compact line		Introduction		Deploy concept		More compact line: plan completed
A/B	Rebuild production bases in Japan		Deploy low-torque HUB		Deploy ultra long life HUB with low-torque seal		Low-torque HUB: preparing for mass production (New grease)
C/D			Examine expansion of production overseas		Deploy HUB for ADAS		3-generation T-HUB: implementing North America strategies
SUV			Expand T-HUB (North America, ASEAN, etc.)				
Aftermarket	Introduce small-lot production line		Enhance/expand sales for aftermarket				Aftermarket: expansion of product offerings is challenging

<Activities for stronger marketability>

HUB for Mini-sized vehicle

- Introduce dedicated compact line for Mini-sized vehicle



Sensing HUB

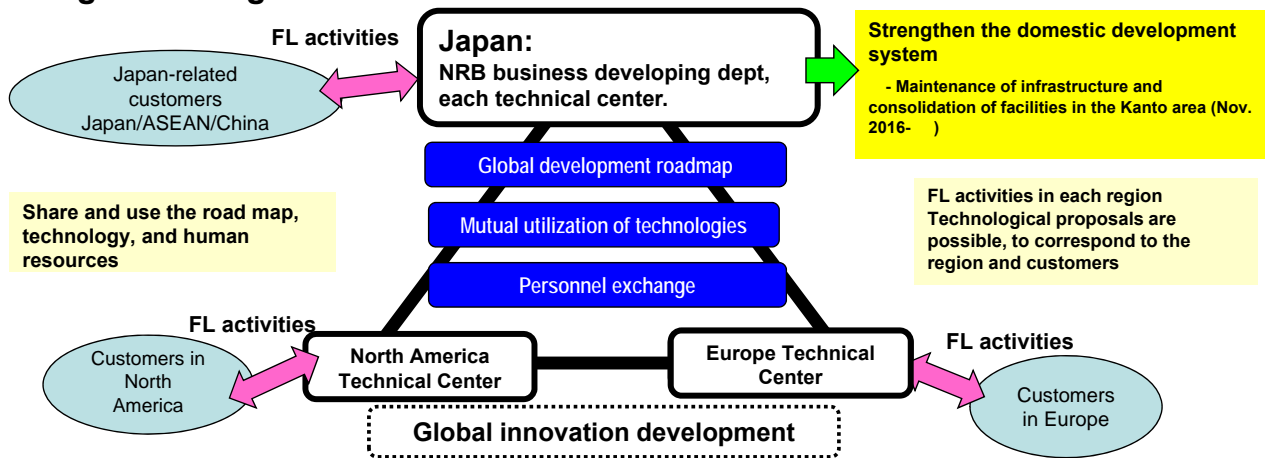
- Expand SBW and ADAS functionality



3-2-3) Strengthening of N R B

◆ Expand market share by using the advantage of global 3-pole development system

<Using the strength>



<Achievements/Challenges>

- Front-loading activities for customers in each region ○
- Share development road map ○
- Mutual utilization of technologies △
- Personnel exchange ×

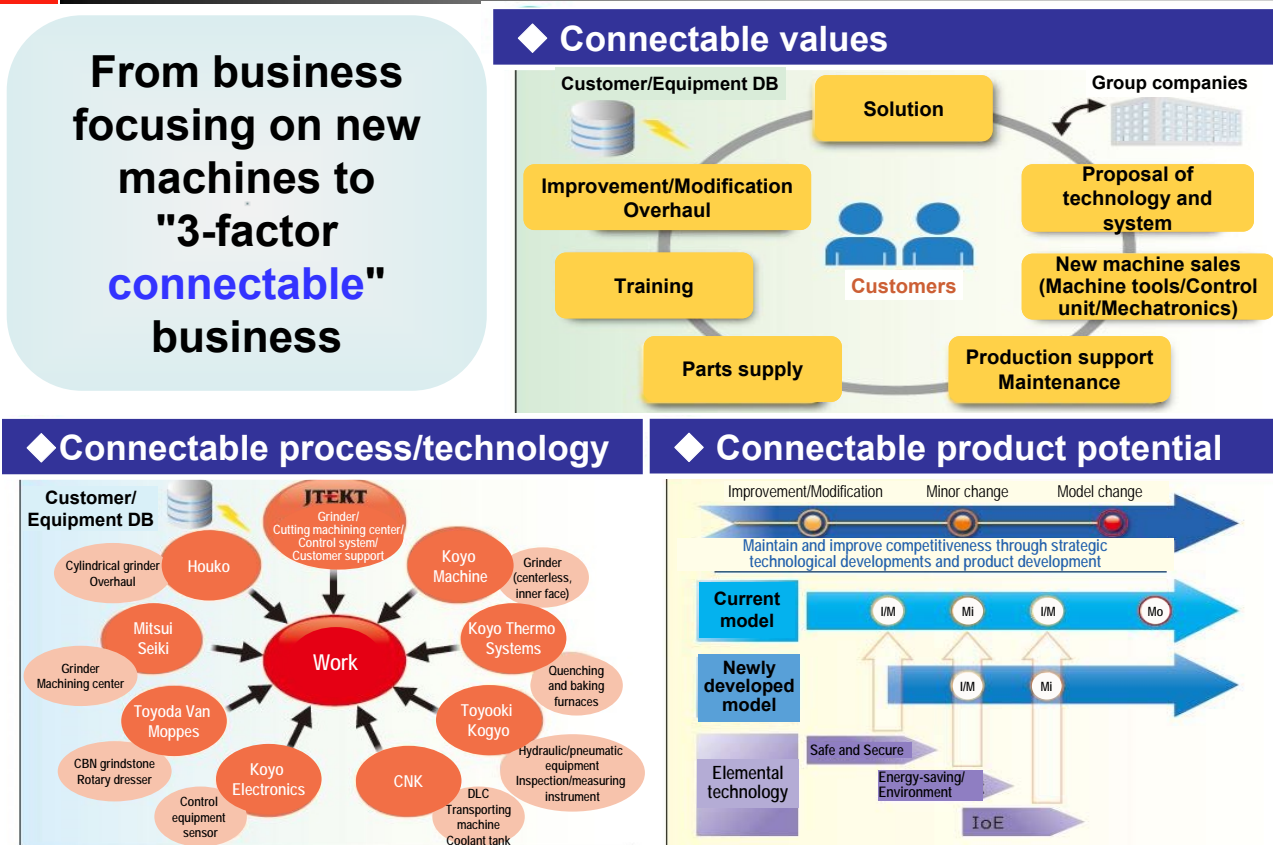
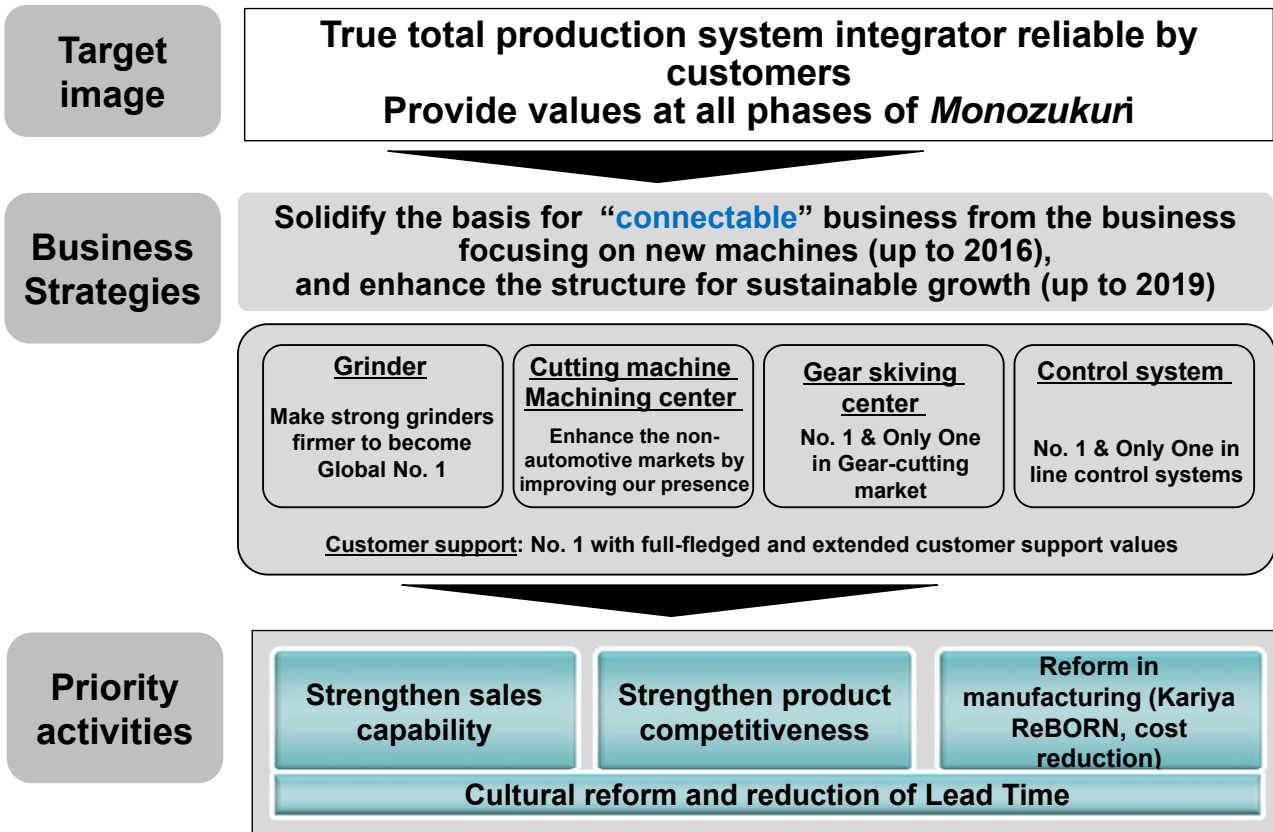
Key of your operation Koyo

3-2) Progress Status of the Mid-term Management Plan

4) Machine Tools & Mechatronics Business Operations Strategies

* Abbreviations

- IoE : Internet of Everything
This name was selected as JTEKT's aim, that is connecting everything, such as products, people, services, etc. ,instead of IoT used in general.
- HMI : Human Machine Interface
- CVT : Continuously-variable transmission

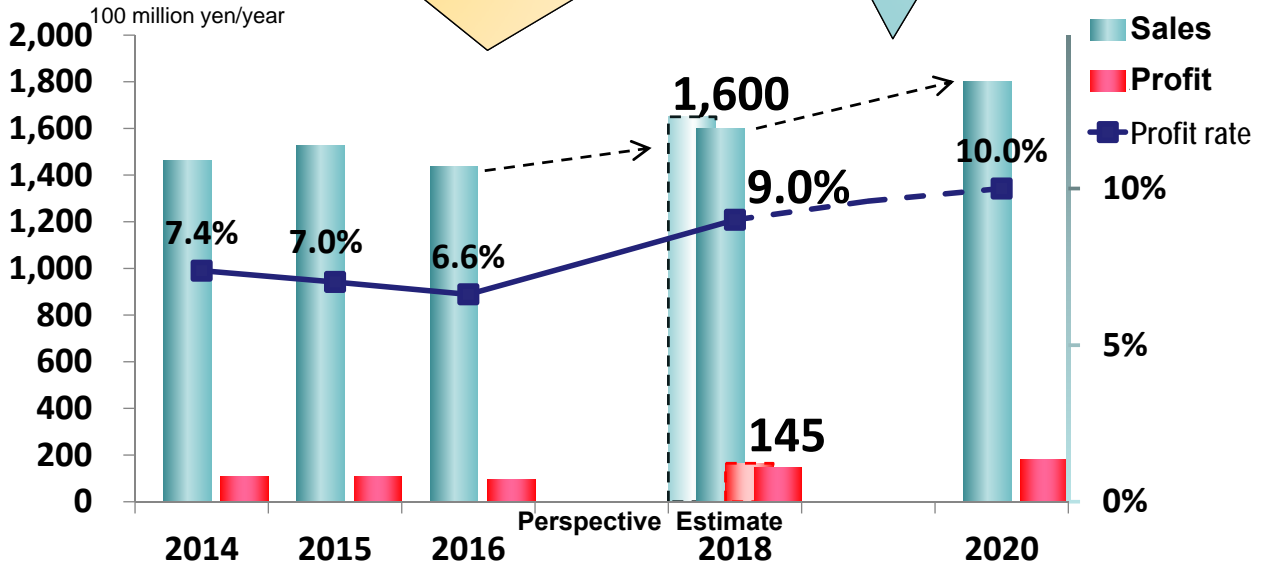


Sales/profit forecast of FY 2018

(Based on management currency exchange rate)

- Investment was suppressed in 2016 due to continued appreciation of the yen and concern about global economic prospects
→ Profit decline is expected
- 2018 profit is also expected to be less than the original target, but we plan to secure the original target value of the profit rate by enhancing aftermarket segments

The original 2019 sales/operating profit targets are expected to be achieved in 2020



3-2-4) Review of 1st Half Period

Matters to implement and review of 2016 1st Half Period

	Results	Challenges
Stronger operation	<ul style="list-style-type: none"> Improve customer data base Establish a quick response system for market quality issues 	<ul style="list-style-type: none"> Respond to market shrinkage; secure reference/incoming orders Insufficient understanding of customer needs and capability of proposing new products
	<ul style="list-style-type: none"> Grinding machine: development of small-diameter grinding stones for concave cam - Cylindrical grinding machine for manufacturing small models e500G Control unit: enlarge the module of PLC (TOYOPUC-Nano) - Expand HMI (TOYOPUC-Touch)-mounted models 	<ul style="list-style-type: none"> Make IoE solution into a business model Improve cost competitiveness of the small horizontal machining center
Stronger product value	<ul style="list-style-type: none"> Promotion of making the Kariya Factory a smart factory - Grinding machine assembly – spindle machining Respond to China's manufacture of small standing machining center e640V 	<ul style="list-style-type: none"> Development/expansion of smart factory - Grinding machine/Machining center assembly Development/expansion of standard work
	<ul style="list-style-type: none"> Make grinding machines in series (small all-purpose cylindrical grinding machine GE3i) Make gear skiving center series (small machinery GS200H5) Control - IoE-compatible edge-type analysis module TOYOPUC-AAA - Respond and develop HMI (TOYOPUC-Touch) grinding machines Strengthen ability to handle user's sample processing; improve the system 	<ul style="list-style-type: none"> Delivery of large parts/initialization of the assembly lines Development/expansion of shifting to smart factory Improve on-the-premise distribution Responding to India's manufacture of production type cylindrical grinding machine
Reform in manufacturing	<ul style="list-style-type: none"> Make grinding machines in series (small all-purpose cylindrical grinding machine GE3i) Make gear skiving center series (small machinery GS200H5) Control - IoE-compatible edge-type analysis module TOYOPUC-AAA - Respond and develop HMI (TOYOPUC-Touch) grinding machines Strengthen ability to handle user's sample processing; improve the system 	<ul style="list-style-type: none"> Delivery of large parts/initialization of the assembly lines Development/expansion of shifting to smart factory Improve on-the-premise distribution Responding to India's manufacture of production type cylindrical grinding machine

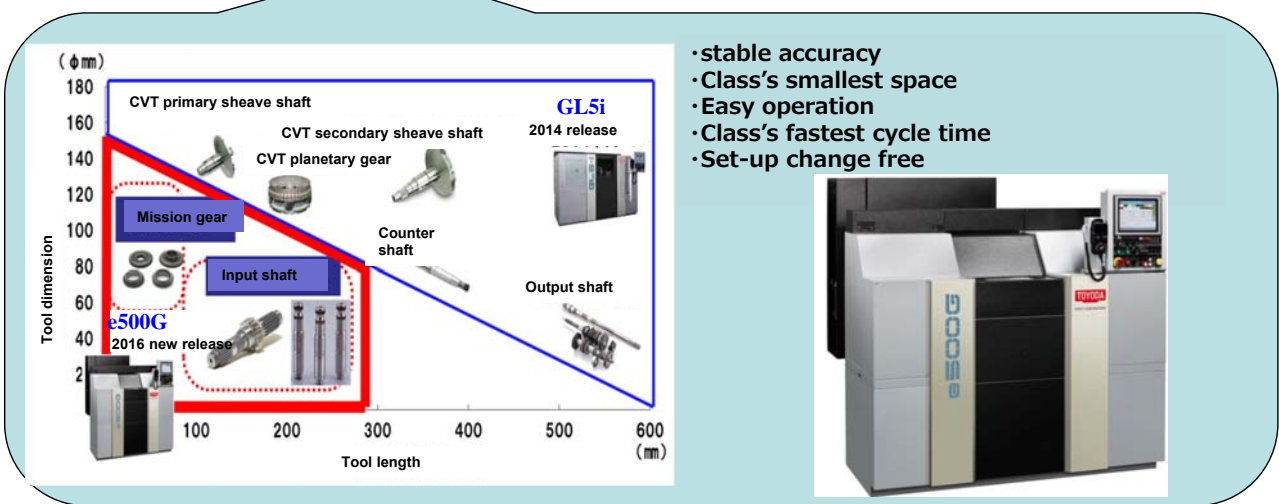
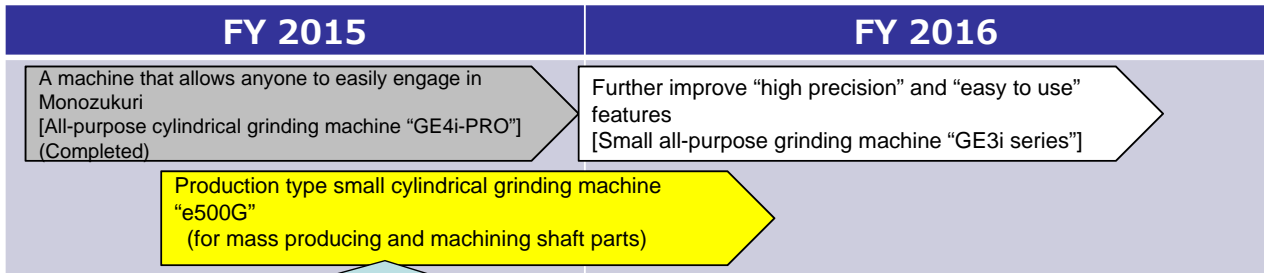
2016 2nd Half Period activities

- Stronger activity to take orders based on JIMTOF
- Stronger approach to businesses via vendors (primary and secondary)
- Sales expansion of after businesses
 - Full-pledged maintenance meetings; more visiting with existing customers
 - System development/strengthening through one contact person (or section)
- Make grinding machines in series (small all-purpose cylindrical grinding machine GE3i)
- Make gear skiving center series (small machinery GS200H5)
- Control
 - IoE-compatible edge-type analysis module TOYOPUC-AAA
 - Respond and develop HMI (TOYOPUC-Touch) grinding machines
- Strengthen ability to handle user's sample processing; improve the system
- Delivery of large parts/initialization of the assembly lines
- Development/expansion of shifting to smart factory
- Improve on-the-premise distribution
- Responding to India's manufacture of production type cylindrical grinding machine

3-2-4) Improve Competitiveness of

Grinding Machine ①

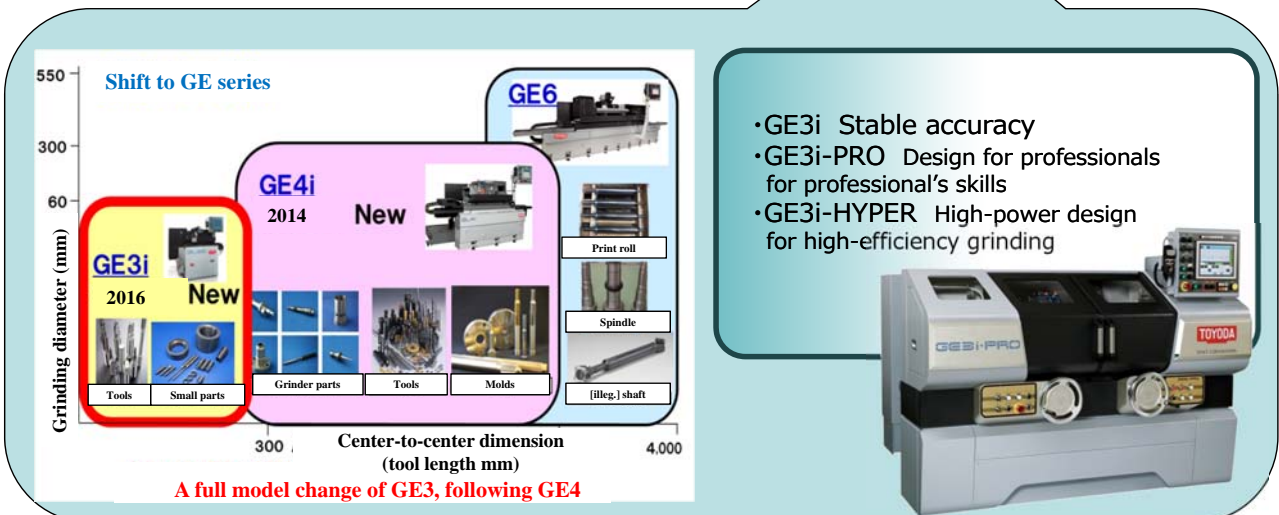
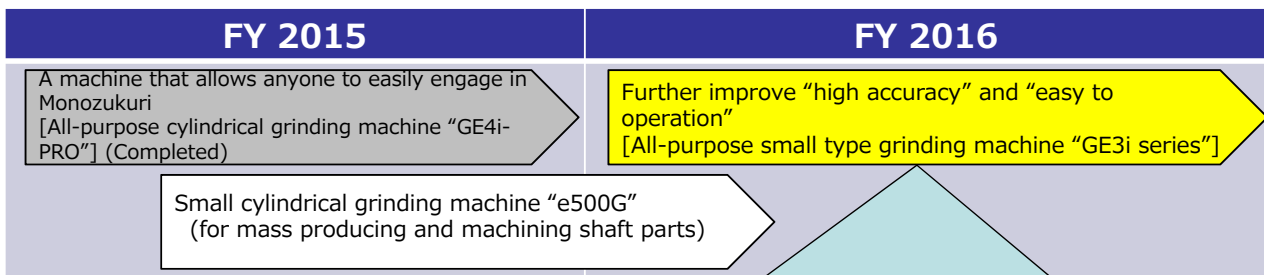
[Road map for developing a grinding machine (selected)]



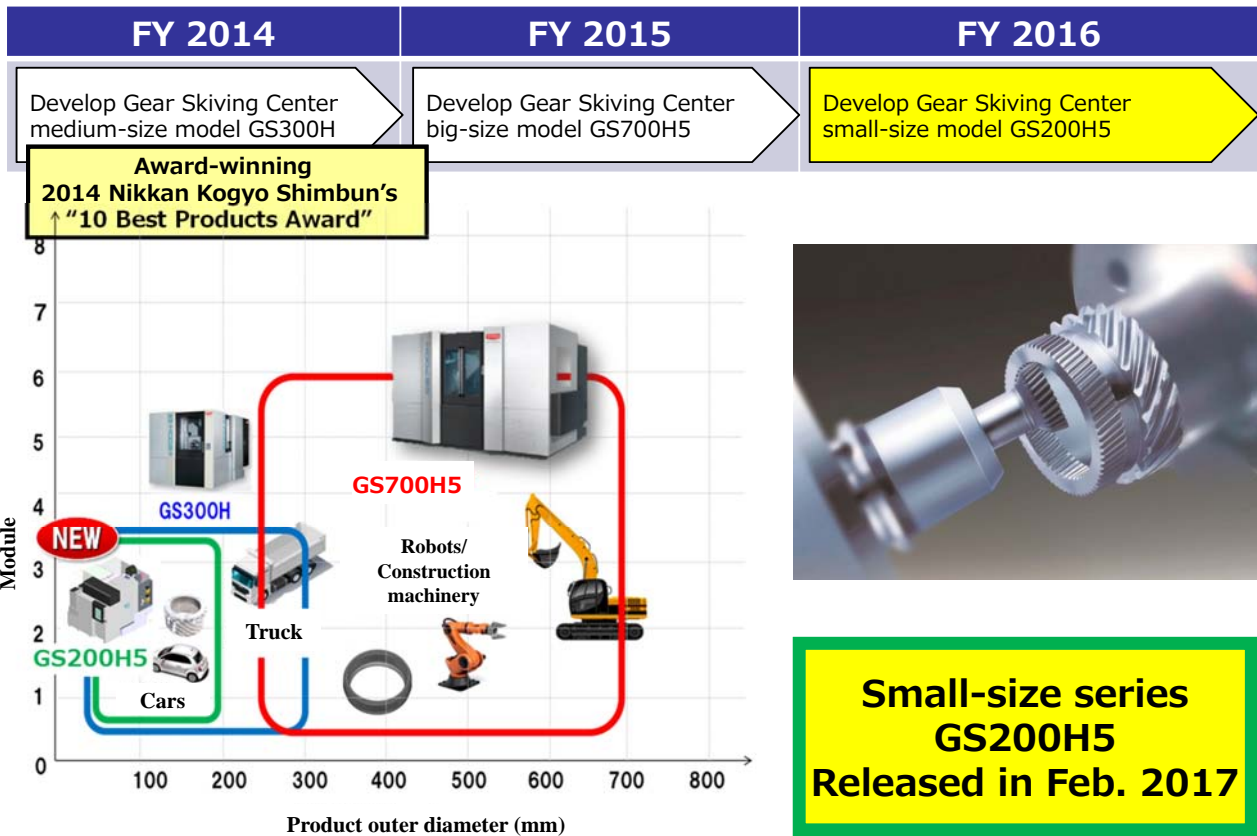
3-2-4) Improve Competitiveness of

Grinding Machine ②

[Road map for developing grinding machine (selected)]



3-2-4) Gear Skiving Center

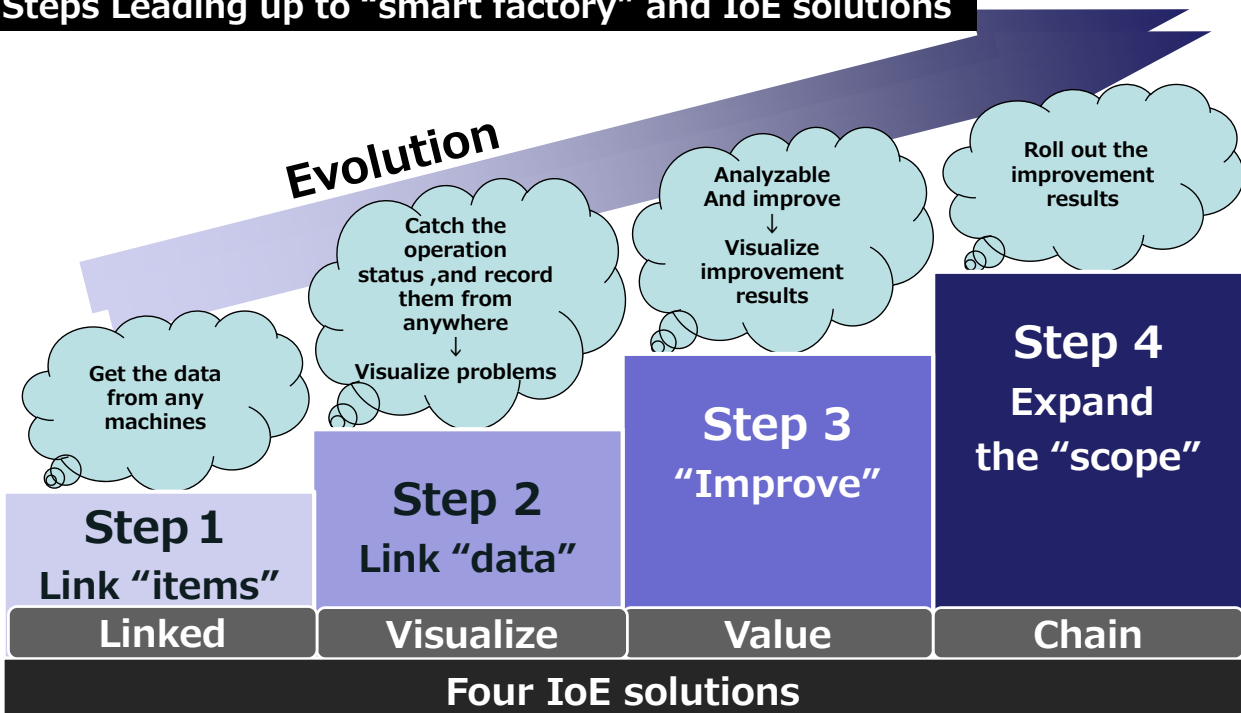


3-2-4) Establish Monozukuri Support Business with IoE

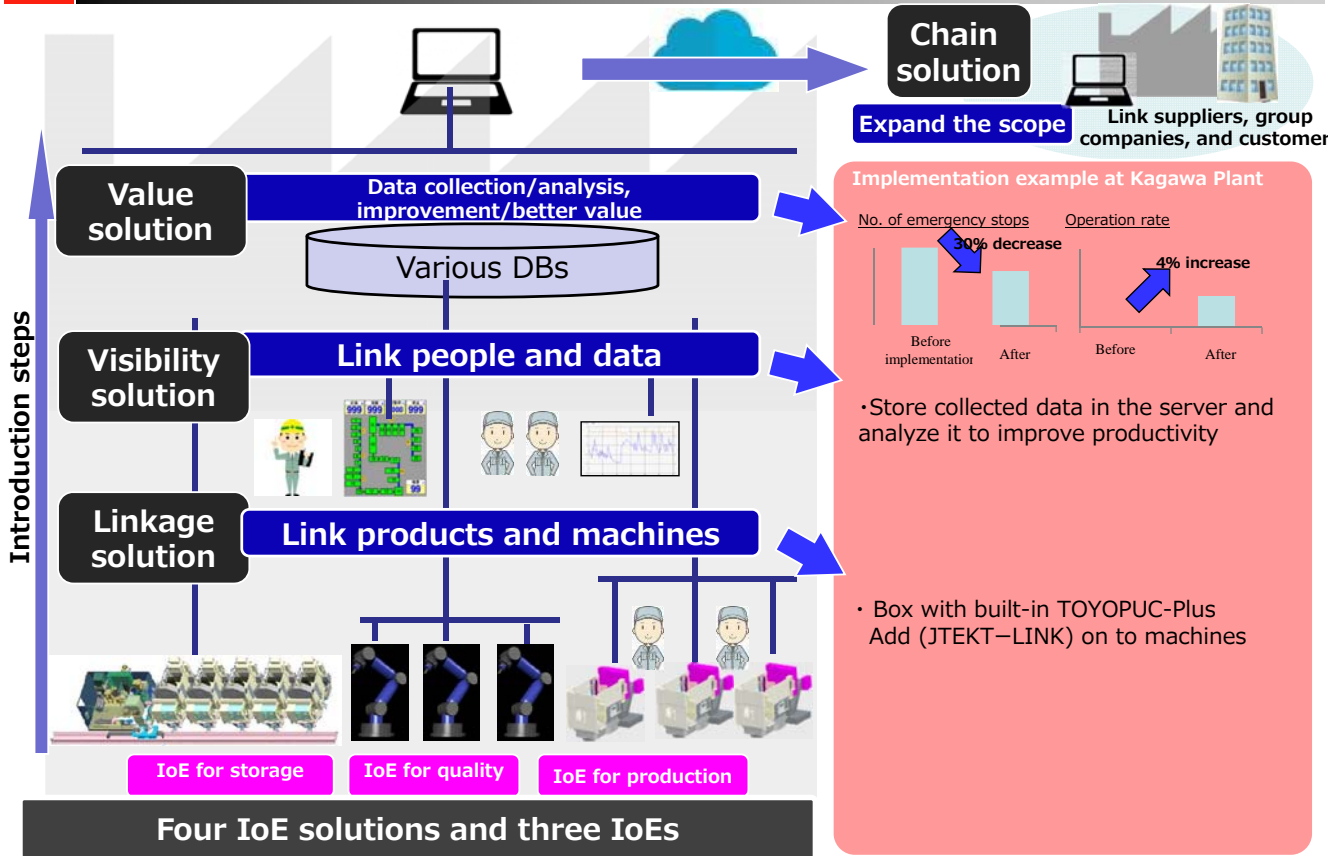
■ JTEKT design "smart factory"

[Concept] Human works along machine, and uses its ingenuity in "Smart factory".

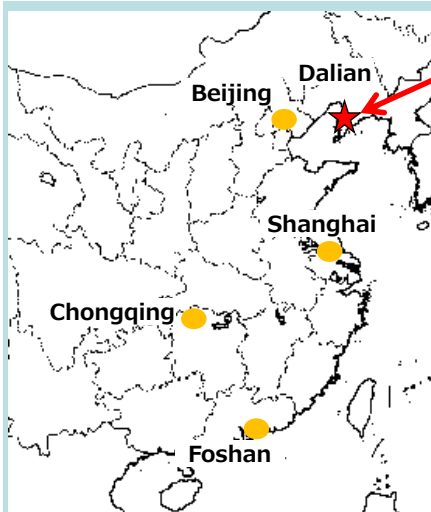
Steps Leading up to "smart factory" and IoE solutions



3-2-4) IoE solution to Materialize the Smart Factory



3-2-4) Establish the Overseas Manufacturing (China/India)



Dalian, China [Toyoda Machinery (Dalian) Co., Ltd.]

- China sales/service hub

Summary:

- Model: Small-size Vertical Machining Center e640V
- Starting date: April 2016
- Capacity: 60 units/year

22 units have already been delivered!

Global sales are planned in the future, not only in China



[Expanded local manufacture in India]

- We licensed the technology of cam-lob grinding machine in 2008 to the largest local grinding machine Manufacturer, and local manufacturing started.
→ Affected by the Rehman Brothers Bankruptcy, the actual sales were Pushed back to 2012 or later
- Production type cylindrical grinding machine for the 2-wheel crank market was added for the 2017 release

Strengthening Fundamentals

- 5) Global HR Management
- 6) Operational Reform of Administrative Departments
- Strengthening Financial Basis
- Establishing Global Business Basis

3-2-5) Global HR Management

Roles & Aims

- (1) Discovery/development/optimized assignment of global management HR
- (2) Boost competence of individual employees / increase organizational capability

Currently Being created/Being implemented/Being operated

		Present (Q2 2016)	Handling in 2016 and beyond
(1)	Introduction of succession plan	<p>[Japan/Overseas] Already implemented at the General Manager level</p> <p>Implementation of global transfer</p> <p><small>Selected training: 2nd Year: 36 persons (overseas local employees: 17) Selected for the 3rd Year: 37 persons (tentative) (overseas local employees: 17)</small></p>	<p>Implement global succession and global transfer</p> <p>Discovery to development of potential management personnel of the next generation</p>
	Global HR system	Creation of global evaluation systems	Global grading/evaluation/compensation system
(2)	Problem-solving ability	Start training all 30 group companies Train global trainers	Train all employees Group/global implementation
	Technical/supervisory ability	Start the operation of Higashi Kariya Training Center; technical training of overseas factories with technical ICT	Global implementation of JFMS training (JTEKT Floor Management System)
	Penetration of the JTEKT WAY	Implement the penetration activity (JTEKT WAY workshop underway)	Announced in Apr. 2016 Penetration into group companies and overseas
	Promotion of diversity	Start short-time flexible hours Diversity forum (lecture) planned	Implement awareness reform among all employees Support work/life balance

All employees should understand the true nature of things and work while understanding the true cause

Ongoing 3-year plan

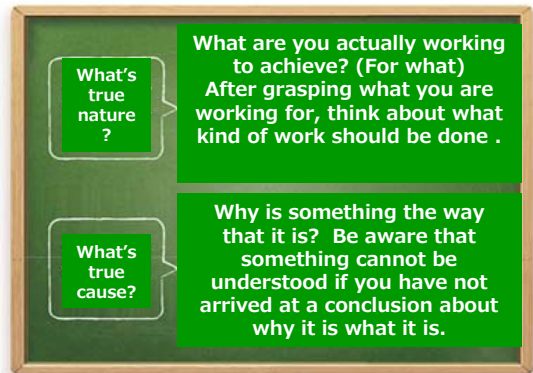
FY 2014: Start problem-solving training

FY 2014: Start problem-solving training for employees at managerial positions

FY 2015: Start problem-solving training for the assistant managers

FY 2016: Start problem-solving training for the mid-level employees (with above 3years' experience)

Deployed to all employees



In reality, only a small number of people are applying problem-solving. We need everyone to acquire and use this skill.



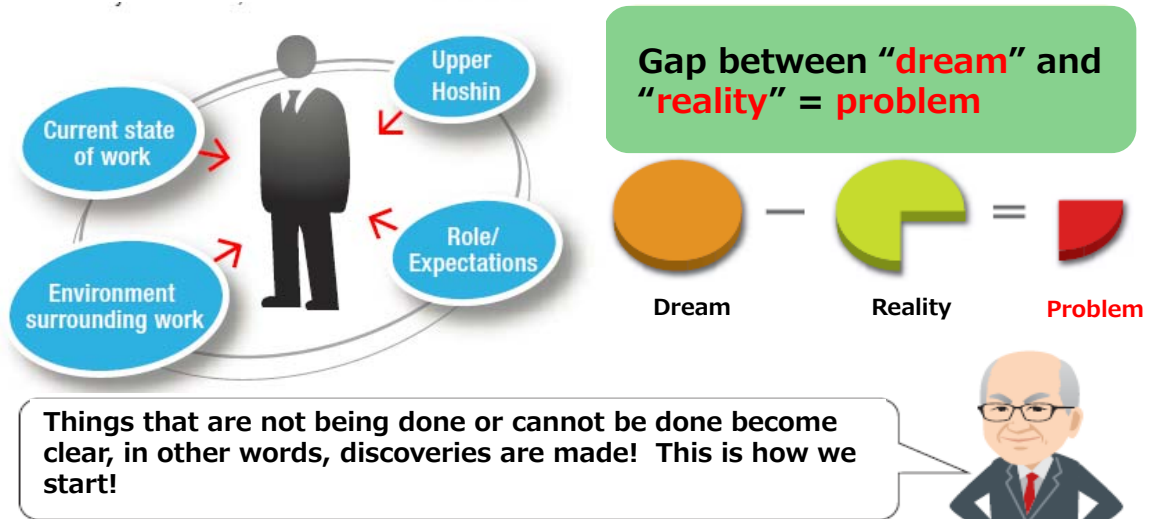
8 steps of the Problem-solving process

Plan , Do , Check , Action



■ Think about the mission of your own work (FOR WHAT)

The first steps are to examine your mission and what you must essentially do, think on your own about what you must do, and be aware of the foundation of work.



3-2-5) Strengthening of Problem-solving Ability (4/5)

■ Setting high targets for each problem

Instead of low targets, set high targets that are worth the challenge. For example, instead of "Lower the number of defective products by X percent", go to the extreme and set the target as "Lower the number of defective products to zero". This will engender ingenuity which will

lead to actual countermeasures. I would like for everyone to yield concrete actions and countermeasures by conceiving revolutionary ideas for these zealous targets.

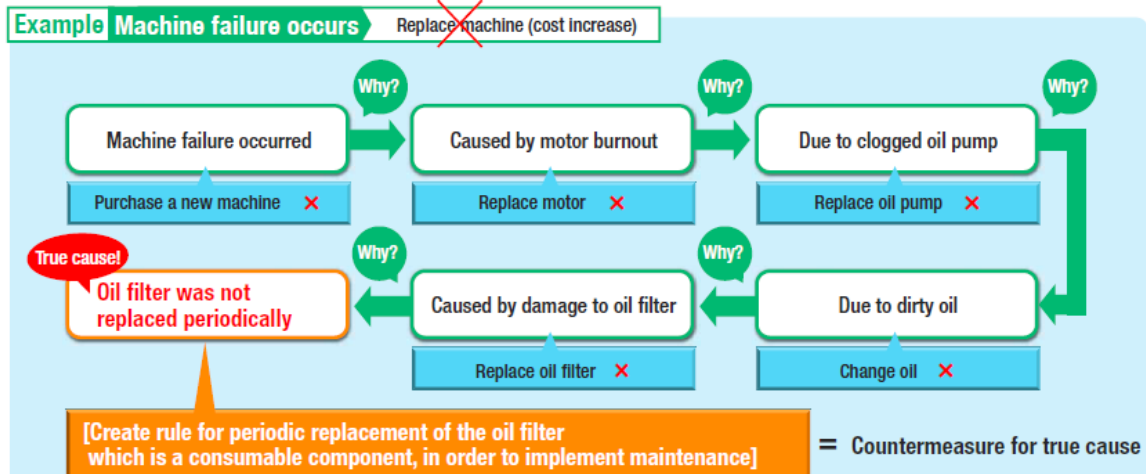
■ Repeatedly ask "why" the problem occurred in order to find true causes

Why is there a gap? What are we missing?

5 Whys technique

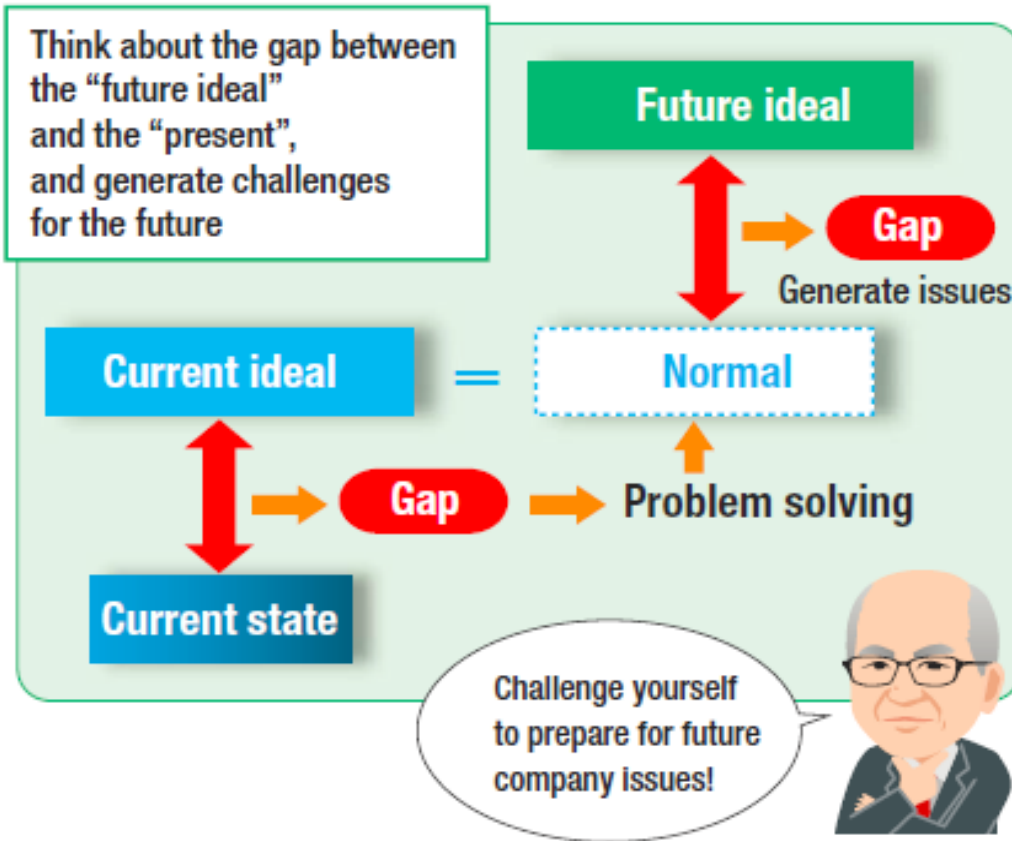
(True causes cannot be reached and countermeasures cannot be created if this technique is not performed completely)

Create challenging and zealous targets!



The factor is the nonexistence of safety rules (periodic maintenance).

Work is what makes it possible to create actions and rules as extreme countermeasures to prevent recurrence.



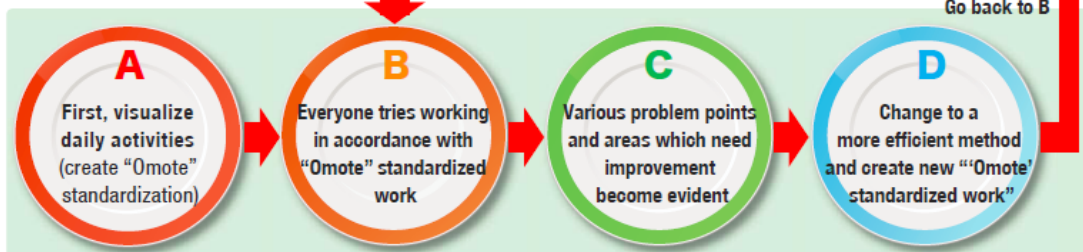
Goal

■ Improve the organization capability to the highest level by standardizing daily work of all administrative departments of JTEKT Group and realize a small main office/administrative departments

■ Achieve the same operation within the JTEKT Group

- How you work, the quality/quantity of output, and standardization of work hours
- Filing system and individual skill management
- Control items for counting/analysis (unit number), control forms (types and entry items)

Standardization process



Let's create a visible "standard" that everyone can use!



Chart for multi-skill development

○ No experience ● Some experience ◐ Can perform with support ◑ Can perform most of task alone ● Can instruct

	Task 1	Task 2	Task 3	Task 4	Task 5	
Mr. A	●	●	◐	◑	◑	Assistant Manager
Ms. B	◐	◐	◑	●	●	Expert at Tasks 4 and 5
Mr. C	◐	◐	◐	◑	◑	Mid-level employee
Ms. D	◐	◐	◐	○	○	New employee

(Viewed by horizontal axis)

It is evident that Mr. C has not mastered any task, and still requires training.



(Viewed by vertical axis)

We can see that tasks 4 and 5 require Ms. B to be present, and therefore she cannot be absent from work when those tasks are to be performed.



Improve workplace level through helping each other and by placing the right person in the right place!



The situation of the team changes when viewing the chart crosswise by the individual (horizontal axis) and by task (vertical axis).

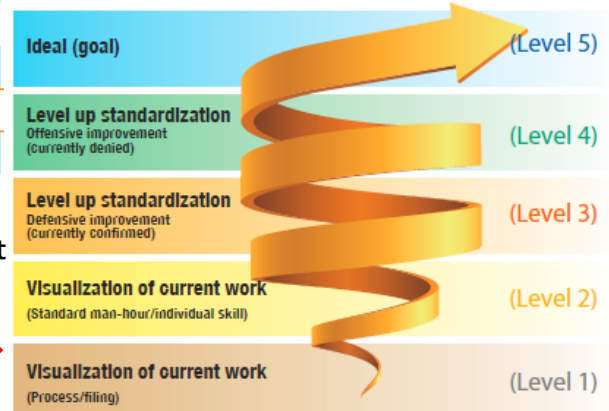
- ① Visualize the capabilities of employees and organization
- ② Visualize time spent on tasks
- ③ Visualize the flow of work

Chart for multi-skill development

○ No experience ● Some experience ◐ Can perform with support ◑ Can perform most of task alone ● Can instruct

	Task 1	Task 2	Task 3	Task 4	Task 5	
Mr. A	●	●	◐	◑	◑	Assistant Manager
Ms. B	◐	◐	◑	●	●	Expert at Tasks 4 and 5
Mr. C	◐	◐	◐	◑	◑	Mid-level employee
Ms. D	◐	◐	◐	○	○	New employee

Chart of work reform at JTEKT



When Mr. C tries to master Task 4 perfectly, it eventually leads to review of Ms. B's current process, and turns out it is not perfect.

Improvement makes "standardization" possible.

Aim to accelerate creating multi-skilled workers

➡ Thoroughly standardize from the successor's perspective

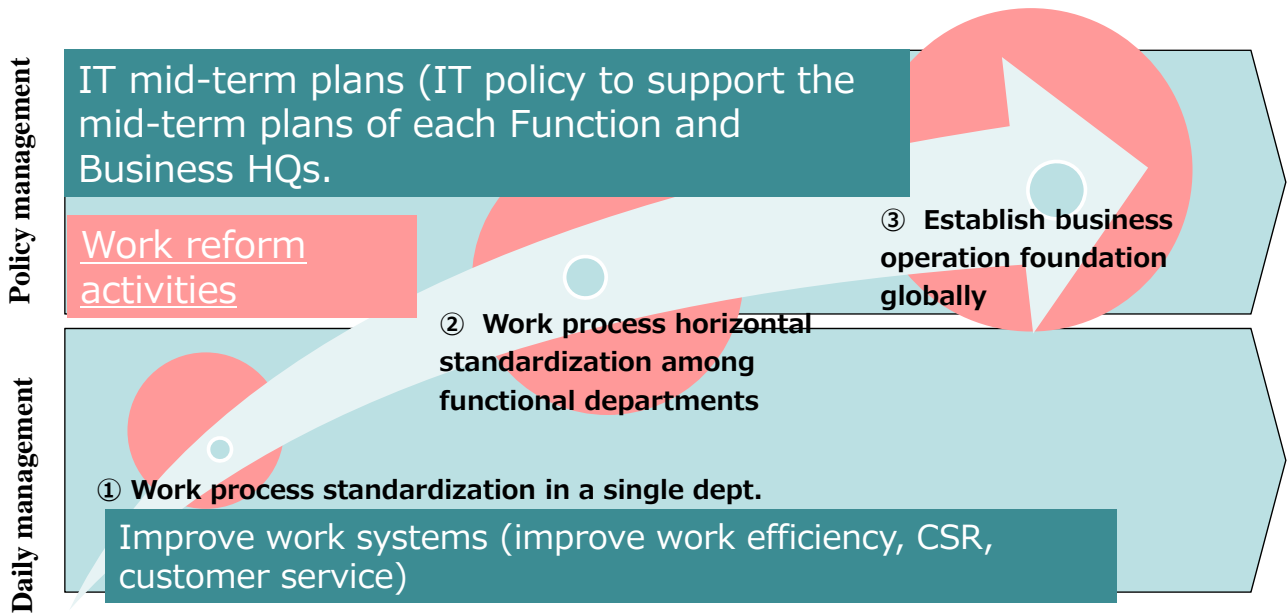
Aim to further improve work efficiency

➡ Collaboration with IT (after standardization completed, then the IT system change follows.

Spiral-up of work level through "standardization" using multi-skill development chart



Correlation between work reform activities and systemization



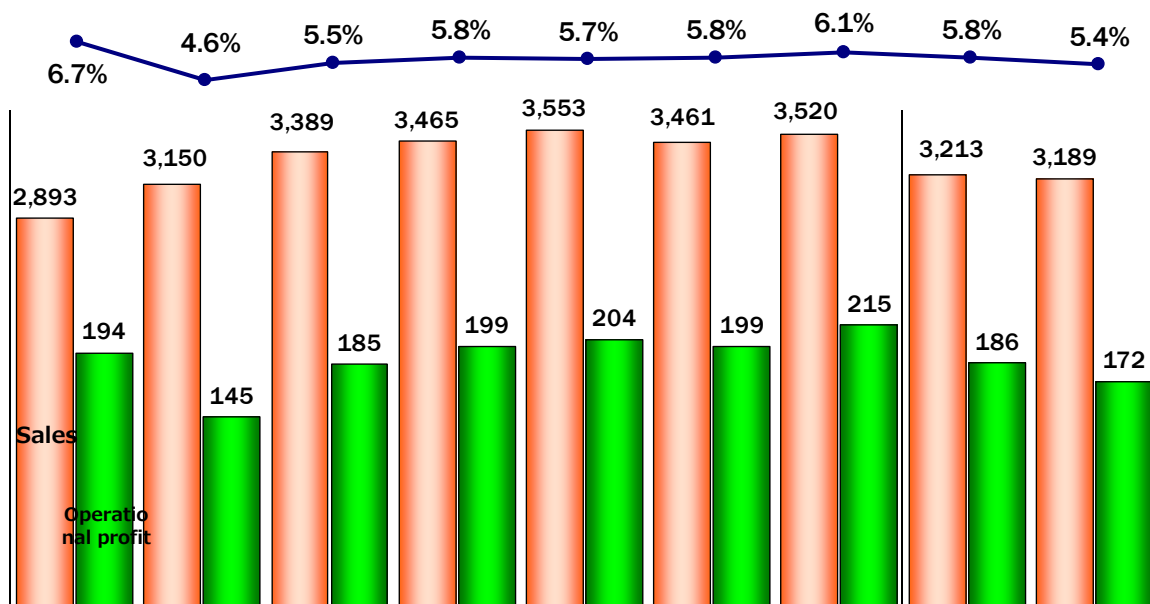
Level up the work reform activities to achieve Global One Operation !

Thank you for your time.

(Reference) Quarterly result changes

Operating profit rate

(¥100 million)



1US\$	¥118	¥100	¥110	¥121	¥122	¥122	¥115	¥108	¥102
1EUR	¥161	¥134	¥139	¥134	¥136	¥133	¥127	¥122	¥114

*1: Quarterly average is entered to compare it with the period immediately before the Rehman Brothers bankruptcy.

*2 *3: The FY 2014 and FY 2015 show the quarterly average. The same applies to the slides below.

JTEKT Corporation

(Reference) Sales forecast by Business Operations

(¥100 million)

		FY 2016 Year (results)	FY 2017			Increase/ Decrease Amt.	Increase/ Decrease Rate
			1 st Half (Results)	2 nd Half (Forecast)	Year (Forecast)		
Equipment parts	Steering System	6,783	3,077	3,117	6,195	△588	△8.7%
	Drivelines	1,482	726	613	1,340	△142	△9.6%
	Bearings	4,085	1,845	1,789	3,635	△450	△11.0%
	[Total]	12,351	5,649	5,520	11,170	△1,180	△9.6%
Machine tool parts	Machine tool	1,525	694	715	1,410	△115	△7.5%
	Other	122	59	60	120	△2	△1.6%
	[Total]	1,648	753	776	1,530	△117	△7.1%
Total Sales		13,999	6,403	6,296	12,700	△1,299	△9.3%

JTEKT Corporation

(Reference) Sales Forecast by Company Locations

(¥100 million)

	FY 2016 Year (results)	FY 2017			Increase/ Decrease Amt.	Increase/ Decrease Rate
		1 st Half (Results)	2 nd Half (Forecast)	Year (Forecast)		
Japan	5,598	2,683	2,727	5,410	△188	△3.4%
Europe	2,110	944	910	1,855	△255	△12.1%
N. America	3,281	1,450	1,304	2,755	△526	△16.0%
Australia Asia (incl. India)	1,493	645	639	1,285	△208	△13.9%
China	1,302	572	612	1,185	△117	△9.0%
S. America	214	107	102	210	△3	△1.4%
{Sales Total}	13,999	6,403	6,296	12,700	△1,299	△9.3%

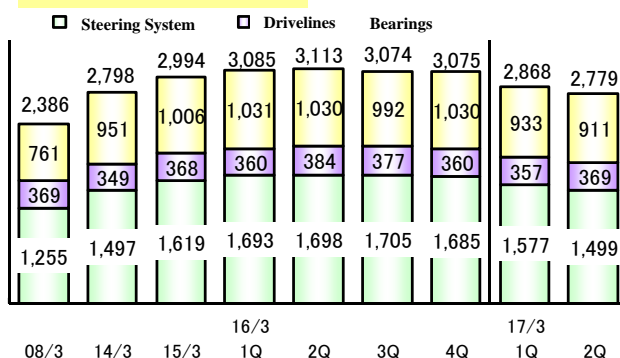
(Reference) Financial Results of Business Operations [Equipment Parts]

(¥100 million)

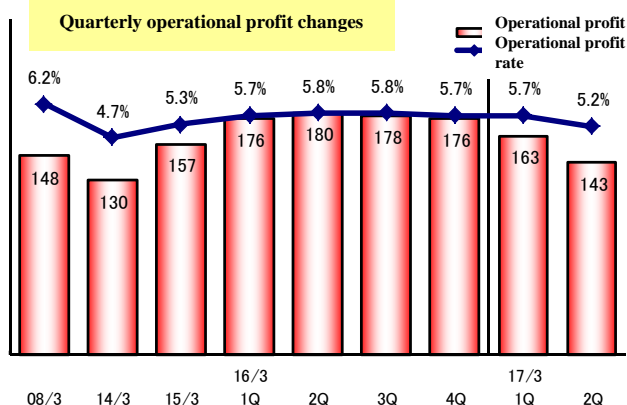
Equipment Parts		FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease Amt.	Increase/ Decrease Rate
Steering	Sales	3,391	3,077	△314	△9.3%
Drivelines	Sales	744	726	△18	△2.4%
Bearings	Sales	2,062	1,845	△217	△10.5%
[Total]	Sales	6,198	5,649	△549	△8.9%
	Operational Profit	357	306	△50	△14.2%
	Profit Rate	5.8%	5.4%		

* "Deleted" has been omitted.

Quarterly sales changes



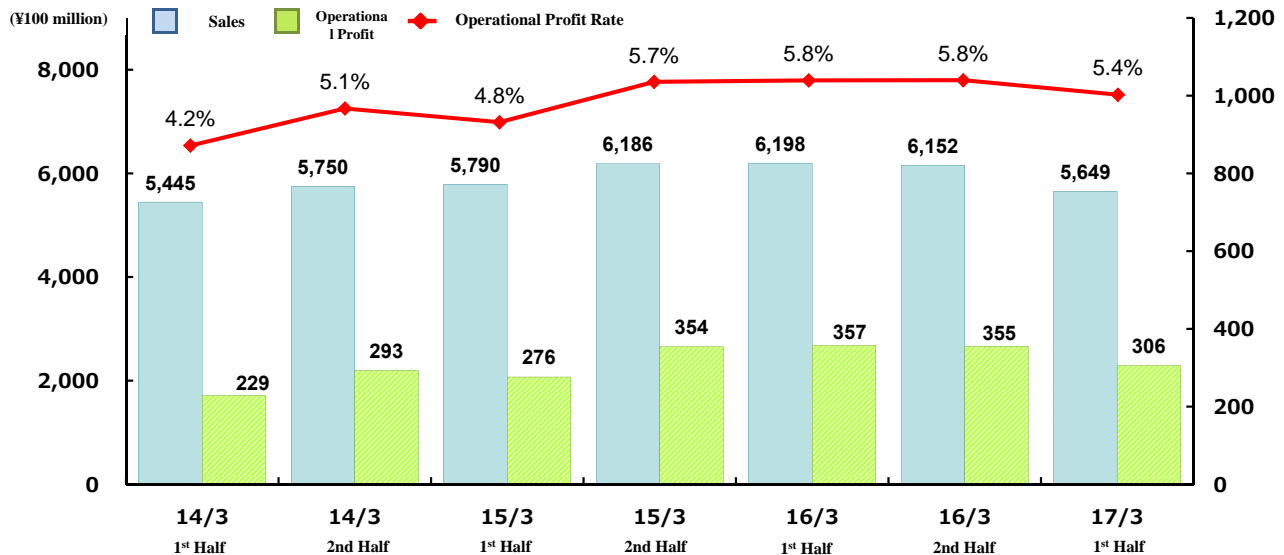
Quarterly operational profit changes



(Reference) Financial Results by Business Operations [Equipment Parts]

(¥100 million)

	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease
Sales	6,198	5,649	△ 549
Operational Profit	357	306	△ 50
Profit Rate	5.8%	5.4%	



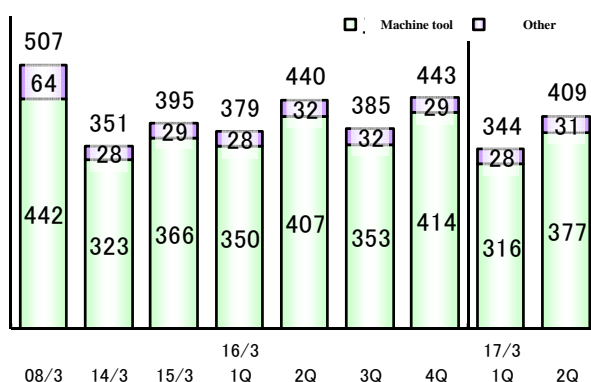
(Reference) Financial Results by Business Operations [Machine Tools, etc.]

(¥100 million)

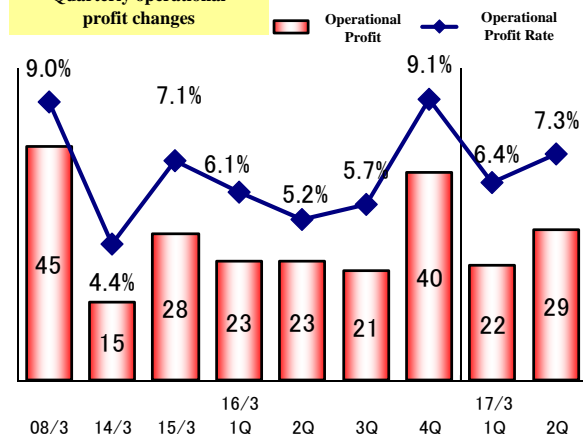
Machine Tools, etc.		FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease Amt.	Increase/ Decrease Rate
Machine Tools	Sales	758	694	△64	△8.4%
Other	Sales	60	59	△1	△2.4%
[Total]	Sales	819	753	△65	△8.0%
	Operational Profit	46	52	+5	+12.5%
	Profit Rate	5.6%	6.9%		

* "Deleted" has been omitted.

Quarterly sales changes



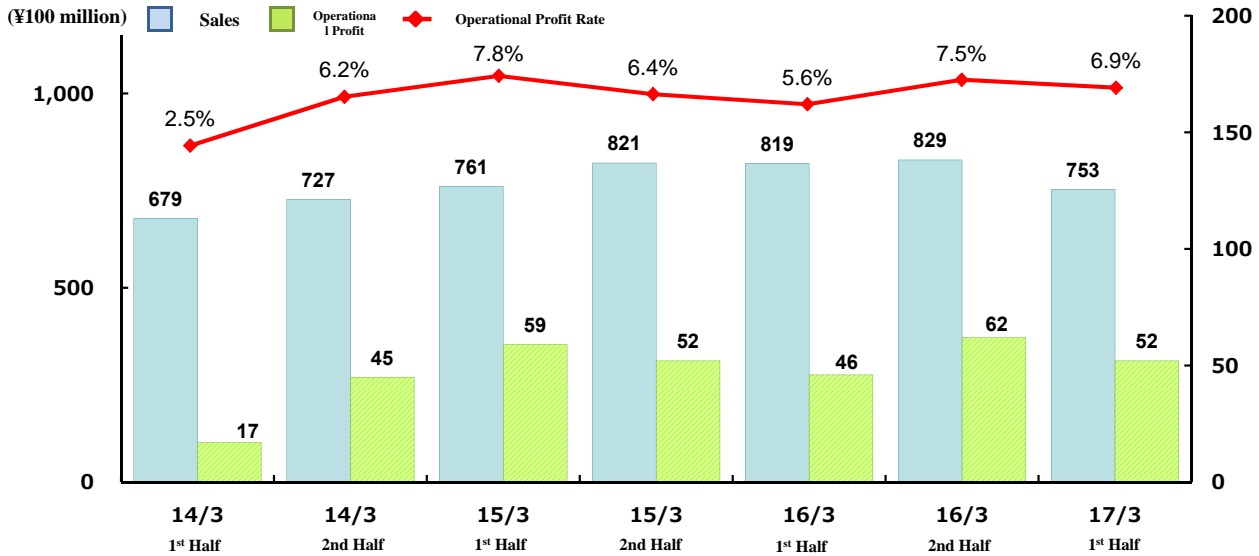
Quarterly operational profit changes



(Reference) Financial Results by Business Operations [Machine Tools, etc.]

(¥100 million)

	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease
Sales	819	753	△ 65
Operational Profit	46	52	+5
Profit Rate	5.6%	6.9%	



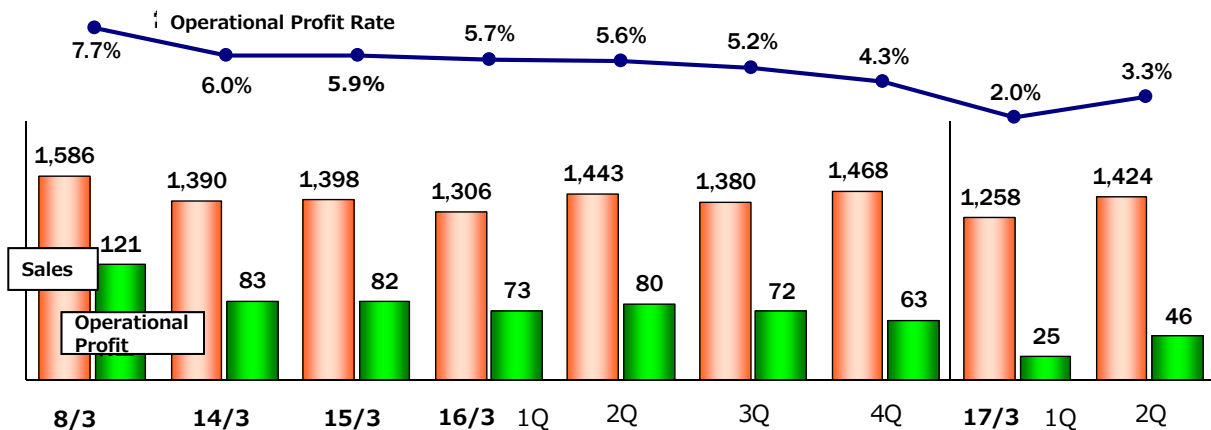
(Reference) Financial Results by Company Locations [Japan]

(¥100 million)

Japan	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease Amt.	Increase/ Decrease Rate
Sales	2,749	2,683	△66	△2.4%
Operational Profit	154	71	△82	△53.6%
Profit Rate	5.6%	2.7%		

Quarterly changes

(¥100 million)

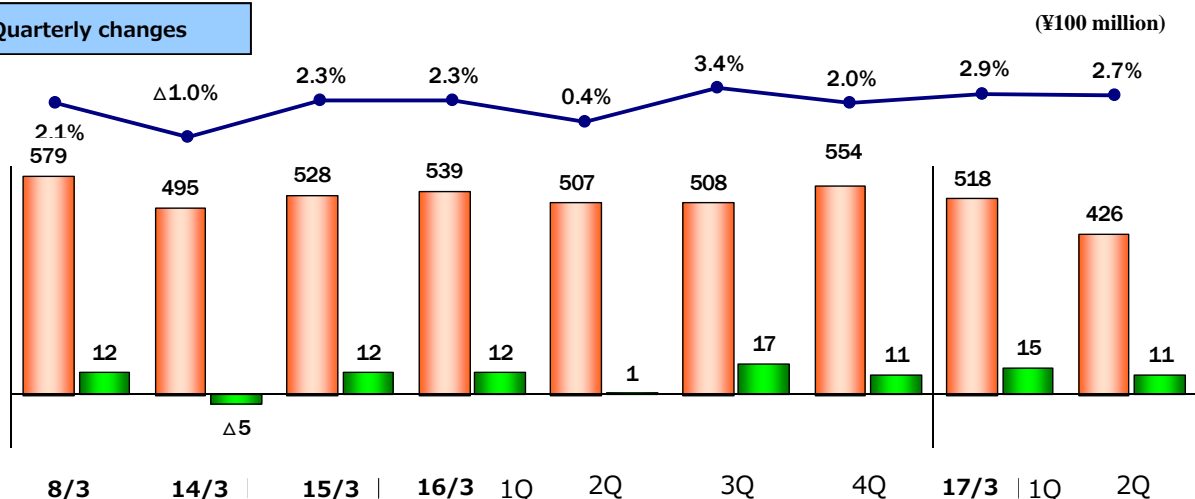


(Reference) Financial Results by Business Locations [Europe]

(¥100 million)

Europe	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease Amt.	Increase/ Decrease Rate
Sales	1,047	944	△102	△9.8%
Operational Profit	14	26	+12	+88.4%
Profit Rate	1.4%	2.8%		

Quarterly changes

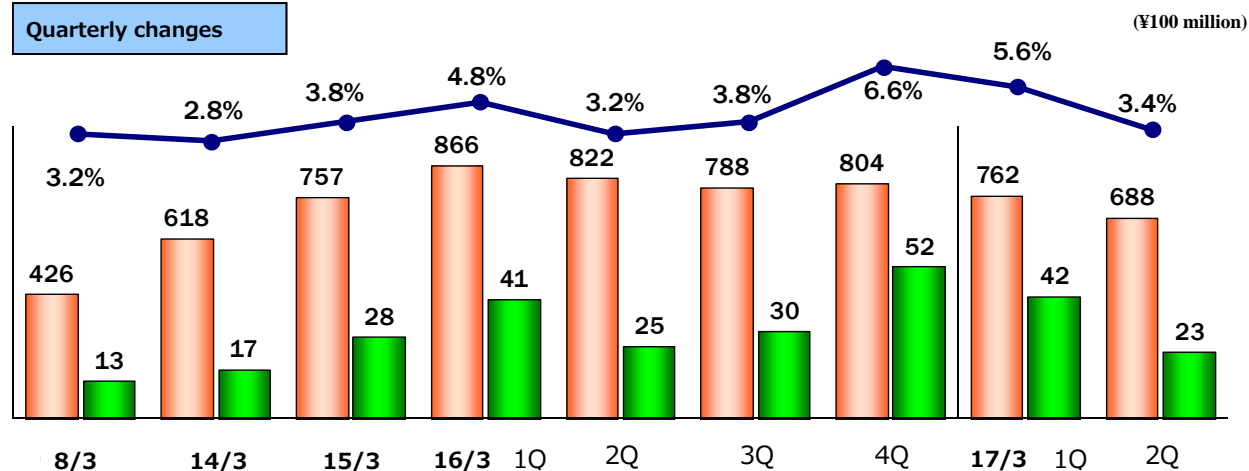


(Reference) Financial Results by Company Locations [North America]

(¥100 million)

North America	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/ Decrease Amt.	Increase/ Decrease Rate
Sales	1,691	1,450	△240	△14.2%
Operational Profit	68	65	△2	△4.0%
Profit Rate	4.1%	4.5%		

Quarterly changes

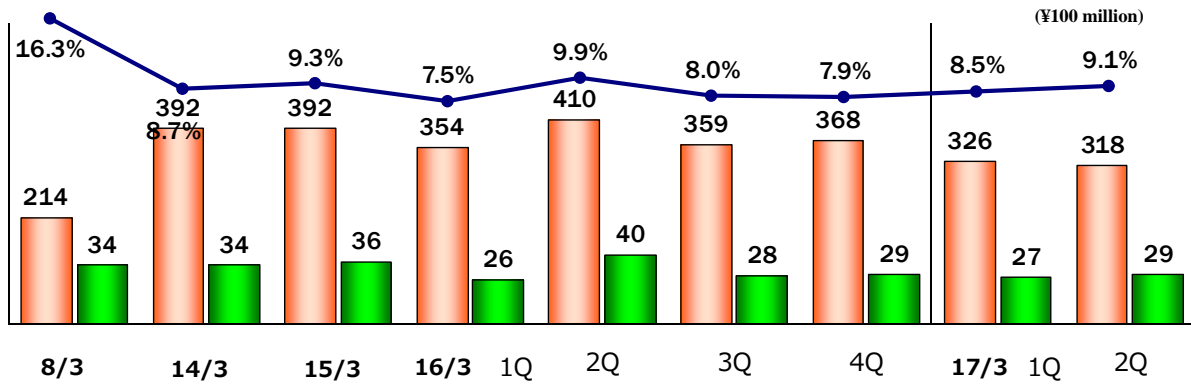


(Reference) Financial Results by Business Locations [Australia/Asia (incl. India)]

(¥100 million)

Australia/Asia (incl. India)	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/Decrease Amt.	Increase/Decrease Rate
Sales	765	645	△119	△15.6%
Operational Profit	67	57	△10	△15.3%
Profit Rate	8.8%	8.8%		

Quarterly changes

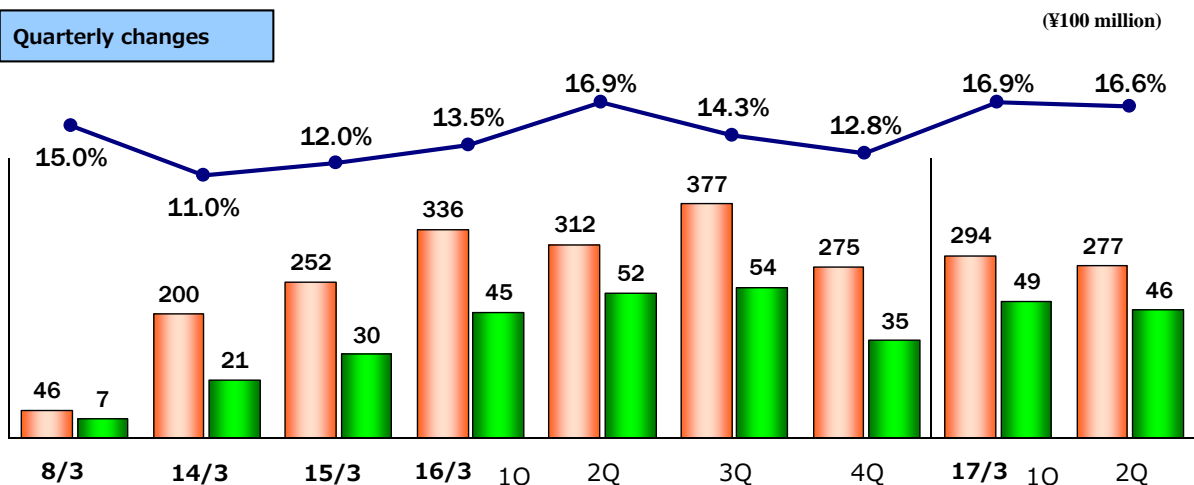


(Reference) Financial Results by Company Locations [China]

(¥100 million)

China	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/Decrease Amt.	Increase/Decrease Rate
Sales	649	572	△77	△11.9%
Operational Profit	98	95	△2	△2.9%
Profit Rate	15.2%	16.7%		

Quarterly changes



(Reference) Financial Results by Company Locations [South America, etc.]

(¥100 million)

South America, etc.	FY 2016 Q2 Total	FY 2017 Q2 Total	Increase/Decrease Amt.	Increase/Decrease Rate
Sales	115	107	△8	△6.9%
Operational Profit	△7	4	+11	—
Profit Rate	△6.1%	4.3%		

