

Net sales and operating income for FY2018 hit a record high

-Demand for Japanese construction machinery estimated conservatively for FY2019 due to intensifying trade war between the U.S. and China-

YAMASHIN-FILTER CORP.
Financial Results for
the Fiscal Year Ended March 2019

First Section of
Tokyo Stock Exchange

6240

May 24, 2019

Regarding the Business Environment and Initiatives of our Company in FY2018

Business Environment

- Despite the concern over the trade war between the U.S. and China, the overall Chinese Economy was stable.
- Due to the economic stimulation policy enacted at the National People's Congress in March (financial investment policy, 2.15 trillion yuan, economic growth rate: 6.5%), an increase in infrastructure investment and renewal is expected, and using the exhaust gas regulations as an opportunity, we will aim to enter the Chinese markets and acquire sales shares from local manufacturers.
- Under the Chinese construction machinery market, which constitutes around 50% of the world market, the major Japanese construction machinery manufacturers, our regular clients, decreased their market shares, reduced the production of new machinery and kept/lowered the inventory level of the service parts to a necessary minimum.



Initiatives of our company

- With the change in the inventory level of service parts for construction machinery, sales in Q4 stagnated.
- With construction machinery filters as the mainstay, we tried to enrich product lineups utilizing new raw materials and IoT technologies.
- Despite putting our full efforts into reaching the target of PAC18, due to the reduction in manufacturing output, we couldn't reach the reduction goal. While the aim was to reduce the annual accumulative cost to ¥ 330 million, the actual cost reduction was ¥290 million (achievement ratio: 88%).

Performance Trend in FY2018

- **Net sales and operating income hit a record high.**
- Despite the reduction of the inventory level of service parts by construction machinery manufacturers (our regular clients), sales were **13,811 million yen, up 4.9% year on year.**
- Due to efforts made in cost reduction through PAC18, gross profit was **6,479 million yen, up 6.7% year on year.**
- Despite an increase in inventory of service parts and rise in SG&A expenses in the second half of the fiscal year, thanks to the effects of the above-mentioned sales growth and PAC18, operating income reached **1,963 million yen, up 2.8% year on year.**

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**Business Performance Results for FY2018
and Full-Year Forecasts for FY2019**

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I Business Performance Results for FY2018 and Full-year Forecasts for FY2019

FY2018 Q4 Business Performance (January - March)



	FY2017 Q4 Actual	FY2018 Q4 Actual	YoY change	
(Million yen)	Amount	Amount	Amount	%
Net sales	3,542	3,221	△321	△9.1%
Operating income	388	365	△23	△6.0%
Operating income margin	11.0%	11.3%	0.3Pt	
Ordinary income	347	356	9	2.6%
Ordinary income margin	9.8%	11.1%	1.3Pt	
Net income	273	273	0	0.0%
Net income margin	7.7%	8.5%	0.8Pt	
Exchange rates AR* USD	108.3	110.2	1.9	1.8%
EUR	133.2	125.2	△8.1	△6.0%

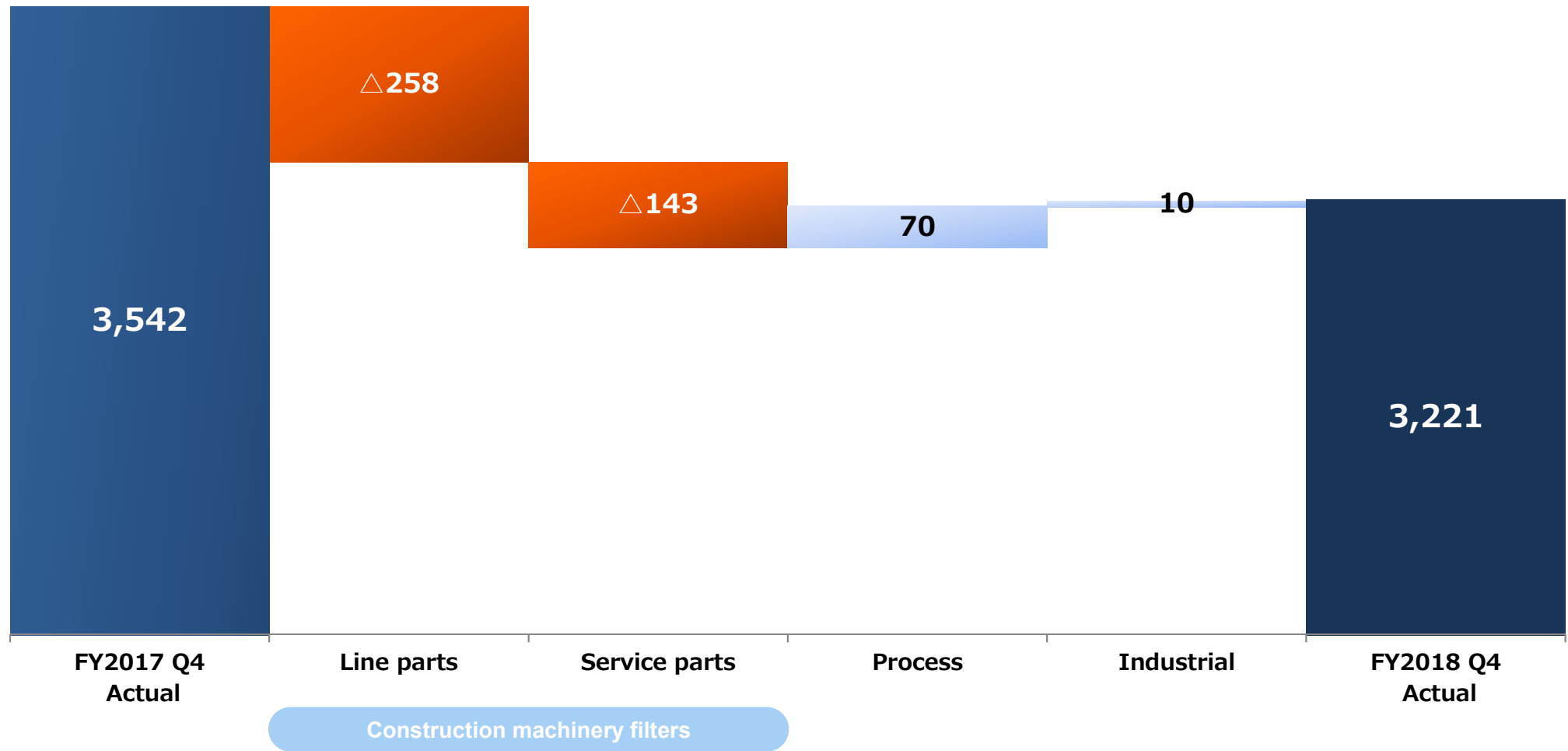
*Average rate for 3 months from January to March

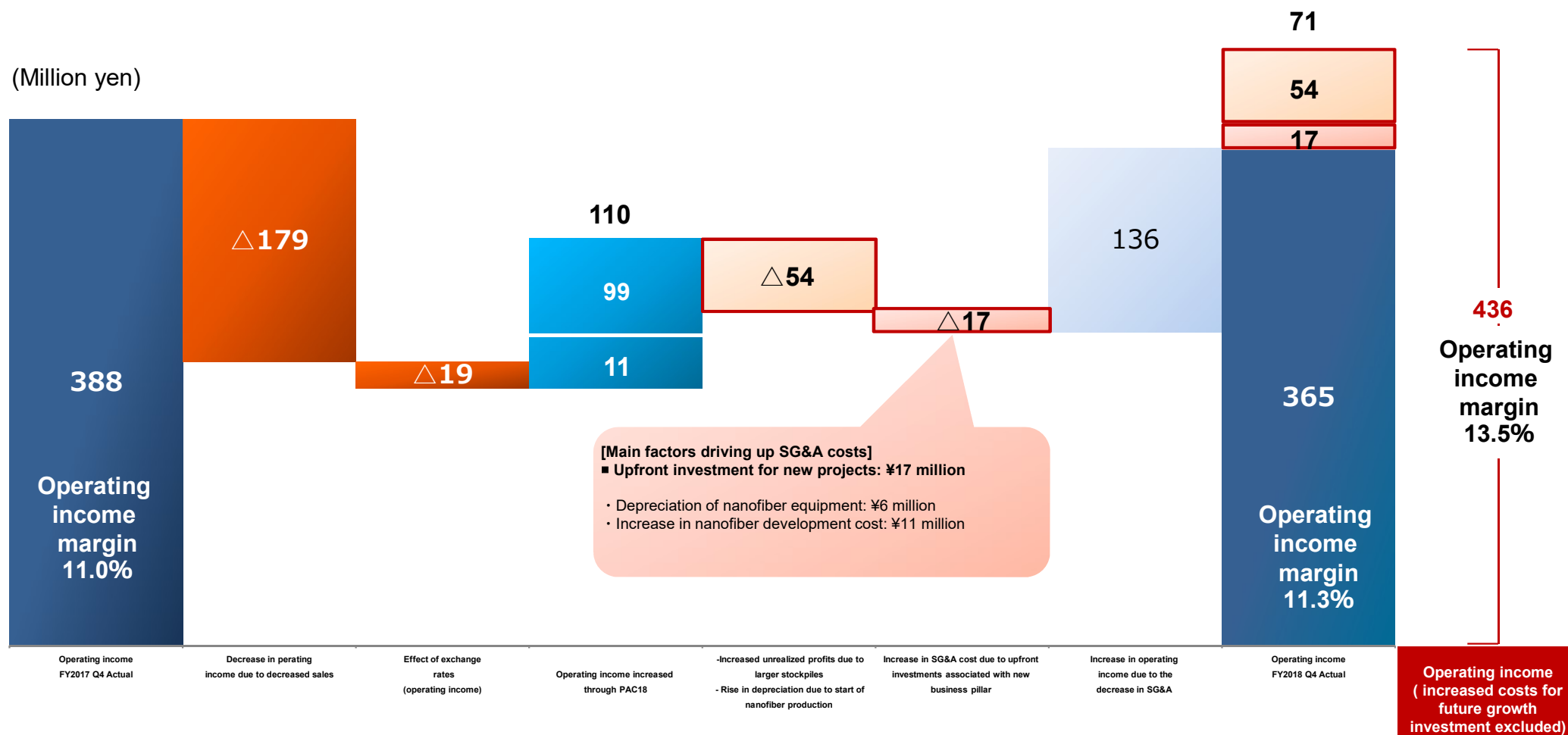
	FY2017 Q4 Actual	FY2018 Q4 Actual	YoY change	
	Amount	Amount	Amount	%
Construction machinery filters	3,224	2,821	△402	△12.5%
Line parts	1,557	1,298	△258	△16.6%
Service parts	1,666	1,523	△143	△8.6%
Industrial filters	119	129	10	8.4%
Process filters	199	269	70	35.4%
Total sales	3,542	3,221	△321	△9.1%

	FY2017 Q4 Actual		FY2018 Q4 Actual		Change	
	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)
Japan	1,621	45.7%	1,518	47.1%	△102	△6.3%
North America	583	16.5%	553	17.2%	△ 30	△5.2%
China	612	17.3%	466	14.5%	△ 146	△23.9%
Other Asian countries	392	11.1%	350	10.9%	△ 41	△10.7%
Europe	337	9.5%	331	12.4%	△ 5	△1.7%
Others (Middle East, etc.)	△ 4	-0.1%	0	0.0%	4	
Total sales	3,542	100.0%	3,221	100.0%	△ 321	△9.1%

Note: The amounts of sales by region here are calculated based on the locations of corporations to which invoices are sent.
 So actual regional market trends may be different from the numbers shown.

(Million yen)





*PAC (Promptly Activated Cost reduction): Company-wide cost reduction project

FY2018 Business Performance (April 2018 – March 2019)



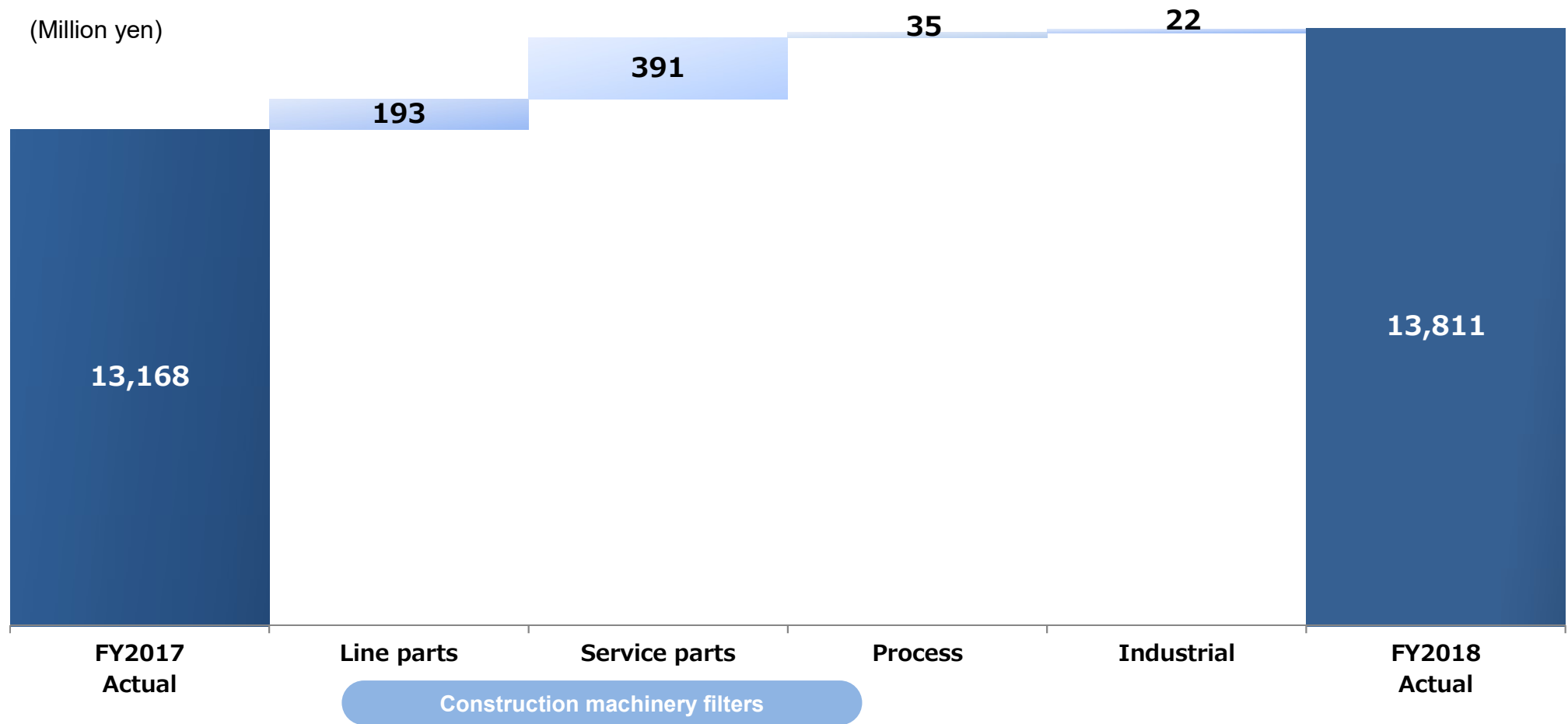
(Million yen)	FY2017 Actual	FY2018 Actual	YoY change	
	Amount	Amount	Amount	%
Net sales	13,168	13,811	642	4.9%
Operating income	1,910	1,963	52	2.8%
Operating income margin	14.5%	14.2%	△0.3Pt	
Ordinary income	1,824	1,915	91	5.0%
Ordinary income margin	13.9%	13.9%	0.0Pt	
Net income	1,249	1,413	164	13.1%
Net income margin	9.5%	10.2%	0.7Pt	
Exchange rates AR* USD	110.9	110.9	0.0	0.1%
EUR	129.7	128.4	△1.3	△1.0%

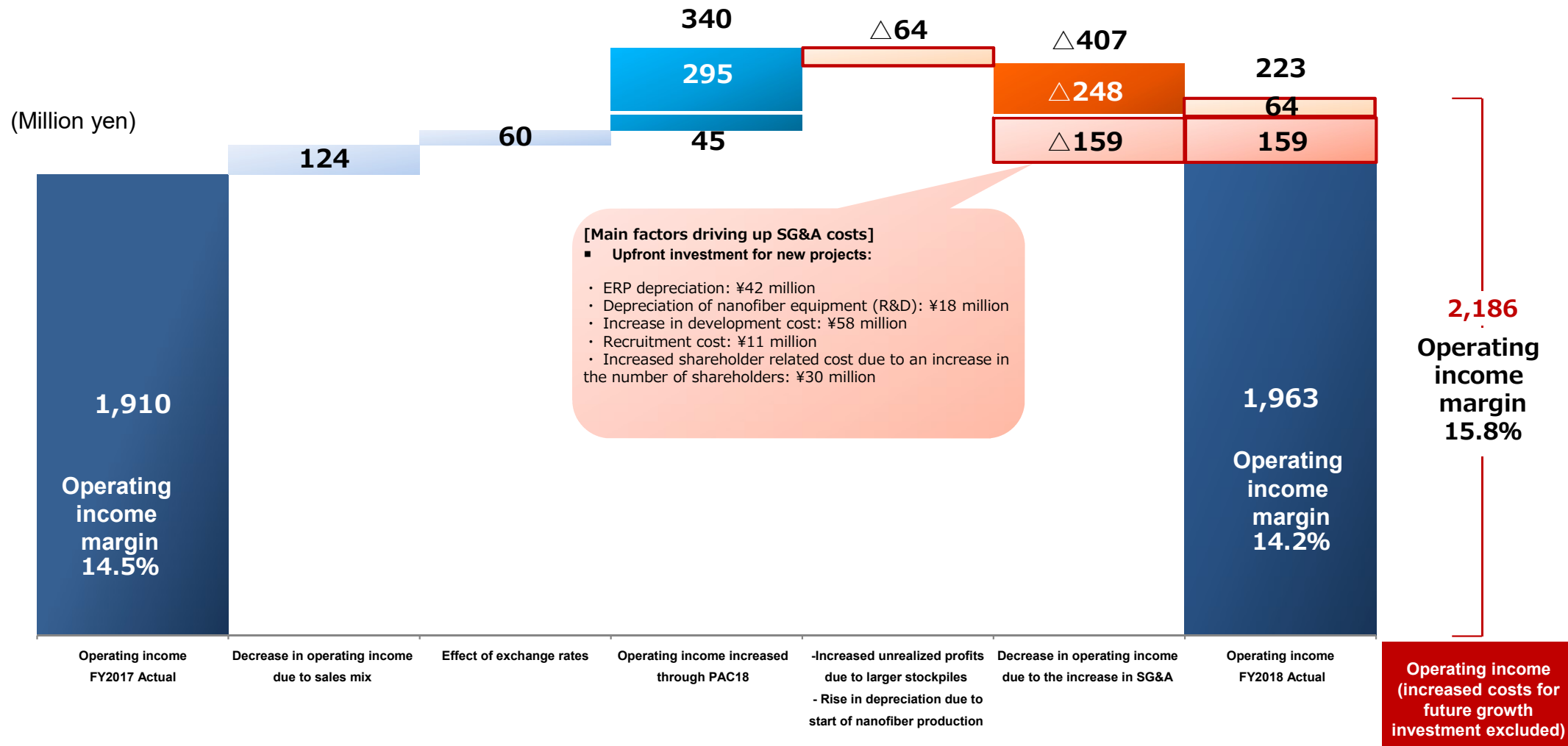
*Average rate for 12 months from April to March

	(Million yen)	FY2017 Actual	FY2018 Actual	YoY change	
		Amount	Amount	Amount	%
Construction machinery filters		11,768	12,353	585	5.0%
Line parts		5,342	5,535	193	3.6%
Service parts		6,425	6,817	391	6.1%
Industrial filters		526	548	22	4.2%
Process filters		873	909	35	4.1%
Total sales		13,168	13,811	642	4.9%

	FY2017 Actual		FY2018 Actual		Change	
	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)
Japan	6,443	48.9%	6,541	47.5%	97	1.5%
North America	2,201	16.7%	2,253	16.3%	52	2.4%
China	1,753	13.3%	1,813	13.1%	60	3.5%
Other Asian countries	1,522	11.6%	1,741	12.6%	219	14.4%
Europe	1,204	9.2%	1,454	10.5%	249	20.7%
Others (Middle East, etc.)	42	0.3%	6	0.0%	△35	△85.4%
Total sales	13,168	100.0%	13,811	100.0%	642	4.9%

Note: The amounts of sales by region here are calculated based on the locations of corporations to which invoices are sent.
So actual regional market trends may be different from the numbers shown.

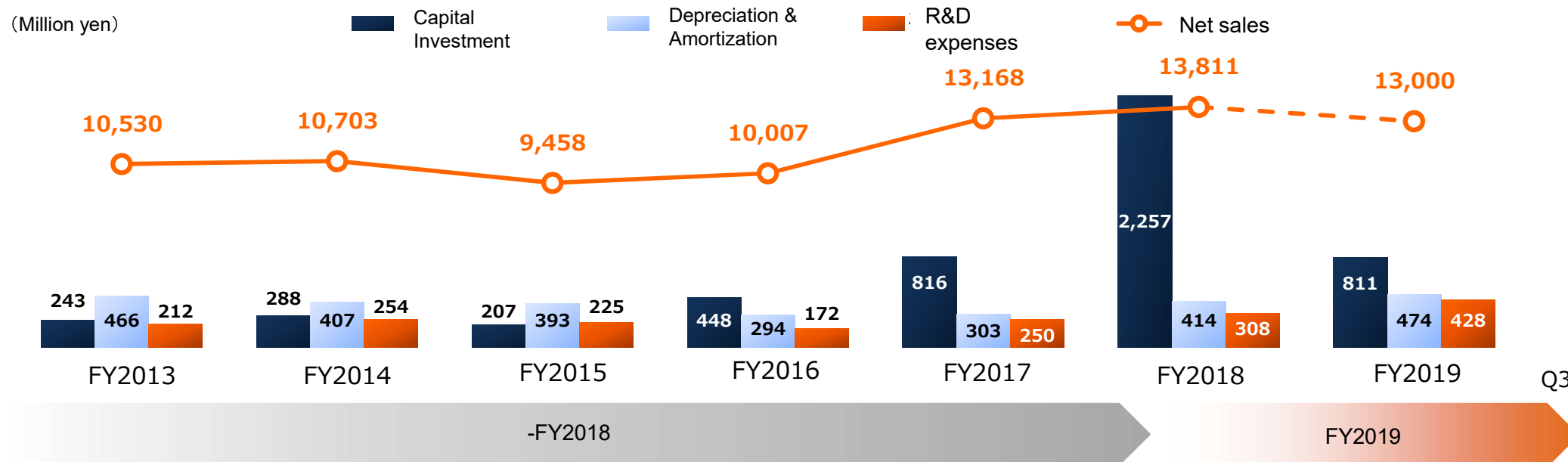




*PAC (Promptly Activated Cost reduction): Company-wide cost reduction project

(Million yen)	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
	Actual	Actual	Actual	Actual	Actual	Actual	Forecast
Net sales	10,530	10,703	9,458	10,007	13,168	13,811	13,000
Capital investment	243	288	207	448	816	2,257	811
Composition ratio	2.3%	2.7%	2.2%	4.5%	6.2%	16.3%	6.2%
Depreciation & amortization	466	407	393	294	303	414	474
Composition ratio	4.4%	3.8%	4.2%	2.9%	2.3%	3.0%	3.6%
R&D expenses	212	254	225	172	250	308	428
Composition ratio	2.0%	2.4%	2.4%	1.7%	1.9%	2.2%	3.3%

Net sales and capital investment and depreciation & amortization



To share target figures related to improving our corporate value, in both management (administrative) and other operating departments.

What is **MAVY's**? (ROIC – WACC)

Maximizing
Added
Value of
Yamashin Filter
Spread

The key goal indicator (KGI), based on which each relevant department sets its KPI and KSF, and works on measures to attain targets, with the goal of maximizing return on invested capital.

Meet the expectations from stakeholders by improving MAVY's number (key goal indicator)

Assign KPIs to relevant departments who are responsible for target setting and implementing actions for achieving the targets in a company-wide coordinated effort

MAVY's: The Big Picture and the Department

*Assumption for KPI calculation
Prv: Actual value of FY2017
Cur: Actual value of FY2018

Key Goal Indicators (KGI)	Key Performance Indicators (KPI)			Key Success Factors (KSF)	Relevant departments	Management Policies	Targets for FY2018 (action plan)		
<div>*Assumption for KPI calculation Prv: Actual value of FY2017 Cur: Actual value of FY2018</div> <div>MAVY's</div> <div>Prv: 4.1% Cur: 1.4%</div>	<div>Operating income margin</div> <div>Prv: 14.5% Cur: 16.8%</div>	<div>Gross profit ratio</div> <div>Prv: 46.1% Cur: 48.5%</div>	<div>Sales growth ratio</div> <div>Prv: 31.6% Cur: 8.6%</div>		<div>New product development Enhance genuine products market share</div>	<div>Sales/Development</div>	<div>Expand business portfolio Deepen existing businesses</div>	<div>Sales of filters with new materials Increase shares by conducting seminars Identify new markets</div>	
			<div>Sales cost ratio</div> <div>Prv: 53.9% Cur: 51.5%</div>		<div>Enhance purchase capacity Improve yield ratio</div>	<div>Production/ Procurement</div>	<div>Improve profitability</div>	<div>PAC18, review suppliers Cost reduction through SAP utilization</div>	
			<div>Depreciation and amortization ratio</div> <div>Prv: 2.3% Cur: 2.7%</div>		<div>Investment plan</div>	<div>Management planning/ Finance and accounting</div>	<div>Expand business portfolio</div>	<div>Develop mid-term business plan Investment recovery effect</div>	
			<div>SG&A ratio</div> <div>Prv: 31.6% Cur: 31.7%</div>		<div>R&D expense ratio</div> <div>Prv: 1.9% Cur: 2.7%</div>	<div>Narrowing down themes Prioritization</div>	<div>R&D</div>	<div>Expand business portfolio</div>	<div>Develop new materials Actions to achieve IoT Other technological development</div>
			<div>Personnel expense ratio</div> <div>Prv: 12.8% Cur: 13.1%</div>						
		<div>Operating capital turnover rate</div> <div>Prv: 4.1 Cur: 3.9</div>	<div>AR turnover rate</div> <div>Prv: 4.5 Cur: 4.3</div>		<div>Credit management</div>	<div>Sales/ Finance and accounting</div>	<div>Strengthen governance</div>	<div>Credit management</div>	
			<div>Inventory turnover rate</div> <div>Prv: 8.1 Cur: 7.6</div>		<div>Set appropriate inventory level</div>	<div>Production Sales</div>	<div>Strengthen governance</div>	<div>Monitor working capital Manage appropriate inventory level</div>	
			<div>AP turnover rate</div> <div>Prv: 5.4 Cur: 5.0</div>		<div>Debt management</div>	<div>Procurement</div>	<div>Strengthen governance</div>	<div>Improve working capital</div>	
			<div>Tangible FA turnover rate</div> <div>Prv: 9.0 Cur: 6.6</div>		<div>Equipment plan (R&D, production)</div>	<div>Management planning Administration/Producti on/Development</div>	<div>Expand business portfolio</div>	<div>Optimize investment recovery effect</div>	
			<div>Intangible FA turnover rate</div> <div>Prv: 37.3 Cur: 31.7</div>		<div>Investment plan</div>	<div>Management planning/ Finance and accounting</div>	<div>Expand business portfolio</div>	<div>Optimize investment recovery effect Utilize SAP</div>	
<div>Investment capital turnover rate</div> <div>Prv: 0.8 Cur: 0.8</div>	<div>FA turnover rate</div> <div>Prv: 3.7 Cur: 3.4</div>								
<div>ROIC</div> <div>Prv: 7.0% Cur: 9.2%</div>	<div>WACC</div> <div>Prv: 2.9% Cur: 7.8%</div>								
<div>ROE</div> <div>Prv: 10.6% Cur: 9.6%</div>	<div>ROA</div> <div>Prv: 8.1% Cur: 8.1%</div>								

- Implement comprehensive improvements in production technology, operation management and systems to strengthen the profit structure.



Background	Cost category	Action plan	Reduction targets (Annual targets)	H1 Actual	Full-year Actual	Achievement ratio (of annual target)
Establish strong foundation and a profit making structure	Manufacturing cost	To streamline production To strengthen supply chain, etc.	330 million yen	71,456 (1K yen)	294,961 (1K yen)	88%
	SG&A	To reduce sales and general administrative cost	50 million yen	20,029 (1K yen)	44,792 (1K yen)	90%

We focused our efforts on reducing raw material procurement costs in FY2018.

PAC18

Reduce raw material procurement costs

Change suppliers of main raw materials, and change raw materials purchased and cut unit costs through VA proposals

Improve production processes

Reduce raw material volumes and labor requirements through improved production technologies

Optimize production bases

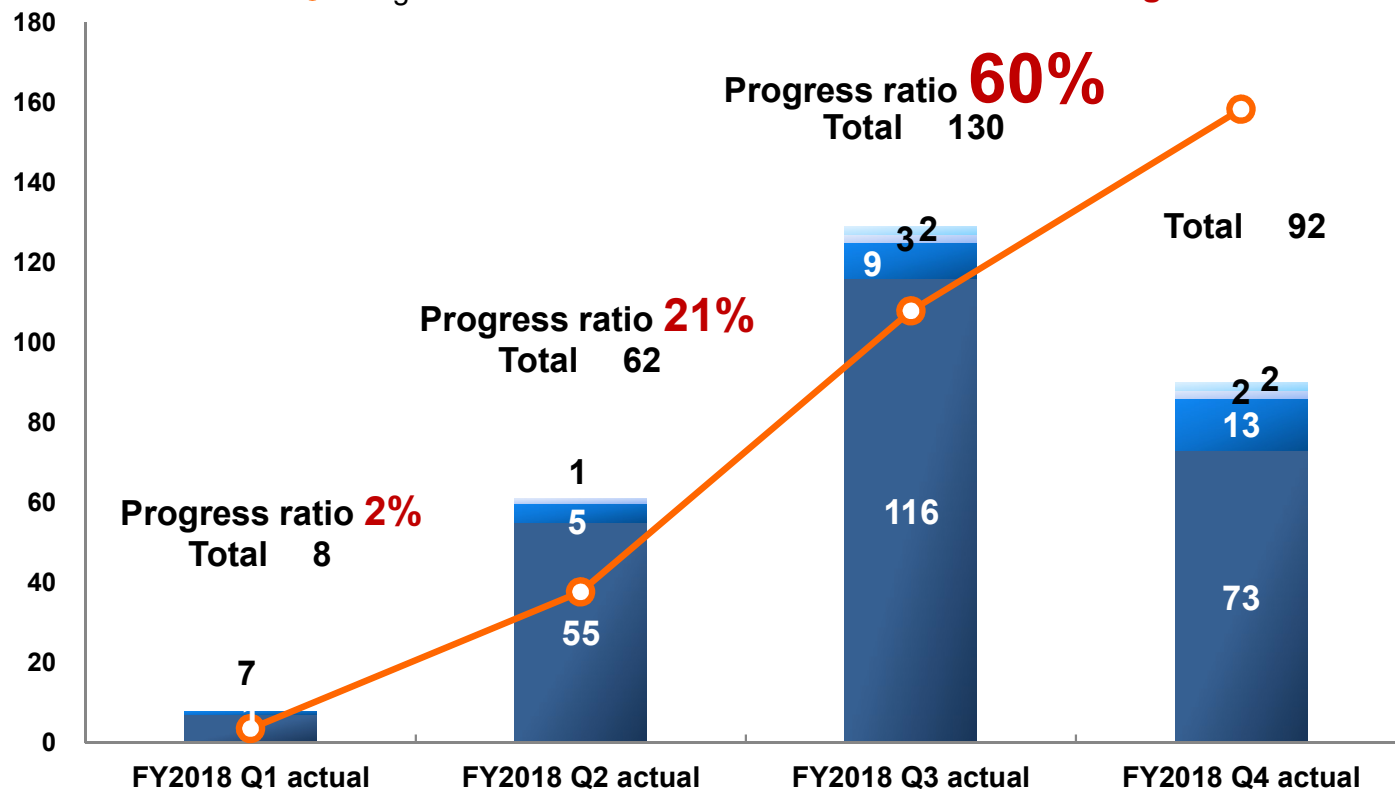
Optimize production sites by contracting to overseas producers

Switch providers for logistics insurance

Reduce costs by carefully selecting new insurance provider for supply chain and logistics for procured materials

(Million yen)

- Reduce raw material procurement costs
- Improve production processes
- Optimize production bases
- Switch providers for logistics insurance
- Progress Ratio



[Factors in failure to achieve goals]

The initiatives themselves were quite effective, but the stagnation of sales in FY2018 Q4 hindered the decrease in supply cost for raw materials. Therefore, the annual target was not met.

Full-year Forecasts for FY2019



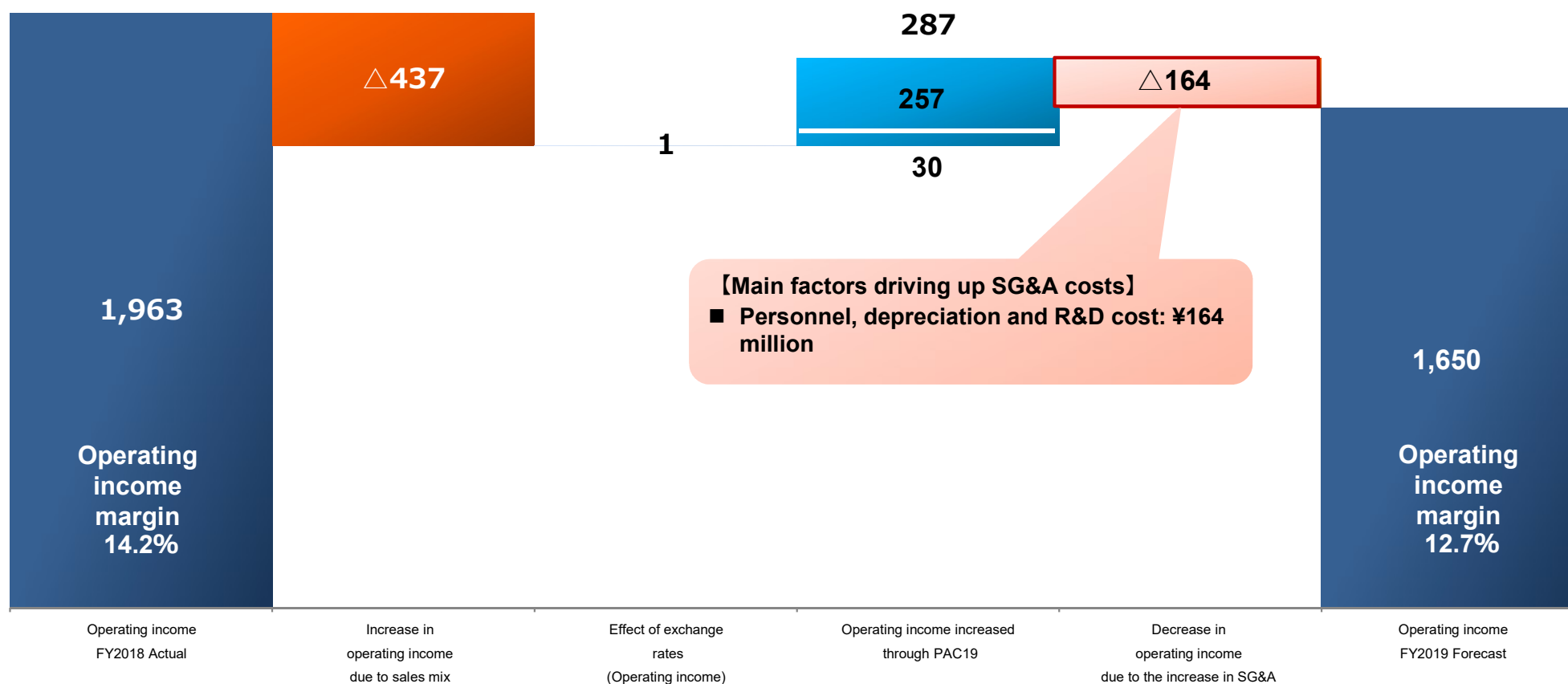
	FY2017 Actual	FY2018 Actual	FY2019 Forecast	FY2018 Actual vs. FY2019 Forecast
(Million yen)	Amount	Amount	Amount	Amount
Net sales	13,168	13,811	13,000	△811
Gross profit	6,074	6,479	6,300	△179
Gross profit ratio	46.1%	46.9%	48.5%	1.6Pt
SG&A	4,163	4,515	4,650	134
SG&A ratio	31.6%	32.7%	35.8%	3.1Pt
Operating income	1,910	1,963	1,650	△313
Operating income margin	14.5%	14.2%	12.7%	△1.5Pt
Ordinary income	1,824	1,915	1,600	△315
Ordinary income margin	13.9%	13.9%	12.3%	△1.6Pt
Net income	1,249	1,413	1,100	△313
Net income margin	9.5%	10.2%	8.5%	△1.7Pt
Exchange rates AR				
USD	110.9	110.9	108.0	△2.9
EUR	129.7	128.4	130.0	1.6

	FY2018 Actual		FY2019 Forecasts		FY2018 Actual vs. FY2019 Forecast	
	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Change in ratio (%)
Construction machinery filters	12,353	89.4%	11,543	88.8%	△809	△6.6%
Line parts	5,535	40.1%	5,062	38.9%	△473	△8.6%
Service parts	6,817	49.3%	6,481	49.9%	△335	△4.9%
Industrial filters	548	4.0%	572	4.4%	24	4.4%
Process filters	909	6.6%	883	6.8%	△25	△2.8%
Total sales	13,811	100.0%	13,000	100.0%	△811	△5.9%

	FY2018 Actual		FY2019 Forecast		FY2018 Actual vs. FY2019 Forecast	
	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Composition ratio (%)	Amount (Million yen)	Change in ratio (%)
Japan	6,541	47.5%	6,058	46.6%	△482	△7.4%
North America	2,253	16.3%	2,440	18.8%	186	8.3%
China	1,813	13.1%	1,480	11.4%	△333	△18.4%
Other Asian Countries	1,741	12.6%	1,694	13.0%	△46	△2.7%
Europe	1,454	10.5%	1,298	10.0%	△155	△10.7%
Others (Middle East, etc)	6	0.0%	27	0.2%	20	341.7%
Total sales	13,811	100.0%	13,000	100.0%	△811	△5.9%

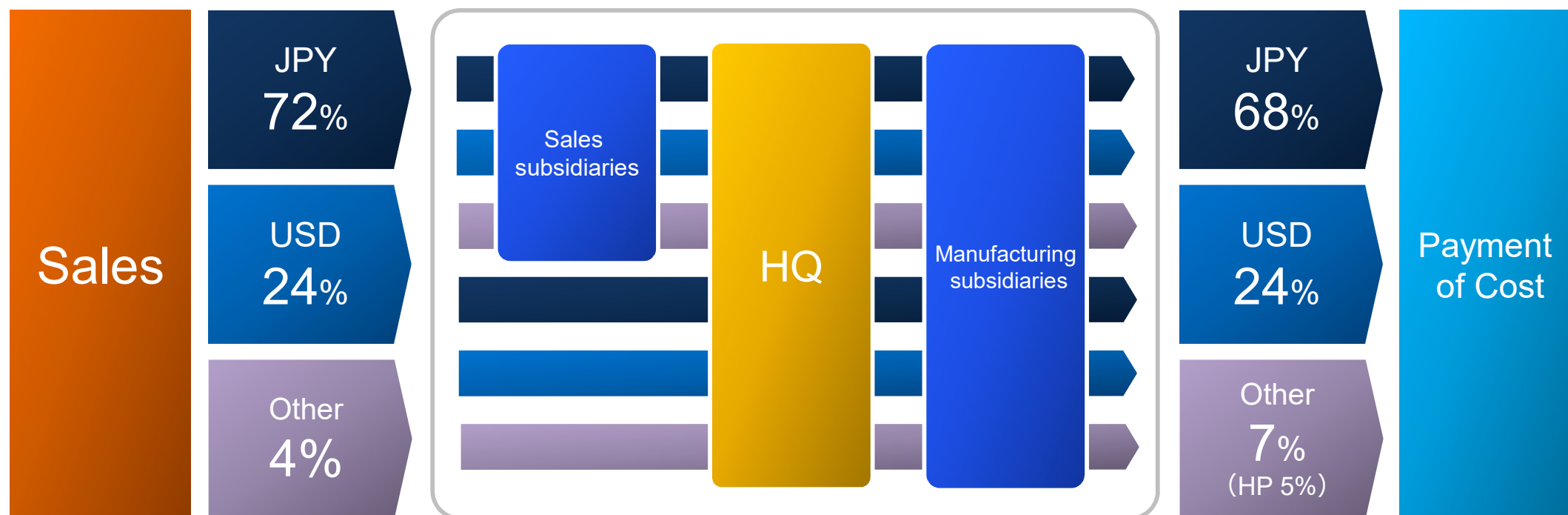
Note: The amounts of sales by region here are calculated based on the locations of corporations to which invoices are sent. So actual regional market trends may be different from the numbers shown.

(Million yen)



*PAC (Promptly Activated Cost reduction): Company-wide cost reduction project

- Operational hedge “marry and netting” was continuously conducted, achieving a foreign exchange sensitivity of 0.1%.



70% of transaction currency is JPY. Operational hedge “marry and netting” was conducted for USD

- 1-yen appreciation of the yen would increase operating income about 1.0 million yen.

The annual dividend will be increased to 6.0 yen per share, including an interim dividend of 2.5 yen and year-end dividend of 3.5 yen per share.

	FY2016	FY2017	FY2017	FY2019 Forecasts
Dividend per share	2.4 yen* ¹	3.6 yen* ¹	6.0 yen	6.0 yen
DOE	2.3%	1.9%	2.4%	2.3%
Total return ratio* ²	25.6%	21.6%	31.9%	42.9%

Note) The Company conducted a 5-for-1 stock split that became effective on December 1, 2017.

*1 For the dividends for FY2016 and FY2017, the amounts shown as a reference value are calculated based on the above stock split.

*2 Total return ratio = (Total dividend + Treasury stock acquired + Shareholder benefit) ÷ Net income



II

Conditions in the Construction Machinery Market

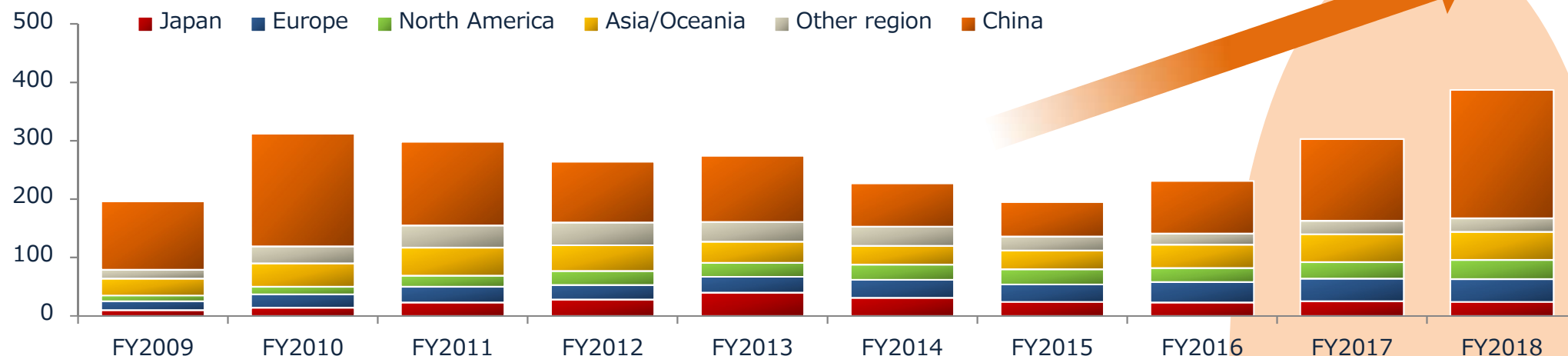
[Summary]

- Despite concerns about the trade war between the U.S. and China, China has conducted public investment as a countermeasure. Therefore, the Chinese economy is healthy as a whole.
- In the Chinese construction machinery market, which constitutes around 50% of the world market, the major Japanese makers (our regular clients), decreased their market shares, reduced the production of new machinery and kept/lowered the inventory level of service parts to a necessary minimum.

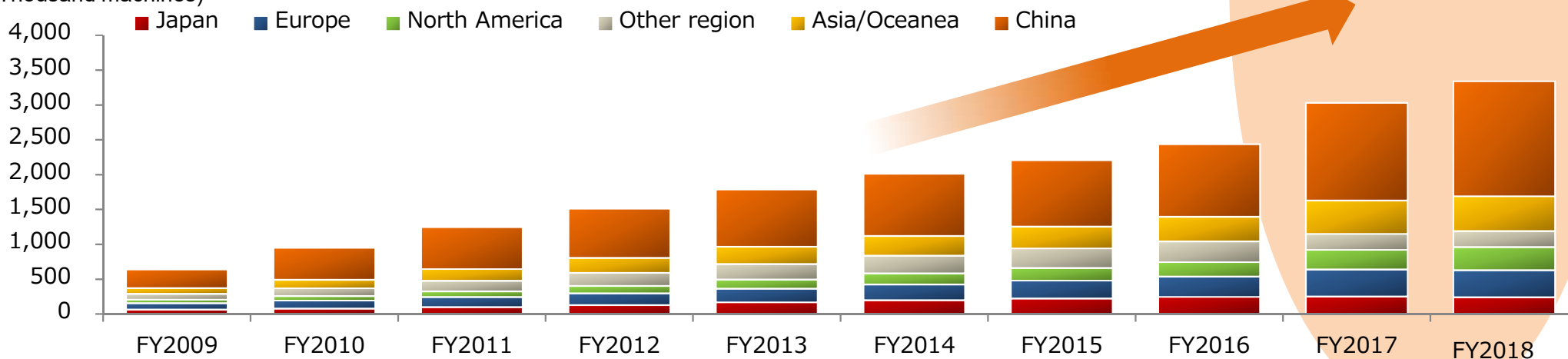
	Past	Current	Future outlook
China	Significant production cutback due to slowdown of real estate investment	Demand remains strong	Increase in infrastructure investment (2.15 trillion yuan) Using the exhaust gas regulations as an opportunity, we aim to increase new customers
Southeast Asia	Investment in mining machinery is sluggish, but investment in infrastructure is strong.	Demand is growing overall, centered on Indonesia.	Slight decrease in demand anticipated in some regions
North America	Demand recovery due to infrastructure investment	Centered around energy development and infrastructure investment, demand grew from the previous year	Healthy demand anticipated
Japan	Demand increase due to strong domestic infrastructure investment	Recovery in capital investment and public investment Demand was nearly equal to that in the previous year	Demand estimated to be unchanged
Europe	Business was sluggish.	Despite the uncertainties about Brexit, demand was healthy	Healthy demand anticipated

In the Chinese markets, an increase in demand is still anticipated.

(Thousand machines)



(Thousand machines)



(YAMASHIN's estimates based on the data published by construction machinery manufacturers and industry associations)

Shares of Japanese manufacturers dropped while those of Chinese manufacturers in the mainland of China increased.

Variations of market share in China

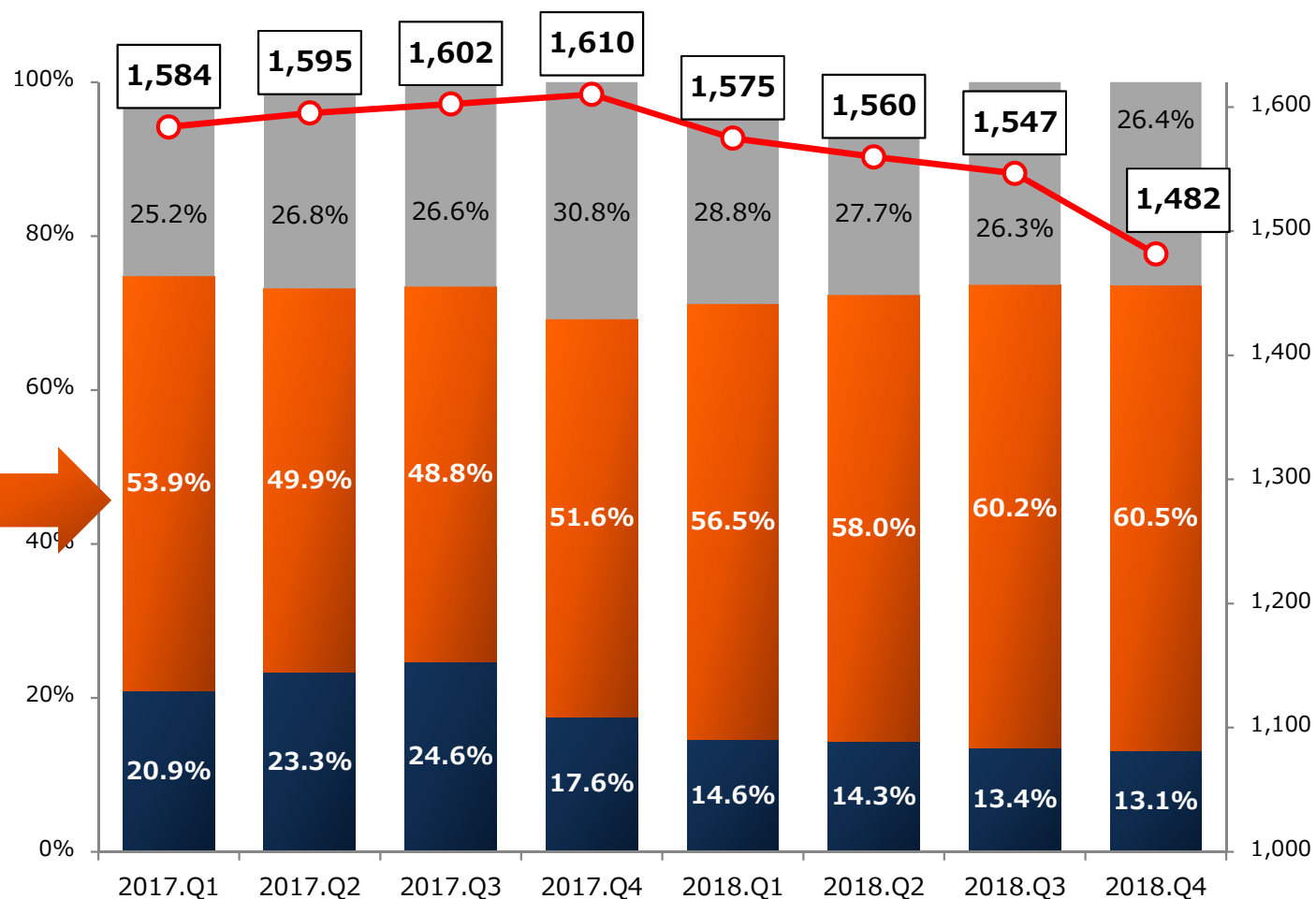
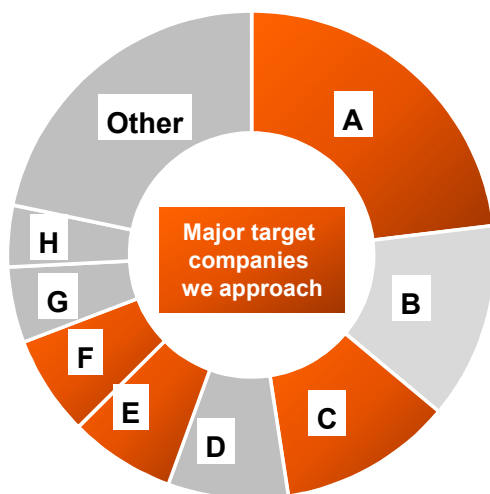
(Annual operation hours)

Japanese Chinese Other countries Our estimation of operation hours of Japanese construction machinery in China

Main construction machinery manufacturers' market share in the Chinese market

Chinese Manufacturers

A B C D E F G H Other



		Major actions	Progress
Construction machinery filters	Line parts	<ul style="list-style-type: none"> Propose failure prediction features, IOT and ICT technology Propose a return filter made from new materials Expand sales to construction machinery manufacturers in China 	<ul style="list-style-type: none"> Pitching SWIFTROCK and Life Sensor installation to major manufacturers; testing in actual equipment continues. Starting mass production of return filters with new materials Starting introduction of hybrid filters for new models compliant with Tier 4 regulations
	Service parts	<ul style="list-style-type: none"> Recapture market share lost due to counterfeit products by holding seminars 	<ul style="list-style-type: none"> Plan to provide our replacement filters to Chinese construction machinery manufacturers
Industrial and Process filters		<ul style="list-style-type: none"> Expand and strengthen product lineups 	<ul style="list-style-type: none"> Developing and proposing products with new materials (Proposing SWIFTROCK installation, etc.)
Nano Filter	Apparel	<ul style="list-style-type: none"> Proposing materials using our technology to several major apparel manufacturers 	<ul style="list-style-type: none"> Starting provision of prototypes to several major apparel manufacturers Starting mass production of new materials to major men's apparel manufacturers
	Air Filter	<ul style="list-style-type: none"> Develop next-generation air filters 	<ul style="list-style-type: none"> Developing new material air filters to start its mass production during FY2019 Proposing our new material products to major domestic appliance makers
	Agricultural Materials, etc.	<ul style="list-style-type: none"> Identify agri-venture companies, etc. for collaboration 	<ul style="list-style-type: none"> Progress in standardization of our heat insulation sheets using our new materials for next-generation agricultural ventures using AI, etc. Progress in mass production of automotive sound-absorbing materials
Strategies for business area expansion		<ul style="list-style-type: none"> Expand new business domains 	<ul style="list-style-type: none"> Approach companies in the air filter and non-woven fabric business areas as well as companies with nano technologies in order to expand domestic and overseas business areas



III Future Strategies

The construction machinery market will be strong in the next 3 to 5 years.
We will proactively develop business to achieve the goals by utilizing the 10 billion yen capital funds.

Expand business portfolio

By establishing the next growth pillars needed to address
a dependence on construction machinery

[3 pillars]
Construction machinery filters ✕ Process and industrial filters
✕ Expansion of new materials

Establish a new R&D center

3 billion yen

Mass produce new materials and
increase the productivity
of existing products

3 billion yen

Establish a more robust corporate structure

By establishing multiple production bases
By reconfiguring the global supply chain

Cost reduction through PAC18
Large-scale investment plans for the R&D facilities
Investment to launch production facilities in the major markets

Capital and business tie-ups, including M&A

4 billion yen

Filters for construction machinery

We have established nano fiber mass production technologies/facilities, and delivery of Nano Filter products for construction machinery already “began” in January 2019.



Hybrid filters

Glass fibers and nanofibers

These materials help reduce more waste by enhancing filter performance, and extend the service life of filters (threefold) and construction machinery

Helps reduce environmental impact

Now proposing its use in the next generation of models from each construction machinery manufacturer



Beyond this, **New Materials × IoT × Aeration Measure System** to increase added value and grow market share

Service life increased threefold

New materials
YAMASHIN Nano Filter



IoT Enabling failure prediction

Purity sensors

- ✓ Measure purity of oil and water
- ✓ Low cost
- ✓ Compact design

SWIFTROCK™

Life Sensors

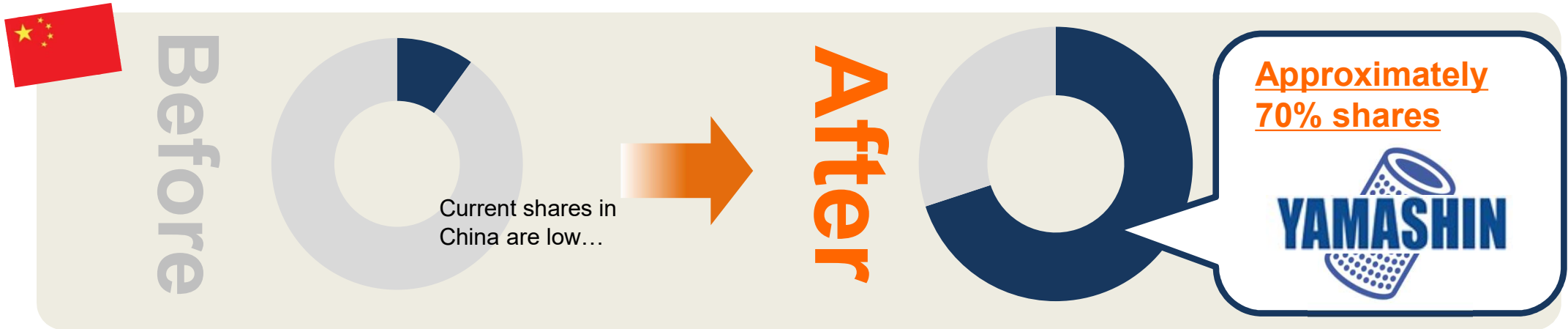
Monitor particle accumulation in filters, stage by stage



Aeration countermeasure system

SMART TANK

- Controlling aeration/bubble generation inside the hydraulic circuits of construction machinery
- Currently implementing actual machine tests in cooperation with our customers

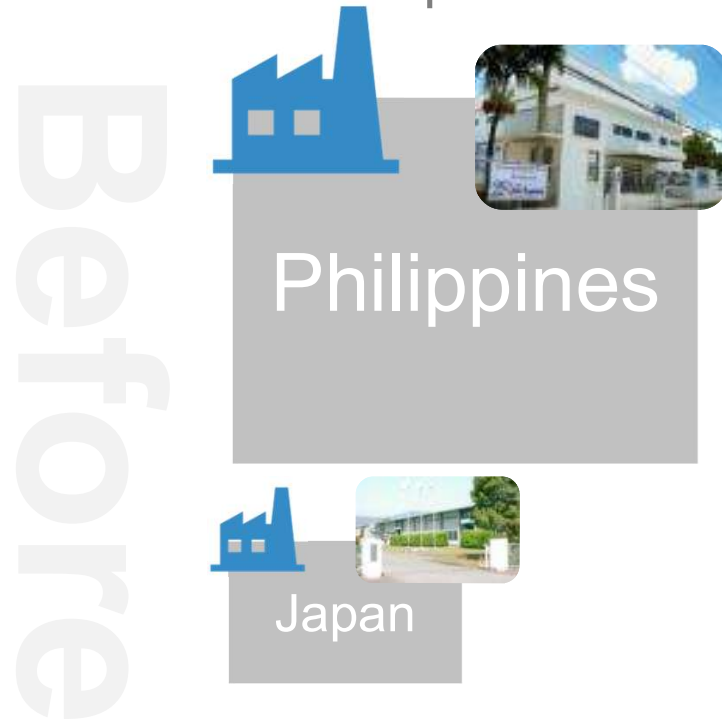


This section details regulatory challenges and solutions. On the left, a box with a blurred background contains the text 'Exhaust gas regulations on diesel engine "Tier4"'. To its right, two bullet points state: '➤ Regulations to be enforced on December 1, 2020' and '➤ Each company developing new models to cope with the regulations'. Further right, there is an illustration of a cylindrical filter, the YAMASHIN Nano Filter logo, a large orange 'X' mark, and a box labeled 'IoT, aeration countermeasure system'. Below these elements, a text box reads: 'Started putting importance on quality rather than cost' and 'Releasing high quality products into Chinese markets as well'.

By taking advantage of the regulation change as an opportunity, we will achieve the largest share in the market, too.

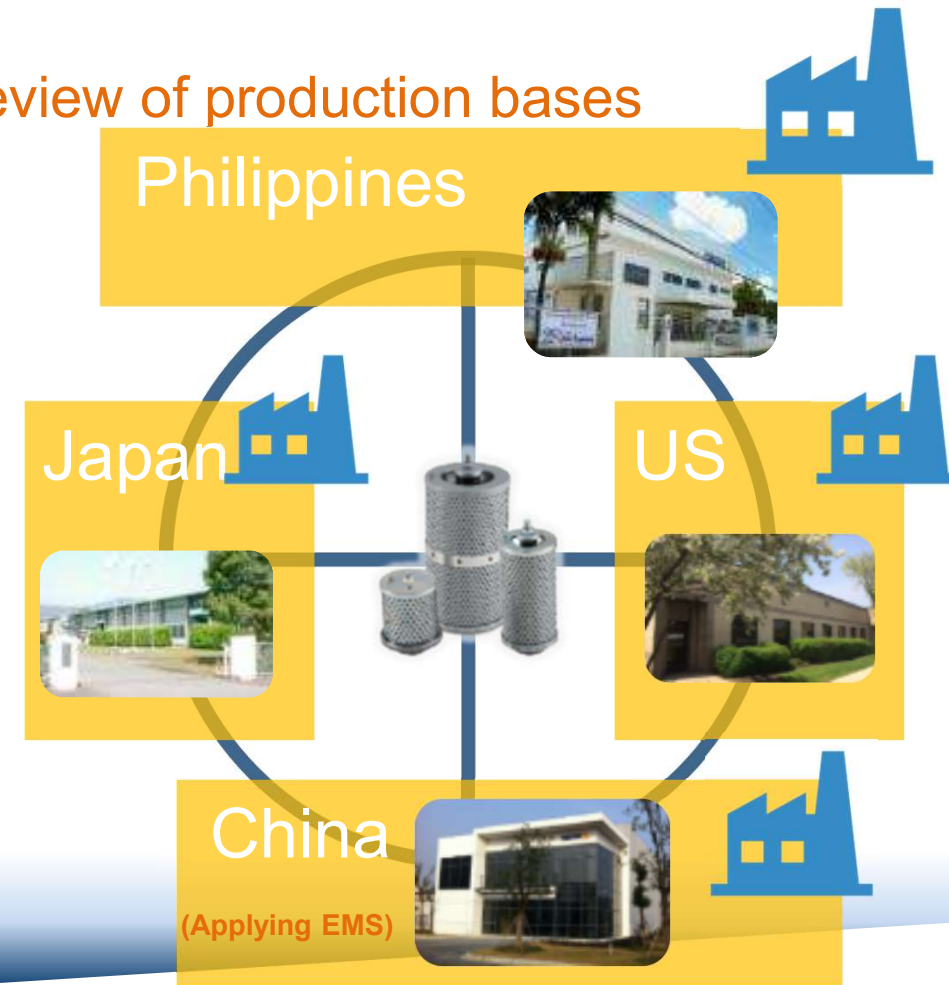
- To establish multiple production bases by reviewing and reorganizing production bases and build a safe and optimized supply chain

Before review of production bases



After review of production bases

After



PURPOSES and GOAL

To establish a cross-sourcing productions system



To flexibly respond to customers' needs



To strengthen purchase capacity



To make business continuity plan (BCP)



Construction of a new
research and development center

¥ 3 Billion

February 14, 2019

**Acquired land in YRP Nobi (Yokosuka City,
Kanagawa Prefecture). Expected to be completed in
February 2021**

- To establish an integrated R&D system
- To develop a machine testing site, to promptly reflect customers' requests



(This shows an illustration of a completed building.)

Air filters

Control of fiber structures enables **mass-production of high-quality precision filters.**

① Major customer
A



【Prospect】

- Replace glass fiber filters

【Current status】

- Now producing samples to meet specification values
- Increasing performance of prototypes in leadup to product introduction
- Improving equipment to enable stable production
- Preparing for mass production next year

② Major customer
B



【Prospect】

- Replace glass fiber filters

【Current status】

- Need to further improve fiber density and fineness
- Need to increase ambient temperatures during fiber production
- Separate plans call for evaluation of electret materials for air filters with extended life

Others

Control of fiber structures enables mass-production of high-quality precision filters.

① Apparel makers



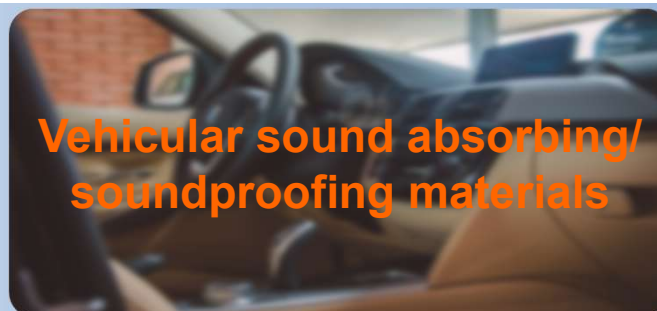
【Prospect】

- Develop thin and light materials (insulating materials to replace down)
- Provide added value to the products currently found in the market

【Status】

- Collecting data on the thermal insulation properties of nanofibers
- Producing prototypes and collecting test data

② Major auto interior parts makers



【Prospect】

- Develop higher performance sound absorbing materials (for lower frequencies) compared to products currently found in the market

【Status】

- Collecting data on sound absorption effects and ascertaining related tendencies
- Trial production of samples to satisfy required specifications
- Considering specific processes and management methods for product development

③ Major building materials makers



【Prospect】

- Higher thermal insulation and cooling performance than current products

【Status】

- Collecting data on the thermal insulation properties of nanofibers
- Producing prototypes and collecting test data

Agricultural materials


Use of nanofibers in multilayered thermal insulating materials: Improving thermal insulation
Contributing to global warming solutions through CO² emissions reductions resulting from decreased use of fossil fuels

Insulation materials inside vinyl greenhouses

【Current status】

- Samples provided based on specifications
- Assessing match of samples and specifications
- Making arrangements for testing in actual vinyl greenhouses





We hold a world-leading share in the construction machinery filter business.

Backed by increasing investment in infrastructure improvements and aftermarket strengths in most regions, we expect sustained growth in our construction machinery filter business.



New business is expected to make significant contributions to both sales and profits.

YAMASHIN Nano Filters will drive growth, with emerging use for diverse applications.



Reference Materials

① Basic Company Information

Overview of Our Corporate Group

Our Corporate Group has continued to yield solid business results consistently as a manufacturer specializing in filters since the foundation. Our Corporate Group has manufactured filters for construction machinery, industrial filters, and process filters by purchasing glass-fiber and non-woven fabrics to produce filter media (the key component of any filter), and resin goods and processed metal for filter components. Our Corporate Group provides one-stop filter services, including the development, product design, and manufacture of filter media for various filters. We sell our products to customers active in construction machinery, industrial machinery, and other various field.

Filters for construction machinery

A construction machinery filter is used to filter the fluids used in the hydraulic circuits central to the operation of construction machinery.



Filter elements
(for construction machinery)

Filters for various industrial fields beyond construction machinery

An industrial filter is a filter used for filtrating operating fluid and lubricants of hydraulic units applied in various industries other than the construction machinery industry. This filter is used in multitudinous kinds of industrial machinery, such as machine tools, refrigerating compressors, agricultural machinery, vessels, railway vehicles, airplanes, and helicopters.



Line filters
(for vessels)

Filters for process lines

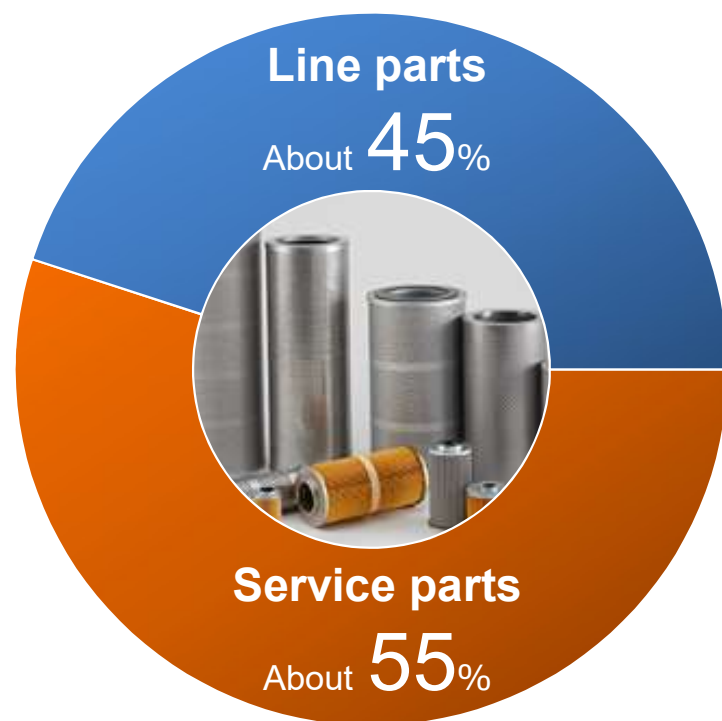
A process filter is used for filtration and separation in processes for manufacturing customer products. These filters are used in various industries, including electronic parts, precision parts, liquid crystal displays, and food.



Non-woven filters
(for electronic parts)

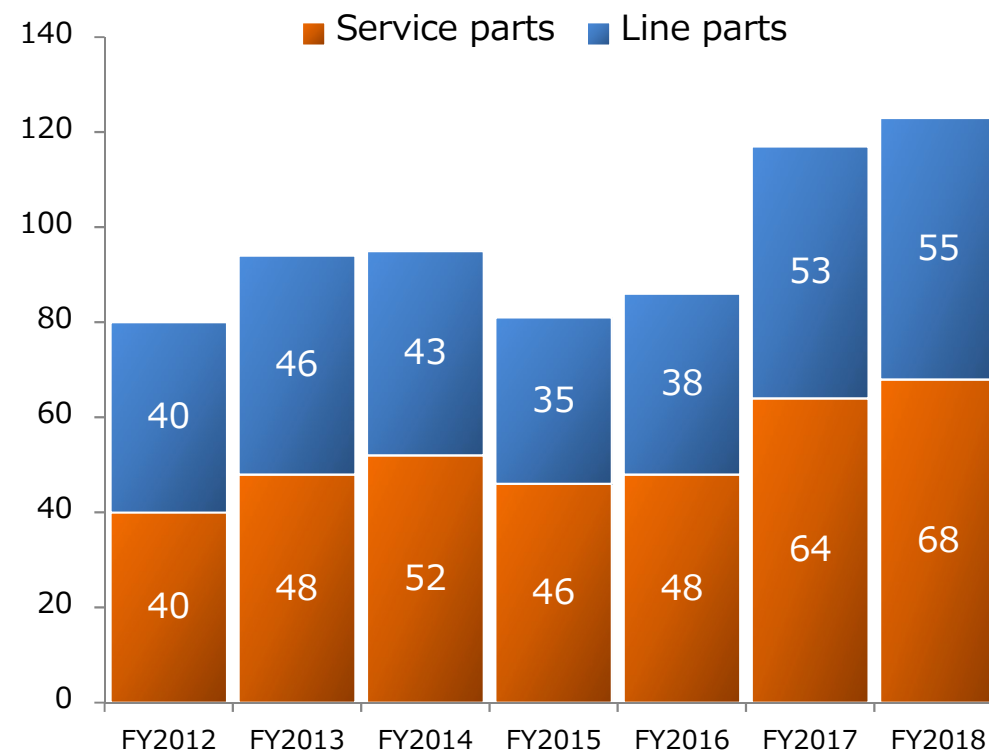
The demand for service parts is expected to expand gradually with increased numbers of construction machines.

FY2018 Sales composition of filters for construction machinery

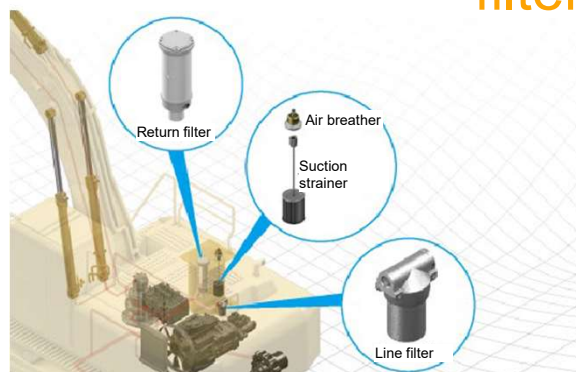


Changes in sales of service parts and line parts

(100 million yen)



YAMASHIN provides an extensive lineup of filters essential to operating construction machinery.

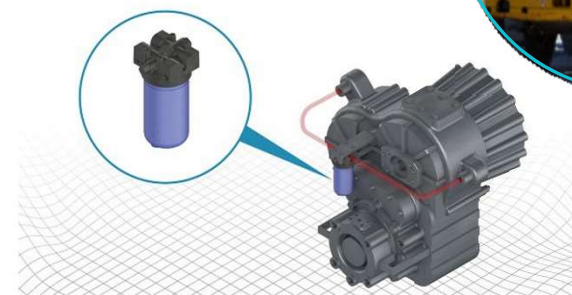
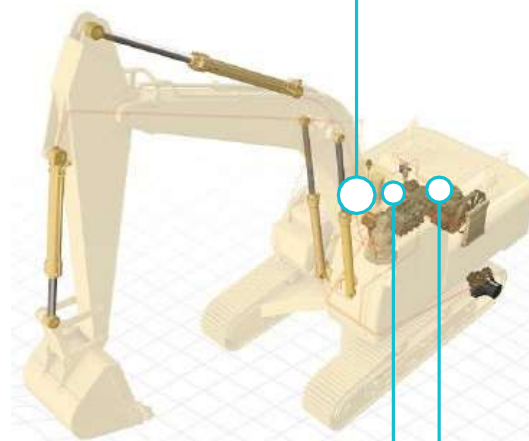
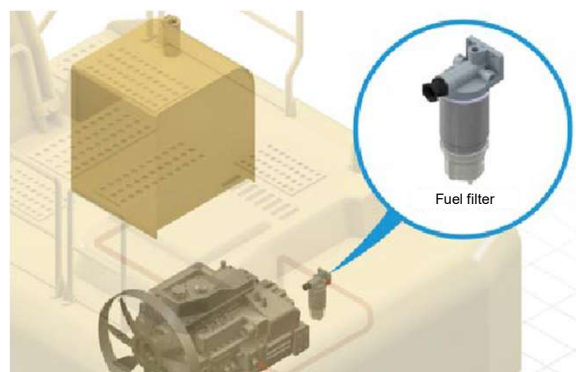


For hydraulic systems

These filters are installed at several locations of each piece of construction machinery to protect hydraulic equipment, including cylinders. Some 70% of all malfunctions affecting construction machinery are believed to be caused by dust in oil, the presence of which leads to mechanical breakdowns. We provide filters ideal for every need based on the know-how cultivated since our founding

For fuel

Fuel filters remove particulates from diesel fuel. Increasingly stringent regulations worldwide have strengthened purity requirements for fuel. Demand for this filter is expected to grow, particularly in emerging nations, where fuel quality tends to be lower..

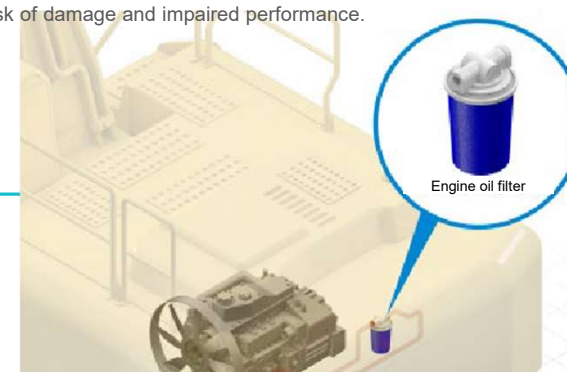


For transmissions

These filters are found in the transmissions of construction machinery. Transmissions are composed of multiple gears. Friction between these gears produces metal powder and particulates. Our company's filters employ proprietary filter elements and materials to remove these particulates and minimize equipment wear.

For engine oil

These filters are in various construction machinery engines. Engines contain pistons and other components moving at high speed that generate power. The engine oil filter removes the metal powders and sludge (sediment), caused by abrasion, that accumulate in engine oil during power generation, mitigating the risk of damage and impaired performance.



Segments and KPI

- Filters for construction machinery are classified as **“line parts”** or **“service parts”**
- Line parts refer to filters installed in new construction machines. The primary indicator is **“the number of new construction machines in demand”**
- Service parts refer to replacement filters. The primary indicator is **“the number of units in operation”** × **“hours of operation”**.

Sales methods, regional trends, and cost reduction measures

- **Sales format**
Filters for construction machinery are sold to construction machinery makers (100%). In principle, we do not sell the products directly to end users.
- **Regional trends**
Sales calculations are based on invoice destinations. Our data may differ from the actual regional market trends
- **PAC18 (Promptly Activated Cost reduction 2018)**
Our company-wide cost reduction project.

Term	Formula
MAVY's	ROIC - WACC
ROIC	$\text{NOPAT} \div \text{Capital investment}$
Rate of return on capital investment	$(\text{Ordinary income} + \text{Interests paid}) \div \text{Capital investment}$
Turnover rate of working capital	$\text{Net sales} \div (\text{Accounts receivable} + \text{Inventory asset} - \text{Accounts payable})$
Turnover rate of fixed assets	$\text{Net sales} \div \text{Fixed assets}$
Turnover rate of accounts receivable	$\text{Net sales} \div \text{Accounts receivable}$
Turnover rate of inventory asset	$\text{Net sales} \div \text{Inventory asset}$
Turnover rate of accounts payable	$\text{Sales cost} \div \text{Accounts payable}$
Turnover rate of tangible fixed assets	$\text{Net sales} \div \text{Tangible fixed assets}$
Turnover rate of intangible fixed assets	$\text{Net sales} \div \text{Intangible fixed assets}$

*The figures in the balance sheet are the averages of the initial and term-end figures.

STRENGTH

- Overwhelming share of market for construction machinery filters
- Advanced R&D capabilities
- Robust management base based on PAC and MAVY's

WEAKNESS

- Limited business domain
- Filters for construction machinery account for 90% of total sales.
- Overconcentration of production sites

OPPORTUNITIES

- To increase our share in the growing Chinese market
- To enhance our presence in the markets for process/industrial filters

THREAT

- Decrease of our market share, due to the proliferation of counterfeit filter products for construction machinery
- Change in the construction machinery market
- Sluggish sales growth of process/industrial filters

Business to be grown

Process/industrial filters

Core business (growth)

Filters for construction machinery

STRATEGY MATRIX

Business to undergo structural reform

Core business (stable)

Before the development of new materials

STRENGTH

- Overwhelming share of market for construction machinery filters
- **Continuing expansion of market share for new materials**
- Advanced R&D capabilities
- Robust management base based on PAC and MAVY's

OPPORTUNITIES

- To increase our share in the growing Chinese market
- To enhance our presence in the markets for process/industrial filters
- **Expanding business areas by a leap to status as "comprehensive filter manufacturer"**

WEAKNESS

- Filters for construction machinery account for 90% of total sales.

Plans to obviate the weakness by realizing a comprehensive filter manufacturer

THREAT

- Decrease of our market share, due to the proliferation of counterfeit filter products for construction machinery
- Changes in the construction machinery market
- Sluggish sales growth of process/industrial filters
- **Delays in development of new material products**

Eliminates counterfeits by using a new material

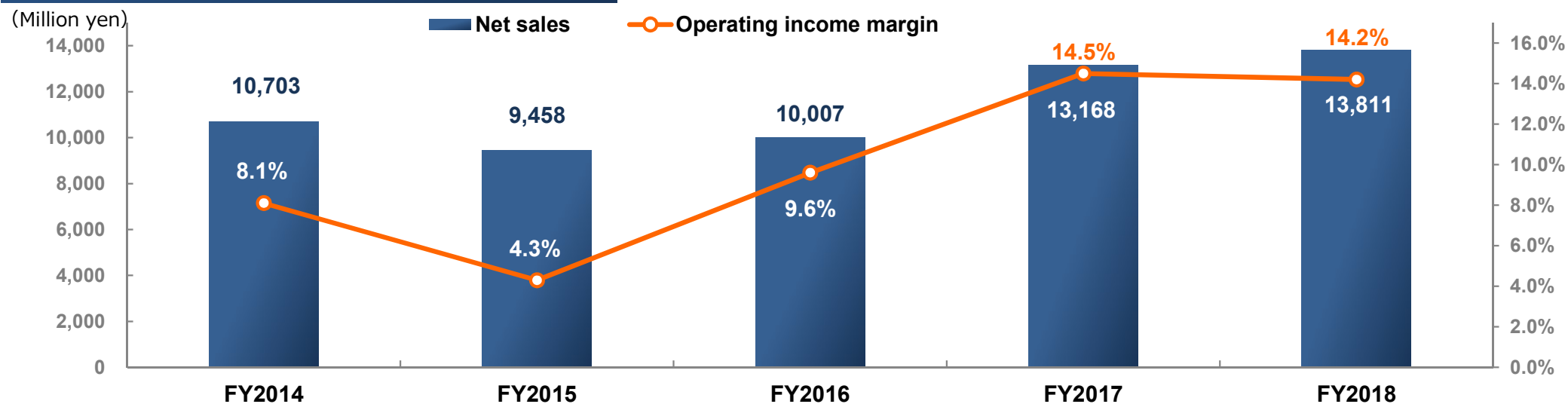




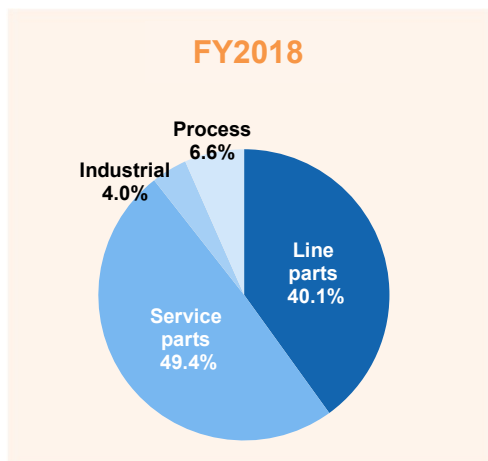
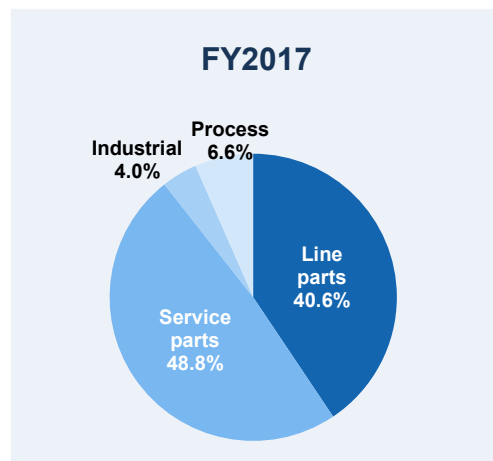
Reference Materials

② Financial Highlights

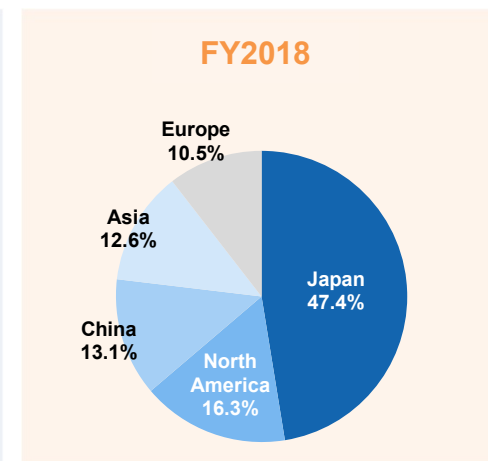
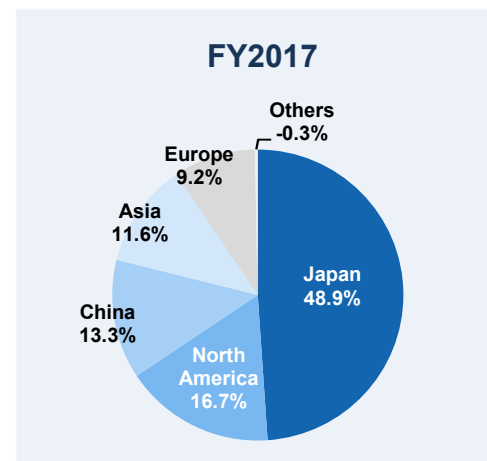
Net sales, Operating income



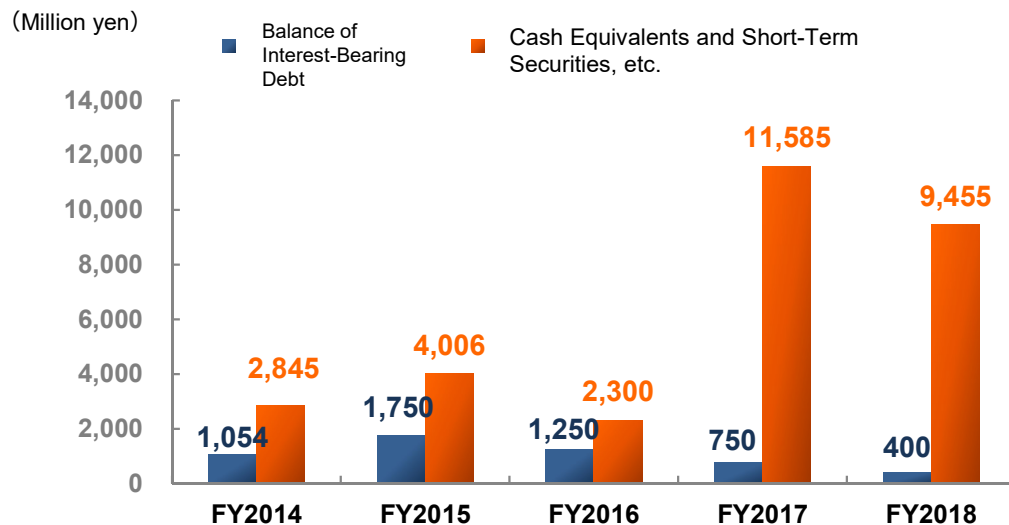
Sales by product



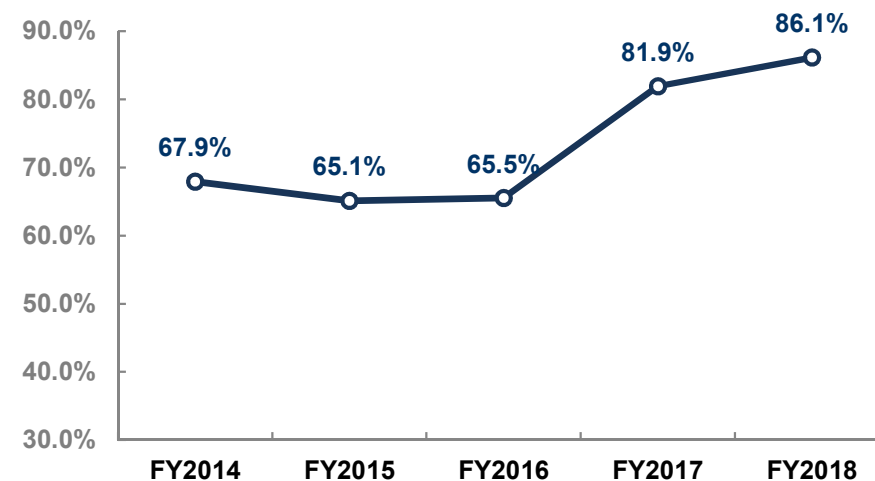
Sales by region



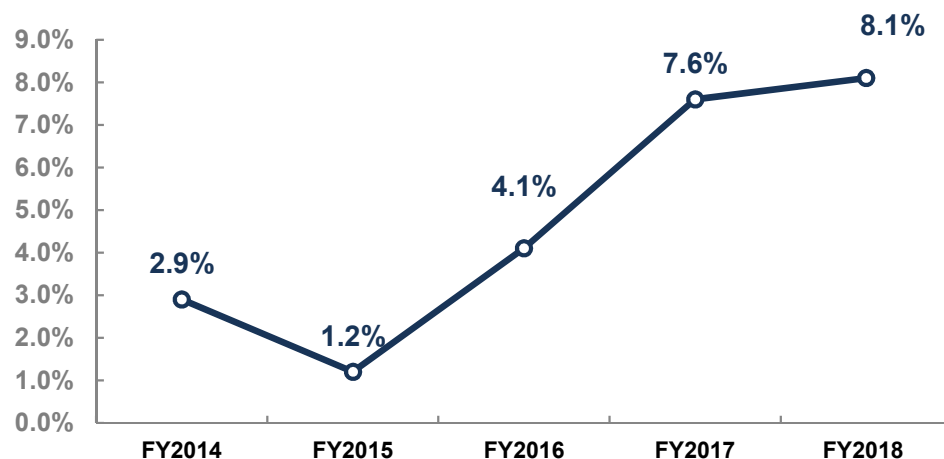
Interest-bearing debt, Cash equivalents, Short-term securities, etc.



Shareholders' equity ratio

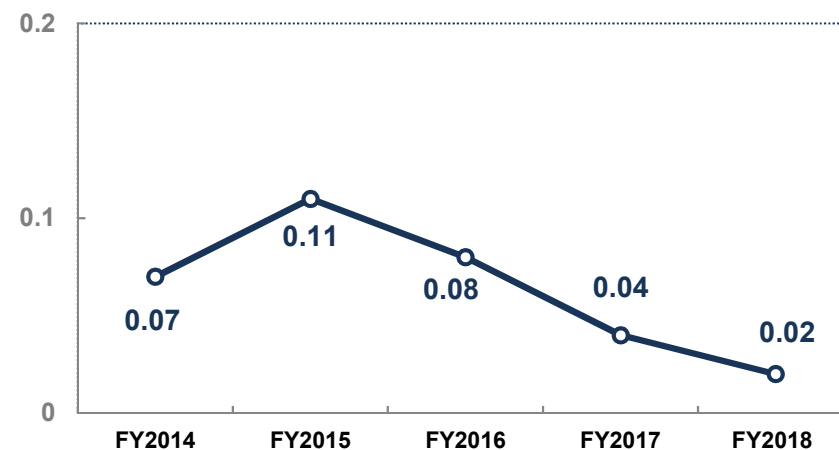


ROE



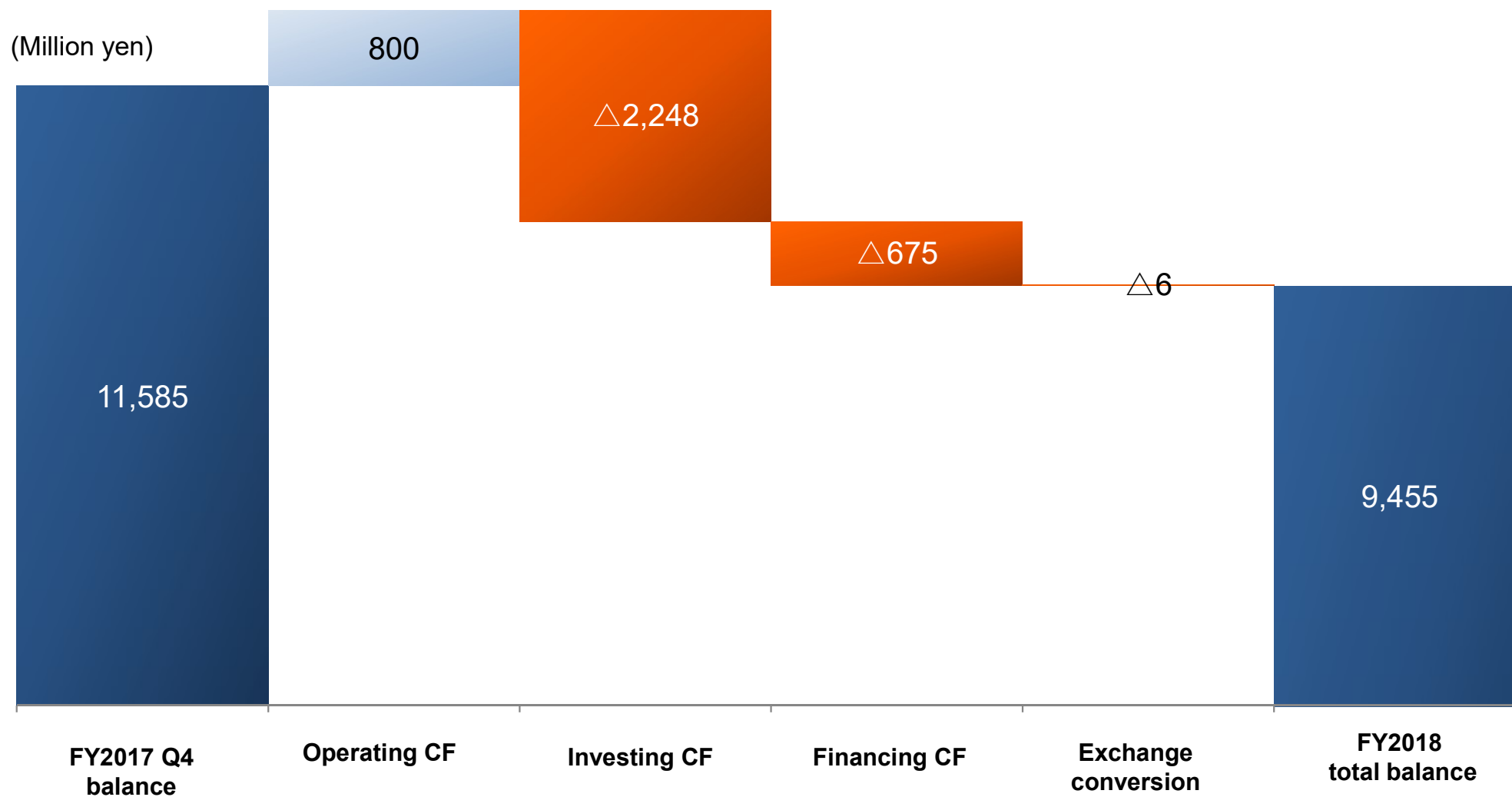
*Calculated based on the assumption that the capital increase through third-party allotment in FY2017 was implemented from the previous fiscal year.

D/E ratio



*Calculated based on the assumption that the capital increase through third-party allotment in FY2017 was implemented from the previous fiscal year.

(Million yen)	End of FY2017	End of FY2018	Change amount	Change in ratio		End of FY2017	End of FY2018	Change amount	Change in ratio
Current assets	16,977	15,391	△ 1,586	△9.3%	Current liabilities	2,969	2,353	△ 615	△20.7%
Cash and deposits	11,619	9,489	△ 2,129	△18.3%	Notes and accounts payable-trade	1,517	1,288	△ 229	△15.1%
Notes and accounts receivable-trade	3,365	3,252	△ 113	△3.4%	Short-term loans payable, Current portion of long-term loans payable and corporate bonds	350	200	△ 150	△42.9%
Merchandise and finished goods, Raw materials and supplies	1,799	2,370	571	31.7%	Other	1,101	865	236	△21.4%
Other	193	278	85	44.0%	Fixed liabilities	797	565	△231	△29.1%
Fixed assets	3,787	5,641	1,853	48.9%	Corporate bonds	400	200	△ 200	△50.0%
Tangible fixed assets	1,653	3,540	1,886	114.1%	Net defined benefits liability	175	190	15	8.7%
Intangible fixed assets	412	346	△ 65	△16.0%	Other	222	175	△47	△21.2%
Investments and other assets	1,721	1,754	33	1.9%	Total net assets	16,999	18,113	1,113	6.6%
Total assets	20,765	21,032	267	1.3%	Total of liabilities and net assets	20,765	21,032	267	1.3%
					* Shareholders' equity ratio	81.9%	86.1%		

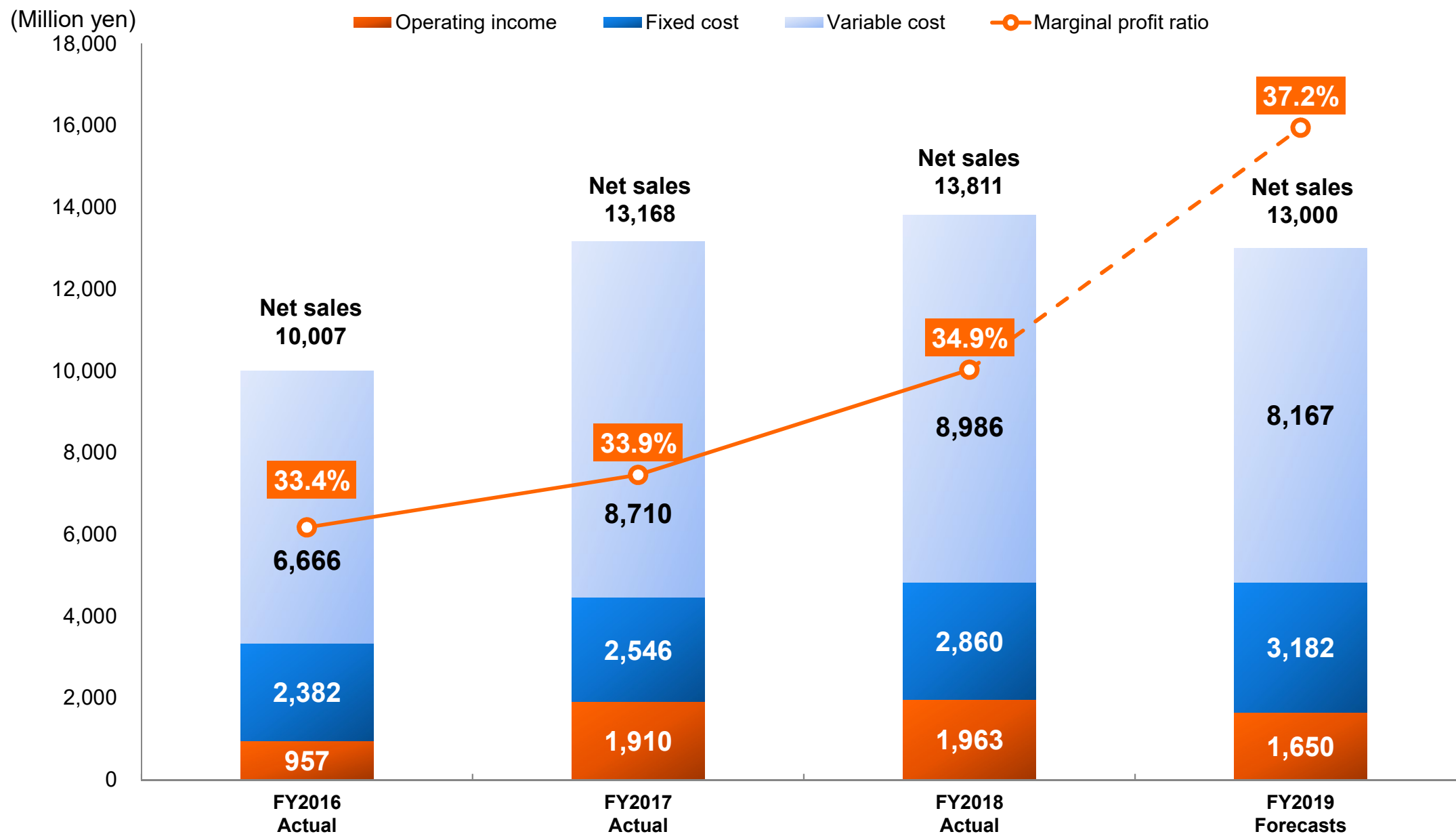


Conditions of Operational Hedge - "Marry and Netting"

(Million yen)

Currency	Incoming			Outgoing			Net	Average rate during the term (JPY)	In case of yen appreciation (10%)			In case of yen depreciation (10%)		
	Each currency	Yen equivalent (JPY)	Composition ratio	Each currency	Yen equivalent (JPY)	Composition ratio			Average rate during the term ▲10% (JPY)	Rate difference	Affected amount (YTD)	Average rate during the term +10% (JPY)	Rate difference	Affected amount (YTD)
JPY	¥18,000.0	¥18,000.0	72%	\$16,300.0	¥16,300.0	68%	¥1,700.0	-	-	-	-	-	-	-
USD	\$54.7	¥6,067.3	24%	\$52.1	¥5,778.9	24%	\$2.6	¥110.9	¥99.83	¥-11.09	¥-28.84	¥122.01	¥11.09	¥28.84
EUR	€ 6.2	¥796.2	3%	€ 4.5	¥577.9	2%	€ 1.7	¥128.4	¥115.58	¥-12.8	¥-21.83	¥141.26	¥12.84	¥21.83
PHP	PP0.0	¥0.0	0%	PP593.2	¥1245.7	5%	PP-593.2	¥2.1	¥1.89	¥-0.2	¥124.57	¥2.31	¥0.21	¥-124.57
THB	฿87.20	¥299.1	1%	฿26.10	¥89.5	0%	฿61.10	¥3.4	¥3.09	¥-0.3	¥-20.96	¥3.77	¥0.34	¥20.96
Total	-	¥25,162.6	100%	-	¥23,992.1	100%	-	-	-	-	¥52.94	-	-	¥-52.94

Variation in Marginal Profit Ratio



Drawing on mass-production technologies to deploy **YAMASHIN Nano Filters** in various sectors.

Considering M&A activities
in appropriate fields

Phase1
FY2018



Advancing into the fields of
construction machinery, air
filters, agricultural materials
and apparel

Phase2
FY2019

Deployment to automotive



Phase 3

Medium term

Deployment to fields like
building materials and
biosciences (examples)



Paradigm Shift

Contami
nation

Light

Heat

Noise

Bio



Forecasts regarding future performance presented in this material are based on information that was available at the time this material was released.
Actual results may differ from the forecasts due to various factors such as market trends and business conditions etc.

**For any inquiries regarding this material, please contact below:
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