

# Enhancing Value Chains

Orders for construction machinery filters reach record  
Restructuring and productivity improvements in our air filter and  
healthcare businesses yield greater profitability

**YAMASHIN-FILTER CORP.**  
Financial Results for the Fiscal Year 2021  
(April 2021 to March 2022)

August 4, 2021

## The market environment, our actions, and business results for Q1 FY2021 (ending in March 31, 2022)

### Market Environment

- Construction machinery filter business: The outlook remains unclear due to concerns about a new wave of COVID-19 infections, rising raw material prices, and a global semiconductor shortage. **However, demand for construction machinery has increased substantially in Japan, U.S.A., Europe, and Asia, recovering to pre-pandemic levels.**
- In China, the world's largest market for construction machinery, **sales of new machines remain high** with Chinese manufacturers continuing to grow their market share.
- Air filter and healthcare business: As economic activity resumes worldwide, the societal and lifestyle changes that accompany growing infection rates will present **opportunities to expand our business.**



### Company Actions

Development of YAMASHIN Nano Filter™ technology

- ◆ **Construction machinery filter business**  
⇒ YAMASHIN will contribute to a reduction in greenhouse gas emissions with its high value-added and sustainable products and technology
- ◆ **Air filter business**  
⇒ YAMASHIN's nanofiber products and technology will contribute to a reduction in greenhouse gas emissions and to alleviating the causes of climate change and environmental issues
- ◆ **Healthcare business**  
⇒ YAMASHIN will contribute to reducing health risks
- ◆ **Other business portfolios**  
⇒ YAMASHIN will grow its product supply in a sustainable way by using its Nano Filter™ technology in the arenas of apparel, oil adsorbents, and other industrial materials

### Business results for Q1 FY2021

- **Consolidated sales: ¥4.685 billion, a 63.9% increase from the same period last year**
  - Construction machinery filters: ¥3.752 billion, a 71% increase from the same period last year
  - Air filters: ¥637 million, a 3.9% reduction from the same period last year
  - Healthcare: ¥295 million
- **Operating income: ¥341 million, a growth of ¥439 million from the same period last year**
  - Our construction machinery filter business saw a large increase in profit due to greater demand despite temporary increases in air freight costs.
  - The profitability of our air filter business fell due to a decline in the use of office buildings and other facilities
  - Our healthcare business saw a considerable drop in profit, as we are still installing the fully automated production line scheduled for the second quarter and have been unable to sufficiently reduce manufacturing costs in the meantime.

## Company Actions (details)

- Restructure and enhance the value chain across all businesses
- Deliver on ESG while expanding our business portfolio
- Enhance profitability in our construction machinery filter business by reviewing the supply chain
- Improve profitability through improved productivity

### Construction machinery business

#### **Expand lineup of high value-added filter products that leverage new materials and IoT technologies**

Further develop and promote filter products with long-lasting nanofiber filters, incorporating aeration and sensor technologies

#### **Grow market share in the North American and Chinese markets**

Beyond our flagship line of return filters, we are promoting our fuel and transmission filters and seeing growing adoption by Chinese construction machinery manufacturers.

### Air Filter Business

#### **Expand overseas markets by having our filters' performance certified (e.g., ASHRAE and EN) for the European market**

#### **Develop and promote nanofiber air filters**

Accelerating adoption of nanofiber air filters with low pressure loss and high capture rates for office buildings, factories, railroad cars, home appliances and other applications

### Healthcare business

#### **Consumer mask market**

Improve profitability by capitalizing on new sales channels we have established to drug stores and other retailers, and by introducing a new fully automated production line.

#### **Medical mask market**

Develop new markets from a long-term perspective by obtaining DS2 certification and overseas certification such as N95

### Establish other elements within the business portfolio: Promote \*YAMASHIN NANO FILTER™\*

#### **Expand into new market areas through apparel and industrial materials**

Encourage the adoption of YAMASHIN Nano Filter™ for all manner of industrial materials



I

**Business Performance Results for Q1 FY2021 and Full-Year Forecasts for FY2021 (Ending March 31, 2022)**

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# 決算

## I BUSINESS PERFORMANCE RESULTS FOR Q1 FY2021 AND FULL-YEAR FORECASTS FOR FY2021 (ENDING MARCH 31, 2022)



# **Business Performance Results for Q1 FY2021 (April 2021 to June 2021)**

| (million yen)                         | Q1 FY2020 Results | Q1 FY2021 Results | YoY change |        |       |
|---------------------------------------|-------------------|-------------------|------------|--------|-------|
|                                       | Amount            | Amount            | Amount     | %      |       |
| <b>Net sales</b>                      | 2,858             | 4,685             | 1,827      | 63.9%  |       |
| Construction machinery filters, etc.* | 2,194             | 3,752             | 1,558      | 71.0%  |       |
| Air filters                           | 663               | 637               | △26        | △3.9%  |       |
| Healthcare                            | -                 | 295               | 295        | -      |       |
| <b>Operating income</b>               | △98               | 341               | 439        | -      |       |
| Construction machinery filters, etc.* | 139               | 799               | 659        | 473.0% |       |
| Air filters                           | 70                | 19                | △50        | △71.7% |       |
| Healthcare                            | -                 | △111              | △111       | -      |       |
| Corporate expenses*                   | △308              | △366              | △58        | 19.0%  |       |
| <b>Operating income margin</b>        | △3.4%             | 7.3%              | -          |        |       |
| Ordinary profit                       | △101              | 334               | 436        | -      |       |
| <b>Ordinary profit margin</b>         | △3.6%             | 7.1%              | -          |        |       |
| Net income                            | △82               | 208               | 291        | -      |       |
| <b>Net income margin</b>              | △2.9%             | 4.4%              | -          |        |       |
| Exchange rates (ave.)                 | USD               | 107.6             | 109.5      | 1.9    | 1.7%  |
|                                       | EUR               | 118.5             | 132.0      | 13.5   | 11.4% |

\*“Construction machinery filters, etc.” here includes industrial filters and process filters in addition to construction machinery filters.

\* The company has changed how it allocates corporate expenses, with the goal of more accurately representing segment results and corporate expenses. Specifically, the head office’s general and administrative expenses and other corporate expenses not attributable to individual business segments are no longer allocated to specific segments.

| (million yen)   | Q1 FY2020 Results | Q1 FY2021 Results | YoY change |        |
|---|-------------------|-------------------|------------|--------|
|   | Amount            | Amount            | Amount     | %      |
| <b>Construction machinery filters</b>                       | 1,804             | 3,435             | 1,630      | 90.4%  |
| Line parts  | 821               | 1,488             | 667        | 81.3%  |
| Service parts   | 982               | 1,946             | 963        | 98.0%  |
| <b>Industrial filters</b>                                   | 111               | 129               | 17         | 16.1%  |
| <b>Process filters</b>                                      | 278               | 188               | △90        | △32.5% |
| <b>Subtotal<br/>(Construction machinery filters, etc.*)</b> | 2,194             | 3,752             | 1,558      | 71.0%  |
| <b>Air filters</b>  | 663               | 637               | △26        | △3.9%  |
| <b>Healthcare</b>   | -                 | 295               | 295        | -      |
| <b>Total</b>  | 2,858             | 4,685             | 1,827      | 63.9%  |

\*" Construction machinery filters, etc." here includes industrial filters and process filters in addition to construction machinery filters.



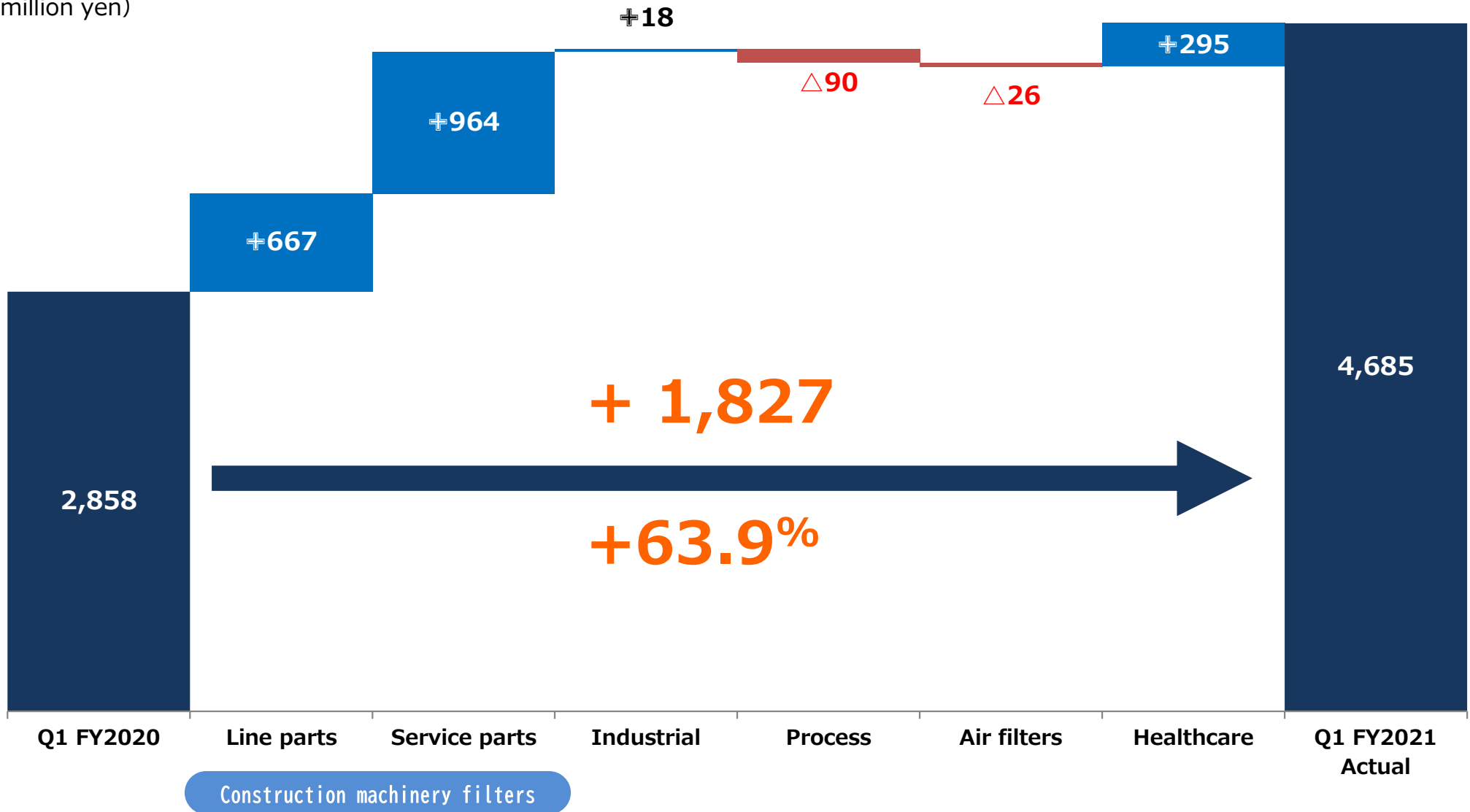
| (million yen)                                | Q1 FY2020 Results |           | Q1 FY2021 Results |           | YoY change |           |
|--|-------------------|-----------|-------------------|-----------|------------|-----------|
|  | Amount            | Ratio (%) | Amount            | Ratio (%) | Amount     | Ratio (%) |
| <b>Construction machinery filters, etc.*</b> | 2,194             | 76.8%     | 3,752             | 80.1%     | 1,558      | 71.0%     |
| Japan  | 1,086             | 38.0%     | 1,729             | 36.9%     | 643        | 59.2%     |
| North America                                | 295               | 10.3%     | 686               | 14.7%     | 391        | 132.6%    |
| China  | 325               | 11.4%     | 564               | 12.1%     | 239        | 73.7%     |
| Other Asian countries                        | 274               | 9.6%      | 365               | 7.8%      | 90         | 33.2%     |
| Europe                                       | 213               | 7.5%      | 405               | 8.6%      | 191        | 90.0%     |
| Others (Middle East, etc.)                   | 0                 | 0.0%      | 1                 | 0.0%      | 1          | 358.7%    |
| <b>Air filters (Japan)</b>                   | 663               | 23.2%     | 637               | 13.6%     | △26        | △3.9%     |
| <b>Healthcare (Japan)</b>                    | -                 | 0.0%      | 295               | 6.3%      | 295        | -         |
| <b>Total sales</b>                           | 2,858             | 100.0%    | 4,685             | 100.0%    | 1,827      | 63.9%     |

\* "Construction machinery filters, etc." here includes industrial filters and process filters in addition to construction machinery filters.

\* Sales by region are calculated based on the locations of corporations to which invoices are sent. Actual regional market trends may be different from the numbers shown above.

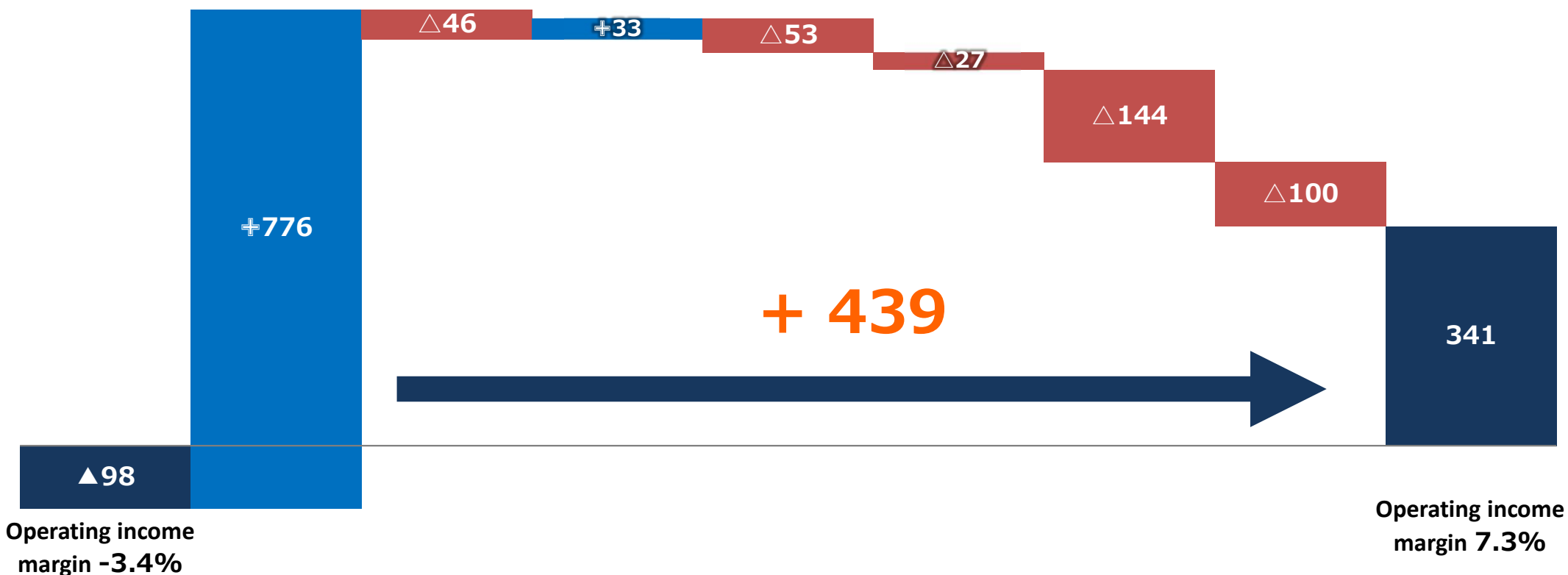
# YoY Comparison of Q1 Sales : Increase/Decrease Factors

(million yen)



# YoY Comparison of Q1 Operating Income: Increase/Decrease Factors

(million yen)



Q1 FY2020  
Operating  
income

Increase in  
construction  
machinery  
sales

Decrease in air  
filter sales

Increase in  
operating  
income due to  
addition of  
new  
healthcare  
business

Increase in  
SG&A costs

Increase in air  
filter SG&A  
costs

Increase in  
SG&A  
expenses due  
to addition of  
new  
healthcare  
business

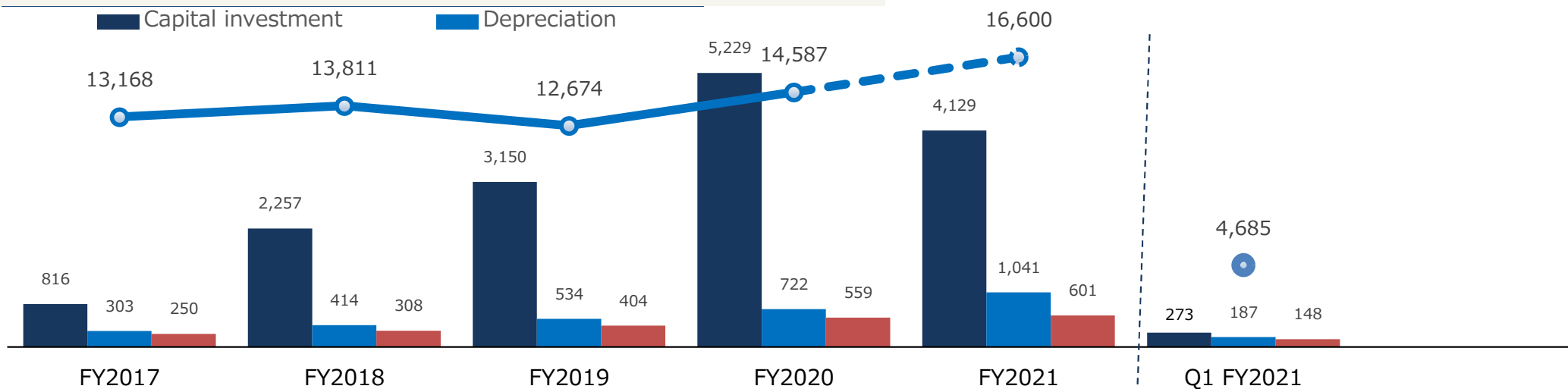
Increase in  
operating  
expenses  
including air  
freight cost

Q1 FY2021  
Operating  
income



| (million yen)                          | FY2017<br>Actual | FY2018<br>Actual | FY2019<br>Actual | FY2020<br>Actual | FY2021<br>Full-year plan | 1Q FY2021<br>Results |
|--|------------------|------------------|------------------|------------------|--------------------------|----------------------|
| <b>Net sales</b>                       | 13,168           | 13,811           | 12,674           | 14,587           | 16,600                   | 4,685                |
| <b>Capital investment</b>              | 816              | 2,257            | 3,150            | 5,229            | 4,129                    | 273                  |
| Land and building                      | -                | 1,588            | 2,682            | 3,194            | 3,256                    | 66                   |
| Other capital investment               | 816              | 669              | 468              | 2,036            | 873                      | 208                  |
| Proportion of sales                    | 6.2%             | 16.3%            | 24.9%            | 35.9%            | 24.9%                    | 5.8%                 |
| <b>Depreciation &amp; Amortization</b> | 303              | 414              | 534              | 722              | 1,041                    | 187                  |
| Proportion of sales                    | 2.3%             | 3.0%             | 4.2%             | 5.0%             | 6.3%                     | 4.0%                 |
| <b>R&amp;D expenses</b>                | 250              | 308              | 404              | 559              | 601                      | 148                  |
| Proportion of sales                    | 1.9%             | 2.2%             | 3.2%             | 3.8%             | 3.6%                     | 3.2%                 |

## Change in net sales and capital investment and depreciation & amortization



~2021年3月期

2022年3月期~

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

## PAC21

**P**

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ost reduction

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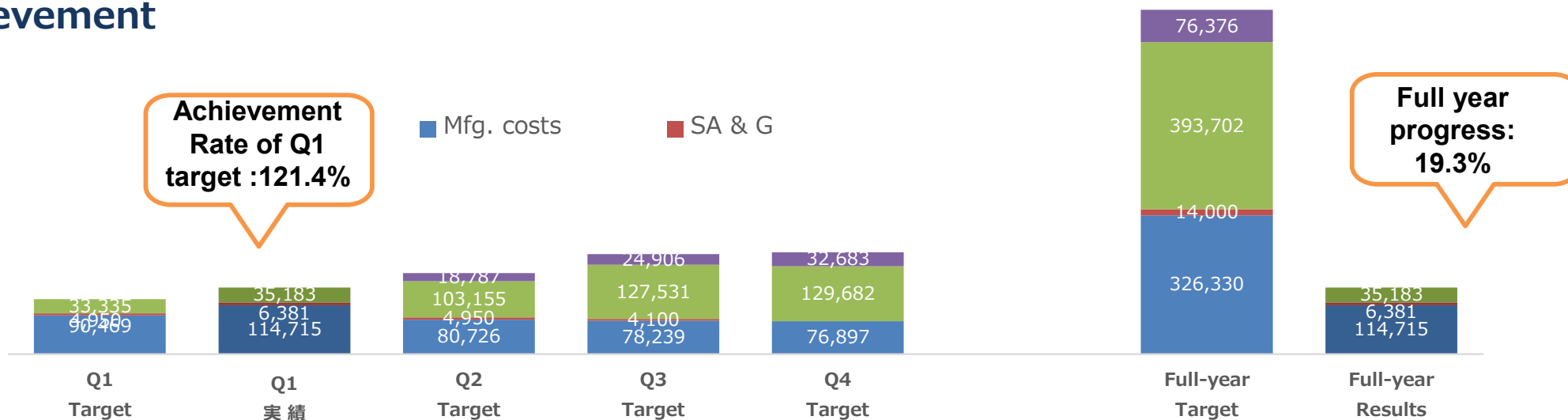
**21**

### Reduction targets and results

| (Thousand yen)      |           | Q1             | Q1 results     | Q2             | Q3             | Q4             | Full -year target | Full-year results |
|---------------------|-----------|----------------|----------------|----------------|----------------|----------------|-------------------|-------------------|
| PAC21               | Mfg. cost | 90,469         | 114,715        | 80,726         | 78,239         | 76,897         | <b>326,330</b>    | 114,715           |
|                     | SG & A    | 4,950          | 6,381          | 4,950          | 4,100          | 0              | <b>14,000</b>     | 6,381             |
| <b>Total</b>        |           | <b>95,419</b>  | <b>121,096</b> | <b>85,676</b>  | <b>82,339</b>  | <b>76,897</b>  | <b>340,330</b>    | 121,096           |
| Personnel reduction |           | 33,335         | 35,183         | 103,155        | 127,531        | 129,682        | <b>393,702</b>    | 35,183            |
| PAC21+              |           | 0              | 0              | 18,787         | 24,906         | 32,683         | <b>76,376</b>     | 0                 |
| <b>Total</b>        |           | <b>128,754</b> | <b>156,279</b> | <b>207,618</b> | <b>234,777</b> | <b>239,261</b> | <b>810,409</b>    | 156,279           |

(thousand yen)

### Achievement



Target figures are set at each department (administrative and other operation departments) to achieve the overall company target for MAVYS.

## What is MAVYS? (ROIC – WACC)

**M**aximizing  
**A**dded  
**V**alue of  
**Y**amashin Filter  
**S**pread

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 of stakeholders by improving MAVYS (key goal indicator).

Each division from management to the field is assigned or sets its own target figures in collective pursuit of improving corporate value



# MAVYS: The Big Picture and the Department

## Key Goal Indicators (KGI)

## Key Performance Indicators (KPI)

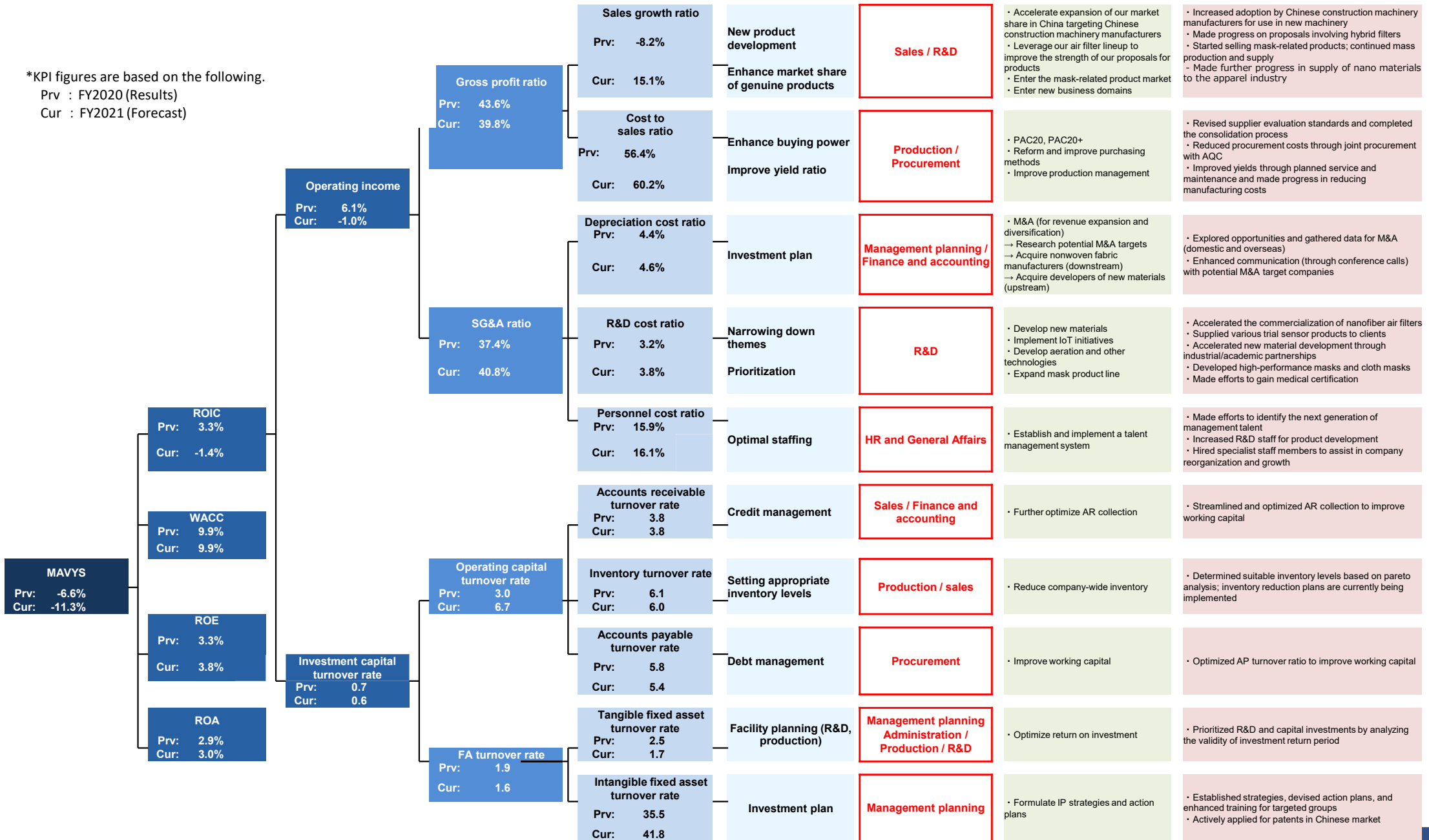
## Key Success Factors (KSF)

## Relevant departments

## Targets for Q3 FY2021 (action plan)

## Q3 FY2021 progress

\*KPI figures are based on the following.  
Prv : FY2020 (Results)  
Cur : FY2021 (Forecast)



# Full-year Forecasts for FY2021 (Ending March 31, 2022)

## Construction machinery filters (Existing business line)

- With demand for new construction machinery recovering in Japan, North America, Europe, and Asia and operating hours on the rise, we expect sales to increase significantly to pre-pandemic levels, and anticipate steady growth in the future.
- Our full-year earnings forecast remains unchanged, reflecting ongoing uncertainty. Factors include anxiety surrounding potential new waves of infection by COVID-19 variants, soaring raw material costs, shortage of semiconductors and other key components, rising shipping costs due to the shipping container shortage, and delays in vaccine supply.

## Air filters (Existing business line)

- With more and more people receiving the COVID-19 vaccine, we expect an increase in demand for replacement filters to accompany the increase in office building use from the second quarter of the fiscal year ending in March, 2022.
- Our full-year earnings forecast remains unchanged due to the business recovery anticipated from the supply of new products such as nanofiber air filters and lytic enzyme air filters.

## Healthcare business (New business line)

- Now that virus prevention is part of mainstream consciousness, we expect that demand will remain steady in the consumer mask market.
- Having gained DS2 certification, we will continue to develop the medical mask market, which is dominated by overseas-made N95 masks, from a long-term perspective.
- Our full-year earnings forecast remains unchanged. We are making good progress in setting up our mass mask production facilities, and the fully automated production line scheduled for the second quarter is expected to streamline production and reduce costs substantially.



| (million yen)                  |                                       | FY2019 Results | FY2020 Results | FY2021 Forecast | YoY Change   |
|--------------------------------|---------------------------------------|----------------|----------------|-----------------|--------------|
|                                |                                       | Amount         | Amount         | Amount          | Amount       |
| <b>Net sales</b>               |                                       | 12,674         | 14,587         | 16,600          | 2,012        |
|                                | Construction machinery filters, etc.* | 11,296         | 10,970         | 12,000          | 1,029        |
|                                | Air filters                           | 1,377          | 2,607          | 3,000           | 392          |
|                                | Healthcare                            | -              | 1,009          | 1,600           | 590          |
| <b>Operating income</b>        |                                       | 777            | △145           | 1,500           | 1,645        |
|                                | Construction machinery filters, etc.* | 1,824          | 1,289          | 2,307           | 1,018        |
|                                | Air filters                           | 188            | 123            | 400             | 276          |
|                                | Healthcare                            | -              | △150           | 240             | 390          |
|                                | Corporate expenses                    | △1,235         | △1,408         | △1,447          | △39          |
| <b>Operating income margin</b> |                                       | <b>6.1%</b>    | △ <b>1.0%</b>  | <b>9.0%</b>     | -            |
|                                | Ordinary profit                       | 603            | △135           | 1,470           | 1,605        |
| <b>Ordinary profit margin</b>  |                                       | <b>4.8%</b>    | △ <b>0.9%</b>  | <b>8.9%</b>     | -            |
|                                | Net income                            | 608            | 750            | 960             | 209          |
| <b>Net income margin</b>       |                                       | <b>4.8%</b>    | <b>5.1%</b>    | <b>5.8%</b>     | <b>0.6Pt</b> |

|                     |     |       |       |       |       |
|---------------------|-----|-------|-------|-------|-------|
| Exchange rate (JPY) | USD | 108.8 | 106.1 | 105.0 | △1.0% |
|                     | EUR | 120.8 | 123.7 | 125.0 | 1.0%  |

\*"Construction machinery filters, etc." includes industrial filters and process filters, in addition to construction machinery filters.

\* The company has changed how it allocates corporate expenses, with the goal of more accurately representing segment results and corporate expenses. Specifically, the head office's general and administrative expenses and other corporate expenses not attributable to individual business segments are no longer allocated to specific segments.

| (million yen)  | FY2019 Results |                       | FY2020 Results |                       | FY2021 Forecast |                       | YoY Change |       |
|--|----------------|-----------------------|----------------|-----------------------|-----------------|-----------------------|------------|-------|
|  | Amount         | Composition Ratio (%) | Amount         | Composition Ratio (%) | Amount          | Composition Ratio (%) | Amount     | %     |
| <b>Construction machinery filters</b>                    | 9,866          | 77.8%                 | 9,713          | 66.6%                 | 10,748          | 64.7%                 | 1,034      | 10.7% |
| Line parts   | 4,129          | 32.6%                 | 4,178          | 28.6%                 | 4,690           | 28.3%                 | 511        | 12.2% |
| Service parts  | 5,737          | 45.3%                 | 5,534          | 37.9%                 | 6,057           | 36.5%                 | 523        | 9.5%  |
| <b>Industrial filters</b>                                | 492            | 3.9%                  | 470            | 3.2%                  | 464             | 2.8%                  | △6         | △1.3% |
| <b>Process filters</b>                                   | 937            | 7.4%                  | 786            | 5.4%                  | 787             | 4.7%                  | 1          | 0.2%  |
| <b>Subtotal (Construction machinery filters, etc. *)</b> | 11,296         | 89.1%                 | 10,970         | 75.2%                 | 12,000          | 72.3%                 | 1,029      | 9.4%  |
| <b>Air filters</b>                                       | 1,377          | 10.9%                 | 2,607          | 17.9%                 | 3,000           | 18.1%                 | 392        | 15.1% |
| <b>Healthcare</b>  | -              | -                     | 1,009          | 6.9%                  | 1,600           | 9.6%                  | 590        | 58.5% |
| <b>Total</b>   | 12,674         | 100.0%                | 14,587         | 100.0%                | 16,600          | 100.0%                | 2,012      | 13.8% |

\*" Construction machinery filters, etc. " here includes industrial filters and process filters, in addition to construction machinery filters.

| (million yen)                                 | FY2019 Results |                       | FY2020 Results |                       | FY2021 Forecast |                       | YoY Change |          |
|---|----------------|-----------------------|----------------|-----------------------|-----------------|-----------------------|------------|----------|
|   | Amount         | Composition Ratio (%) | Amount         | Composition Ratio (%) | Amount          | Composition Ratio (%) | Amount     | %        |
| <b>Construction machinery filters, etc. *</b> | 11,296         | 89.1%                 | 10,970         | 75.2%                 | 12,000          | 72.3%                 | 1,029      | 9.4%     |
| Japan   | 5,420          | 42.8%                 | 5,019          | 34.4%                 | 5,437           | 32.8%                 | 417        | 8.3%     |
| North America                                 | 2,313          | 18.3%                 | 1,915          | 13.1%                 | 2,226           | 13.4%                 | 311        | 16.2%    |
| China   | 1,173          | 9.3%                  | 1,552          | 10.6%                 | 1,757           | 10.6%                 | 204        | 13.2%    |
| Other Asian countries                         | 1,319          | 10.4%                 | 1,235          | 8.5%                  | 1,391           | 8.4%                  | 155        | 12.6%    |
| Europe  | 1,065          | 8.4%                  | 1,243          | 8.5%                  | 1,141           | 6.9%                  | △101       | △8.2%    |
| Others (Middle East, etc.)                    | 4              | 0.0%                  | 3              | 0.0%                  | 45              | 0.3%                  | 41         | 1,367.1% |
| <b>Air filters (Japan)</b>                    | 1,377          | 10.9%                 | 2,607          | 17.9%                 | 3,000           | 18.1%                 | 392        | 15.1%    |
| <b>Healthcare (Japan)</b>                     | -              | -                     | 1,009          | 6.9%                  | 1,600           | 9.6%                  | 590        | 58.5%    |
| <b>Total sales*</b>                           | 12,674         | 100.0%                | 14,587         | 100.0%                | 16,600          | 100.0%                | 2,012      | 13.8%    |

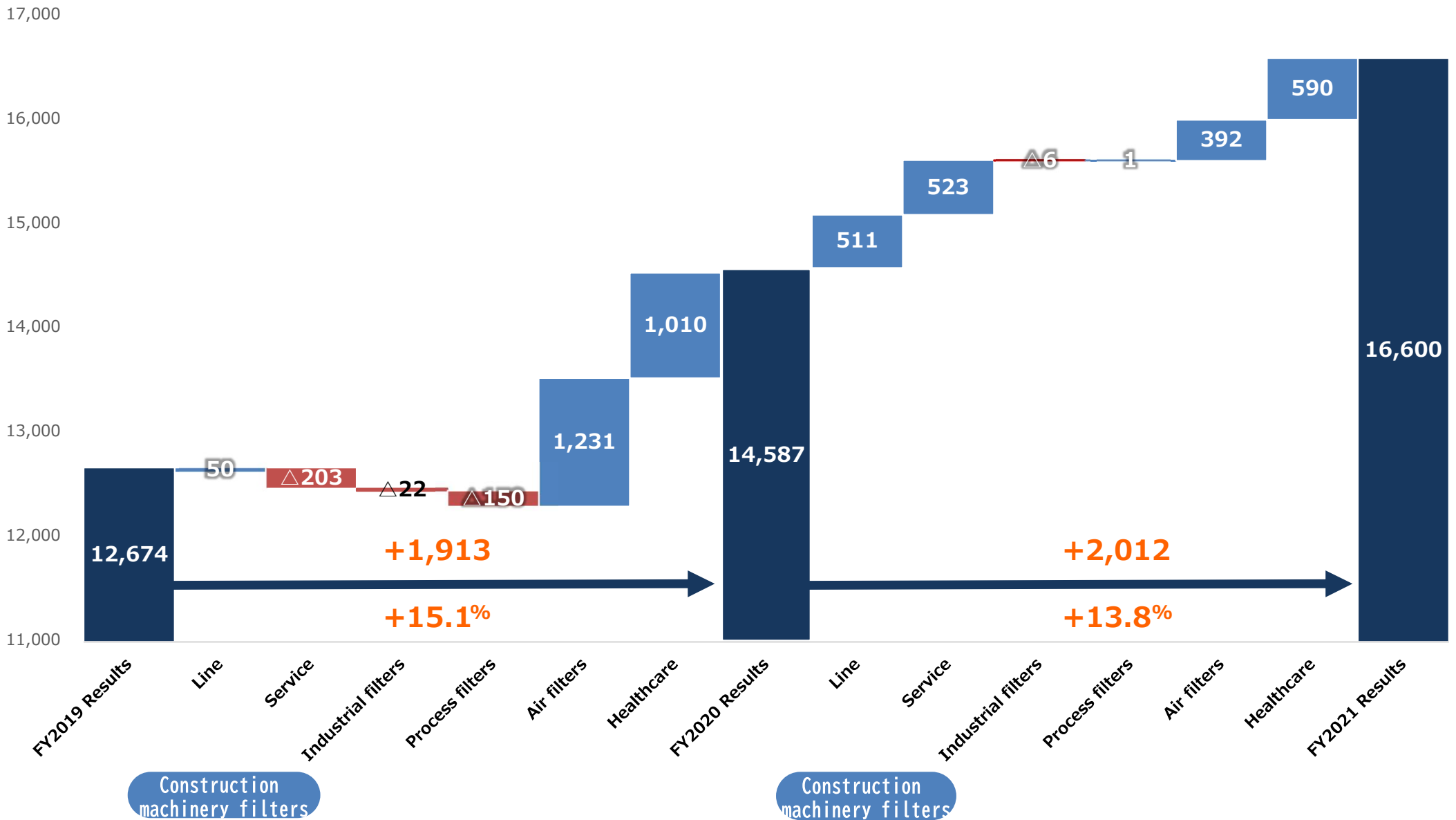
\* "Construction machinery filters, etc." includes industrial filters and process filters, in addition to construction machinery filters.

\* Sales by region here are calculated based on the locations of corporations to which invoices are sent. Actual regional market trends may be different from the numbers shown above.



# FY2021 Forecasts : Changes in Sales

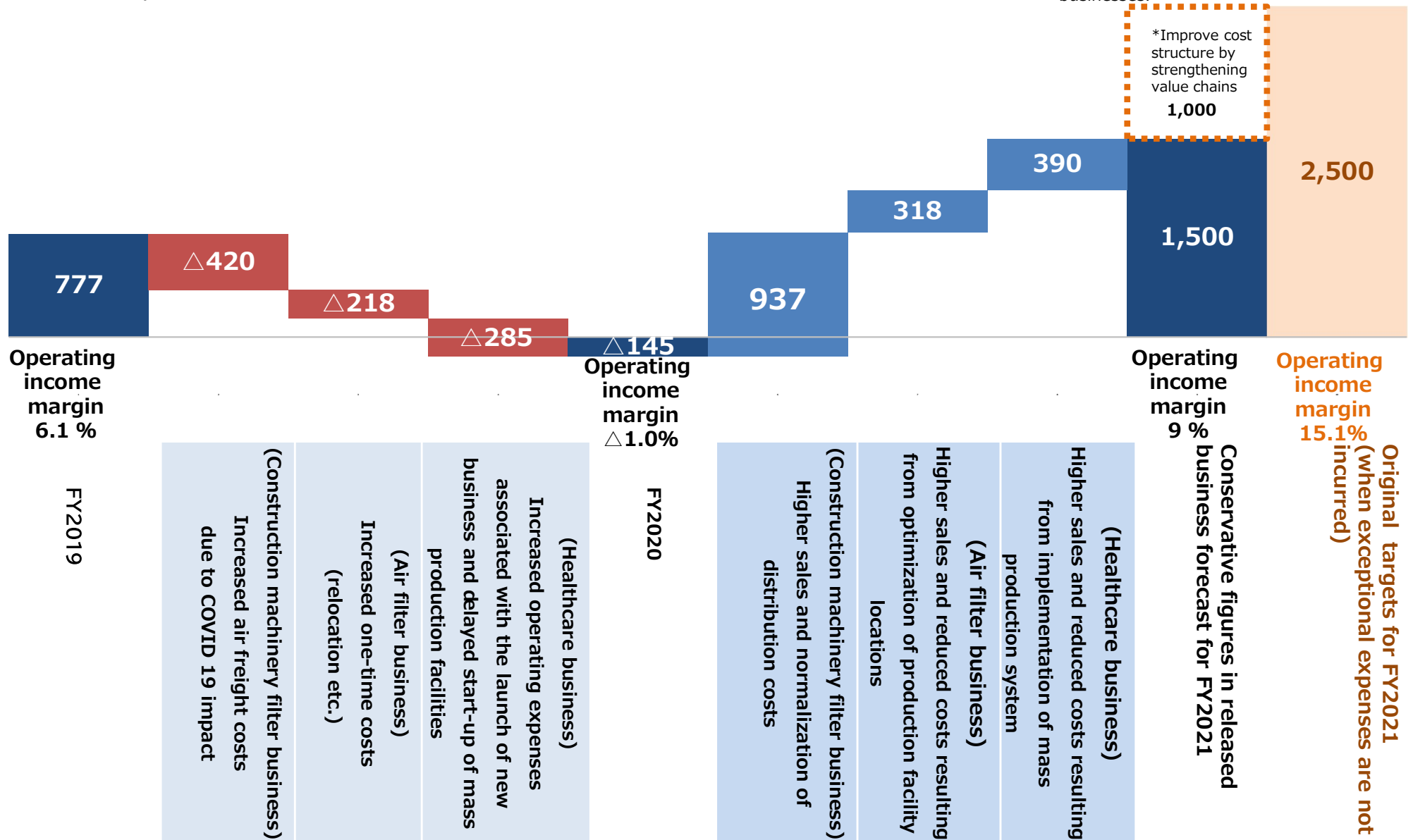
(million yen)



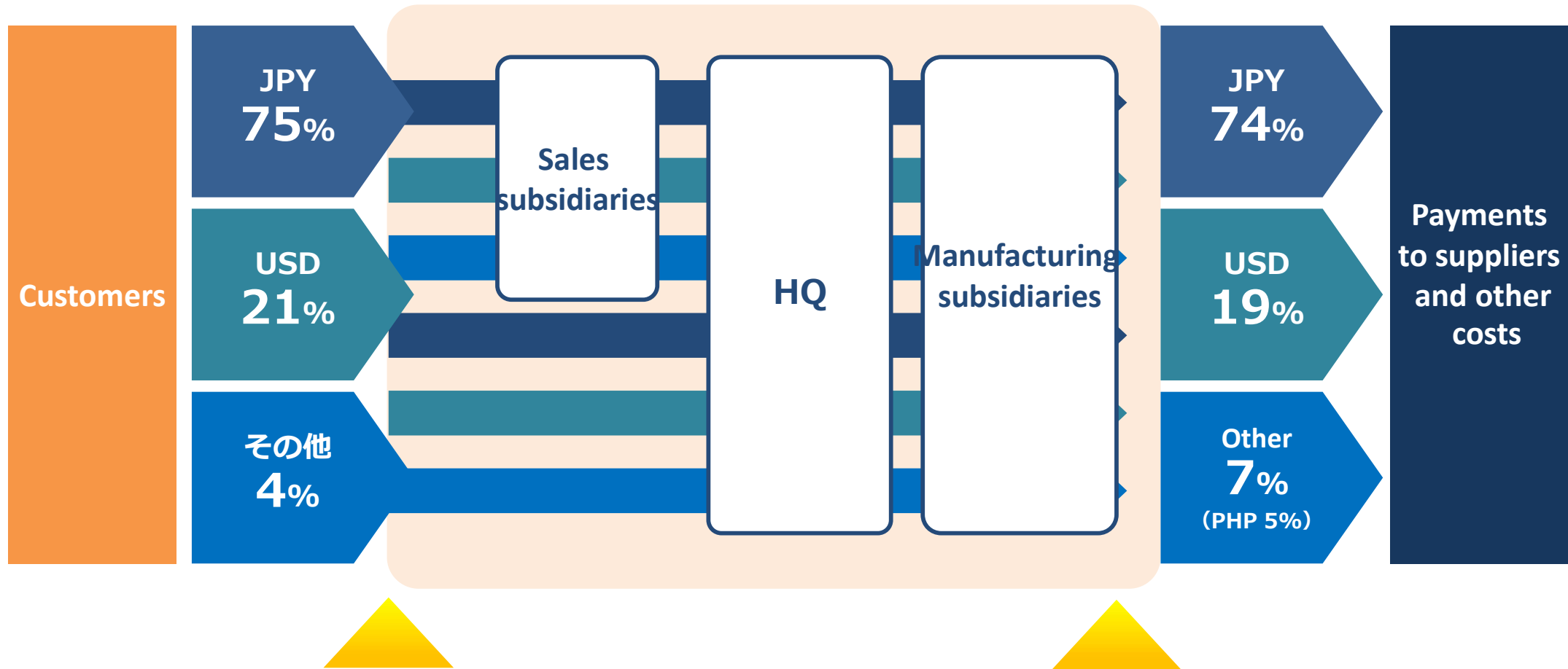
# FY2021 Forecasts : Changes in Operating Income

\* Improve profitability by reforming the cost structure of our construction machinery filter, air filter, and healthcare businesses.

(million yen)



The “marry and netting” operational hedge was successful.



80% of transaction currency is JPY.

Operational hedge “marry and netting” was successfully conducted for USD.

- 1-yen appreciation of the yen would increase operating income by about 4 million yen.

The annual dividend, consisting of the interim dividend of 3.0 yen and the year-end dividend of 3.0 yen, will remain unchanged at 6.0 yen per share.

|  | FY2018  | FY2019  | FY2020  | FY2021  |
|--|---------|---------|---------|---------|
| <b>Dividend per share</b>              | 6.0 yen | 6.0 yen | 6.0 yen | 6.0 yen |
| <b>DOE*<sup>1</sup></b>                | 2.4%    | 2.3%    | 2.2%    | 2.1%    |
| <b>Total return ratio*<sup>2</sup></b> | 31.9%   | 72.3%   | 59.3%   | 46.3%   |

\*1 DOE (Dividend on equity) = (Annual dividend ÷ Shareholders' equity) × 100 = (ROE × Dividend payout ratio)

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





市場

## II Market Conditions

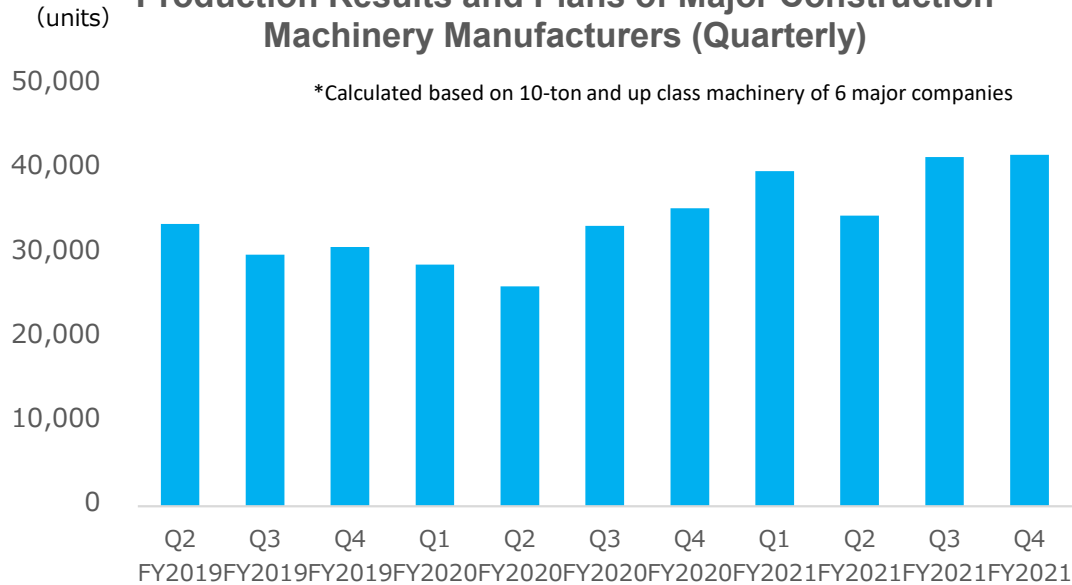
# Conditions in the Construction Machinery Market

- Production activities of major customers, which had been stagnant, have resumed.
- Demand for construction machinery is recovering to the same level as pre-pandemic level.
- In the U.S. and China, as economic activities resume in earnest, there has been substantial increase in demand for new vehicles.

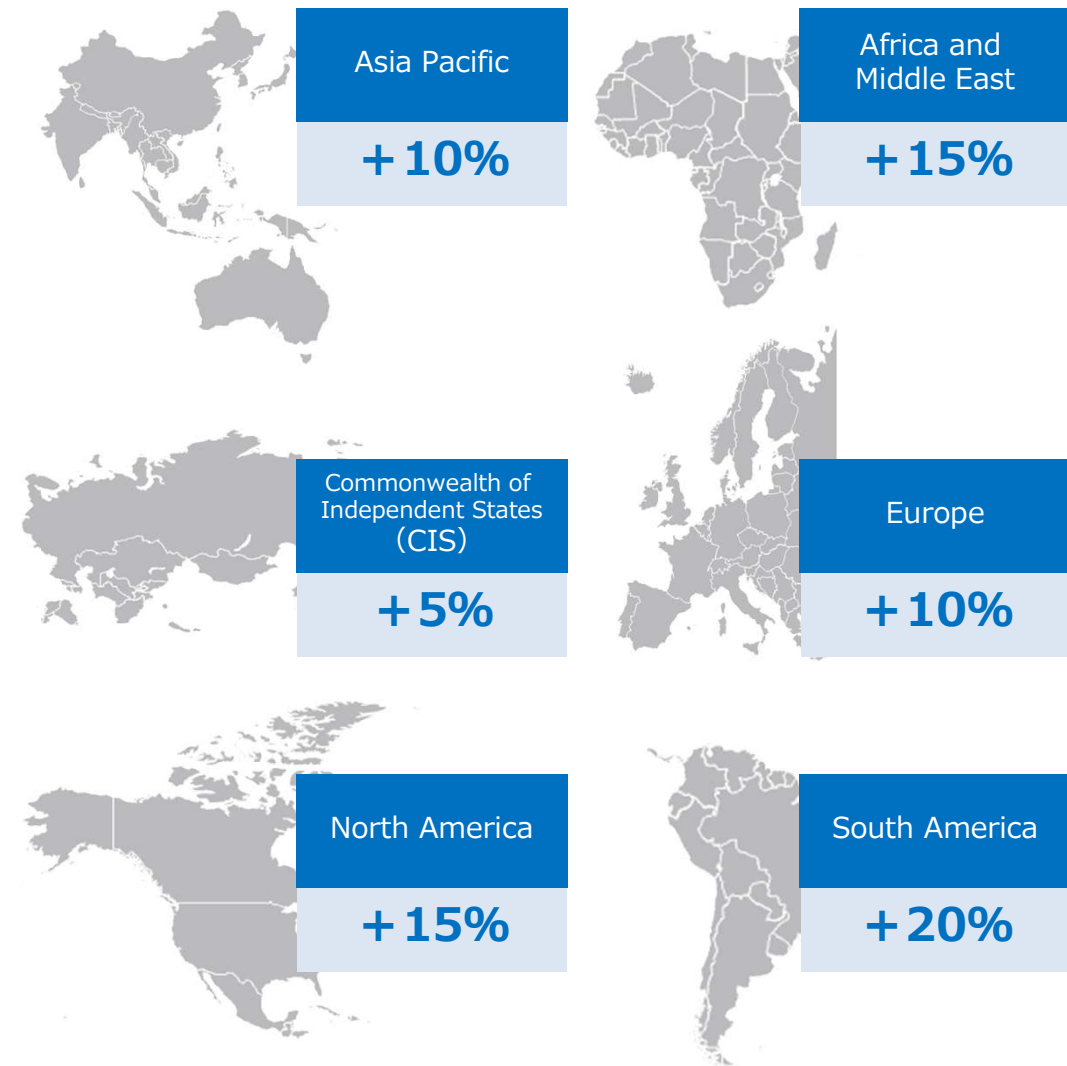
|                | Q4 FY2020  | Q1 FY2021   | Future outlook   |
|----------------|--|---|--|
| China          | Significant increase in demand for new vehicles due to the effects of government-led investment and consumption stimulus measures aimed at increasing industry subsidies | Demand remains strong, but is expected to decrease slightly compared to the previous financial year.  | A significant increase in demand is expected due to the government-led increase in public works investment and preemptive demand in anticipation of the Tier 4 regulations scheduled for FY2022. |
| Southeast Asia | Uncertainty about the future remains and the market is bearish.  | Our major customers have resumed production activity, and the operating hours of construction machinery seem to have bottomed out, signaling a return to normal operations. | While the risk of tighter restrictions remains due to the spread of COVID-19, demand for construction machinery is expected to recover as economic activity resumes.                             |
| North America  | Production activity, which had been stagnant, is recovering to the same level as the previous year, although the effects of the third COVID-19 wave linger.              | Our major customers have resumed production activity and demand is increasing, heralding a recovery to pre-pandemic levels.   | Demand is expected to return to the levels seen before the COVID-19 pandemic, and a significant increase in demand from there is expected.   |
| Japan          | Demand for construction machinery is recovering although the effects of the third COVID-19 wave linger.  | Demand for construction machinery remains strong, particularly in the area of public works which is least affected by rising infection rates.                               | Demand for construction machinery is expected to increase as civil engineering is on the rise and housing investment and private capital investment will recover in the second half of the year. |
| Europe         | The region is starting to shrug off the impact of COVID-19   | The impact of the COVID-19 has been overcome.   | Demand for new and rental construction machinery is expected to increase.  |



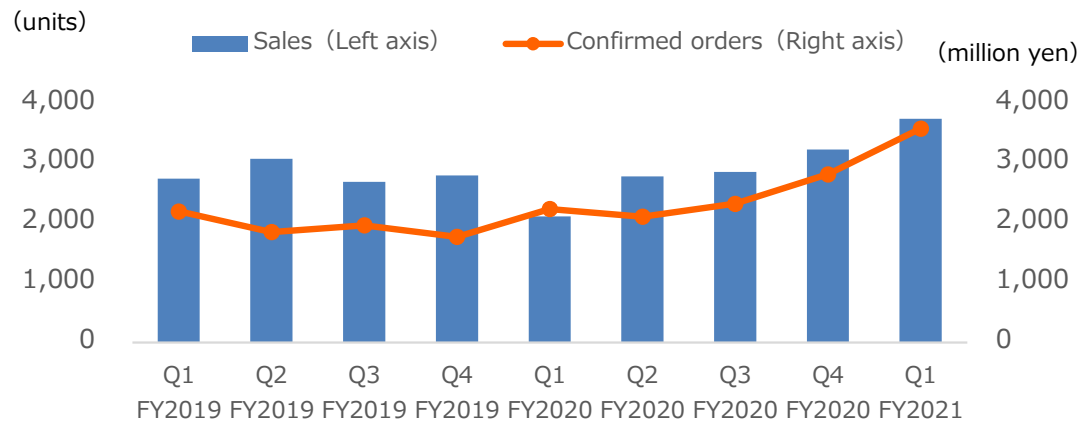
## Production Results and Plans of Major Construction Machinery Manufacturers (Quarterly)



## Growth trend for global construction machinery markets



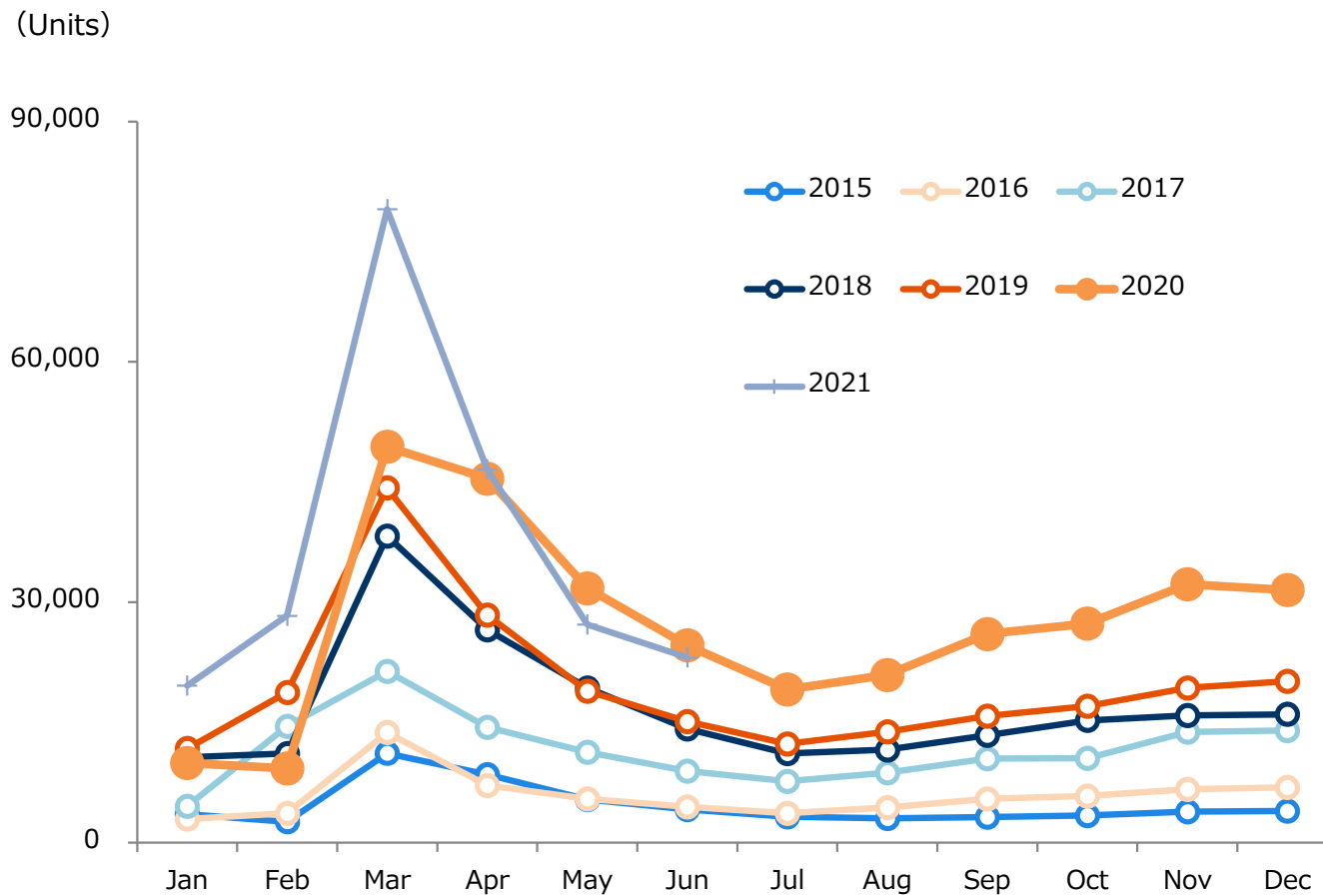
## Sales and Confirmed Orders : YAMASHIN Construction Machinery Filters (Quarterly)



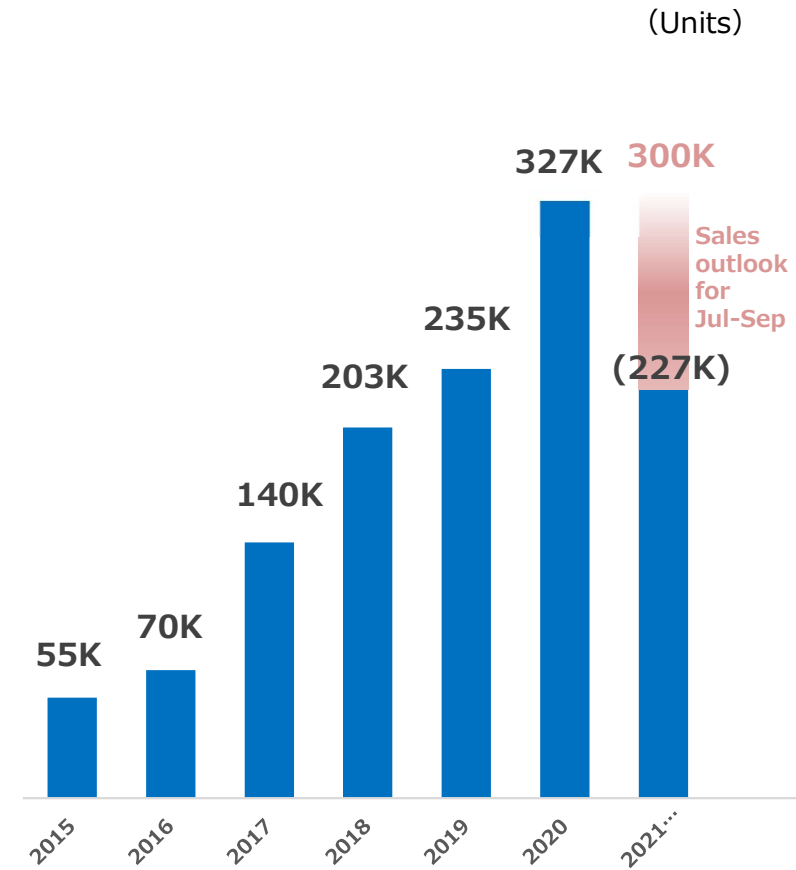
\*Figures are based on our own research.

- Demand for construction machinery in China in 2020 was strong, supported by government-led large-scale public investment.

Number of units sold by year and month



Annual sales volume trend



(Our estimates are based on data published by construction machinery manufacturers and industrial associations)



- The main theme is life-cycle cost improvement, and major construction machinery manufacturers have development pipelines in progress.

## Our measures for product performance

required in developed markets

### Longer life

Use of nanofiber filter media in filters



Longer life, and **reduced replacement costs**

### IoT Sensor

Sensors to measure filter life and hydraulic oil contamination



**Preventive maintenance** against equipment failure is possible

### Aeration measures

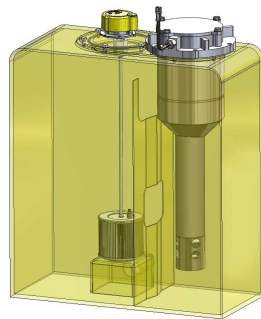
Removes fine air bubbles from hydraulic oil



**Reduce costs** by reducing the total amount of hydraulic fluid in the construction machinery components.



Reduced oil volume allows for smaller tanks.



## Share of a major North American construction machinery manufacturer in each market

### Hydraulic filter share

|                        | 2020 | 2021       | Increase/Decrease |
|------------------------|------|------------|-------------------|
| Construction machinery | 27%  | <b>36%</b> | 9%                |
| Mining machinery       | 11%  | <b>15%</b> | 4%                |
| Forestry machinery     | 30%  | <b>30%</b> | 0%                |

### TM filter share

|                        | 2020 | 2021       | Increase/Decrease |
|------------------------|------|------------|-------------------|
| Construction machinery | 82%  | <b>86%</b> | 4%                |
| Mining machinery       | 45%  | <b>54%</b> | 9%                |
| Forestry machinery     | 62%  | <b>62%</b> | 0%                |

### Other filter share

|                        | 2020 | 2021       | Increase/Decrease |
|------------------------|------|------------|-------------------|
| Construction machinery | 12%  | <b>15%</b> | 3%                |
| Mining machinery       | 9%   | <b>11%</b> | 2%                |
| Forestry machinery     | 18%  | <b>18%</b> | 0%                |

- Through sustainable products that align with the Sustainable Development Goals (SDGs), we will help our key partners reduce their waste volume and substantially lower CO2 emissions.

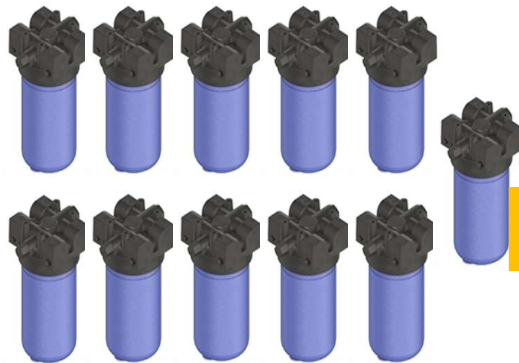
## Longer product life

A longer product life advances several SDGs



### Reduced waste volume through longer lifespan

Number of replacement filters assuming machinery with a 12,000 hour lifespan



#### Current product

Replacement filters = 11  
(Current product is replaced after 1,000 hours)

Waste can be reduced by 50% or more



#### New long-life product

Replacement filters = 5  
(Our proposed product is replaced after 2,000 hours)

### Reduced CO2 emissions due to changes in materials

By changing a filter element from glassfibers to polymer fibers,

Approximately 5.7x less CO2 emissions!



1.7kg

Current product



0.6kg

Newly developed product

| Material | CO <sub>2</sub> (1kg) |
|----------|-----------------------|
| Iron     | 100%                  |
| Polymer  | 50%                   |

Assuming the above...

170 → 30

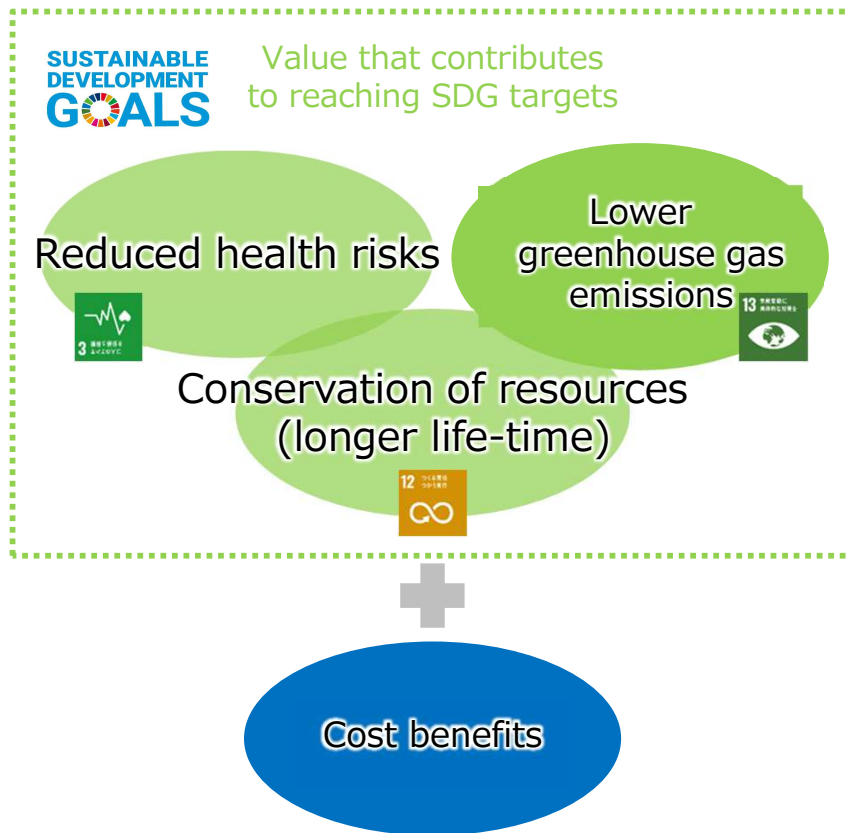
# Conditions in the Air Filter Market

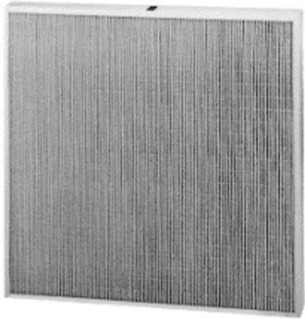
- Due to the impact of COVID-19, there was restrained buying in the replacement demand for buildings and structures, which is the largest market for air filters.
- We began to focus on the semiconductor and vehicle markets, where demand is expected to increase.

|                                | Market overview   | Market environment  |  |
|--------------------------------|---|---|--|
|                                |   | Previous period   | Forecast for the current term  |
| <b>Buildings</b>               | Air filters for outdoor air intake units and indoor air conditioning systems installed in offices, commercial buildings, etc. | ↓<br>Decline in demand due to the impact of office and commercial buildings refraining from replacement.                                    | ↘<br>With no turnaround in office occupancy rates likely, demand is expected to decline.   |
| <b>General factories</b>       | Air filters for outdoor air intake units and indoor air conditioning systems installed in factories                           | →<br>Large factories refrained from replacing their equipment, but new orders were received from small factories, and demand remained flat. | →<br>The trend is expected to continue from the previous fiscal year.  |
| <b>Semiconductor factories</b> | Replacement market for chemical filters   | ↑<br>More people working from home meant an increase in demand for PC equipment and other products.   | ↑<br>Demand for chemical filters will continue to increase, driven by 5G and automotive applications.  |
| <b>Environmental equipment</b> | Air filters for residential air conditioning and air purifiers used in general households                                     | ↓<br>Decline in new housing construction due to the impact of COVID-19, resulting in lower demand.  | →<br>New housing construction continues to trend downward, but an increased demand for air purifiers props up the bottom line                          |
| <b>Vehicles</b>                | Air filters for air conditioning of railroads, etc.<br>Air filters for protecting construction machinery from dust            | ↓<br>Due to the impact of COVID-19, a slight decrease in demand due to the refrain from replacing air filters in public transportation.     | ↑<br>Demand increased due to the uptick in demand for replacement air filters for public transportation, and rising demand for construction machinery. |

- We will heavily promote our nanofilter masks and Nano WHELP technology as a business-led solution which provides value to society by reducing greenhouse gas emissions and mitigating health risks.

The value Nano WHELP provides to society





**New Product**

## Nano WHELP

Nano Wonderful High Efficiency Low Pressure

**Merv14**  
(ASHRAE-Standard)

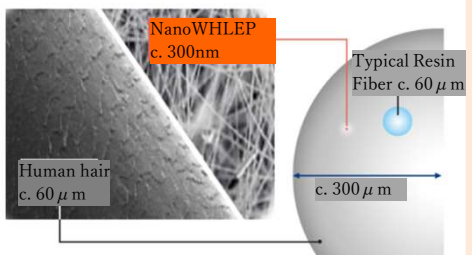
MERV is a U.S.A. filter standard (ASHRAE 52.2 (2007)) that rates filter efficiency on a scale from MERV 1 to MERV 16. MERV 14 specifies a capture rate for 0.3 to 1µm particles of at least 75% but not exceeding 85%.

**Product features**

Sustained low pressure drop is achieved by using self-developed nano-level fibers that were converted from the development technology of filters for construction machinery

**PM2.5 capture efficiency of 95% or higher**

- Unparalleled filter performance
- Long replacement interval contributes to cost reduction
- Price competitiveness



Enlarged image of human hair and nano fibers

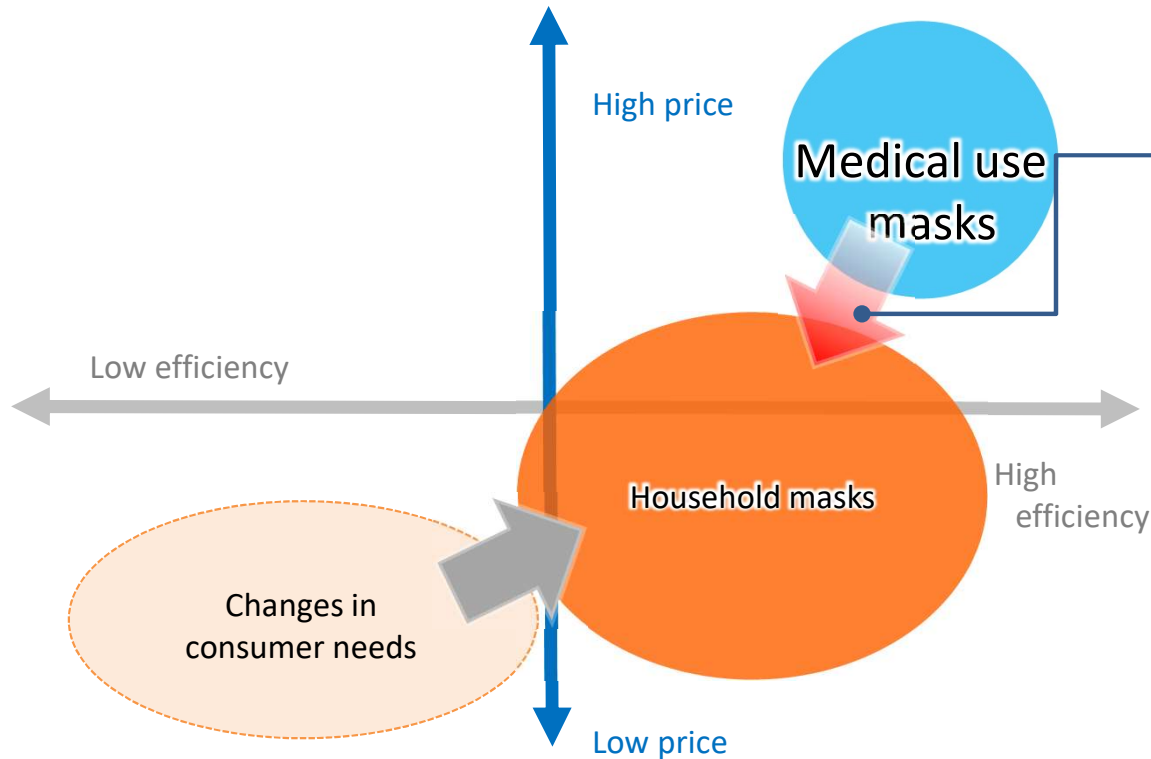
**Predicted market**

Data centers, server rooms, IT-enabled factories, public facilities, medical facilities, etc.

# Conditions in the Mask Market



## Mask market segmentation and our strategy



## Our aims and strategies

Increase our brand recognition in the medium- to long-term in the medical mask market and utilize the obtained know-how and brand power to expand into the household-use mask market.

## Our strengths

### Manufacturing technologies

that have been cultivated for about 70 years

- 1 Safe and secure domestic production and supply system
- 2 World-class filtration technology
- 3 Innovative nanostructured filters



New technology developed as a result of pursuing filters for construction machinery

Third year (2022-)  
Strengthen the brand

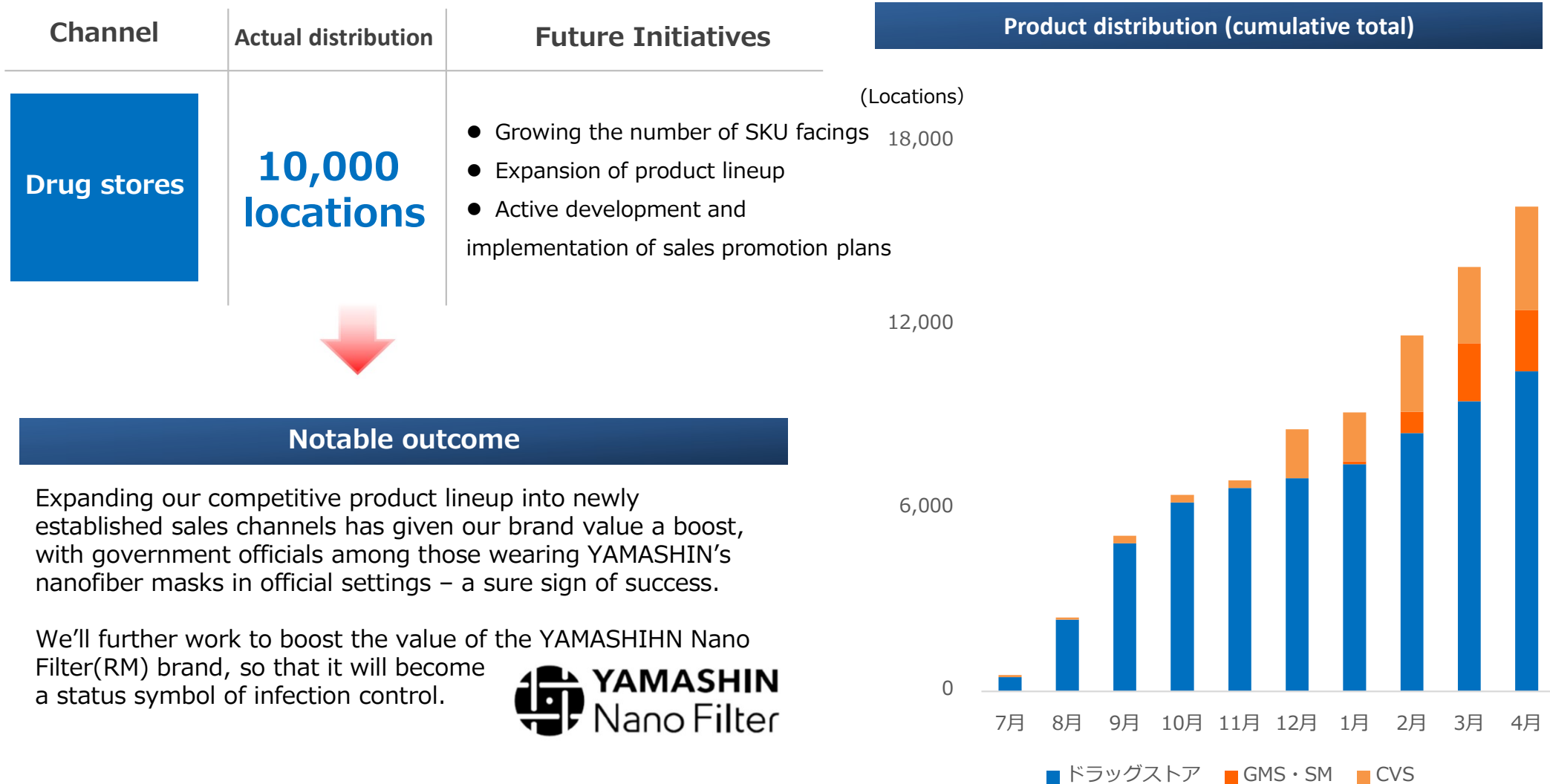
Second year (2021)  
Enhance product lineup

First year (2020)  
Expand sales measures

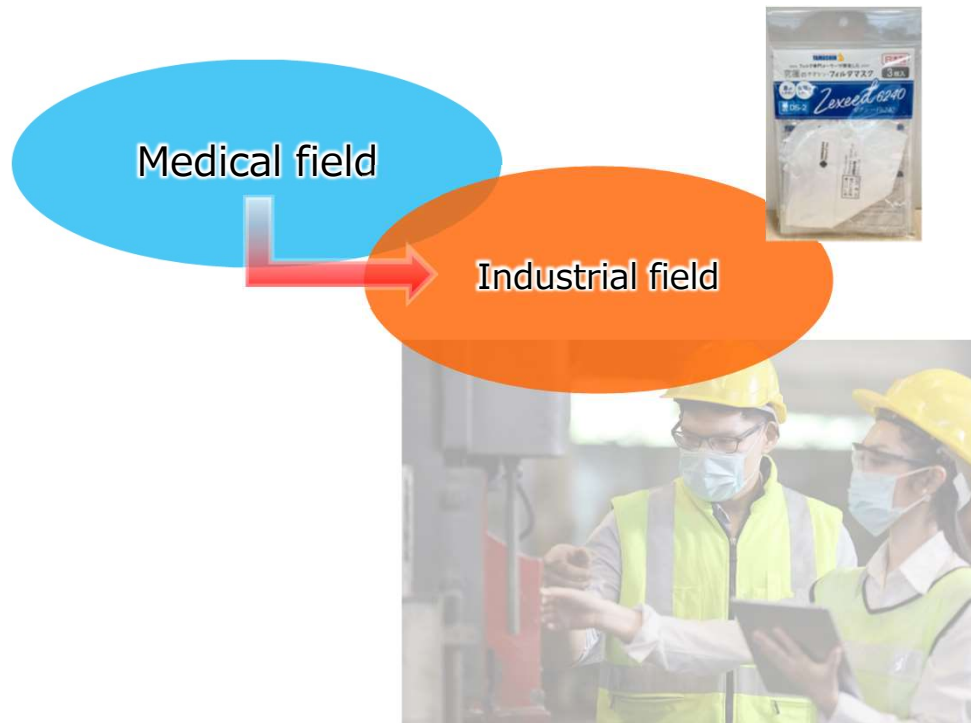
### Sales policy for sales expansion

Expand sales by developing a competitive product lineup in the sales channels established in the first year and expand full-scale recognition of our brand.

- Distribution of our products in major retail channels has reached 15,000 stores (cumulative total).
- Going forward, we will work on measures to strengthen our presence on the sales area in order to attract demand for high quality products.

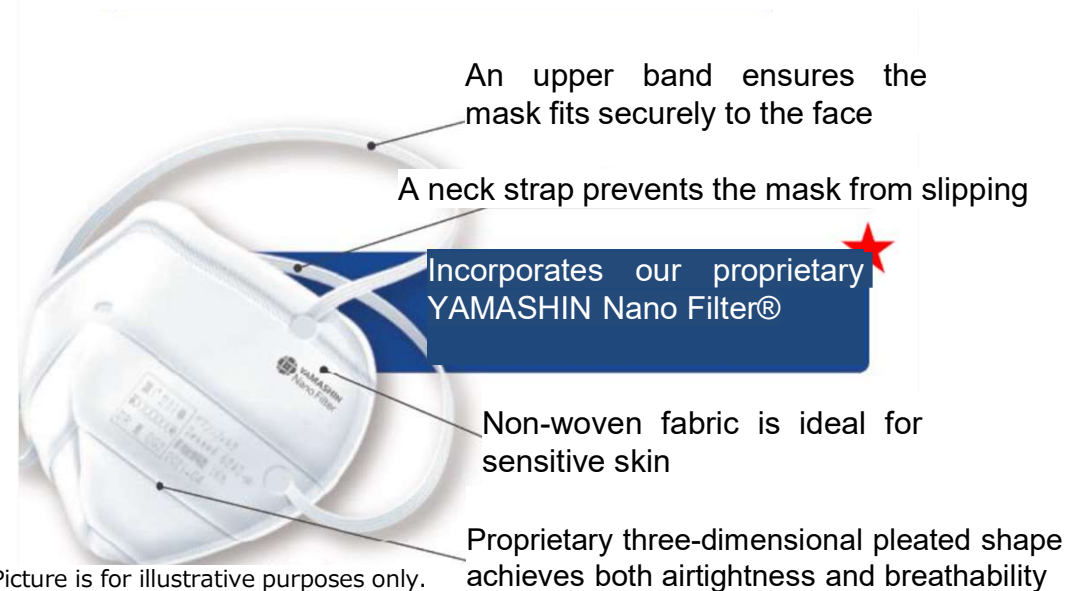


- We have begun to supply our flagship Zexeed 6240 masks to businesses involved in manufacturing, by leveraging our medical masks' (DS2) grade approval and high performance.



## Features of our Zexeed 6240 mask

Zexeed's unique three-dimensional pleated shape



Picture is for illustrative purposes only.

## Outcomes

Major construction machinery manufacturer  
Tier 1 company

A business who sampled our masks became a customer, after finding them highly breathable compared to other DS2 masks and comfortable for long-term use.

|                         |                               |   |                                     |
|-------------------------|-------------------------------|---|-------------------------------------|
| <b>Product features</b> | <b>Superior breathability</b> | <b>Comfortably soft and sits gently on the face</b> | <b>Excellent filter performance</b> |
|-------------------------|-------------------------------|---|-------------------------------------|





# III Future Strategies



Corporate Principle

*Rokajini tsukafuru*

(contributing  
to society through  
filtration activities)



Emergence of  
various societal issues

Climate change

Waste  
processing

Declining  
biodiversity

Spread of  
COVID-19

Realizing *Rokajini tsukafuru*

**Working to solve societal problems  
through filter design and manufacture**

**Business Philosophy : Contribute to society through  
filtration activities**



Aim to increase demand by leveraging new Environmentally-friendly materials and technologies



Begin production and sales of medical grade high-performance masks, which only YAMASHIN, as a comprehensive filtration manufacturer, can achieve



Help to prevent air pollution by growing air filtration business<sup>en</sup>



Corporate Principle

## Realizing *Rokajini tsukafuru* (contributing to society through filtration activities)

### Business Conditions

#### 3 Themes of YAMASHIN Initiatives



Solving societal problems through filter design and manufacture

### Societal issues

- Climate change
- Waste processing
- Declining biodiversity
- Spread of infectious disease



### Business Model

#### Construction machinery filter business Line parts, service parts

- Fully implement policy of selling service parts only to construction machinery manufacturers.
- Acquire industry-leading market share by providing reliable and high-quality products.
- Provide long-life and environmentally-friendly products
- Provide high value-added products via IoT management.

#### Air filter business

- Provide high performance filters that safeguard against health risks.

#### Healthcare business

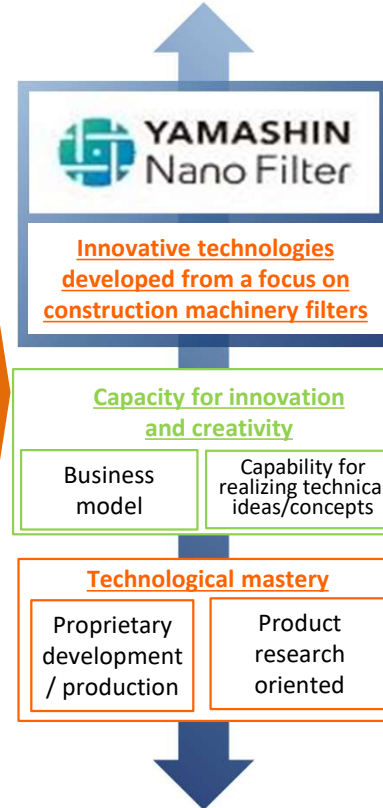
- Provide high performance mask equivalent to medical use products.

#### YAMASHIN NANO FILTER™ as an industrial subsidiary material

Non-financial capital supporting value creation

- Human capital (active promotion of exceptional personnel)
- Manufacturing capital (robust supply chain system)

### YAMASHIN's Strengths



### Created Value

Our goal:  
**To be a comprehensive filter manufacturer**

#### Externally directed value



Manufacturing masks that limit the spread of communicable and infectious diseases.



Reducing use of heating fuel through high-insulation agricultural sheets based on nanofibers.



Reducing waste by extending filter life through nanofiber technologies.



Increased the proportion of electricity we use that is derived from renewable sources.



Protecting waterfowl (sourced for down) by promoting alternatives to natural down through nanofiber manufacturing technologies.

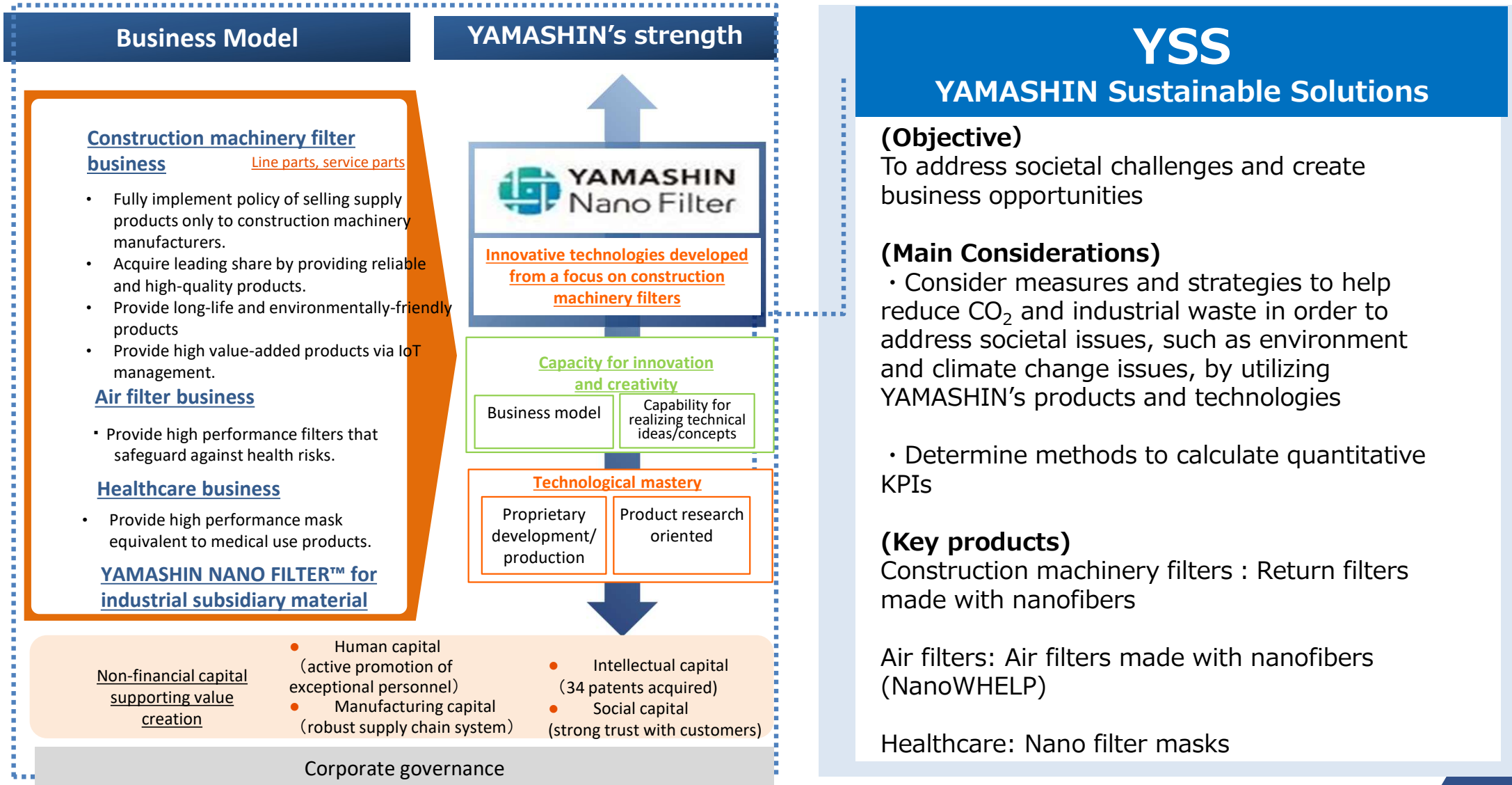
### Corporate governance

Source: Compiled by The Japan Research Institute: *Second Party Opinion*

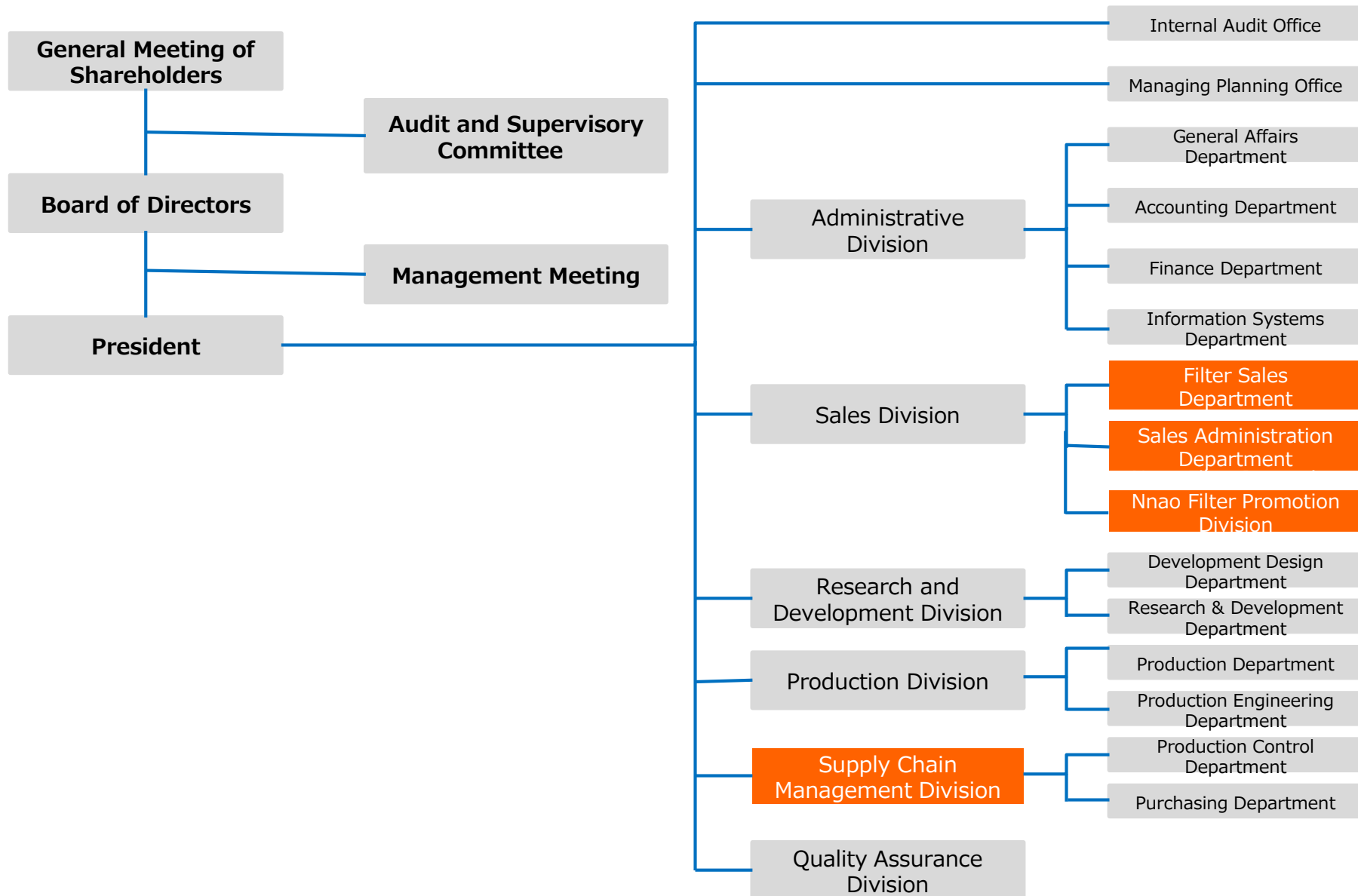
URL: [http://www.Yamashin-filter.co.jp/ja/news/news\\_20200908\\_001/main/00/link/SecondPartyOpinion.pdf](http://www.Yamashin-filter.co.jp/ja/news/news_20200908_001/main/00/link/SecondPartyOpinion.pdf)

\*For specific reduction KPIs, refer to the reference material of this file.

We have initiated an internal project, "YSS" (YAMASHIN Sustainable Solutions), in order to enhance the sustainability of our business model and its strength.



On April 1, 2021, several new organizations were established to create a more agile organizational structure.



## Improving the value chain

By strengthening the value chain, we are aiming for **consolidated operating income of 2.5 billion yen and an operating margin of 15%** which is where our true earning power lies.

Measures to be strengthened

Create a total of **1 billion yen** in added value

1

### Construction machinery filter business:

Improve profitability through PAC 21 by controlling air freight costs, reducing fixed costs, and cutting expenses

2

### Air filter business:

Transfer production to YCF, reduce manufacturing costs (PAC 21) by introducing SAP (strengthening of cost management system), improve profitability by reducing fixed costs, and reduce defects

3

### Healthcare business:

Reduction of fixed costs and manufacturing costs through automation of production lines and labor saving by investment in mask production facilities, efficient management of sales promotion expenses, advertising expenses, etc.

4

### Restructure of supply chain:

Restructuring production bases (New Saga Plant, Vietnam Plant (newly built), North America Plant), significantly increased production capacity and reduced manufacturing costs

## Strengthening the supply chain

**We have revised our organizational structure and established the SCM division.**

After transitioning from a centralized to a decentralized production model with multiple production facilities, the SCM division is overseeing global production activity.



## Construction machinery filters

**YCF**  
( Production )

**YST**  
(Sales · R&D)

**YAI**  
(Sales · Production)

**YTL**  
(Sales)

**YEB**  
(Sales)

The Specialist in Filtration  
**YAMASHIN** 

Evolve from construction machinery filter specialist to comprehensive filter manufacturer



**YAMASHIN**  
Nano Filter

**YAMASHIN Nano Filter™ industrial material**

### Healthcare

Apparel

Home appliances

Automobile interior

Household items



**YAMASHIN**  
Nano Filter

### Air filters

(Sales · Production)



# 目次

REFERENCE MATERIALS

① YAMASHIN'S INITIATIVES





We aim to create the demand for our products, by developing environmentally friendly products using our proprietary technologies including the nano material

## To increase our share in the construction machinery market

Decrease machinery failures and extend the lifespan of construction machinery by adding value to our products



**Reduction in environmental impact**

**Useful life  
increases 3 times**

**Hybrid filter  
Glass fiber × nanofiber**



**Failure prediction with IoT**

**Cleanliness level sensor**

- Measurement of oil and water cleanliness levels
- Low costs
- Compact design

**Lifespan sensor**

To monitor how much filters are clogged in a stepwise manner

In the Chinese market, we will acquire new clients by providing solutions to address environmental issues



**To help reduce CO<sub>2</sub> emissions  
with high-quality filters**

**To further meet the demand for new machinery  
in preparation for the Tier 4 environmental  
regulations**

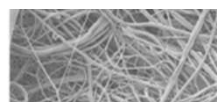


We began to manufacture and sell high performance medical-grade masks, the development of which could only be achieved by YAMASHIN as a comprehensive filter manufacturer.

## Three Features of YAMASHIN Masks

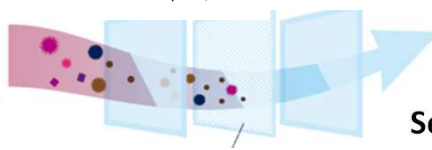
1. A nanostructure that traps viruses.
2. Minor decline in performance, even with long-term use
3. Development of safe and secure domestic production and supply system

YAMASHIN Filter Mask/Filter Sheets



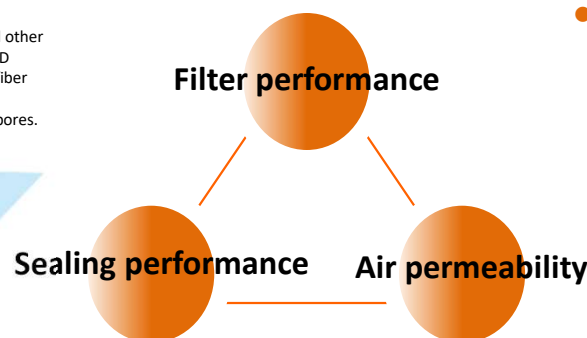
Electron microscope: 1,000x

Traps viruses and other particles with a 3D multi-layer nanofiber filter featuring extremely small pores.



YAMASHIN nanofilter based on nanofibers

## The best balance among the three factors of filtration



- We released our next-generation Zexeed mask to address three factors: high filter performance, excellent fit and sealing, and high air permeability (breathability)

### Entry model

Sales launched at nationwide drug stores on September 4, 2020



### Flagship model

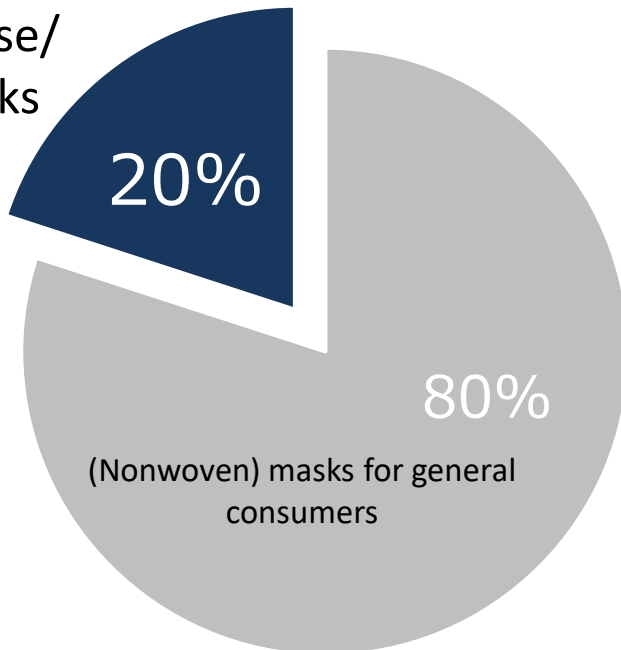
Pre-orders on online retail sites began on September 1, 2020





**We intend to have our masks certified for medical use/dust protection.**  
**We aim to increase our market share in this segment and continue development.**

Medical use/  
dust masks



## Development policy going forward: Expanding our lineup

We have further plans to acquire certification for high-performance masks demanded by medical facilities, etc. (certifications in Japan, US, and Europe\*). In the market for general consumers, we will differentiate our products by using proprietary technologies and unique pleated mask shapes as we continue to develop higher performance masks.

- ① High filter performance (highest N95 standard value)
- ② Excellent fit and sealing (leakage of less than 1 %)
- ③ Excellent breathability

**In these aspects, we achieve overwhelming differentiation that makes us stand out from our competitors.**

\*National testing standard in Japan (DS), NIOSH standard in US (N95), EN standard in Europe (FFP)

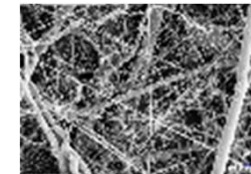
■ (Nonwoven) masks for general consumers    ▸ ■ Medical use dust masks

### Nano fiber filter by Electrospinning method



Characteristics:  
Very thin, flat,  
uniform fibers

### YAMASHIN NANO FILTER



YAMASHIN's  
proprietary  
patented technology  
Characteristics: 3D,  
multi-layer fiber mix

\* Captured with electron microscope (2,000x)



We aim to help prevent atmospheric pollution by growing our air filter business.

## Business environment

There is a risk of worsening atmospheric pollution caused by the economic growth of emerging countries.

The air filter market is expected to keep growing.

Estimated annual growth rate  
of the air filter market

**3.5%** (until 2050)

## Contributions we can make

As a manufacturer specializing in filters, we help to reduce health hazards by supplying highly functional air filters.

We can also curtail maintenance costs by extending the life-span of each product.



# Pursuing equity finance sustainability projects to help solve environmental and societal problems

We intend to procure ¥11.0 billion through equity financing to facilitate sustained, medium-term business growth and proactively pursue ESG initiatives.

## Impacts of Sustainability Project

| Project output  | Outcome                              |  | Impact  |   |
|---|--------------------------------------|--|---|---|
|   |                                      |  |   | Impact indicator (annual)                                 |
| Purchasing electricity from renewable energy                  | YAMASHIN                             | Increased ratio of renewable energy in electric power                              | Renewable energy                                    | Reduction of CO <sub>2</sub> emission (tCO <sub>2</sub> ) |
| Introducing solar-power systems                               |                                      |  | Pollution prevention and control                    | Reduction of filter waste                                 |
| Augmentation of production facilities for nanofibers          | Users (construction machinery)       | Reduced waste by using longer-lasting hydraulic filters for construction machinery | Protecting diversity of land and marine life        | Reduction of natural down used                            |
|   | Manufacturers (apparel, bedding)     | Reduced use of natural down through use of synthetic down                          | Energy efficiency                                   | Reduction of CO <sub>2</sub> emission (tCO <sub>2</sub> ) |
|   | Users (agriculture)                  | Reduced fuel consumption through high-insulation agricultural sheets               | Pollution prevention and control                    | (Qualitative assessments)                                 |
| Introducing recycling facilities for nanofibers               | Users (e.g., construction machinery) | Reduced waste from various filters   | Access to necessary services to the extent possible | General-use masks (pieces)                                |
| Augmentation of manufacturing machinery for general-use masks | Users (general consumers)            | Increased production of general-use masks  | Access to necessary services to the extent possible | (Qualitative assessments)                                 |
| Augmentation of manufacturing machinery for medical-use masks | Users (medical professionals)        | Increased production of medical-use masks  | Clean transport                                     | (Qualitative assessments)                                 |
| R&D on YAMASHIN Nano Filter™ technology                       | Users (general consumers)            | Spread and expansion of fuel cells through separator development                   | Broad social and environmental implications         |   |
|   | Manufacturers and users              | Achieving even higher performance of nanofibers (finer, added features)            |   |   |

## Second-party opinion on selection grounds

- Helping to make construction machinery more environmentally friendly by developing new filtration technology and materials
- Leading the way in conducting work style reforms like zero overtime for all employees

## Points of improvement/focus going forward

- Promotion of ESG initiatives on the value chain, including promotion of CSR procurement, and disclosure of ESG information

Source: Compiled by The Japan Research Institute: *Second Party Opinion*  
 URL: [http://www.Yamashin-filter.co.jp/ja/news/news\\_20200908\\_001/main/00/link/SecondPartyOpinion.pdf](http://www.Yamashin-filter.co.jp/ja/news/news_20200908_001/main/00/link/SecondPartyOpinion.pdf)

## Working to Reduce CO2 by Approx. 25,000 Tons through business activities

### ■ Impact of Sustainability Project

| Project outputs   | Outcomes                             |   | Impact   |                               |
|---|--------------------------------------|---|--|-------------------------------|
|   |                                      |   |  | Impact indicator (annual)     |
| Purchasing electricity from renewable sources                                     | YAMASHIN                             | Increased share of renewable energy in electric power   | <b>Renewable energy</b>  | <b>632t CO<sub>2</sub></b>    |
| Purchasing solar power systems  |                                      |   |  |                               |
| <u><a href="#">Adding production facilities for YAMASHIN NANO FILTER™</a></u>     | Users (construction machinery)       | Reduced waste from longer life hydraulic filters for construction machinery                               | Pollution prevention and control                                     | 4,000 t                       |
|   | Manufacturers (apparel, bedding)     | Reduced use of natural down through use of synthetic down   | Reduced natural down for protecting land and sea life diversity      | 23 t                          |
|   | Users (agriculture)                  | Reduced fuel consumption through high-insulation agricultural sheets                                      | <b>Energy efficiency</b>   | <b>24,440t CO<sub>2</sub></b> |
| <u><a href="#">Introducing recycling facilities for YAMASHIN NANO FILTER™</a></u> | Users (e.g., construction machinery) | Reduced waste from various filters  | Pollution prevention and control                                     | (Qualitative assessment)      |
| Adding manufacturing machinery for masks for general consumers                    | Users (general consumers)            | Increased production of masks for general consumers   | Help consumers to access to necessary amounts to the extent possible | 230 million masks             |
| Adding manufacturing machinery for medical use masks                              | Users (medical professionals)        | Increased production of masks for medical use   | Help consumers to access to necessary amounts to the extent possible | (Qualitative assessment)      |
| <u><a href="#">R&amp;D on YAMASHIN NANO FILTER™ technology</a></u>                | Users (general consumers)            | Separator development for wider dissemination of fuel cells   | Clean transport  | (Qualitative assessment)      |
|   | Manufacturers and users              | <u><a href="#">Achieving even higher performance of YAMASHIN NANO FILTER™ (finer, added features)</a></u> | Broad social/environmental implications                              |                               |

Source: Compiled by The Japan Research Institute: *Second Party Opinion*

URL: [http://www.Yamashin-filter.co.jp/ja/news/news\\_20200908\\_001/main/00/link/SecondPartyOpinion.pdf](http://www.Yamashin-filter.co.jp/ja/news/news_20200908_001/main/00/link/SecondPartyOpinion.pdf)



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

**Due to increased infrastructure investment in several markets and our strong position in after-sales market, we expect sustained growth in our construction machinery filter business.**

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

**With its diverse applications, YAMASHIN NANO FILTER™ will drive growth.**




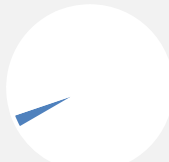

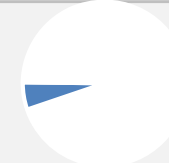
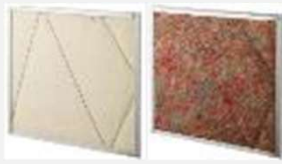
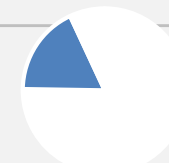

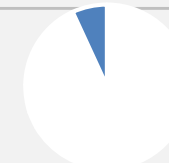
# 目次

REFERENCE MATERIALS

② BASIC COMPANY INFORMATION



YAMASHIN Group has manufactured filters for construction machinery (hydraulic), various industrial fields other than construction machinery (hydraulic), and manufacturing processes (water) by purchasing glass-fiber and non-woven fabrics to produce filter media (the key component of any filter), resin products, and processed metal for filter components. From May 2020, we started to sell filter masks and mask inner sheets made from our proprietary synthetic polymer nanofibers, and from July 2020, we added a new Healthcare segment to our business.

| Filed   | Products  | Product image   | Composition ratio (As of March 2021)  |
|---|---|---|---|
| Hydraulic filters for construction machinery    | <p>A construction machinery filter is used to filter the fluid running in the hydraulic components of construction machinery, which is the key to the operation of such machinery.</p> <p>Applications : Various types of construction machinery</p>  |    |    |
| Hydraulic filters for various industrial fields | <p>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.</p> <p>Applications : machine tools, refrigerating compressors, agricultural machinery, vessels, railway vehicles, airplanes, and helicopters</p> |    |    |
| Filters for process lines                       | <p>A process filter is used for filtration and separation in processes for manufacturing customer products</p> <p>Applications : Production lines for electronic parts, precision parts, liquid crystal displays, and food.</p>   |   |   |
| Air filters                                     | <p>Air filters used for dust removal and medium-to-high performance air filters</p> <p>Applications: general buildings, hotels and factories.</p>   |  |  |
| Healthcare                                      | <p>High performance masks and replacement inner sheets that feature high filtration performance (one of the characteristics of our nanofiber filtration material), excellent sealing performance, and high air permeability.</p> <p>Applications: For general consumers in Japan and around the world</p>                                 |  |  |

# YAMASHIN provides an extensive product line of filters essential to operating construction machinery

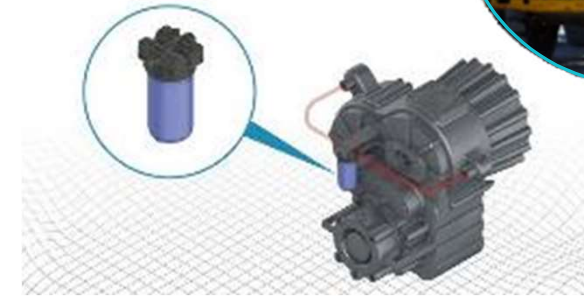
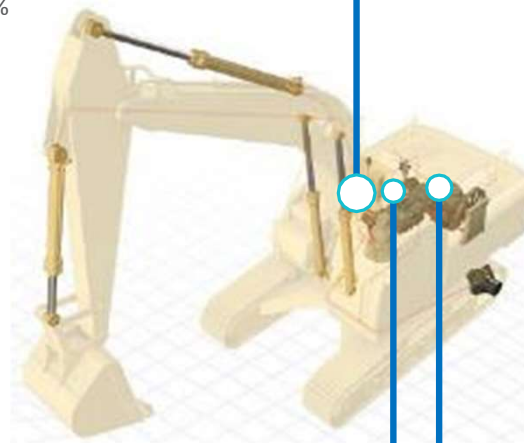
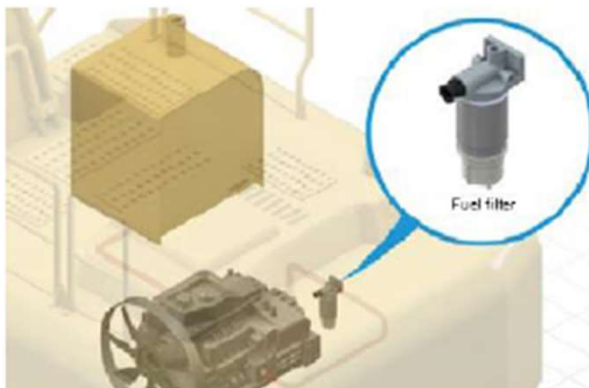


### For hydraulic systems

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 fuel filters is expected to grow, particularly in emerging nations where fuel quality tends to be lower.

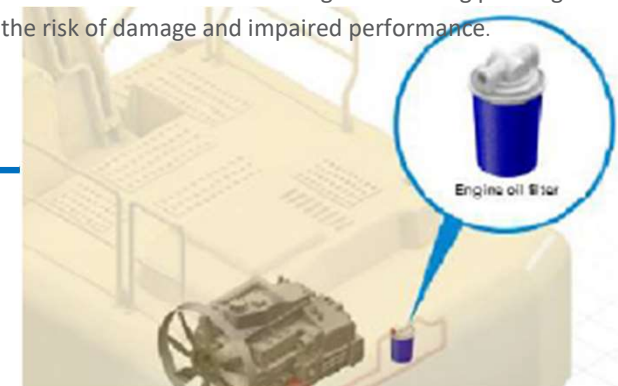


### For transmissions

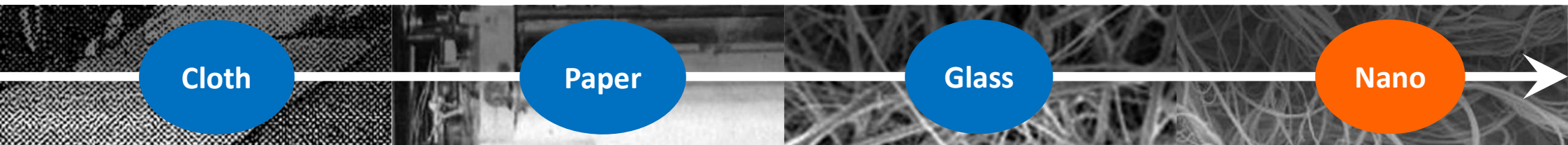
These filters are found in the transmissions of construction machinery. Transmissions are composed of multiple gears. Friction between these gears produces metal powder and particulates. Our company's filters employ proprietary filter elements and materials to remove these particulates and minimize equipment 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. Engine oil filters remove the metal powders and sludge (sediment) that are caused by abrasion and accumulate in engine oil during power generation, mitigating the risk of damage and impaired performance.



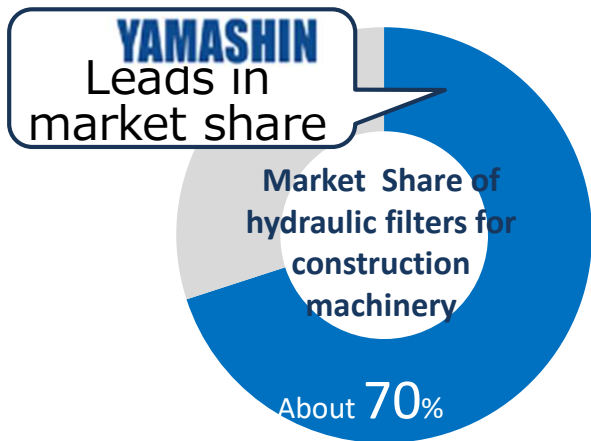
## Capability of researching and developing innovative filter media in line with the evolution of construction machinery.



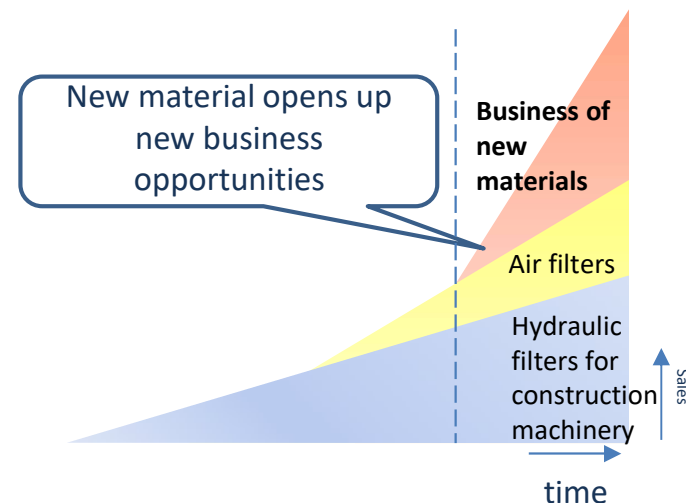
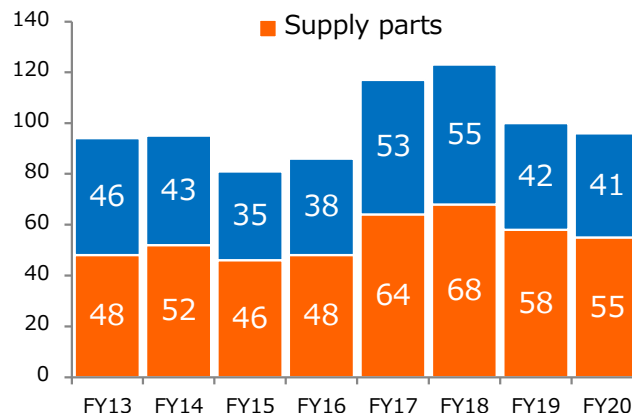
A lion's share in the market of hydraulic filters for construction machinery

Stable revenue structure satisfying the demand for new machines and replacement parts

Expansion of business domain with newly developed innovative materials



(Unit: 100 million yen)



Shares of sales of hydraulic filters for construction machinery in Japan (FY2012) Source: Yano Research Institute

- Our company has contributed to the development of efficient infrastructure.
- As we handle high-quality products and have plenty of experience, many products have been adopted by leading construction machinery manufacturers in Japan, Europe, the U.S., and China.

## Segments and KPI

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

## Business model, Regional trends, and Cost reduction measures

- **Business model**  
Hydraulic filters for construction machinery are all sold to construction machinery manufacturers (100%). In principle, we do not sell the products directly to end users.
- **Regional market trends**  
Sales calculations are based on invoice destinations. Our data may differ from the actual regional market trends
- **PAC20 (Promptly Activated Cost reduction 2020)**  
Our company-wide cost reduction project implemented in 2020



| Term                                     | Formula  |
|--|--|
| MAVYS                                    | ROIC - WACC  |
| ROIC                                     | $\text{NOPAT} \div \text{Capital investment}$  |
| Rate of return on capital investment     | $(\text{Ordinary income} + \text{Interest paid}) \div \text{Capital investment}$                         |
| Turnover rate of working capital         | $\text{Net sales} \div (\text{Accounts receivable} + \text{Inventory assets} - \text{Accounts payable})$ |
| 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 assets        | $\text{Net sales} \div \text{Inventory assets}$  |
| 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 | $\text{Net sales} \div \text{Intangible fixed assets}$   |
| Key Goal Indicator(KGI)                  | Current year: Cumulative total + Budget, Previous year: Annual actual results                            |
| Key Performance Indicator (KPI)          | Comparison of cumulative results   |

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

## STRENGTHS

- Overwhelming share of the market for construction machinery filters
- **Market share continues to grow as we introduce new materials**
- Advanced R&D capabilities
- Robust operation management based on PAC and MAVYS

## OPPORTUNITIES

- To increase our share in the growing Chinese market
- **To expand our business portfolio and evolve into a “comprehensive multi-field filter manufacturer” (focusing on air filters, YAMASHIN NANO FILTER™, and healthcare)**

## WEAKNESSES

- About 70% of net sales are from construction machinery filters
- Concerns about a shortage of human resources

## THREATS

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

Overcome these issues to evolve into a comprehensive filter manufacturer

Eliminate counterfeits by using new high-performance materials

### Growth business

Air filters

New material business line

Restructured business

STRATEGY MATRIX

### Core business (growing)

Filters for construction machinery

Core business (stable)

YAMASHIN is striving to achieve reasonable business continuity and improved work-life balance for employees while prioritizing the health and safety of business partners, shareholders, employees and their families with an eye on the post-pandemic world.

## Working arrangements: Continuing telecommuting, implementing work style reforms

Employees who show symptoms or have had contact with a confirmed case are prohibited from going to the office and are to follow medical advice. Through this we ensure employees' health and safety.

### ① Work system at overseas subsidiaries

Telecommuting is recommended for headquarters (Naka-ku, Yokohama-shi), the Yokohama Development Center (Isogo-ku, Yokohama-shi), the Yokosuka Media Lab (Yokosuka-shi), and AQC (Osaka-shi and Chuo-ku, Tokyo).

\* Guidance for telecommuting changed from mandatory to recommended as of June 1.

### ② Implementation of staggered commuting

To avoid crowded trains, employees' commuting hours are being staggered. Additionally, teams will work in shifts to avoid crowding at offices.

### ③ Flexible working arrangements at overseas affiliates

Adoption of flexible working arrangements subject to the infectious disease control measures mandated or recommended by the government.

### ④ Other

Hand sanitizers are placed at the entrance of every facility of our corporate group in order to ensure thorough disinfection.

Conferences and meetings must be held on-line.

Nonessential business trips both domestic and overseas are prohibited.

## Production system

Based on our BCP, production output has been adjusted at each facility (Cebu, Saga, Osaka, and Suzhou\*) and an alternate production/supply system has been established.

**Cebu Factory** Resumed operations, restored mass production

**Saga Factory** Commenced mass production of filter materials and masks

**Suzhou Factory** Normal operations

\*manufacturing outsourced  
**Osaka Factory (AQC)** Relocated main factory, strengthened production capacity, and commenced mask mass production

## Impact on business performance

Countries are seeking ways both to resume economic activity and to prevent the spread of the virus. The outlook remains uncertain, but the construction machinery market is recovering.

### Trends in the construction machinery market

#### Chinese market

Economic activity is resuming. Further growth in the construction machinery market is expected with increasing government-led public investments.

[The production plans of major Chinese clients continue to expand.](#)

#### Japan/US/Europe/Asia market

While the outlook remains uncertain, production at major clients is recovering, with economic activity resuming in stages.



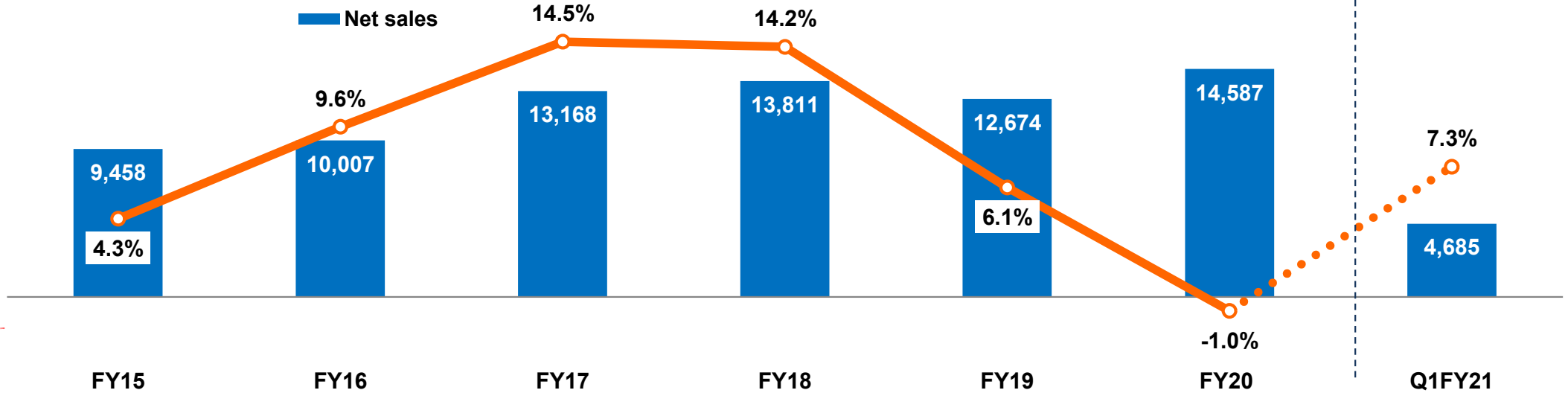
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REFERENCE MATERIALS

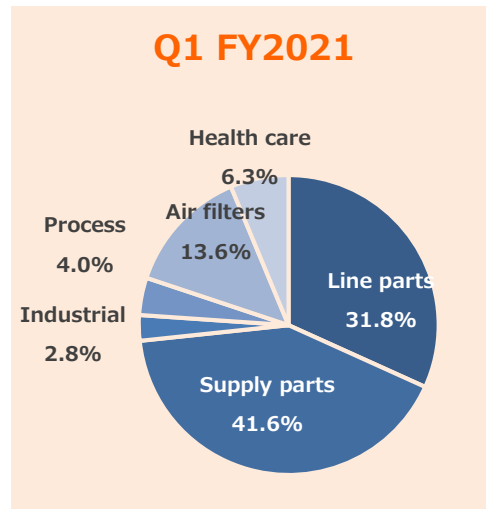
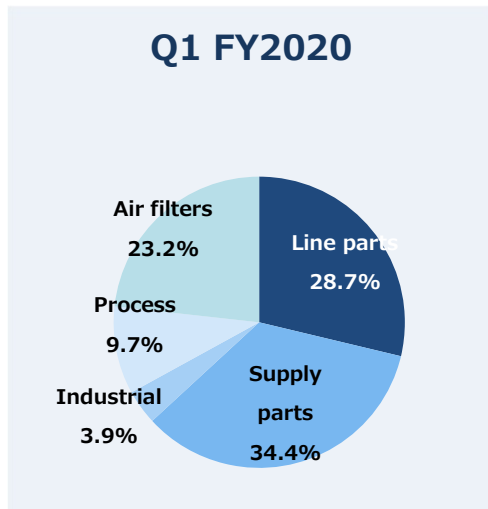
③ FINANCIAL HIGHLIGHTS

## Net sales, Operating income

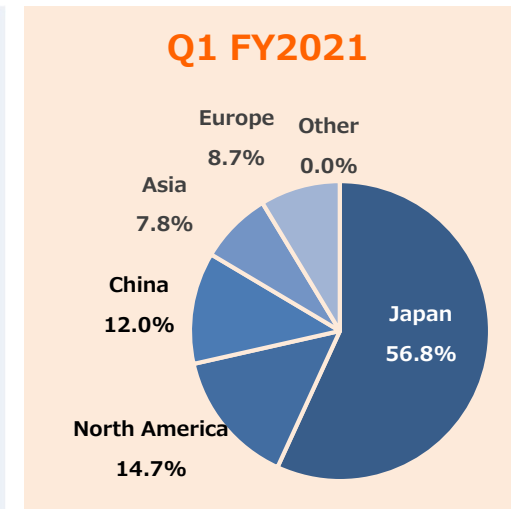
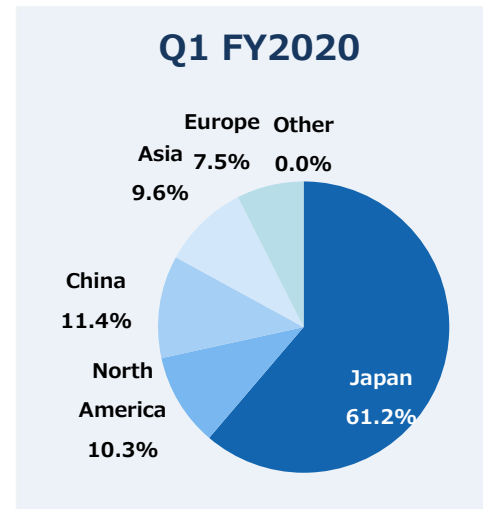
(Unit: million yen)



## Sales breakdown by product category

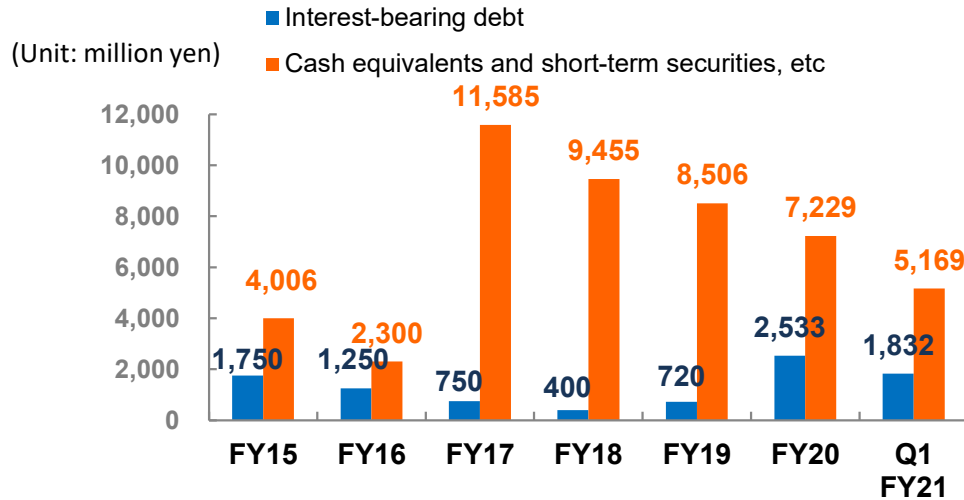


## Sales breakdown by region

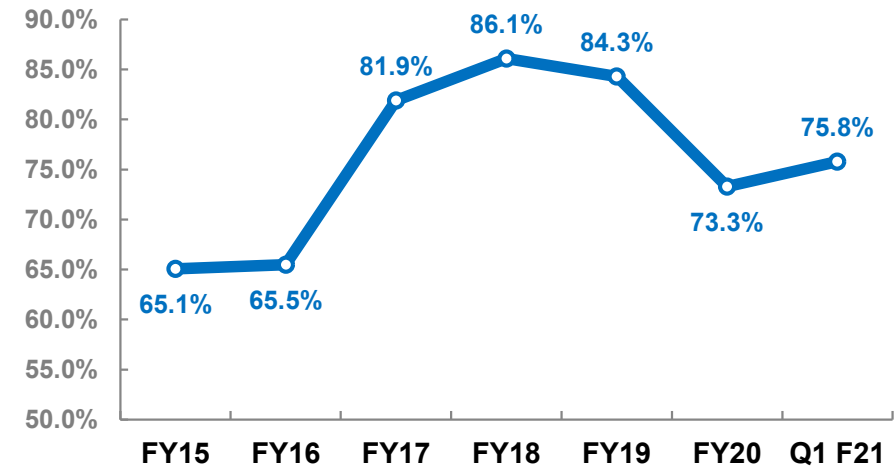




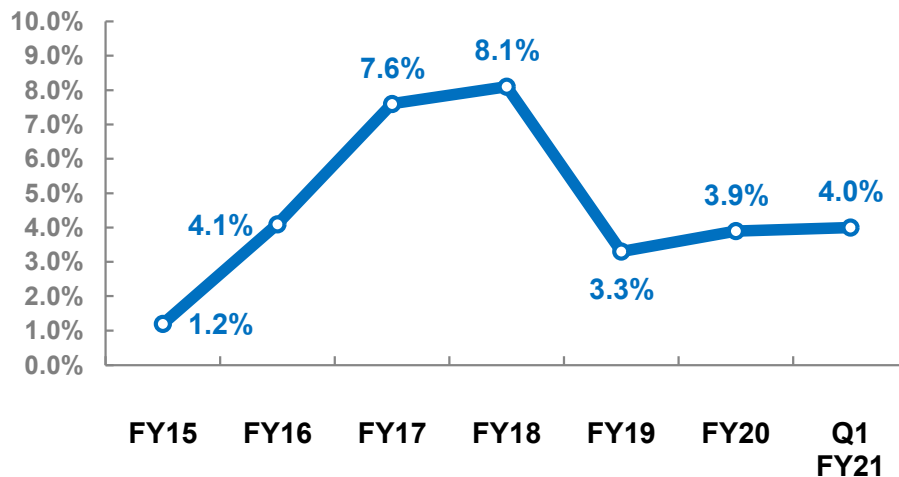
## Interest-bearing debt, Cash equivalents, Short-term securities, etc.



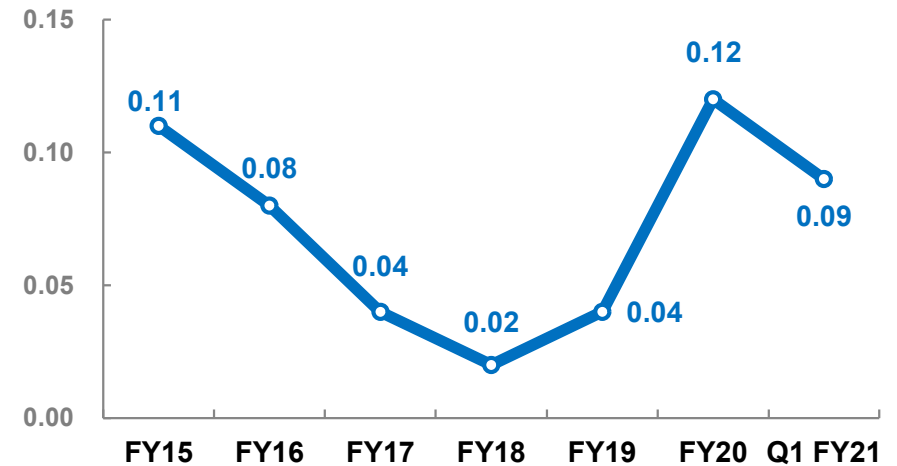
## Shareholders' equity ratio



## ROE



## D/E ratio



• Calculated based on the assumption that the capital increase through third-party allotment in FY2017 was implemented in FY15.

• Calculated based on the assumption that the capital increase through third-party allotment in FY2017 was implemented in FY15.

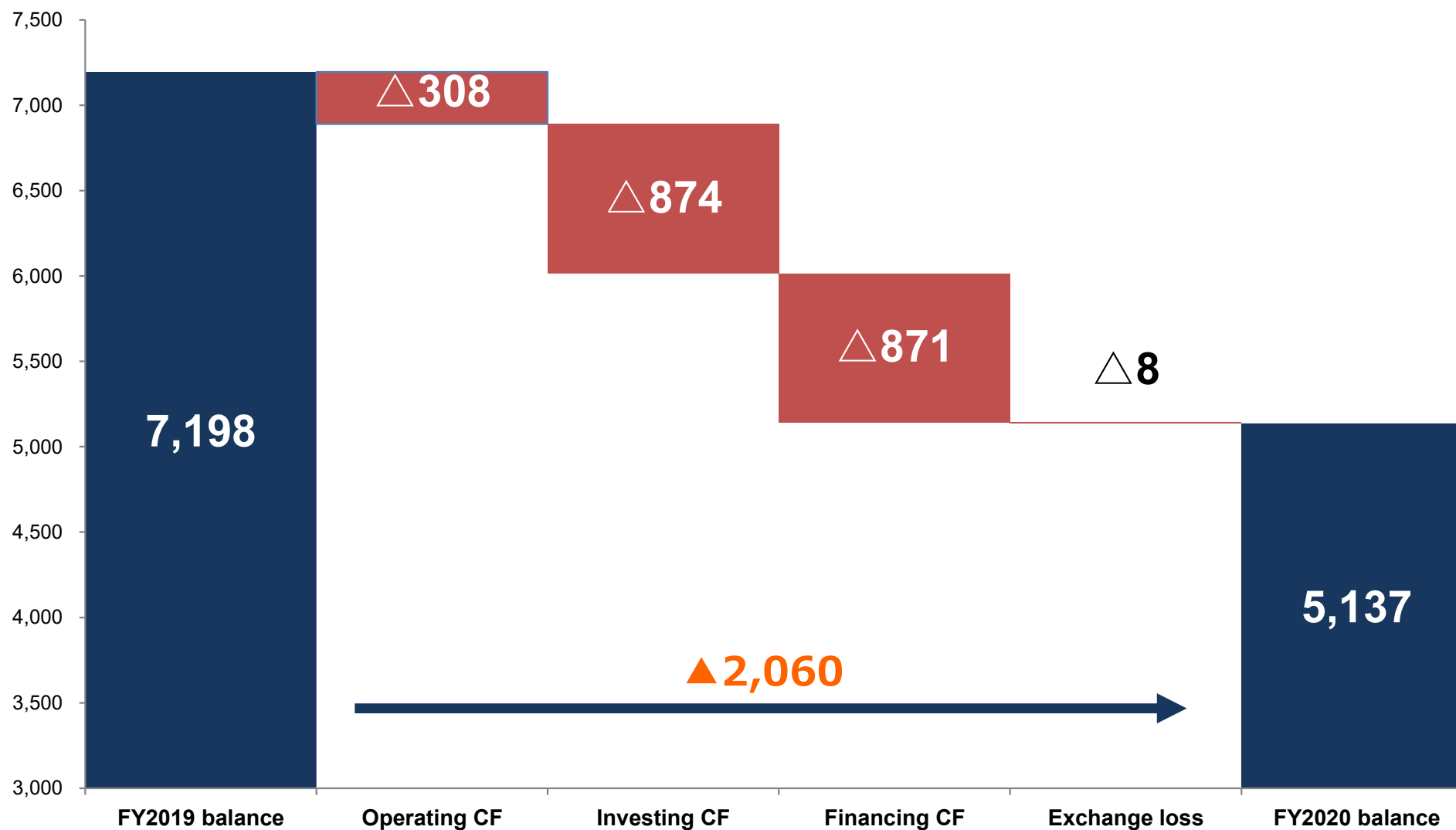
(Unit: million yen)

|  | FY2020 | FY2021 | Change<br>(Amount) | Change<br>(%) |
|--|--------|--------|--------------------|---------------|
| <b>Current assets</b>                                      | 15,323 | 14,093 | △1,229             | △8.0%         |
| Cash and deposits  | 7,229  | 5,169  | △2,060             | △28.5%        |
| Notes and accounts receivable-trade                        | 4,285  | 4,623  | 337                | 7.9%          |
| Merchandise and finished goods, Raw materials and Supplies | 3,021  | 3,549  | 527                | 17.4%         |
| Other  | 785    | 752    | △33                | △4.3%         |
| <b>Fixed assets</b>  | 12,868 | 13,187 | 318                | 2.5%          |
| Tangible fixed assets                                      | 10,813 | 11,172 | 359                | 3.3%          |
| Intangible fixed assets                                    | 330    | 304    | △25                | △7.7%         |
| Investments and other assets                               | 1,724  | 1,709  | △3                 | △0.2%         |
| <b>Total assets</b>  | 28,191 | 27,280 | △910               | △3.2%         |

|  | FY2020 | FY2021 | Change<br>(Amount) | Change<br>(%) |
|--|--------|--------|--------------------|---------------|
| <b>Current liabilities</b>   | 5,539  | 4,755  | △784               | △14.2%        |
| Notes and accounts payable-trade                                     | 1,952  | 2,936  | 983                | 50.3%         |
| Corporate bonds payable within one year and short-term loans payable | 1,003  | 403    | △600               | △59.8 %       |
| Other  | 2,583  | 1,415  | △1,167             | △45.2%        |
| <b>Fixed liabilities</b>   | 1,969  | 1,850  | △118               | △6.0%         |
| Corporate bonds and long-term debt                                   | 1,529  | 1,428  | △100               | △6.6%         |
| Net defined benefits Liability                                       | 225    | 215    | △9                 | △4.4%         |
| Other  | 214    | 206    | △7                 | △3.7%         |
| <b>Total net assets</b>  | 20,682 | 20,674 | △7                 | △0.0%         |
| <b>Total of liabilities and net assets</b>                           | 28,191 | 27,280 | △910               | △3.2%         |

\*Shareholders' equity ratio      73.3%      75.7%

(Unit: million yen)

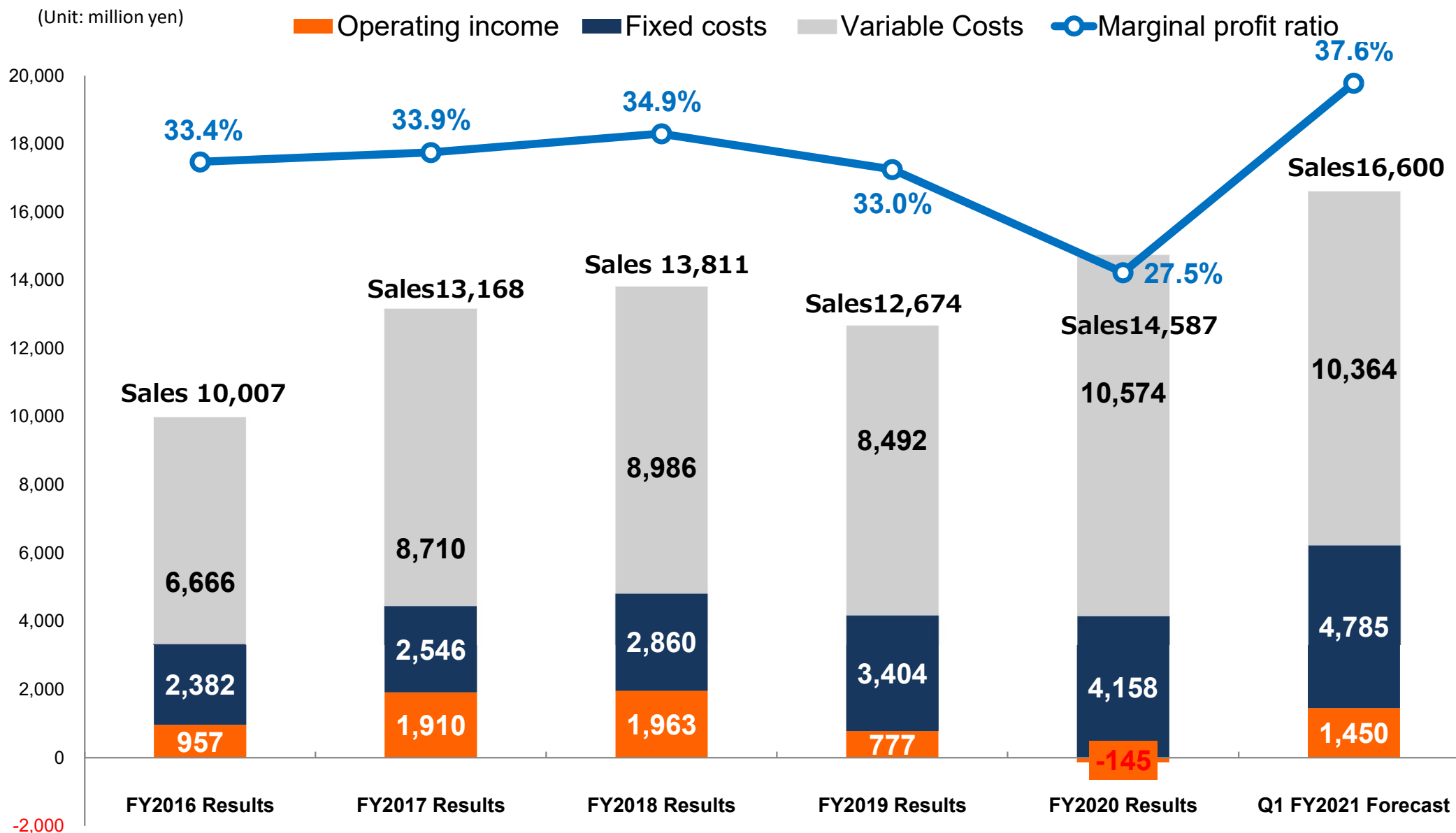


# Conditions of Operational Hedge – “Marry and Netting” and Foreign Exchange Sensitivity

(unit: million yen)

| Currency     | Incoming           |                   | Outgoing           |                   | Net                | Average rate during the term (JPY) | In case of yen appreciation (10%) |            |                       | In case of yen depreciation (10%) |            |                       |
|--------------|--------------------|-------------------|--------------------|-------------------|--------------------|------------------------------------|-----------------------------------|------------|-----------------------|-----------------------------------|------------|-----------------------|
|              | Amount by currency | Composition ratio | Amount by currency | Composition ratio | Amount by currency |                                    | If yen is appreciated ▲10% (JPY)  | Difference | Affected amount (QTD) | If yen is depreciated +10% (JPY)  | Difference | Affected amount (QTD) |
| JPY          | ¥5,100.0           | 75%               | ¥6,400.0           | 74%               | ¥-1,300.0          | -                                  | -                                 | -          | -                     | -                                 | -          | -                     |
| USD          | \$13.0             | 21%               | \$15.3             | 19%               | -\$2.3             | ¥109.5                             | ¥98.55                            | ¥-10.95    | ¥25.19                | ¥120.45                           | ¥10.95     | ¥-25.19               |
| EUR          | € 1.3              | 3%                | € 1.1              | 2%                | € 0.2              | ¥132.0                             | ¥118.76                           | ¥-13.2     | ¥-2.64                | ¥145.16                           | ¥13.20     | ¥2.64                 |
| PHP          | PP0.0              | 0%                | PP177.4            | 5%                | PP-177.4           | ¥2.3                               | ¥2.04                             | ¥-0.2      | ¥40.27                | ¥2.50                             | ¥0.23      | ¥-40.27               |
| THB          | ฿20.60             | 1%                | ฿2.80              | 0%                | ฿17.80             | ¥3.5                               | ¥3.15                             | ¥-0.4      | ¥-6.23                | ¥3.85                             | ¥0.35      | ¥6.23                 |
| <b>Total</b> | -                  | <b>100%</b>       | -                  | <b>100%</b>       | -                  | -                                  | -                                 | -          | ¥56.59                | -                                 | -          | ¥-56.59               |

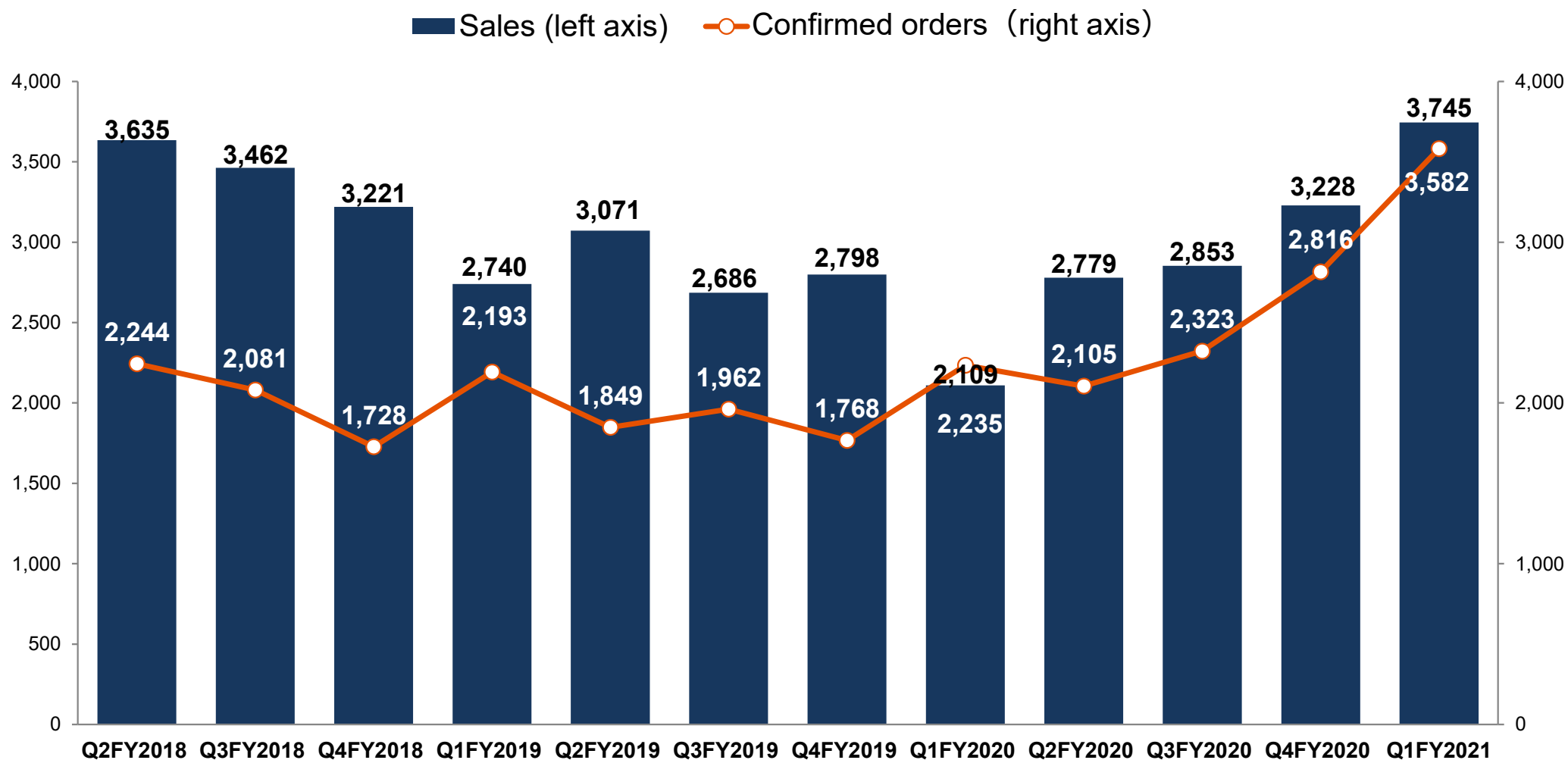
# Variation in Marginal Profit Ratio





# YAMASHIN Construction Machinery Filters Sales and Confirmed Orders of (Quarterly)

(Unit: million yen)



| (million yen)                         | Q1 FY2020 Results |        | Q1 FY2021 Results |        | YoY change |   |
|---------------------------------------|-------------------|--------|-------------------|--------|------------|---|
|                                       | Amount            | Amount | Amount            | Amount | %          | % |
| <b>Net sales</b>                      | 2,858             | 4,685  | 1,827             | 63.9%  |            |   |
| Construction machinery filters, etc.* | 2,194             | 3,752  | 1,558             | 71.0%  |            |   |
| Air filters                           | 663               | 637    | △26               | △3.9%  |            |   |
| Healthcare                            | -                 | 295    | 295               | -      |            |   |
| <b>Operating income</b>               | △98               | 341    | 439               | -      |            |   |
| Construction machinery filters*       | △144              | 478    | 623               | -      |            |   |
| Air filters                           | 45                | 26     | △72               | -      |            |   |
| Healthcare                            | -                 | △111   | △111              | -      |            |   |
| <b>Operating income margin</b>        | △3.4%             | 7.3%   | -                 |        |            |   |
| Ordinary profit                       | △101              | 334    | 436               | -      |            |   |
| <b>Ordinary profit margin</b>         | △3.6%             | 7.1%   | -                 |        |            |   |
| Net income                            | △82               | 208    | 291               | -      |            |   |
| <b>Net income margin</b>              | △2.9%             | 4.4%   | -                 |        |            |   |
| Exchange rates (ave.)                 | USD               | 107.6  | 109.5             | 1.9    | 1.7%       |   |
|                                       | EUR               | 118.5  | 132.0             | 13.5   | 11.4%      |   |

\*“Construction machinery filters, etc.” here includes industrial filters and process filters in addition to construction machinery filters.

\* The company has changed how it allocates corporate expenses, with the goal of more accurately representing segment results and corporate expenses. Specifically, the head office’s general and administrative expenses and other corporate expenses not attributable to individual business segments are no longer allocated to specific segments.

| (million yen)                  |                                 | FY2019 Results | FY2020 Results | FY2021 Forecast | YoY Change   |
|--------------------------------|---------------------------------|----------------|----------------|-----------------|--------------|
|                                |                                 | Amount         | Amount         | Amount          | Amount       |
| <b>Net sales</b>               |                                 | 12,674         | 14,587         | 16,600          | 2,012        |
|                                | Construction machinery filters* | 11,296         | 10,970         | 12,000          | 1,029        |
|                                | Air filters                     | 1,377          | 2,607          | 3,000           | 392          |
|                                | Healthcare                      | -              | 1,009          | 1,600           | 590          |
| <b>Operating income</b>        |                                 | 777            | △145           | 1,500           | 1,645        |
|                                | Construction machinery filters* | 654            | 22             | 960             | 937          |
|                                | Air filters                     | 122            | △18            | 300             | 318          |
|                                | Healthcare                      | -              | △150           | 240             | 390          |
| <b>Operating income margin</b> |                                 | <b>6.1%</b>    | <b>△1.0%</b>   | <b>9.0%</b>     | -            |
|                                | Ordinary profit                 | 603            | △135           | 1,470           | 1,605        |
| <b>Ordinary profit margin</b>  |                                 | <b>4.8%</b>    | <b>△0.9%</b>   | <b>8.9%</b>     | -            |
|                                | Net income                      | 608            | 750            | 960             | 209          |
| <b>Net income margin</b>       |                                 | <b>4.8%</b>    | <b>5.1%</b>    | <b>5.8%</b>     | <b>0.6Pt</b> |

|                     |     |       |       |       |       |
|---------------------|-----|-------|-------|-------|-------|
| Exchange rate (JPY) | USD | 108.8 | 106.1 | 105.0 | △1.0% |
|                     | EUR | 120.8 | 123.7 | 125.0 | 1.0%  |

\*Construction machinery filters” includes industrial filters and process filters, in addition to construction machinery filters.

\* The company has changed how it allocates corporate expenses, with the goal of more accurately representing segment results and corporate expenses. Specifically, the head office’s general and administrative expenses and other corporate expenses not attributable to individual business segments are no longer allocated to specific segments.

The Specialist in Filtration  
**YAMASHIN** 



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実際の業績は市場動向や業績情勢等の様々な要因等によって異なる可能性があります

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