



**Harmonic Drive Systems Inc.**

***Harmonic Drive Systems Inc.***

# Financial Results for the Fiscal Year Ended March 31, 2024

May 20, 2024

This presentation contains forward-looking statements relating to expected future performance as of May 20, 2024. Such statements are based on the views and assumptions of company management and involve risks and uncertainties such as changes in the business environment that may cause the actual results to differ materially from expectations.



# Performance Summary for FY 2024/3

# Consolidated results for FY 2024/3 (versus original forecasts)

(millions of yen)

	Forecast (announced Nov 9, 2023)		FY 2024/3 (actual)		Vs. original forecasts	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	55,000	100.0	55,796	100.0	796	1.4
Operating income	▲400	—	124	0.2	524	—
Ordinary income	▲200	—	570	1.0	770	—
Net income	▲800	—	▲24,806	—	▲24,006	—
EPS (yen)	▲8.41	—	▲261.00	—	▲252.58	—

\*Net income refers to net income attributable to owners of parent.

# Consolidated results for FY 2024/3 (year-on-year change)

(millions of yen)

	FY2023/3		FY 2024/3		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	71,527	100.0	55,796	100.0	▲15,730	▲22.0
Operating income	10,224	14.3	124	0.2	▲10,100	▲98.8
Ordinary income	10,757	15.0	570	1.0	▲10,187	▲94.7
Net income	7,595	10.6	▲24,806	—	▲32,402	—
EPS (yen)	79.67	—	▲261.00	—	▲340.67	—
Capital investment	9,236	—	4,955	—	▲4,280	▲46.3
Depreciation costs	9,574	—	10,362	—	787	8.2
R&D costs	3,274	—	3,613	—	339	10.4

\*Net income refers to net income attributable to owners of parent.

\*Depreciation costs include depreciation cost of tangible assets and amortization cost of intangible assets and goodwill.

# Performance of main group companies in FY 2024/3

(millions of yen)		Equity stake	Net sales		Net income	
			Amount	Year-on-year change (%)	Amount	Year-on-year change (%)
※2	HD Systems, Inc. (Harmonic Drive L.L.C.) (U.S.A)	100% (100%)	13,303	22.3	1,741	21.7
	Harmonic AD, Inc	100% (100%)	1,922	▲16.9	▲55	—
	Harmonic Precision Inc.	100%	2,108	▲59.9	▲802	—
※3	Harmonic Drive Systems (Shanghai) Co., Ltd.	100%	4,295	▲11.6	422	19.1
※4	Harmonic Drive SE (Germany)	100%	16,741	4.9	1,989	▲5.6

\*1 For overseas subsidiaries, the fiscal year ends December 31.

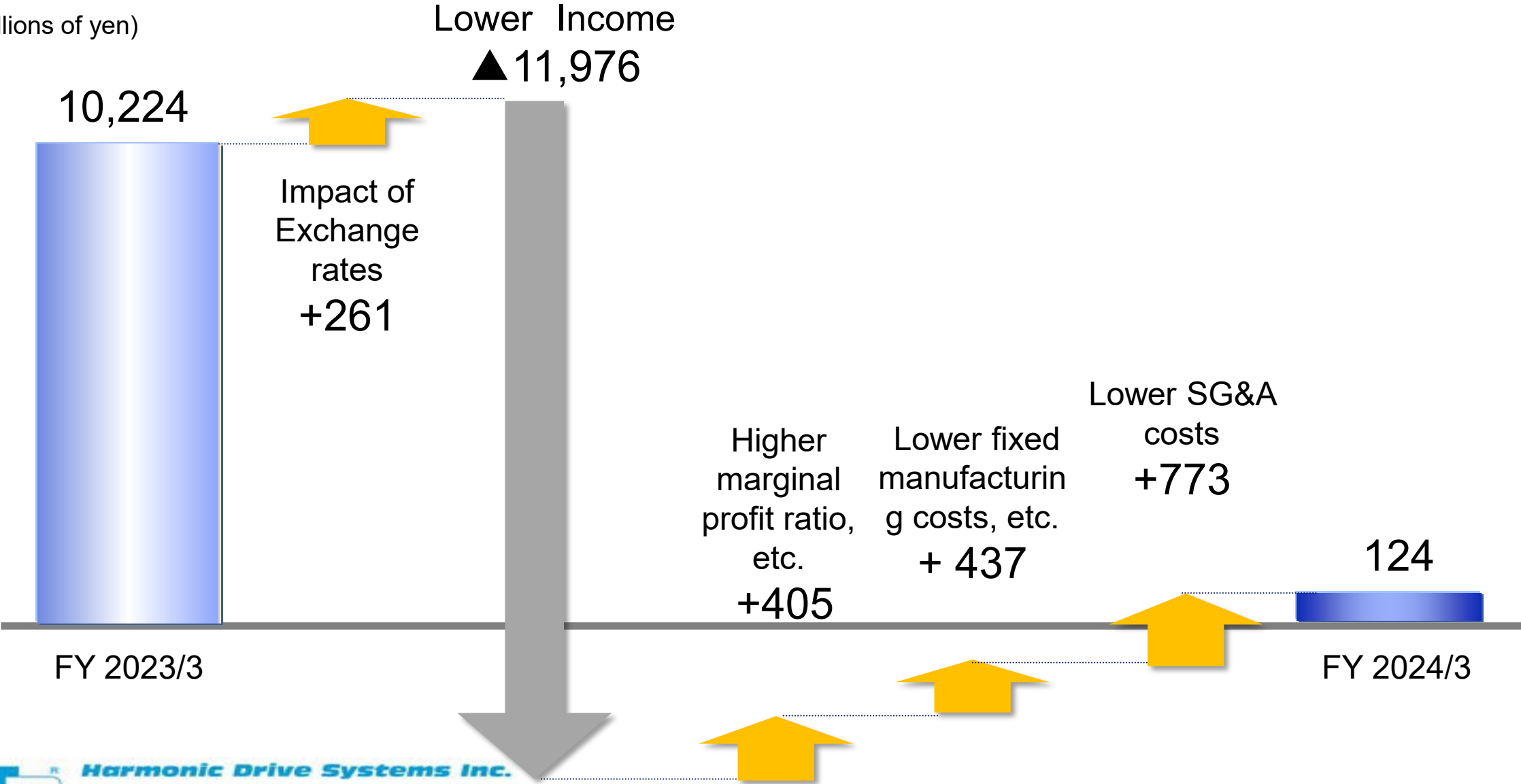
\*2 Exchange rates: FY 22/12 1USD = 131.43 yen, FY 23/12 1USD = 140.56 yen

\*3 Exchange rates FY 22/12 1CNY = 19.48 yen, FY 23/12 1CNY = 19.82 yen

\*4 Exchange rates FY 22/12 1EUR = 138.04 yen, FY 23/12 1EUR = 152.00 yen

# Factors in year-on-year change in consolidated operating income (FY2024/3)

(millions of yen)



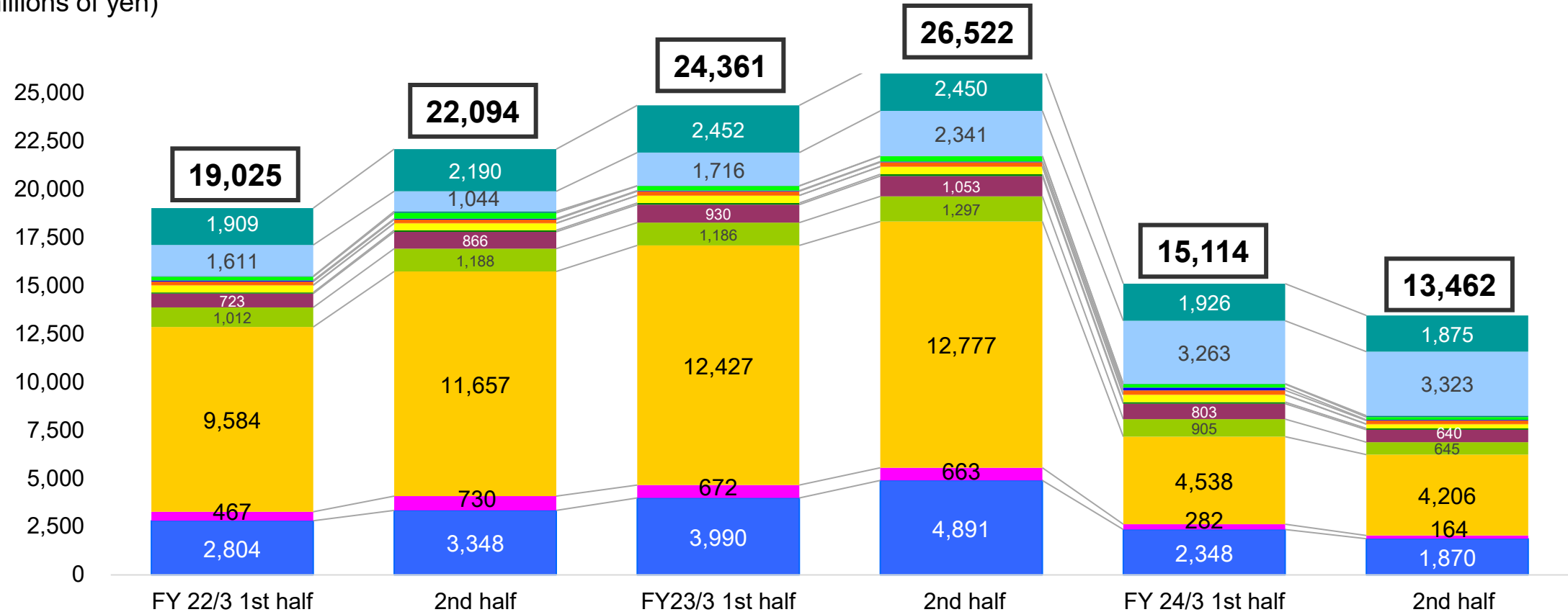
# Non-consolidated results for FY 2024/3(year-on-year change)

(millions of yen)

	FY 2023/3		FY 2024/3		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	50,883	100.0	28,577	100.0	▲22,306	▲43.8
Operating income	8,927	17.5	▲542	—	▲9,470	—
Ordinary income	9,378	18.4	2,288	8.0	▲7,089	▲75.6
Net income	6,880	13.5	▲18,460	—	▲25,341	—
EPS (yen)	72.17	—	▲194.23	—	▲266.40	—
Capital investment	7,557	—	3,275	—	▲4,282	▲56.7
Depreciation costs	4,408	—	4,761	—	353	8.0
R&D costs	2,430	—	2,327	—	▲102	▲4.2

# Non-consolidated net sales by application (half-yearly)

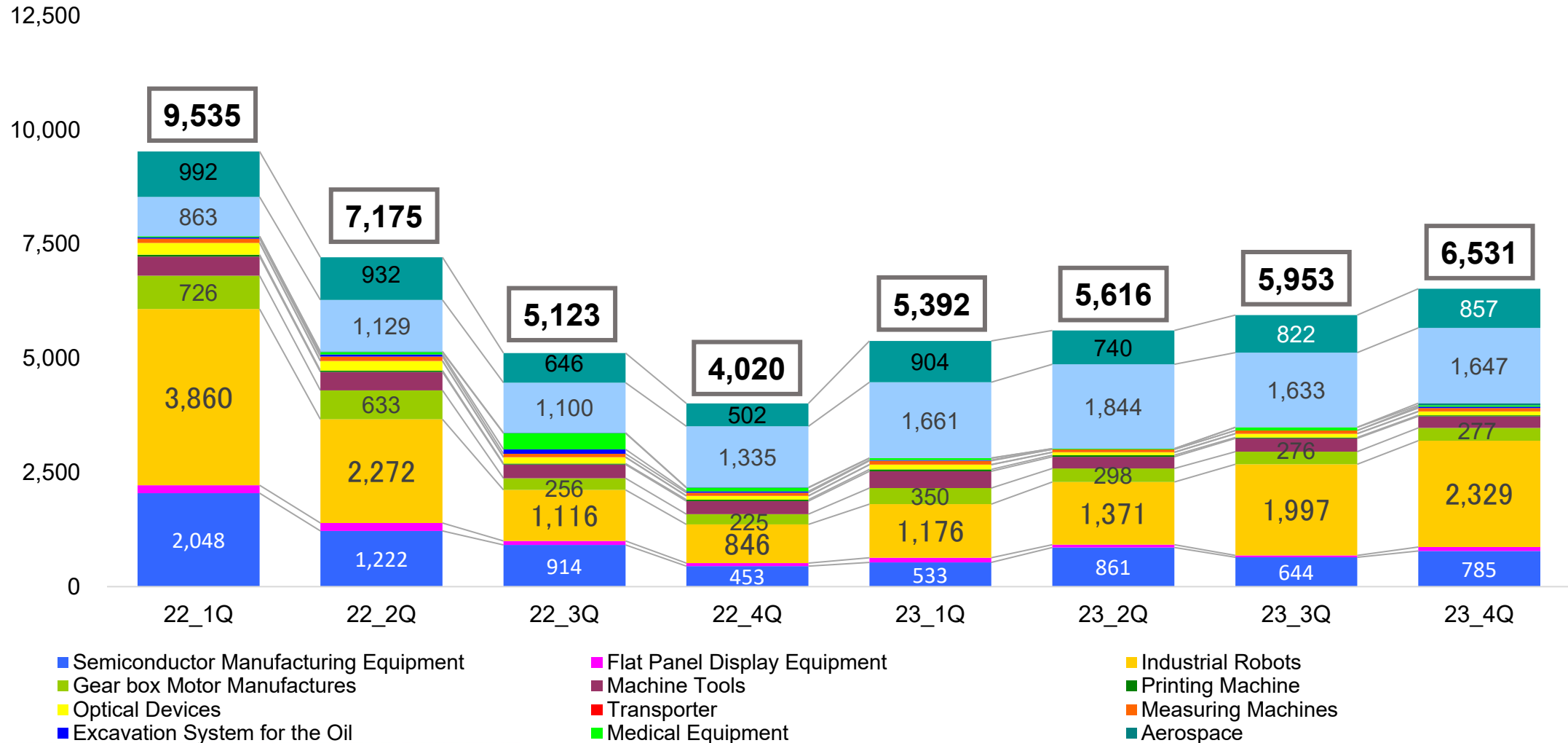
(millions of yen)





# Non-consolidated bookings by application (quarterly)

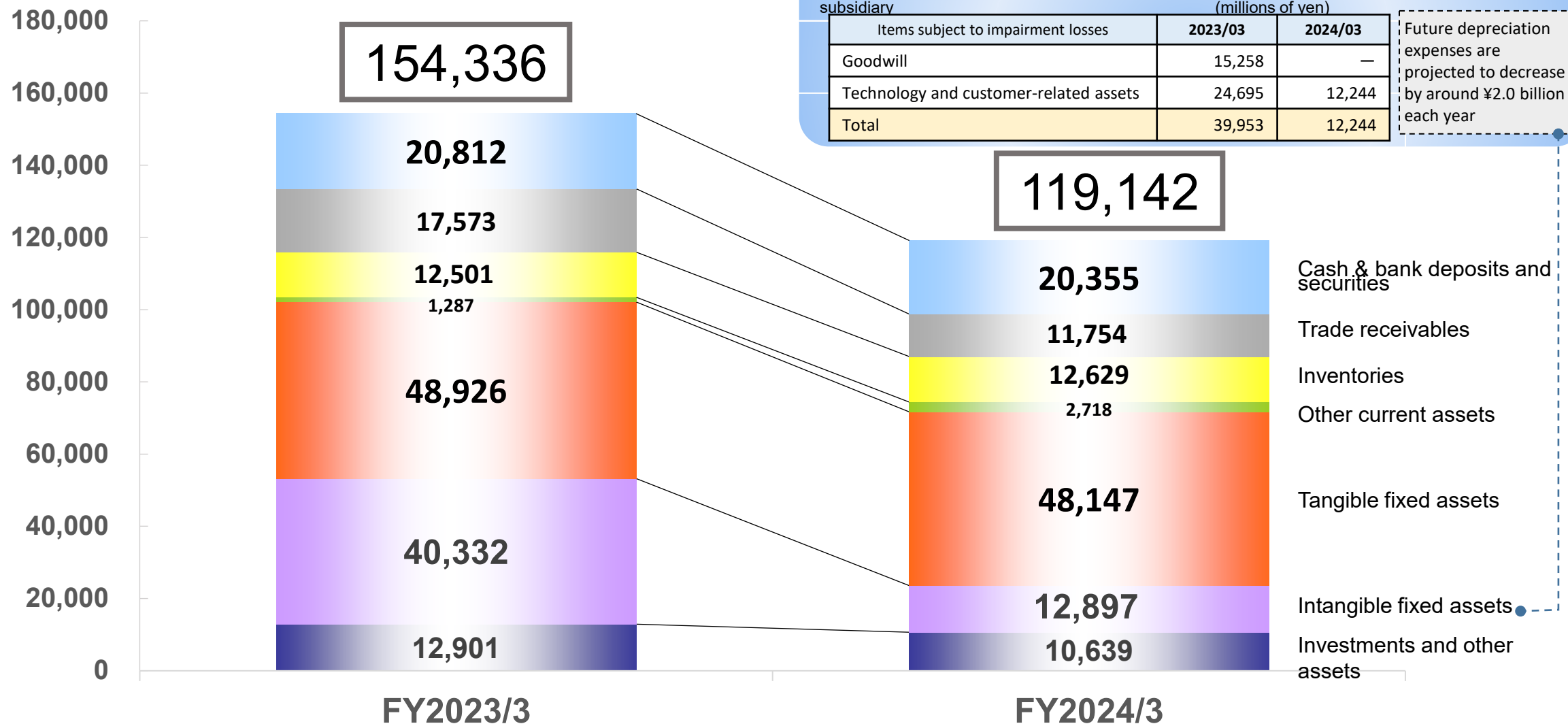
(millions of yen)



Harmonic Drive Systems Inc.  
ハーモニック・ドライブ・システムズ

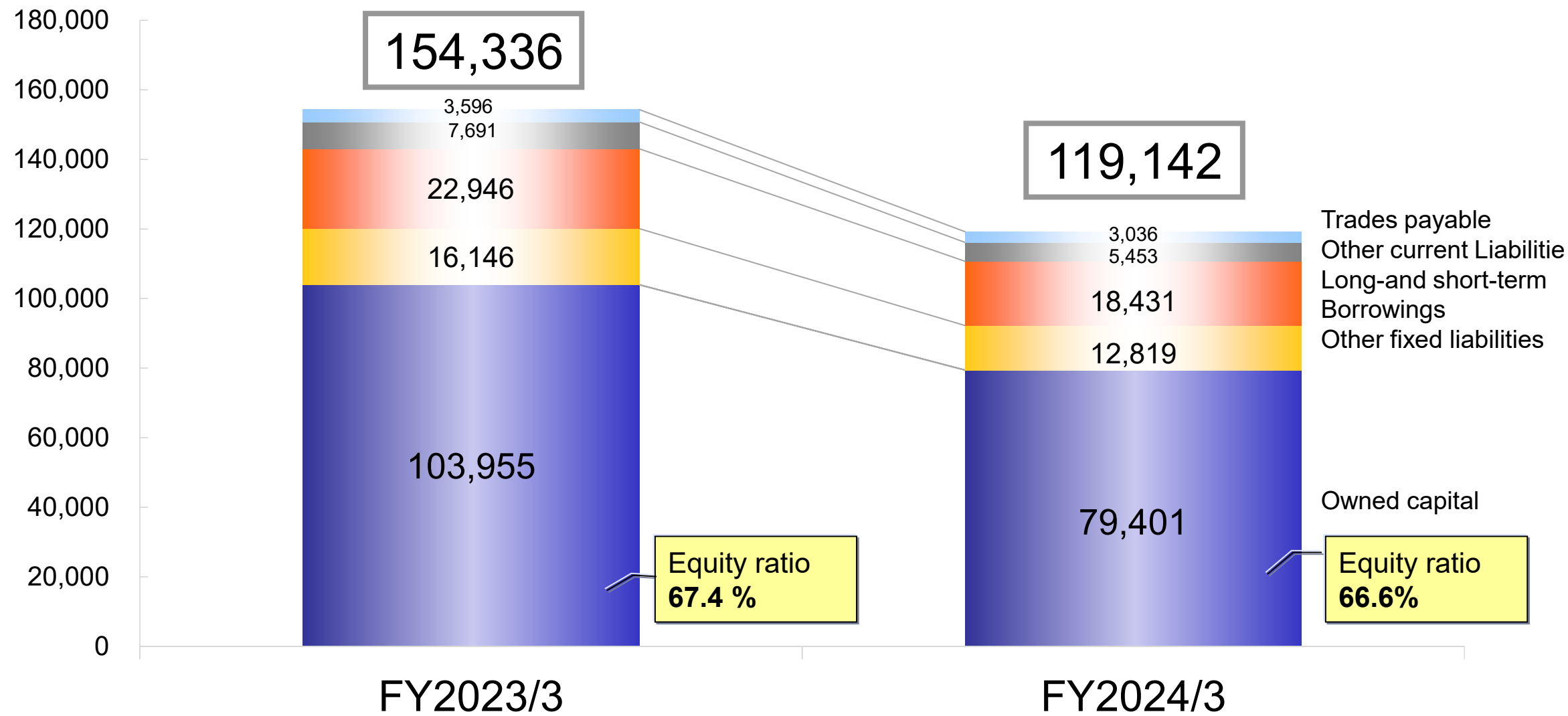
# Status of consolidated assets

(millions of yen)



# Status of consolidated liabilities and net assets

(millions of yen)



# Status of consolidated cash flows

(millions of yen)

	FY2023/3	FY2024/3
Cash flow from operating activities	10,850	12,728
Cash flow from investing activities	▲ 8,663	▲ 5,950
Cash flow from financing activities	▲ 1,599	▲ 8,122
Effect of exchange rate changes on cash and cash equivalents	567	363
Net increase (decrease) in cash and cash equivalents	1,154	▲ 980
Cash and cash equivalents at end of year	19,921	18,941

# Performance Forecasts for FY 2025/3

# Consolidated performance forecast for fiscal year ending March 31, 2025

(millions of yen)

	FY2024/3		FY2025/3 forecasts		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	55,796	100.0	58,500	100.0	2,703	4.8
Operating income	124	0.2	2,700	4.6	2,575	—
Ordinary income	570	1.0	2,700	4.6	2,129	373.4
Net income	▲24,806	—	2,000	3.4	26,806	—
EPS (yen)	▲261.00	—	21.06	—	282.05	—
Capital investment	4,955	—	12,000	—	7,044	142.2
Depreciation costs	10,362	—	7,500	—	▲2,862	▲27.6
R&D costs	3,613	—	3,900	—	286	7.9

※ Assumed exchange rate for FY25/3 forecasts 1USD = ¥142.00 1EUR = ¥152.50 1CNY = ¥20.00

※Net income refers to net income attributable to owners of parent.

※Depreciation costs include depreciation cost of tangible assets and amortization cost of intangible assets and goodwill.

# Non-Consolidated performance forecast for fiscal year ending March 31, 2025

	FY2024/3		FY2025/3 forecasts		Year-on-year change	
	Amount	Percent (%)	Amount	Percent (%)	Change	Rate (%)
Net sales	28,577	100.0	34,000	100.0	5,422	19.0
Operating income	▲542	—	600	1.8	1,142	—
Ordinary income	2,288	8.0	600	1.8	▲1,688	▲73.8
Net income	▲18,460	—	450	1.3	18,910	—
EPS (yen)	▲194.23	—	4.74	—	198.97	—
Capital investment	3,275	—	10,500	—	7,224	220.5
Depreciation costs	4,761	—	4,500	—	▲261	▲5.5
R&D costs	2,327	—	2,500	—	172	7.4

※ Assumed exchange rate for FY25/3 forecasts 1USD = ¥142.00 1EUR = ¥152.50 1CNY = ¥20.00

※ Depreciation costs include depreciation cost of tangible assets and amortization cost of intangible assets and goodwill.

# Forecasts of main group companies for fiscal year ending March 31, 2025

(millions of yen)

		Equity stake	Net sales		Operating income	
			Amount	Year-on-year change (%)	Amount	Year-on-year change (%)
	HD Systems, Inc. (Harmonic Drive L.L.C) (U.S.A)	100% (100%)	12,000	▲9.8	1,000	▲42.6
※2	Harmonic AD, Inc.	100%	2,300	19.6	1	—
	Harmonic Precision Inc.	100%	3,600	70.8	▲240	—
※3	Harmonic Drive Systems (Shanghai) Co., Ltd.	100%	3,100	▲27.8	130	▲69.2
※4	Harmonic Drive SE (Germany)	100%	16,780	0.2	2,000	0.5

\*1 For overseas subsidiaries and affiliates, the fiscal year ends December 31.

\*2 Exchange rates: Jan. – Dec., 2023 1USD = 140.56 yen, Jan. – Dec., 2024 forecast 1USD = 142.00 yen

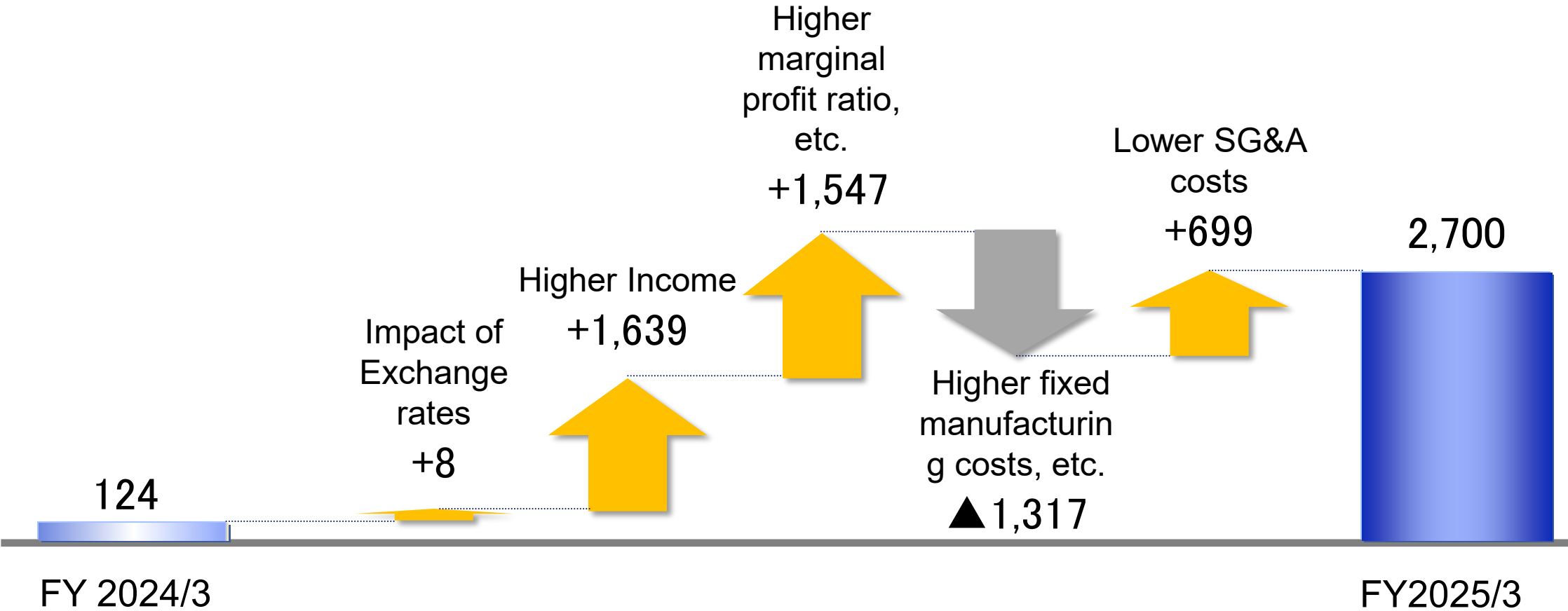
\*3 Exchange rates: Jan. – Dec., 2023 1CNY = 19.82 yen, Jan. – Dec., 2024 forecast 1CNY = 20.00 yen

\*4 Exchange rates: Jan. – Dec., 2023 1EUR = 152.00 yen, Jan. – Dec., 2024 forecast 1EUR = 152.50 yen



# Factors in year-on-year change in consolidated operating income (FY 2025/3)

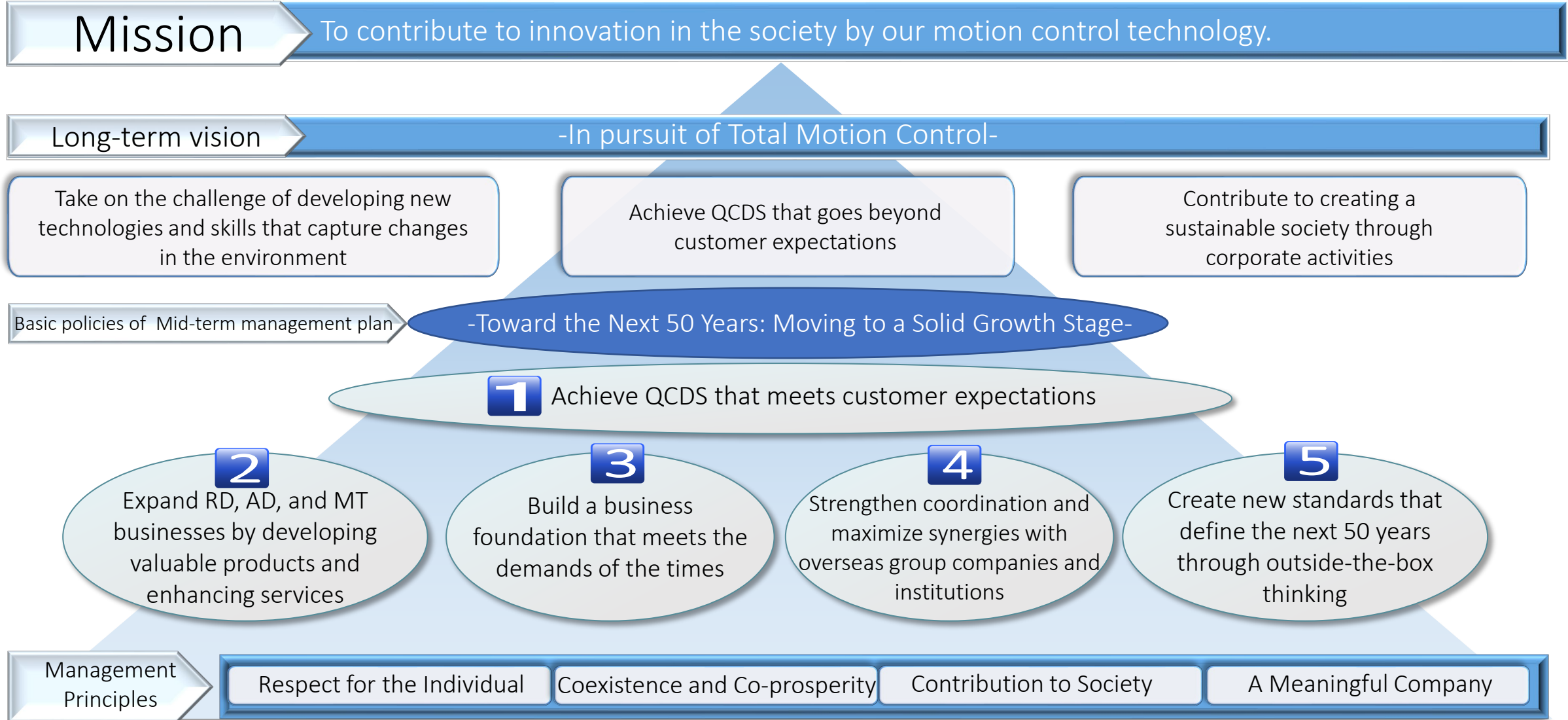
(millions of yen)



# Future Outlook

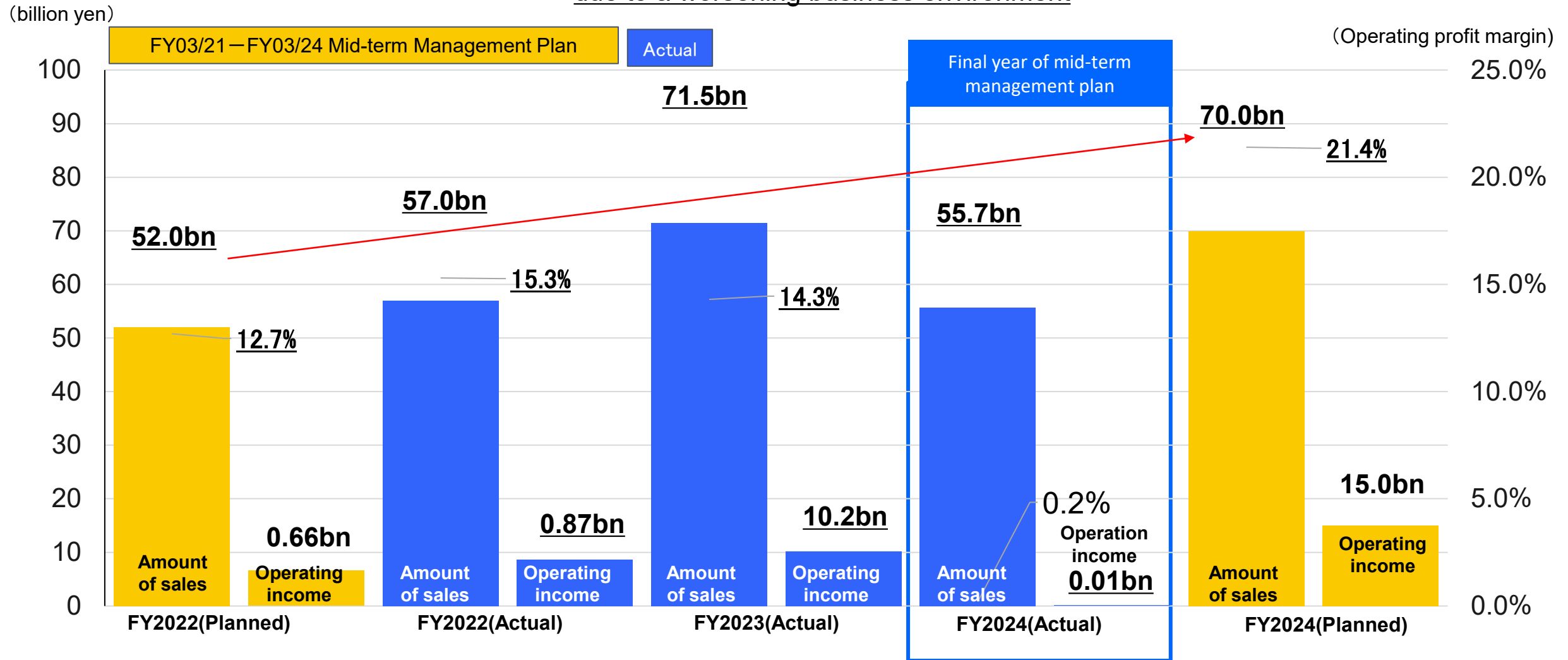
# 1. Looking Back at the Previous Mid-term Management Plan (fiscal years 2021-2023)

# 1-1. Mission, Long-term vision and Basic policies of Mid-term management plan



# 1-2. Consolidated net sales and operating income [mid-term targets vs. results]

Results finished significantly below target in the final year of our mid-term management plan  
due to a worsening business environment



# 1-3. Initiatives to prepare for next period of demand growth

## FY2021–FY2022

### 【Investment in production】

- Expand production capacity at Ariake Plant  
(industrial machinery 40,000 units, automotive 30,000 units)
- ➡ Productivity per worker improved by more than double compared to original production lines
- Promote digital transformation (DX) at the plant

## FY2023

### 【Investment in human resources】

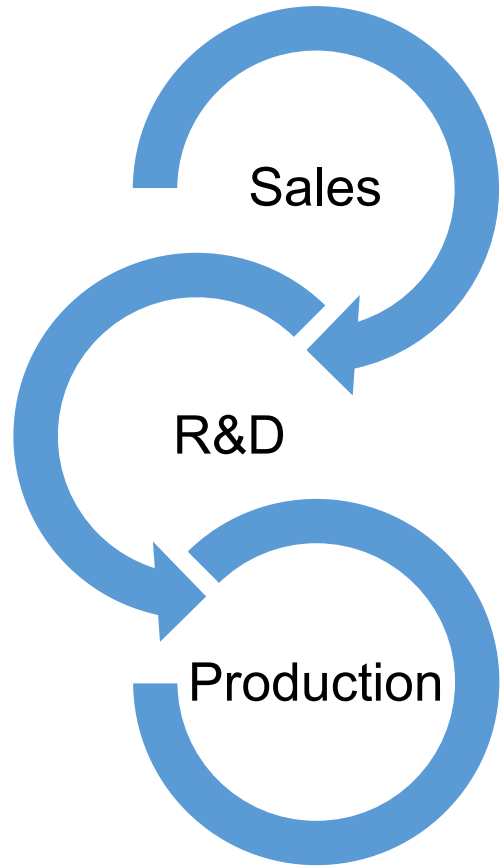
- Improve operations with a focus on optimization
- Promote training of multi-skilled workers
- Further enhance worker skills

## FY2024 onward

### 【Investment outcomes: Period of demand growth】

- Improved delivery capabilities
- Enhanced productivity (Ariake Plant: Threefold or higher increase in productivity per worker compared to original production lines)
- Sustainable supply chain structure and quality during production expansion period

# 1-4. Enhancing capabilities to respond to challenges addressed by customers



## FY2021–FY2023

- ✓ **Identify new needs**
- ✓ **Absorb insights from different industries, advisors, and external research institutions**
- ✓ **Develop new products using the latest lightweight technology and manufacturing technology**
- ✓ **Develop Harmonic Drive® with a built-in torque sensor**
- ✓ **Adopt local contents**
- ✓ **Maintain and improve “universal quality”**

## FY2024 onward

- ✓ **Ensure contributions from new applications to sales**

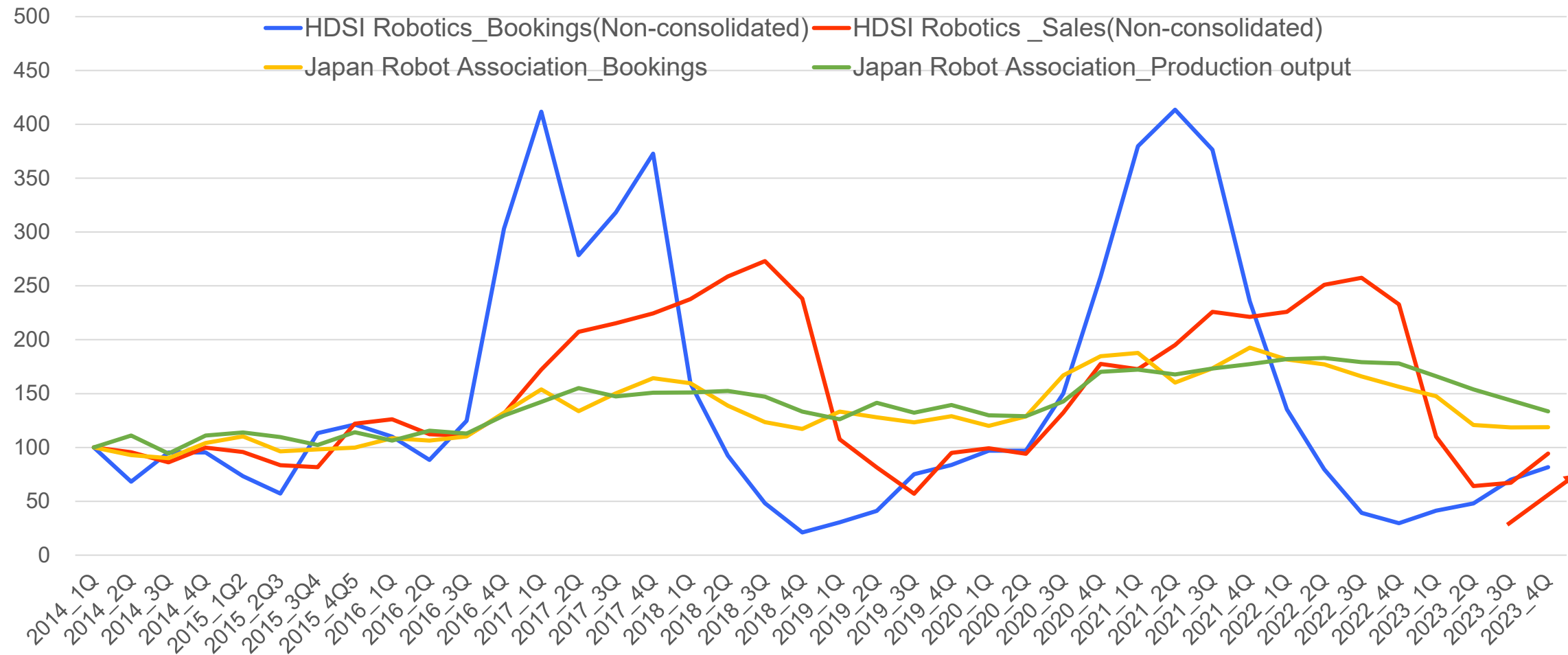
## 2. Current business environment



# 2-1. HDSI bookings and net sales vs. Japan Robot Association bookings and production output

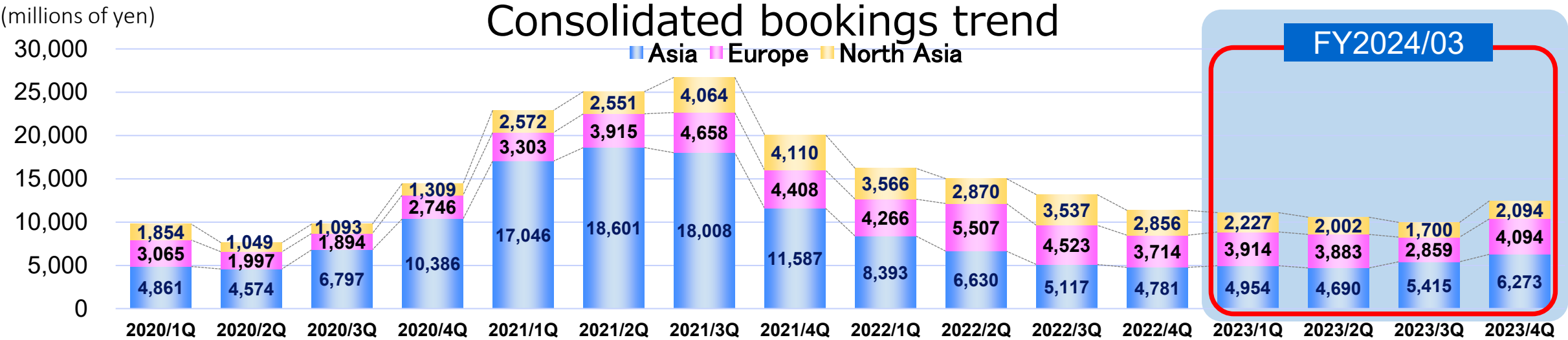
Quarterly trend with  
Q1 2014 indexed at 100

Gap between our bookings and net sales is dissipating



# 2-2. Demand for HDSI's products

- While bookings adjustments at domestic customers have hit a major bottom ...
- Robot manufacturers have suffered unexpected delays in clearing inventories due to stagnation in the Chinese market



- Asia

Bookings have recovered as buildups in customer inventories have been eliminated
- Europe

Bookings increased in Q4, supported by bulk orders from some customers
- North America

Bookings for the medical market are strong, while orders for semiconductor manufacturing equipment are showing signs of a partial recovery

## 2-3. Factory automation robot market forecast

Labor  
shortages

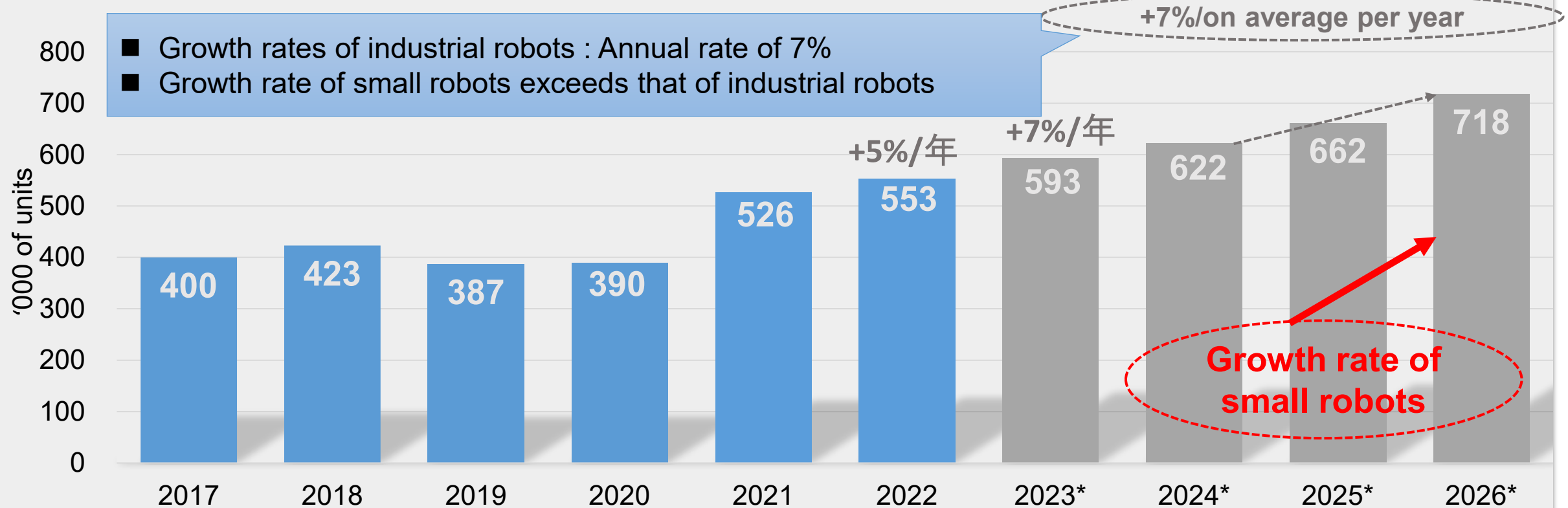


Post-COVID  
new normal

Automation demand  
Labor-saving demand

Market  
expansion

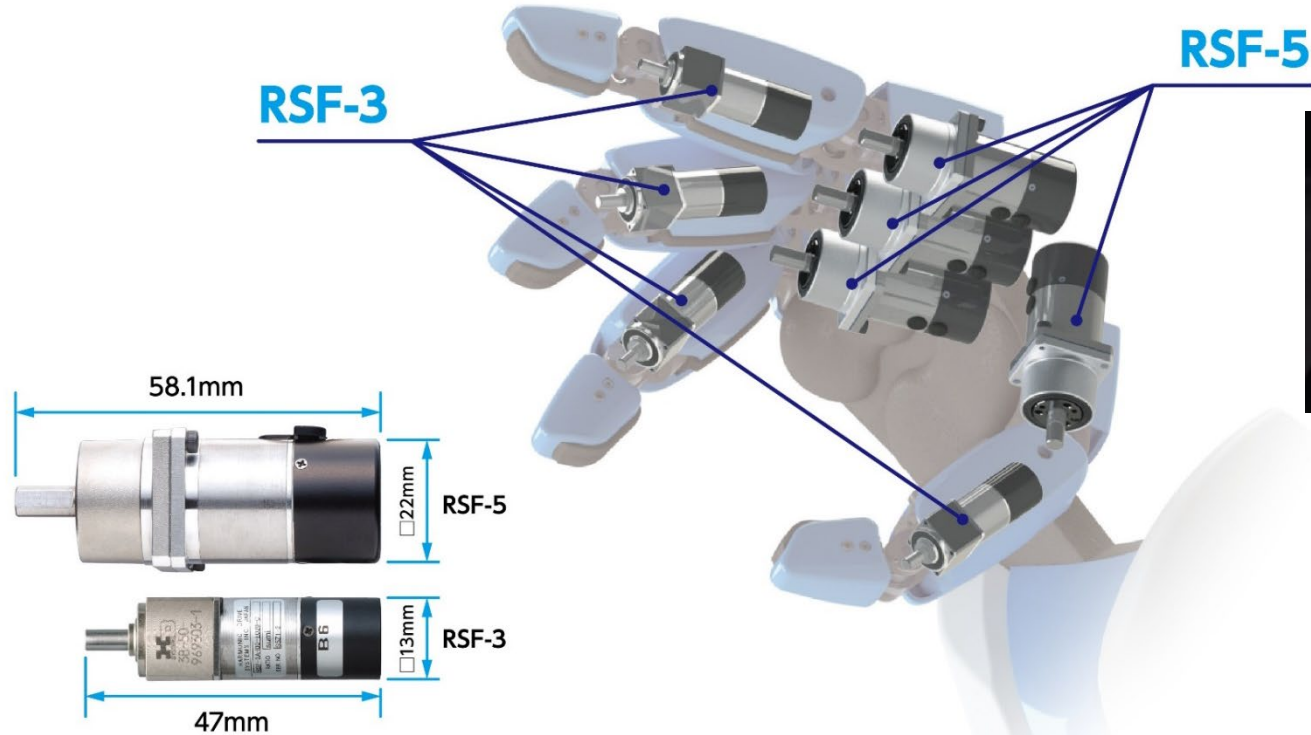
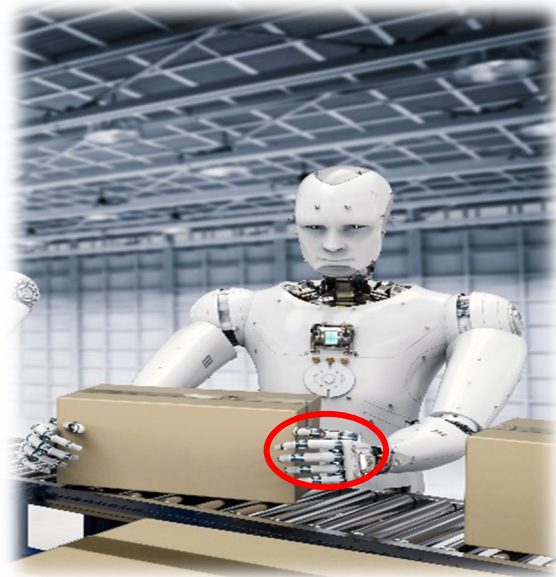
Annual installations of industrial robots 2017 -2022 and 2023\* - 2026\*



Source: compiled by the Company based on IFR World Robotics 2023

## 2-4. Humanoid robots Market

Emergence of humanoid robot market driven by advances in generative AI





## 2-5. Semiconductor equipment and Automotive

### Semiconductor equipment

- Global semiconductor market in full-scale recovery
- As long as technological advancement continues, semiconductor demand will grow
  - ➡ Adapting to generative AI, digitization, and green initiatives
- Government support in various countries is driving a recovery in investment



### Automotive: Used in variable compression ratio (VCR) engines

- Slowing demand for EVs
- Prolonged product life for internal combustion engines (ICE)
  - ➡ Production lines can be modified for new applications

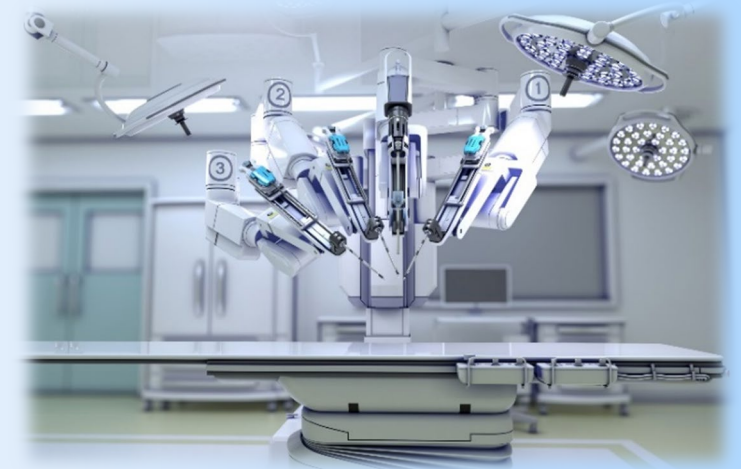


Courtesy of  
Nissan Motor Co., Ltd.

## 2-6. Surgical robots, eVTOL

### Surgical robots

- Top medical equipment manufacturers from Japan, the US, and Europe have entered the market
- HDSI and group companies are involved from the development stage
- The major manufacturers of surgical robots in Japan, the US, and Europe, being rise to oligopoly by our products



### eVTOL (Electric Vertical Takeoff and Landing vehicle)

- Transportation mode that is quieter and more environmentally friendly
- “EXPO 2025 OSAKA, KANSAI, JAPAN” is set to kick off the experimental commercial operations of eVTOL
- HDSI Group has begun preparations of mass-production for eVTOL



# 2-7. Space

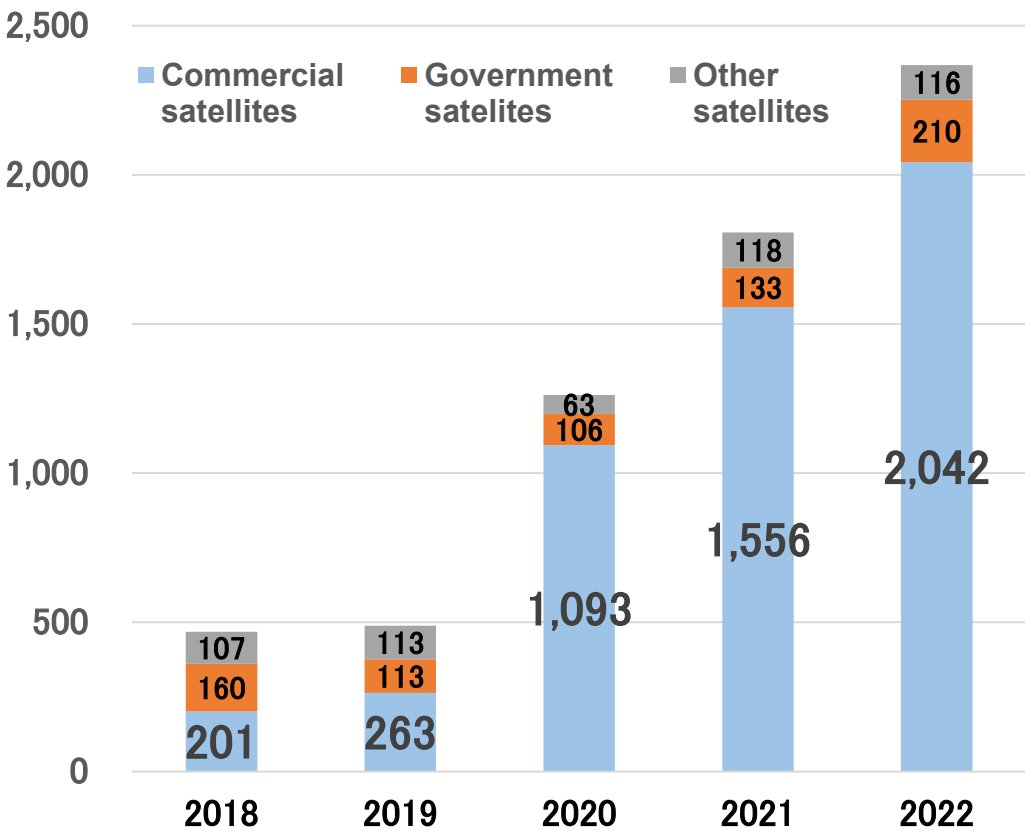
◆ Adoption in drive shafts of solar array paddles, antennas, and other equipment



Courtesy : Japan Aerospace Exploration Agency (JAXA)



◆ Number of global satellite launches (2018–2022)



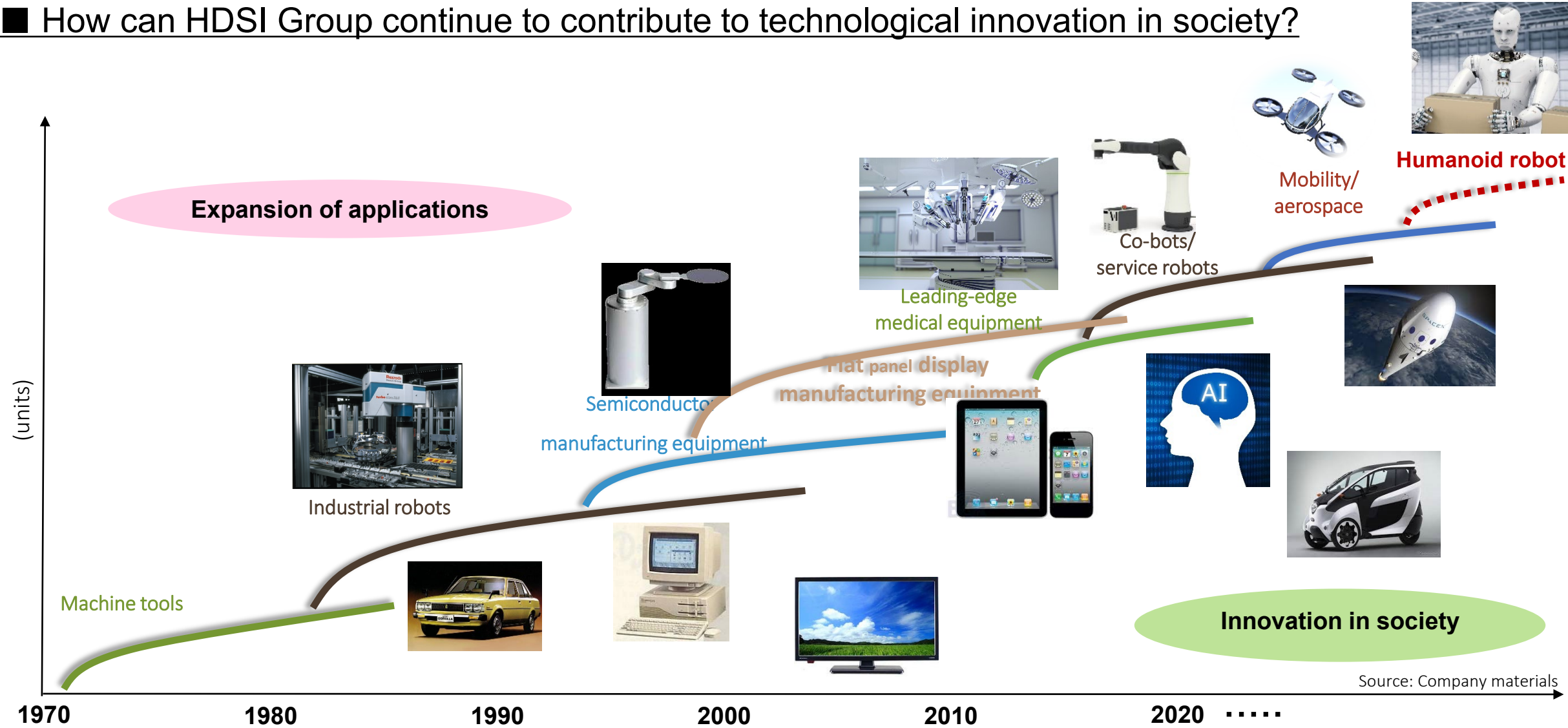
Source: Compiled by HDSI based on "Environmental Awareness and Future Vision of Space Transportation" (June 27, 2023) by the Cabinet Office's National Space Policy Secretariat

# 3. New Long-term Vision and New Mid-term Management Plan



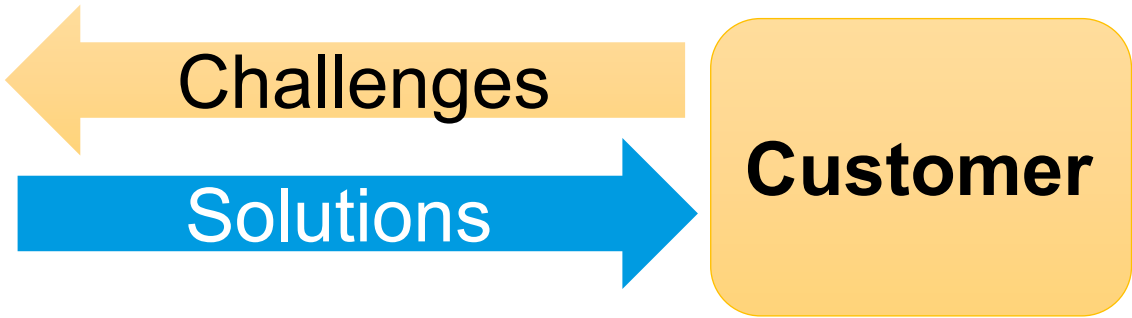
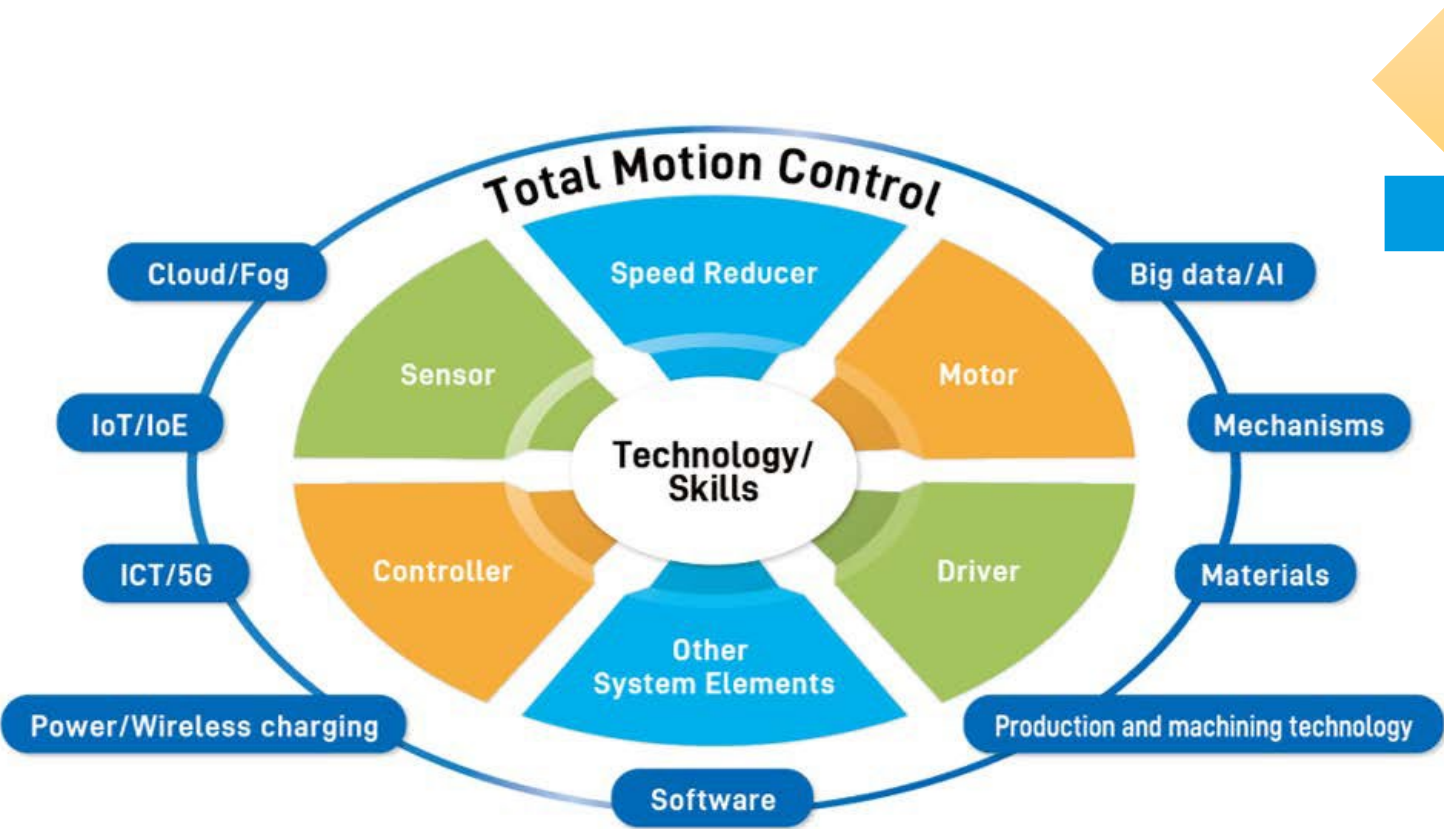
# 3-1 Expansion of applications and our growth

■ How can HDSI Group continue to contribute to technological innovation in society?



# 3-2. Providing value through Total Motion Control

**New Long-term vision**  
**The best provider of total motion control in harmony with the future**



Continue to serve as a partner that **solves customer challenges** through **Total Motion Control** solutions that incorporate new technologies

# 3-3.Mission・Long-term vision・Materiality

## Mission

To contribute to innovation in the society by our motion control technology.

## Long-term vision

The best provider of total motion control in harmony with the future

## Materiality

1.Maximize the value of human capital

2.Achieve QCDS that goes beyond customer expectations

3.Take on the challenge of developing new technologies and new skills that coordinate with changes in the environment

4. Contribute to creating a sustainable society through corporate activities

5.Establishment of a management foundation in harmony with the times

## 3-4. Mid-term Management Plan for fiscal years 2024–2026

# Take on the challenge of “value creation and transformation”

### ① What do we aim to achieve?

**Sustainable growth of all businesses with an emphasis on profitability**

### ② What is necessary to achieve this?

**Strengthen management resources (people, things, money, information) that can adapt to changes in the environment**

### ③ Sustainability

**Initiatives to enhance corporate value that will continue into the future**

# 3-5. FY2024-FY2026 Mid-term Management Plan【Issues to Be Addressed】

Issues to be addressed in the new medium-term management plan in order to achieve our new long-term vision

Issues to be addressed in the new medium-term management plan

Take on the challenge of “value creation and transformation”

**1. Sustainable growth of all businesses with an emphasis on profitability**  
▪ Develop new drivers for growth  
▪ Thorough implementation of QCDS+Speed to meet customer expectations

**2. Strengthen management resources (people, things, money, information) that can adapt to changes in the environment**  
▪ Realize an organization where individual growth and diverse skills are demonstrated and respected  
▪ Growth investment aware of capital efficiency  
▪ Strengthen the financial foundation and governance

**3. Initiatives to enhance corporate value that will continue into the future**  
▪ Full-scale development of activities based on the basic sustainability policy

**Materiality**  
(Important challenges to realized the long-term vision)

1. Maximize the value of human capital

2. Achieve QCDS that goes beyond customer expectations

3. Take on the challenge of developing new technologies and new skills that coordinate with changes in the environment

4. Contribute to creating a sustainable society through corporate activities

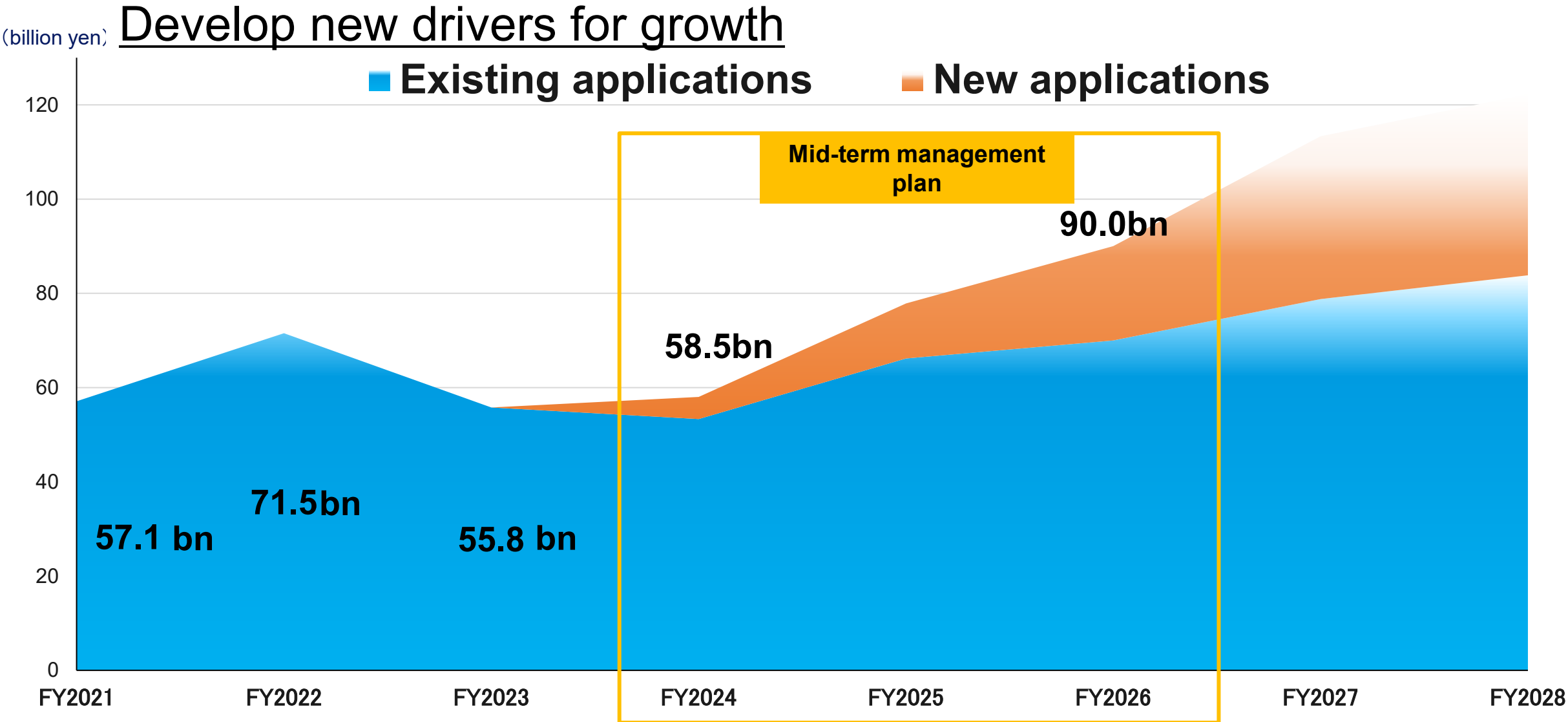
5. Establishment of a management foundation in harmony with the times

**Long-term vision (2030)**

The best provider of total motion control in harmony with the future



# 3-6. Growth forecast for HDSI Group



## 3-7. Priority measures toward opportunities

### New opportunities

- Measures to compensate for the decline in the working population in developed countries : Rise of the humanoid robot market
- Democratization of industrial robots in the Chinese market(※Rapidly spreading)  
—Polarization between high-end and low-end

※550,000 industrial robots were installed worldwide in 2022, of which 290,000 were in China  
(Source: IFR World Robotics 2023)

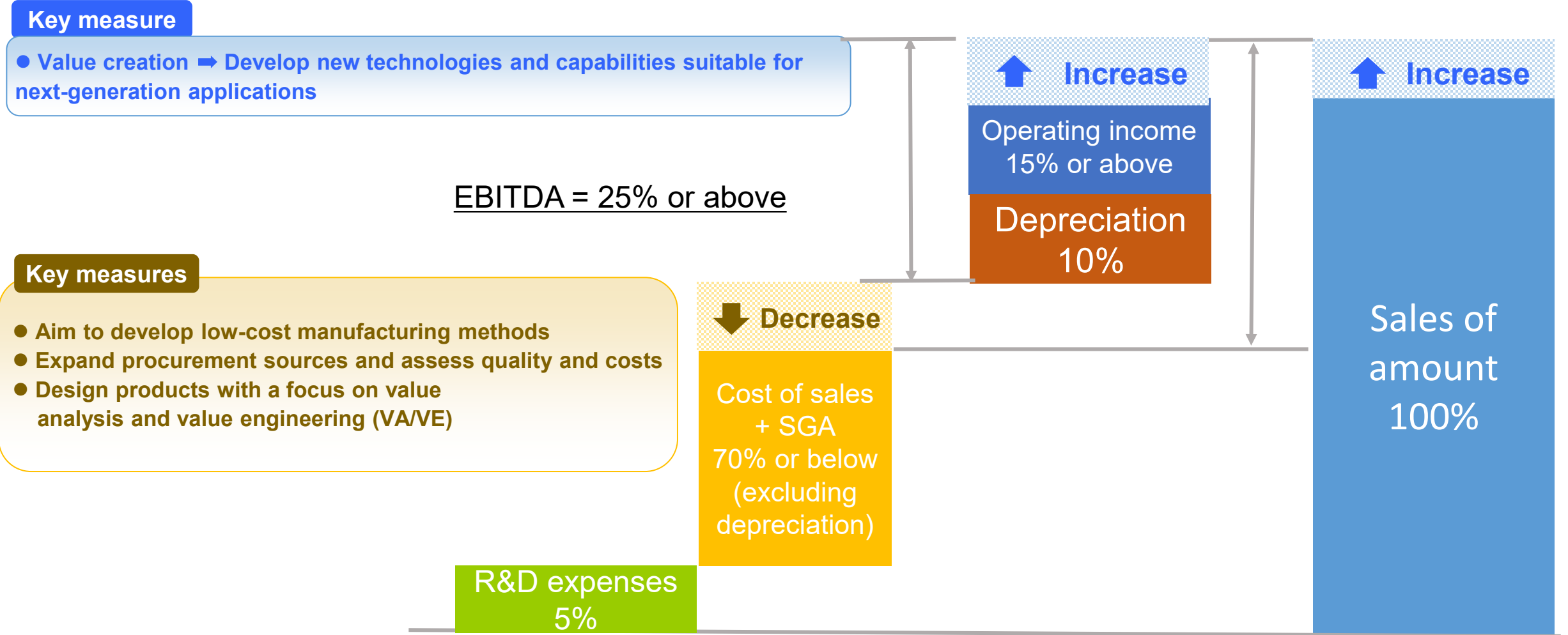
### Thorough implementation of QCDS + Speed to meet customer expectations

### Priority measures

- Product development capabilities and price responsiveness that can keep up with new market demands
  - ➡Pursuit of further miniaturization and weight reduction and manufacturing development
  - ➡Vertical product integration (Enrichment of multifunctional mechatronics products)
  - ➡Cost improvement: Pursuing product design specialized for VAVE and expanding procurement sources
  - ➡Productivity improvement: Through pursuit of QC through Skill improvement + “automation and DX”

# 3-8. Targeted P/L structure in FY2026 (final year of medium-term plan)

## Sustainable growth of all businesses with an emphasis on profitability





# 3-9. FY2024-FY2026 Management targets and Long-term vision

		FY2023	FY2026 Management Targets		Targets FY2030
Growth	Sales growth	¥55.7bn	¥90.0bn	Tie market expansion with our growth	Over 100 bn
Profitability	Operating margin EBITDA	0.2% 18.8%	15~20% 25~30%	Improve profitability by providing valuable products	20+% 30+%
Efficiency	ROE ROIC※	— —	10+% 10+%	ROE > = Cost of equity	10+% 10+%
Stability	Equity ratio	66.6%	70+%	Build a financial base that balances growth and stability	70+%
Shareholder returns	Dividend payout ratio	¥20/share	30+%	Dividend increase due to business expansion	30+%
Capital investment	Capital investment (3-year total)	¥19.8bn	¥27.5bn	Layout capital investments to support our growth	
Technology development	R&D budget (3-year total)	¥9.9bn	¥12.3bn	Create new technologies and new expertise	

※ROIC=NOPAT(After-tax profit) ÷ Invested capital (Shareholders' equity + Interest-bearing debt)



**Harmonic Drive Systems Inc.**

## Topics in FY2023

April: Winbell Inc. renamed Harmonic Winbell Inc.

April: Paper Lab begins full-scale operations

June: Sponsored Shinshu Azumino Half Marathon as Gold Partner

June: Approved as one of the companies under the Economic Security Promotion Act

January: Issued Integrated Report “HDS REPORT 2023”

January: Donated ¥10.0 million to support recovery from 2024 Noto Peninsula Earthquake

Integrated  
Report >>>

