

# **FY2023 Second Quarter**

**(Fiscal Year Ending March 2024)**

# **FINANCIAL RESULTS BRIEFING**

November 24, 2023

**日本電子株式会社**

**JEOL Ltd.**



# Becoming a top niche company supporting science and technology around the world

## Company Philosophy

On the basis of "Creativity" and "Research and Development", JEOL positively challenges the world's highest technology, thus forever contributing to the progress in both Science and Human Society through its products.

## Vision

### “Evolving in the 70th Year”

Accelerate business expansion and achieve even higher profitability based on our unique technologies and human networks which have been developed since the company's founding.

## Mid-Term Management Plan “Evolving Growth Plan”

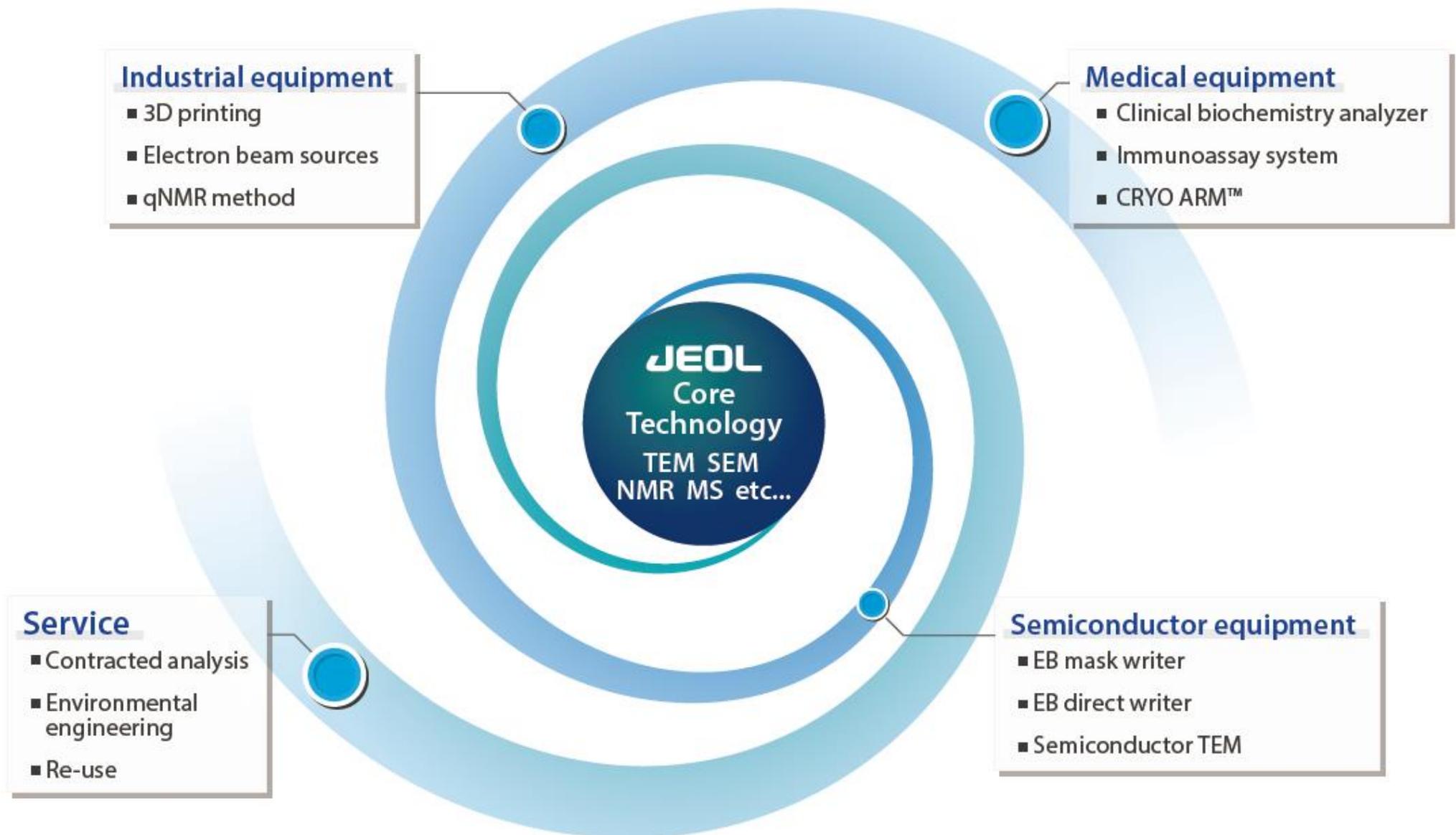
We aim to improve customer satisfaction by enhancing our R&D, manufacturing, and service capabilities.

▶ YOKOGUSHI ◀

Promote Innovation by co-creation

## Growth vision of “Evolving in the 70th Year” remains unchanged

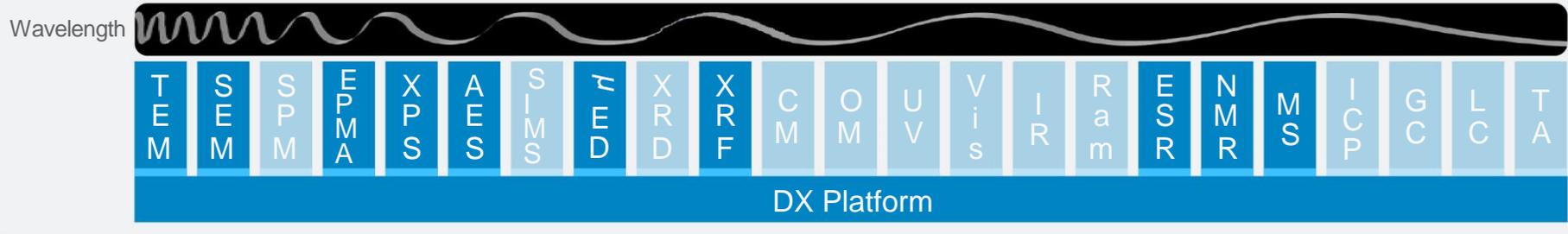
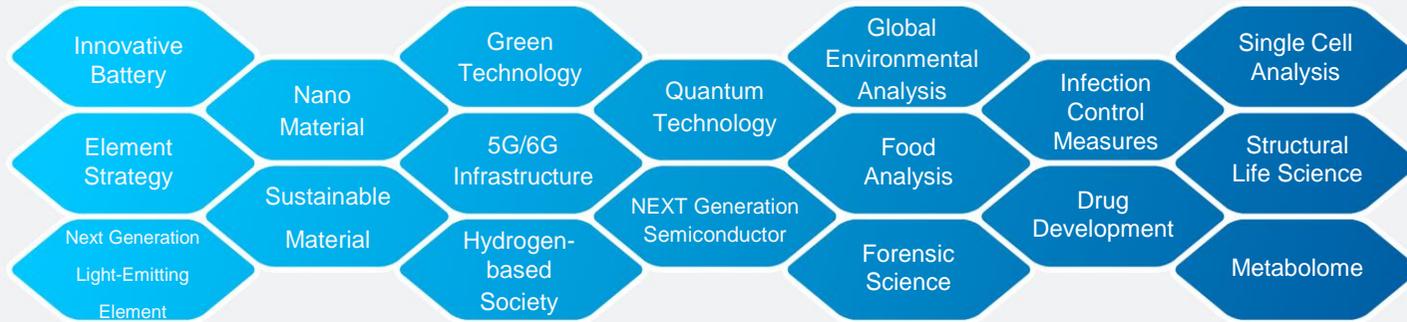
- Expand business scale and achieve higher profitability



# Strengthen and develop YOKOGUSHI Strategy

- Provide comprehensive solutions that support cutting-edge technologies

## YOKOGUSHI



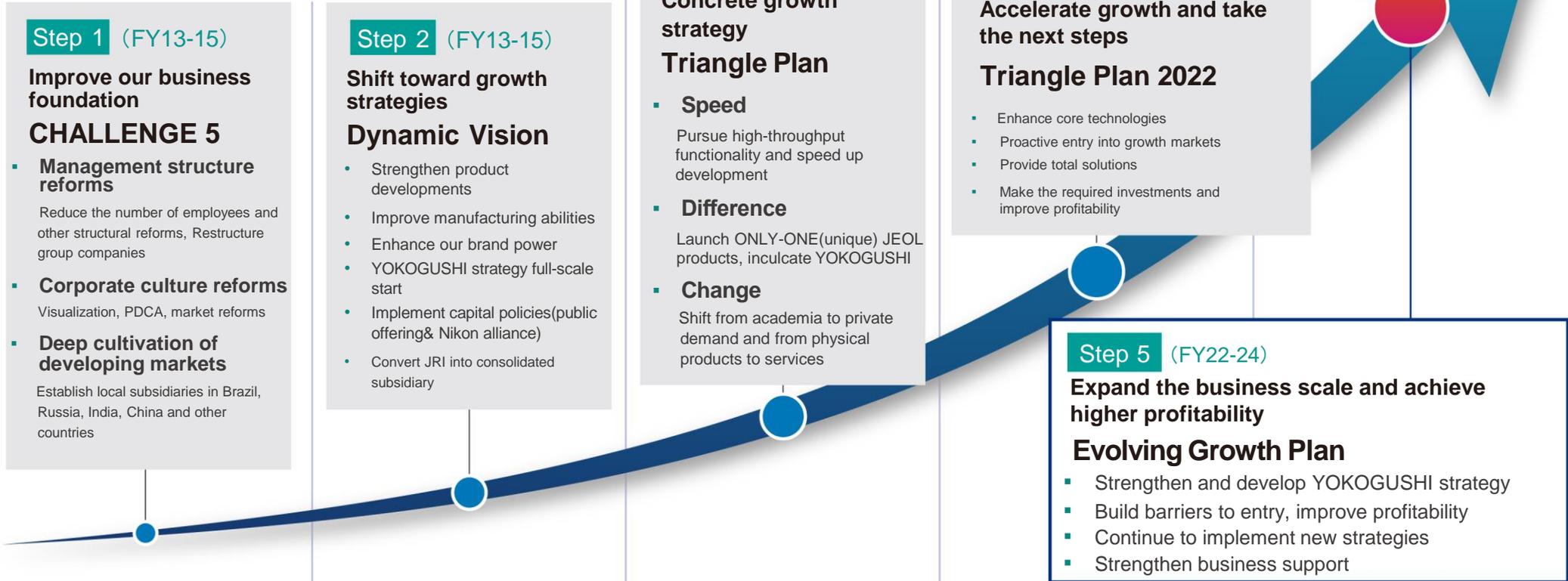
SI Instruments	●	●		●	●	●		●		●							●	●	●						
Medical Equip.																	● (CA)								
Industrial Equip.	● (SB/EB/ST/AM)																								

### Solutions



# Mid-Term Management Plan “Evolving Growth Plan”(FY 2022-2024)

## Mid-Term Management plans since FY 2010



## Net Sales/Operating Profit Transition



# Summary

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## Evolving Growth Plan

Accelerate business scale expansion and achieve higher profitability by further implementing the “Evolving in 70th Year”

## FY2023 1<sup>st</sup> Half Result

Recorded the highest sales and profit  
Orders and backlogs also reached record high

## Semiconductor Market

Demand for multi-beam mask writer (MBMW) has been affected by the slow recovery of the semiconductor market, while demand for single-beam mask writer remain strong, especially in China, due to demand for power semiconductors, etc.

## FY2023 Forecast

Net sales 172 billion yen, operating profit 24.5 billion yen  
ordinary profit 25 billion yen, net profit 18 billion yen

## Mid-Term Management Plan Evolving Growth Plan -Initiatives

1. Build barriers to entry and improve profitability
2. Expand business in growing markets such as semiconductors, drug discovery, batteries, etc.

# INDEX

1. FY 2023 2Q result and FY2023 forecast

2. Business status of each segment

2-1. Scientific/Metrology Instruments

2-2. Industrial Equipment

2-3. Medical Equipment

3. Summary

## 1. FY2023 2Q result and FY2023 Forecast

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## FY2023 2Q Results (P/L)

- Record high for the 1<sup>st</sup> half of the year

Consolidated figures (P/L)	(100 million JPY)		
	FY2022 2Q Result (1)	FY2023 2Q Result (2)	Year-on-Year (2)-(1)
1 Net sales	647	687	40
2 Sales cost	356	357	1
3 (Cost rate)	(54.9%)	(51.9%)	(- 3.0%)
4 Gross profit	292	330	38
5 SGA	178	195	17
6 R&D cost	45	53	7
7 SGA total	223	247	25
8 Operating profit	69	83	14
9 Non-operating income	21	20	- 0
10 Non-operating expenses	1	1	- 0
11 Ordinary profit	88	102	13
12 Extraordinary income	10	2	- 8
13 Extraordinary loss	2	1	- 1
14 Net profit before tax	96	102	6
15 Corporate taxes	24	27	3
16 Net profit	72	75	3
Exchange rate (1\$=)	¥133	¥141	
Exchange rate (1€=)	¥139	¥154	

### Factors for fluctuating ordinary profit (year-on-year)

(100 million JPY)	
(A) Positive Factors	39
1. Improved cost rate, etc.	15
2. Exchange margin (yen depreciation)	13
3. Sales volume increase	11
(B) Negative Factors	- 25
1. SGA increase	- 17
2. R&D cost increase	- 7
(A)+(B)	14

## Transition of Consolidated Sales & Operating Profit by Segment (Cumulative 2Q)

(100 million JPY)

		FY 2021 2Q result	FY 2022 2Q result	FY 2023 2Q result
Company Total	Net sales	534	647	687
	Operating profit	37	69	83
	Ordinary profit	47	88	102
	Net profit	37	72	75
Scientific/Metrology Instruments	Net sales	295	358	441
	Operating profit	- 7	- 1	37
Industrial Equipment	Net sales	145	205	172
	Operating profit	58	93	70
Medical Equipment	Net sales	94	85	74
	Operating profit	8	3	5
Company Total	Operating Expenses	23	26	29
Exchange rate (1\$=)		¥ 110	¥ 133	¥ 141
Exchange rate (1€=)		¥ 131	¥ 139	¥ 154

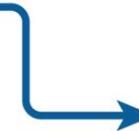
## FY2023 Forecast (P/L)

- Consolidated net sales ¥172 billion, Operating profit ¥24.5 billion, Ordinary profit ¥25 billion, Net profit ¥18 billion

Consolidated figures (P/L)		(100 million JPY)		
	FY22 Full-Year Result (1)	FY23 Full-year Forecast (as of May, 2023)	FY23 Full-year Forecast (2) (as of Nov 2023)	Year-on-Year (2)-(1)
1 Net sales	1,627	1,670	1,720	93
2 Sales cost	900	957	949	49
3 (Cost rate)	(55.3%)	(57.3%)	(55.2%)	( - 0.1%)
4 Gross profit	727	713	771	44
5 SGA	382	394	413	31
6 R&D cost	104	109	113	9
7 SGA total	485	503	526	41
8 Operating profit	242	210	245	3
9 Non-operating income	8	5	8	0
10 Non-operating expenses	15	0	3	- 12
11 Ordinary profit	235	215	250	15
12 Extraordinary income	10	0	2	- 8
13 Extraordinary loss	8	1	2	- 6
14 Net profit before tax	237	214	250	13
15 Corporate taxes	59	59	70	11
16 Net profit	178	155	180	2
Exchange rate (1\$=)	¥ 135	¥ 130	¥ 141	
Exchange rate (1€=)	¥ 141	¥ 140	¥ 153	

### Factors for fluctuating ordinary profit (year-on-year)

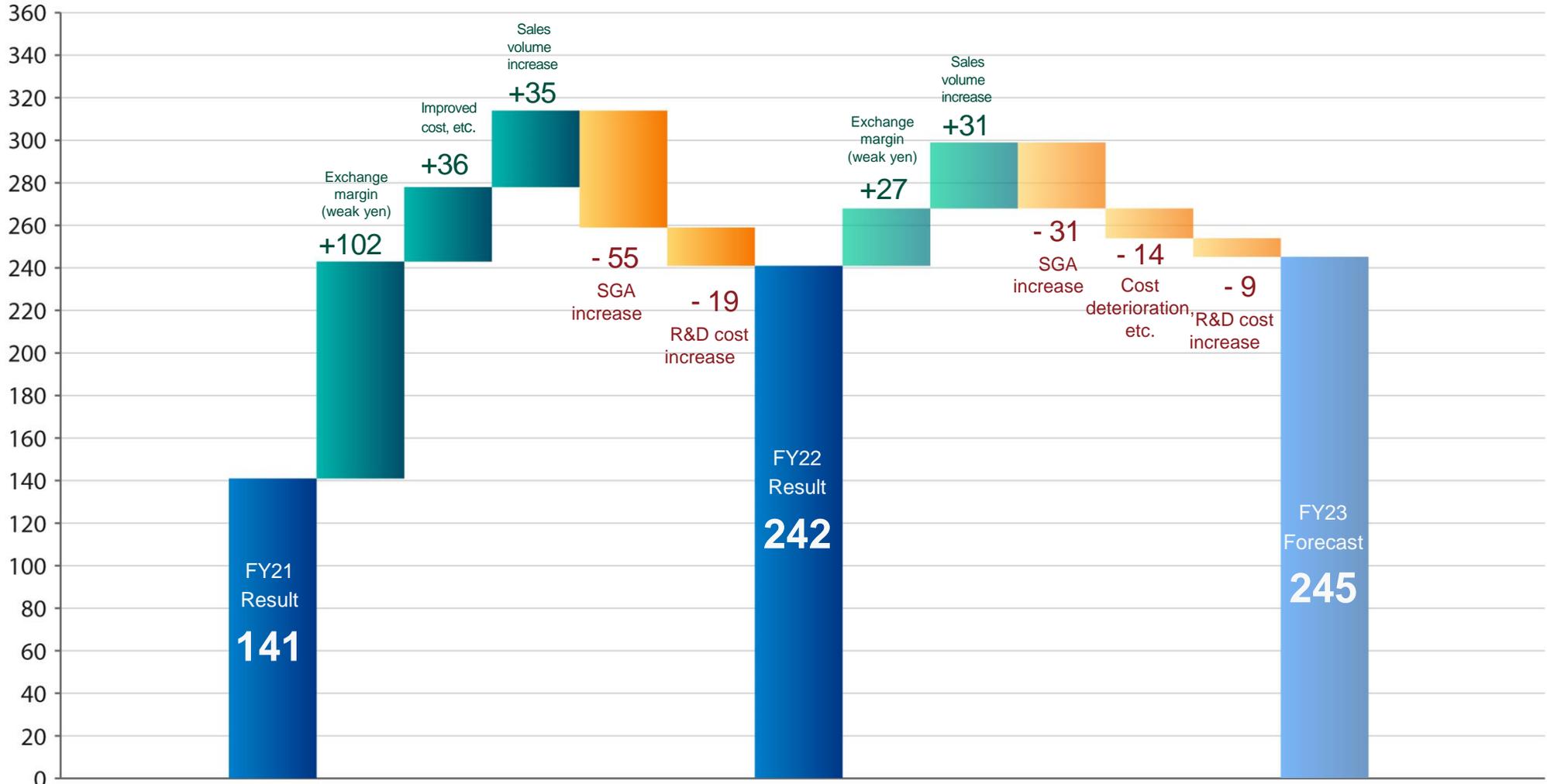
(100 million JPY)	
(A) Positive Factors	58
1. FX margin (Yen depreciation)	27
2. Sales volume increase	31
(B) Negative factors	- 55
1. SGA increase	- 31
2. Cost deterioration, etc.	- 14
3. R&D cost increase	- 9
<b>(A)+(B)</b>	<b>3</b>



# Factors of Increase/Decrease in Profit

## Ordinary profit analysis

(100 million JPY)



## Transition of Consolidated Sales & Operating Profit by Segment (Full-year)

(Billion JPY)

		FY2021 Full-year result	FY2022 Full-year result	FY2023 Full-year forecast (as of May, 2023)	FY20223 Full-year forecast (as of Nov, 2023)
Company Total	Net sales	138.4	162.7	167.0	172.0
	Operating profit	14.1	24.2	21.0	24.5
	Ordinary profit	16.3	23.5	21.5	25.0
	Net profit	12.3	17.8	15.5	18.0
Scientific/Metrology Instruments	Net sales	85.1	94.8	104.8	112.3
	Operating profit	4.8	5.8	6.8	11.5
Industrial Equipment	Net sales	34.0	49.5	44.5	44.5
	Operating profit	13.1	23.3	20.0	18.4
Medical Equipment	Net sales	19.3	18.4	16.7	15.2
	Operating profit	1.1	0.5	0.2	0.5
Company Total	Operating Expenses	4.9	5.4	6.0	6.0
Exchange rate (1\$=)		¥ 113	¥ 135	¥ 130	¥ 141
Exchange rate (1€=)		¥ 131	¥ 141	¥ 140	¥ 153

# Transition of Major Accounts

## 2nd Quarter

(100 million JPY)

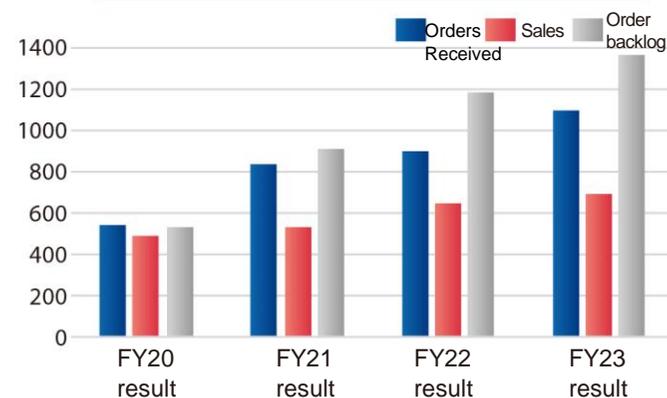
(Consolidated)	FY2021 2Q result	FY2022 2Q result	FY2023 2Q result
1 Inventory	652	706	821
2 Interest-bearing debt	214	140	90
3 Net assets (capital-to-asset)	774 (46.0%)	927 (49.0%)	1,094 (53.4%)
4 Dividend (JPY)	14 JPY	30 JPY	33 JPY
5 Overseas sales ratio	68.0%	75.4%	66.7%
6 Consolidated Orders received	838	899	1,092
7 Consolidated Order backlog	913	1,187	1,361

## Full-year

(100 million JPY)

(Consolidated)	FY2021 Full-year result	FY2022 Full-year result	FY2023 Full-year forecast
1 Inventory	591	688	735
2 Interest-bearing debt	166	115	145
3 Total assets	1,896	1,993	2,157
4 Net assets (capital-to-asset)	859 (45.3%)	1,019 (51.1%)	1,181 (54.8)
5 Dividend (JPY)	50 JPY	66 JPY	74 JPY
6 Capital investment	69	37	50
7 Depreciation cost	41	47	48
8 Consolidated Orders received	1,712	1,647	1,720
9 Consolidated Order backlog	936	956	956
10 Overseas sales ratio	63.4%	70.7%	67.0%

2Q Transition of Consolidated Orders, Sales and Backlog



## Capital Efficiency Indicators

1 ROE	17.9%	19.0%	16.4%
2 ROIC*	11.1%	16.7%	14.4%
3 PBR	x 4.08	x 2.13	—

\* Based on internal management regulations

# Business Environment

- Scientific and Metrology Instrument orders continue to be strong. Semiconductor market is still in an adjustment phase.

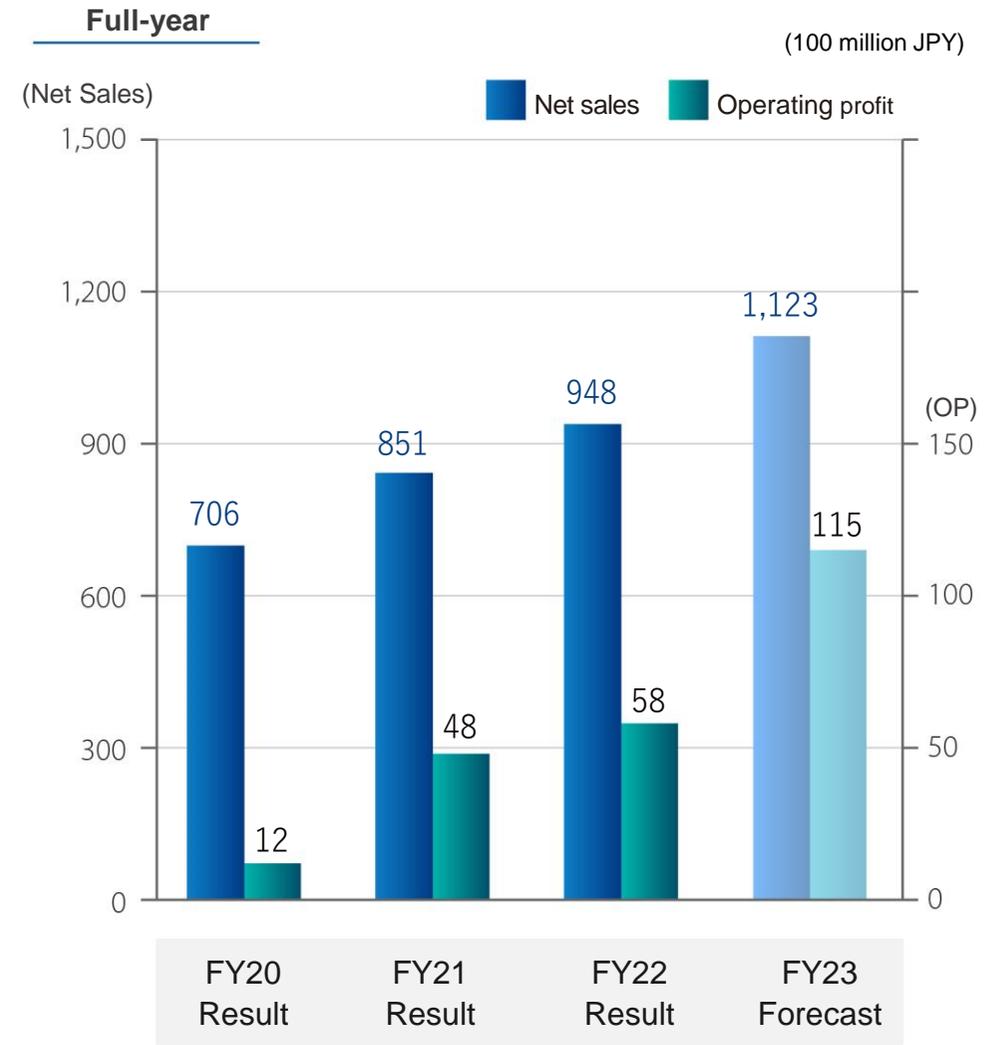
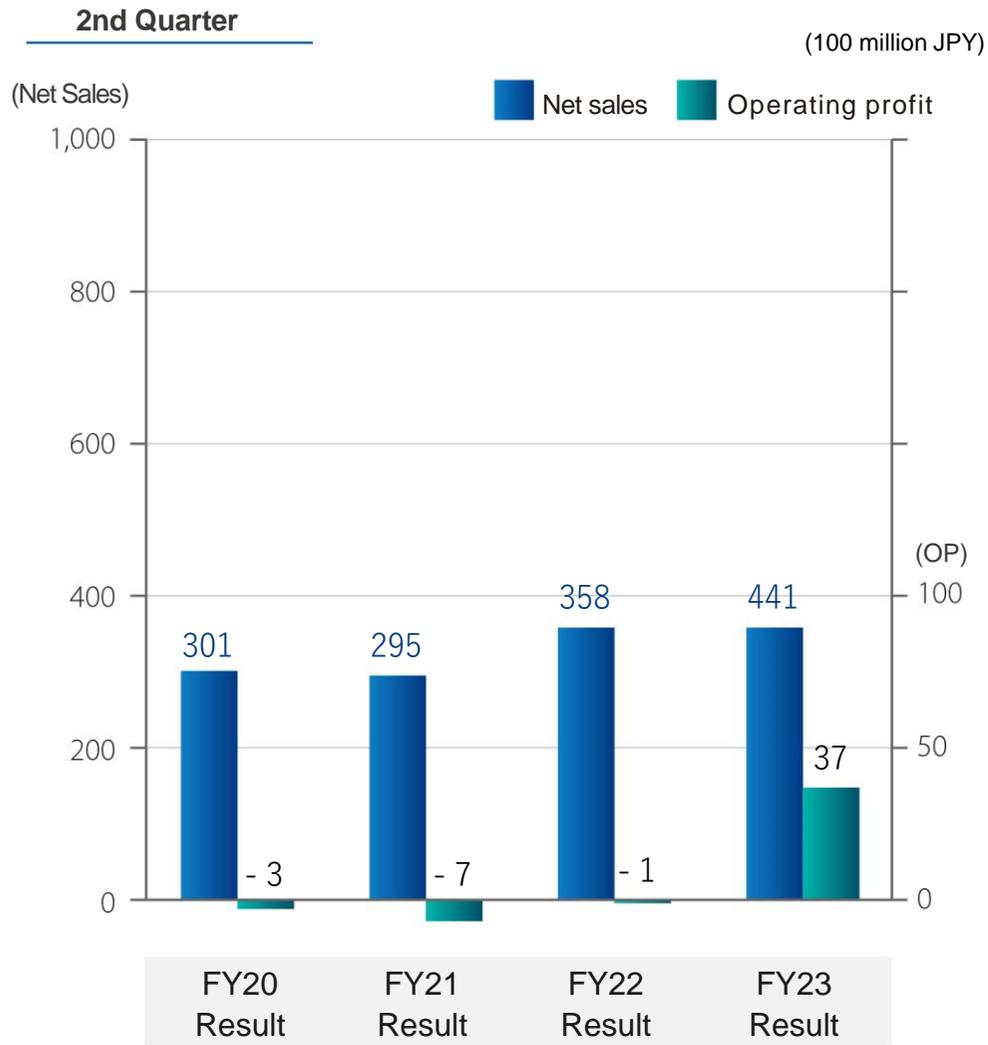
		Overview	
Scientific and Metrology Instruments	Universities and Governmental Demand	○ (Good)	<ul style="list-style-type: none"> <li>Governments continue to invest actively in science and technology</li> <li>Steady inquiries in Europe, the U.S., and China</li> </ul>
	Private Demand (Semiconductor)	○ (Good)	<ul style="list-style-type: none"> <li>TEM inquiries continue to be strong, especially in Taiwan, Korea and China</li> <li>Increasing demands for electron microscopes (TEM, SEM, etc.) due to miniaturization and complexity of semiconductors</li> </ul>
	Private Demand (other industries)	○ (Good)	<ul style="list-style-type: none"> <li>R&amp;D investments for next-generation batteries continue</li> </ul>
Industrial Equipment	Lithography System Market	○ (Mixed)	<ul style="list-style-type: none"> <li>Multi-beam mask writers is slow due to a delay in the recovery of EUV investments, but growth is expected to continue over the mid to long term.</li> <li>Single-beam mask writers for legacy nodes continue to perform well due to demand for power semiconductors especially in China.</li> </ul>
	EB Source Market	△ (Slow)	<ul style="list-style-type: none"> <li>Softening demands for smartphones has led to weaker demand of e-beam source</li> </ul>
Medical Equipment	Japan	○ (Good)	<ul style="list-style-type: none"> <li>Demand of biochemistry analyzer is increasing, mainly for test centers.</li> </ul>
	Overseas Market	△ (Slow)	<ul style="list-style-type: none"> <li>Decrease in orders and sales mainly to China due to the impact of the 'buy Chinese' policy.</li> </ul>

## 2. Business status of each segment

### 2-1. Scientific/Metrology Instruments

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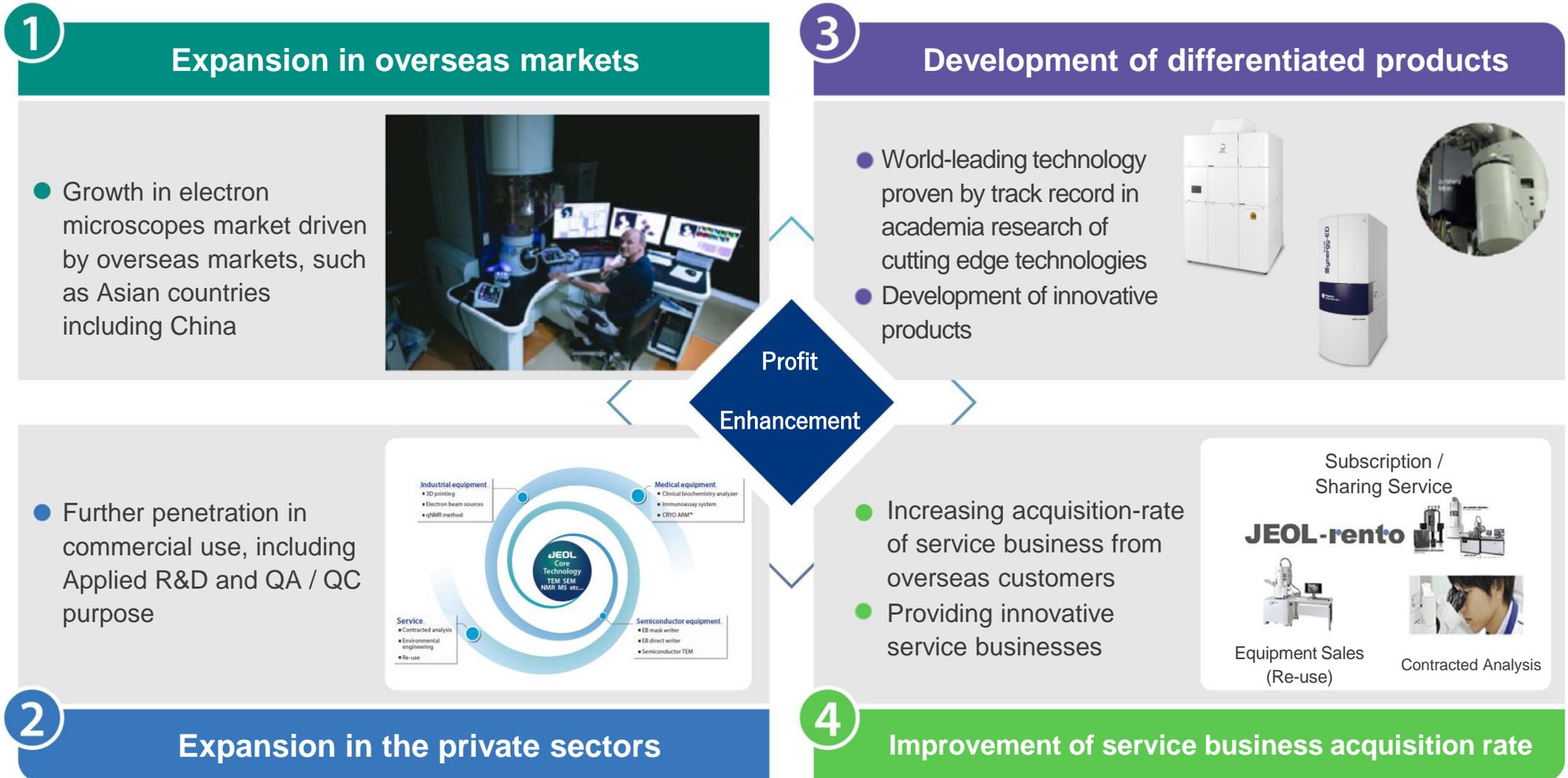


Exchange rate(1\$=)	¥ 107	¥ 110	¥ 133	¥ 141
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# Scientific and Metrology Instrument

- Continue efforts for profit enhancement through further development of Scientific and Metrology Instruments, such as electron microscopes



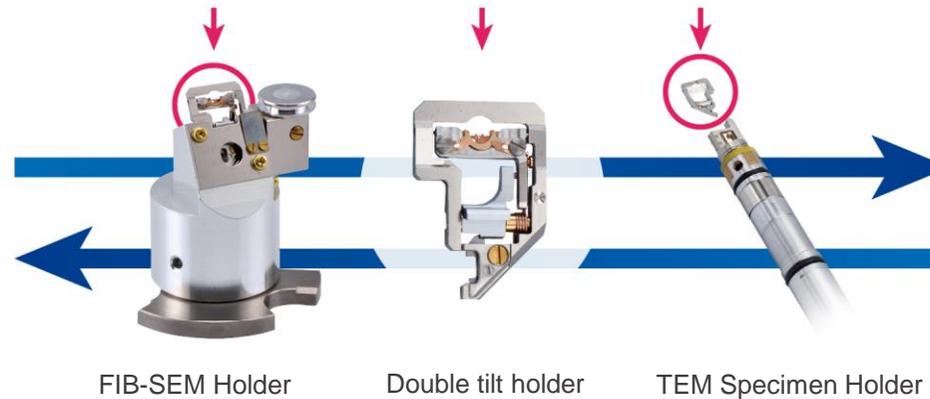
# Analysis Solutions for Semiconductor (Specimen transfer workflow)

- Provides a reliable and high-throughput workflow from sample preparation process using Focused Ion Beam System (FIB) to observation with Transmission Electron Microscopy (TEM)
- Received a package order for JEM-ACE200F and JIB-PS500i from a Semi-related (Semiconductor) company



**JIB-PS500i**

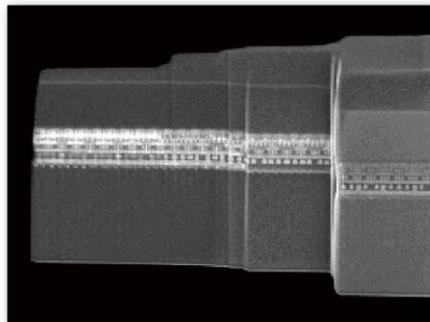
FIB-SEM system



**JEM-ACE200F**

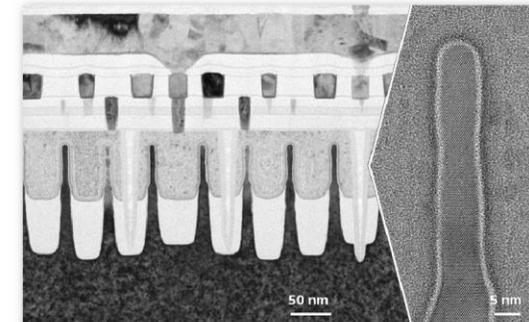
High-throughput Analytical  
Electron Microscope

TEM lamella prepared by FIB (SEM Image)



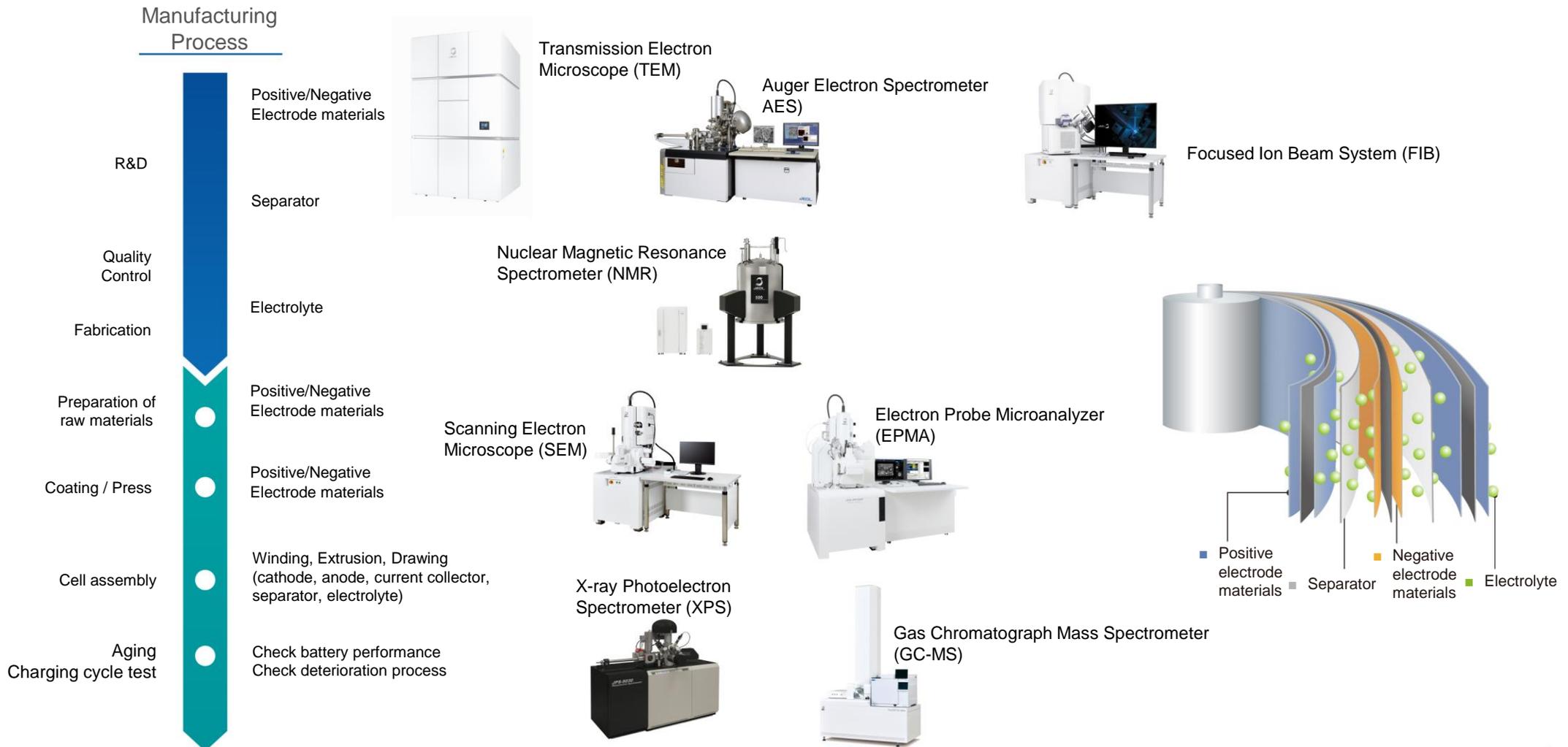
Specimen: FinFET (5nm process)

Cross section STEM image by JEM-ACE200F



# ► YOKOGUSHI ◀ Solutions for Next-generation Battery

- Battery materials require sample preparation, observation, and analysis under air-isolated condition to avoid material alteration
- JEOL provides a wide range of analytical instruments with YOKOGUSHI solutions for evaluation and inspection in each process from R&D to manufacturing
- Received a package order for multiple sets of SEM for quality control purpose from a EV battery company in US



## XtaLAB Synergy-ED Official Website Launched (Launched in August 2023)

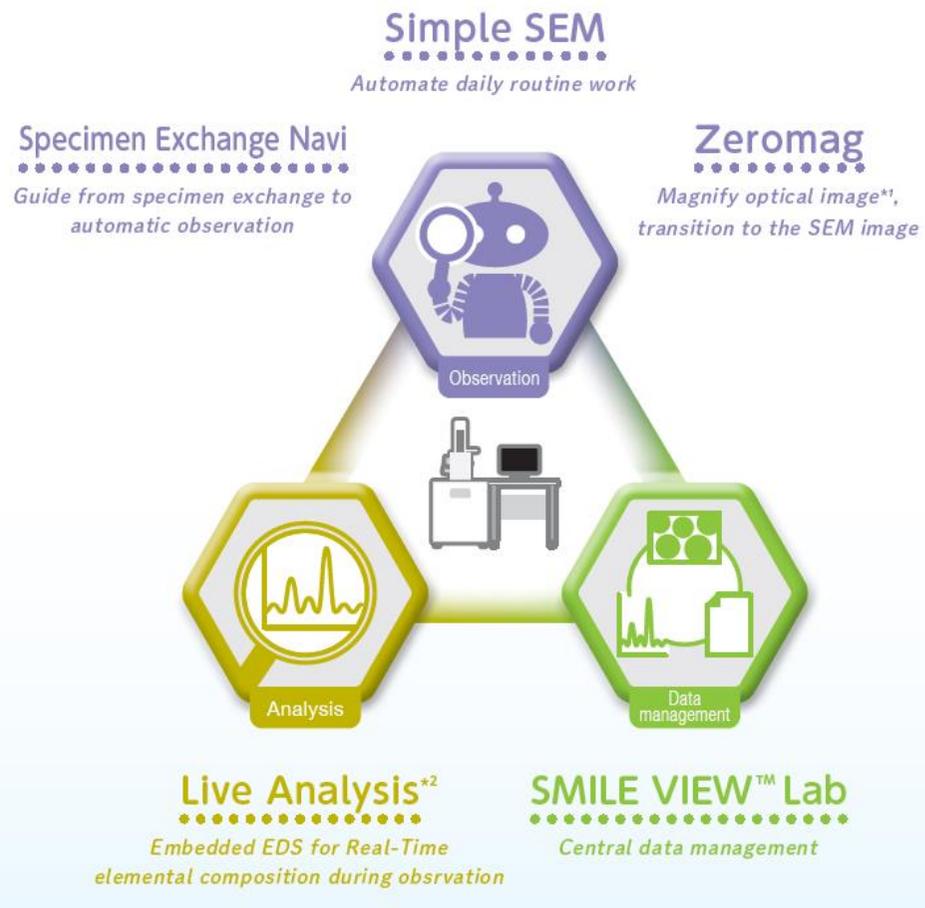
- Launched the official XtaLAB Synergy-ED website (<https://www.synergy-ed.com/>) to promote the product and disseminate useful information for customers' research and development
- XtaLAB Synergy-ED is an electron diffractometer jointly developed by Rigaku and JEOL  
By integrating the flow from selection of measurement samples (nanocrystals) to data collection and analysis, electron diffraction structure analysis can be easily done without any special skills in electron microscopy and crystallography
- The website features solutions and application notes of XtaLAB Synergy-ED as well as a gallery of analysis data from a variety of fields, including pharmaceuticals and new materials



# New Scanning Electron Microscope JSM-IT710HR/JSM-IT200

(Launched in July 2023)

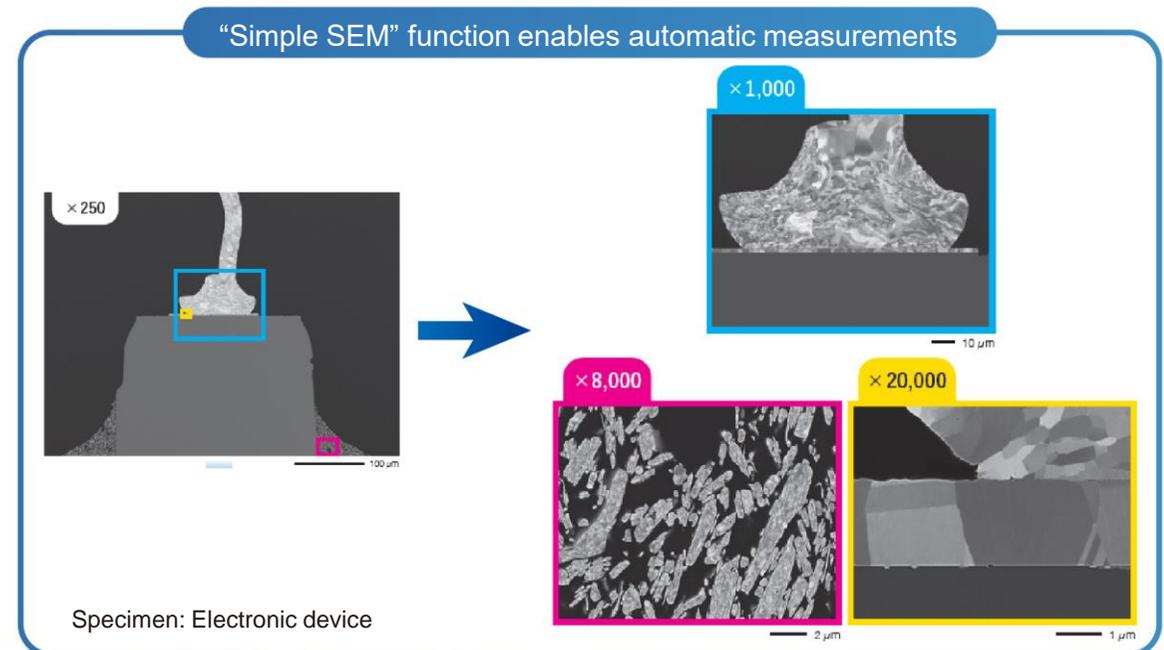
- New SEMs (JSM-IT710HR/JSM-IT210) make it easy to acquire data for a wide range of purposes from basic research to quality assurance on a wide range of application including metals, semiconductors, batteries, polymers, and life science
- These new-generation SEMs incorporate the next level of intelligent technology and automation for ease of operation and fast, high-resolution imaging and analysis



JSM-IT210



JSM-IT710HR



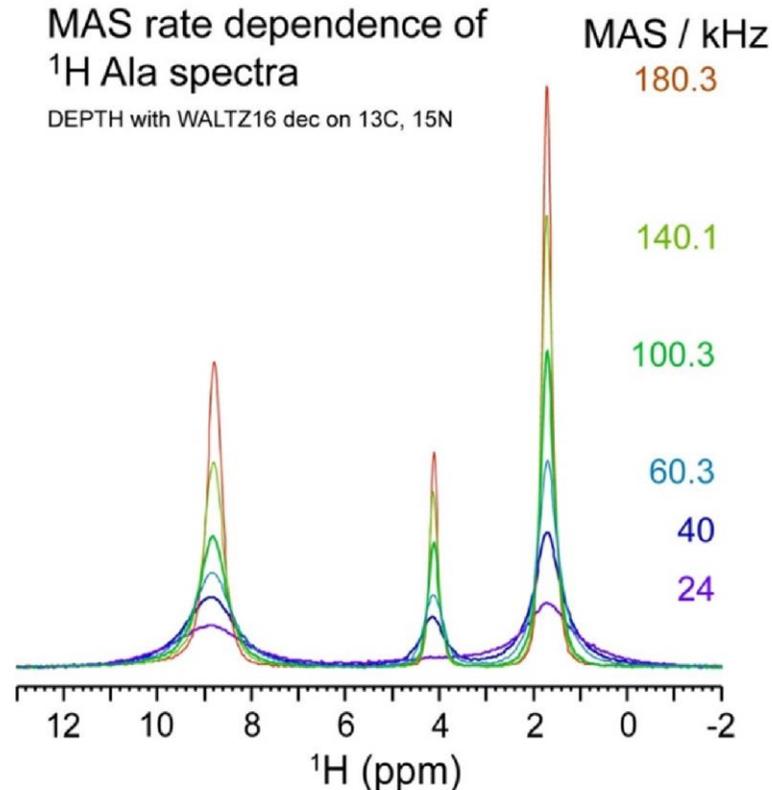
- A joint research group of RIKEN Center for Biosystems Dynamics, School of Department of Life Science and Technology of the Tokyo Institute of Technology, and JEOL has developed a detector (probe) capable of ultra-fast magic-angle rotation (MAS) at a rotation speed of 180 kHz, the fastest in the world, for solid-state nuclear magnetic resonance (NMR)
- As shown in the lower right figure, a significant improvement in sensitivity and resolution in proportion to the rotation speed has been confirmed. Since the measurement speed is proportional to the square of the sensitivity, a measurement at 180 kHz can be made in a quarter of the time required at 100 kHz.
- The result of this research is expected to help advanced highly sensitive detection of ultra-trace amounts of biological samples and nano-materials, and analysis of trace amounts of amyloid- $\beta$  peptide derived from the brain, which is involved in Alzheimer's disease



0.4mm $\phi$  MAS Rotor

0.75mm $\phi$  MAS Rotor

MAS rate dependence of  $^1\text{H}$  Ala spectra  
DEPTH with WALTZ16 dec on  $^{13}\text{C}$ ,  $^{15}\text{N}$



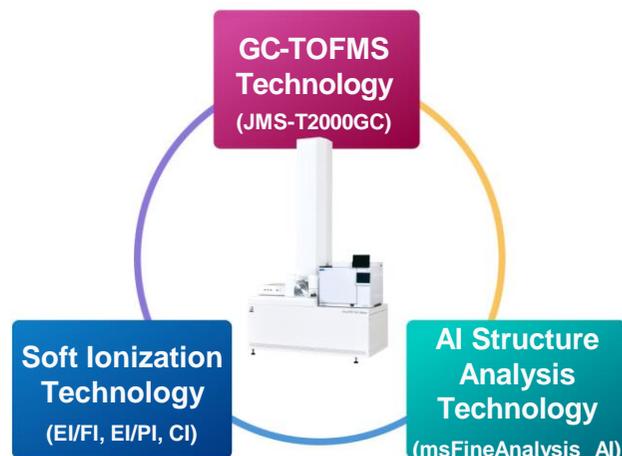
Newly developed probe (left) and MAS rotor (sample tube) with a diameter of 0.4 mm (right)

# MS (Mass Spectrometer) : "msFineAnalysis AI" Unknown Compounds Structure Analysis Solution

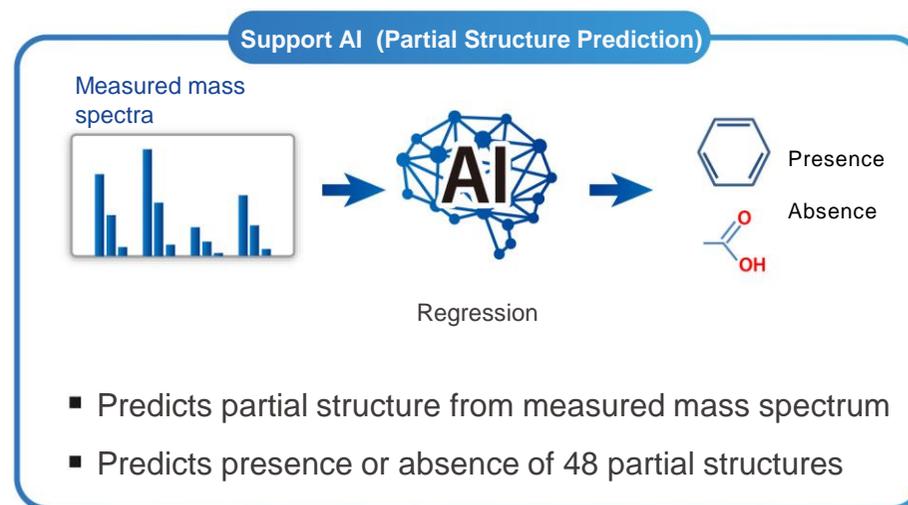
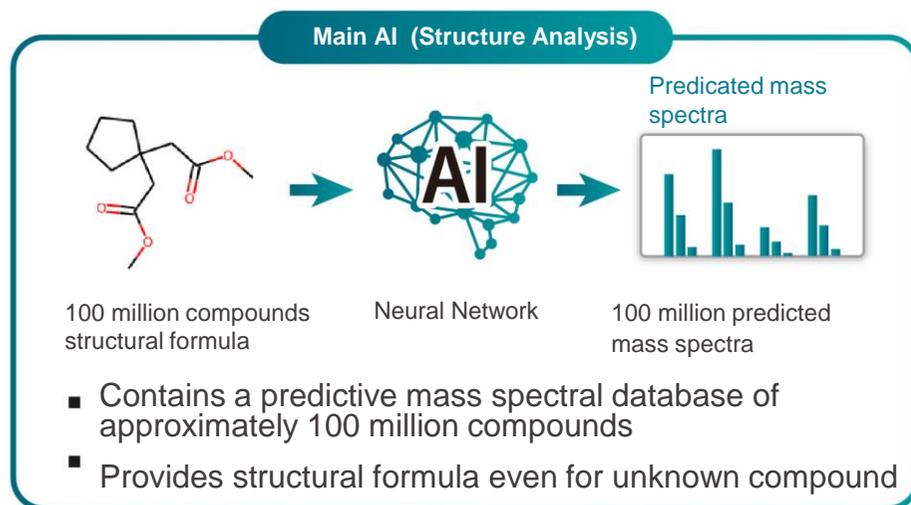
- Increasing inquiries for mass spectrometers (MS), due to "msFineAnalysis AI" that realizes qualitative analysis of unknown compounds

## msFineAnalysis AI Solution

- Accurate mass analysis using GC-TOFMS= Composition prediction of observed ion
- Acquisition of molecular formula using soft ionization method
- Database of 100 million compounds using AI technology created



msFineAnalysis AI uses a complementary combination of deep learning and machine learning with different characteristics



2. Business status of each segment  
2-2. Industrial Equipment Segment

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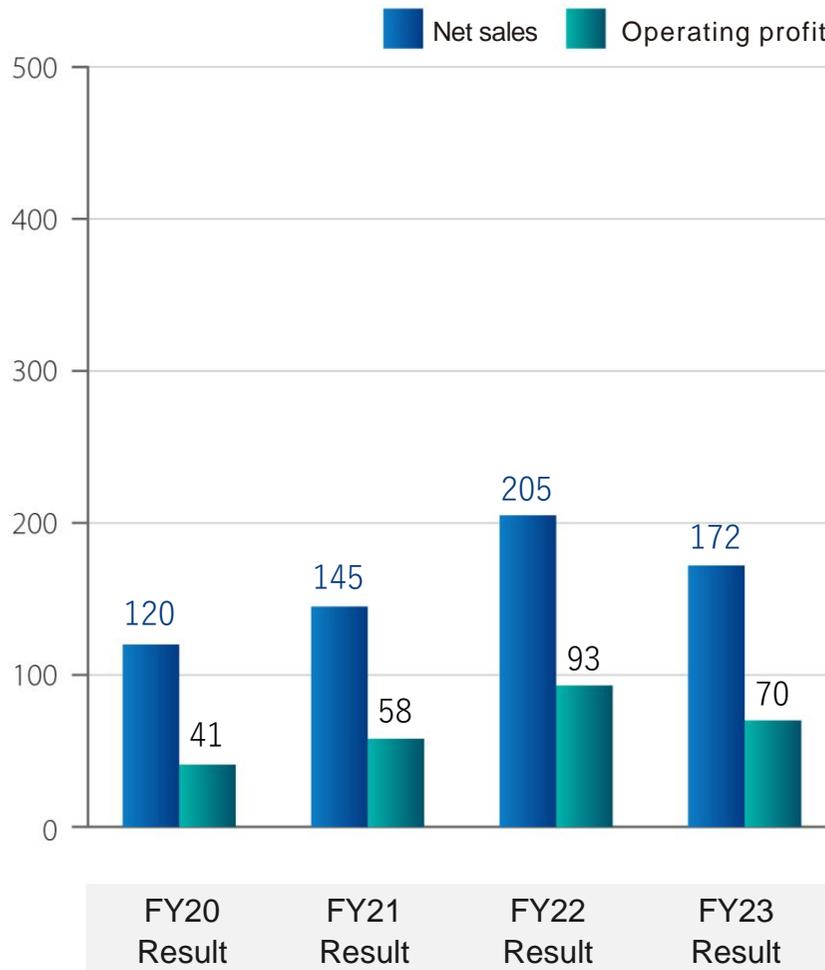


# Industrial Equipment Segment

## Consolidated Net Sales and Operating Profit Transition

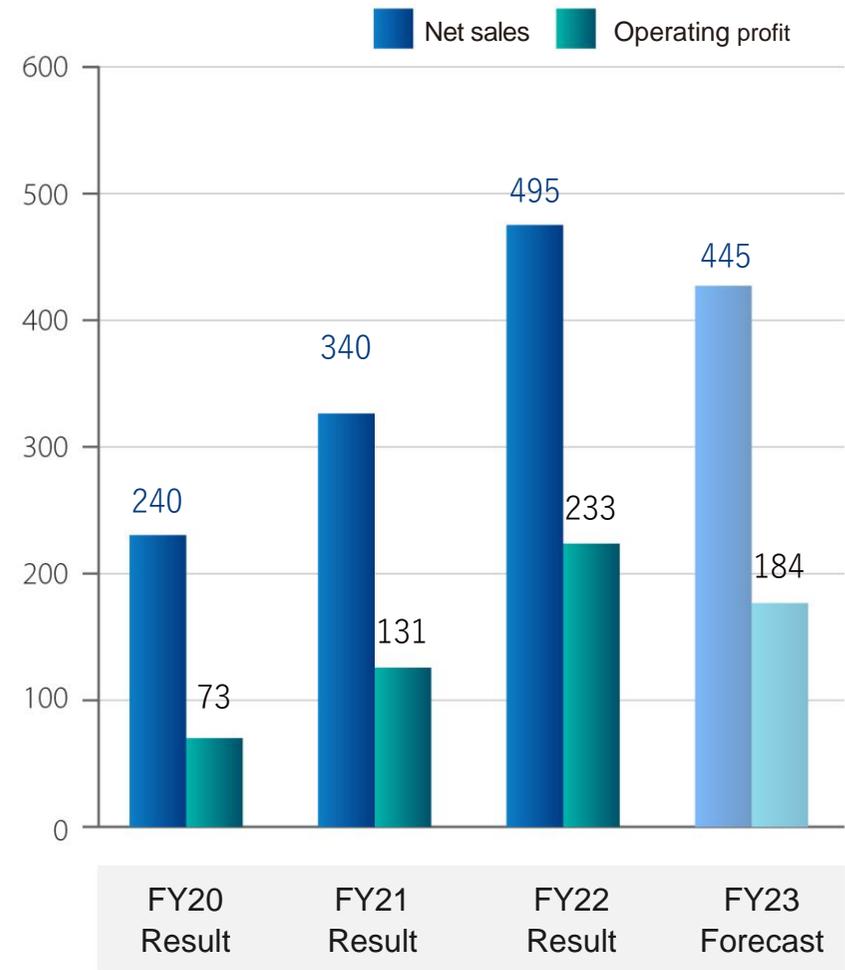
### 2nd Quarter

(100 million JPY)



### Full-year

(100 million JPY)

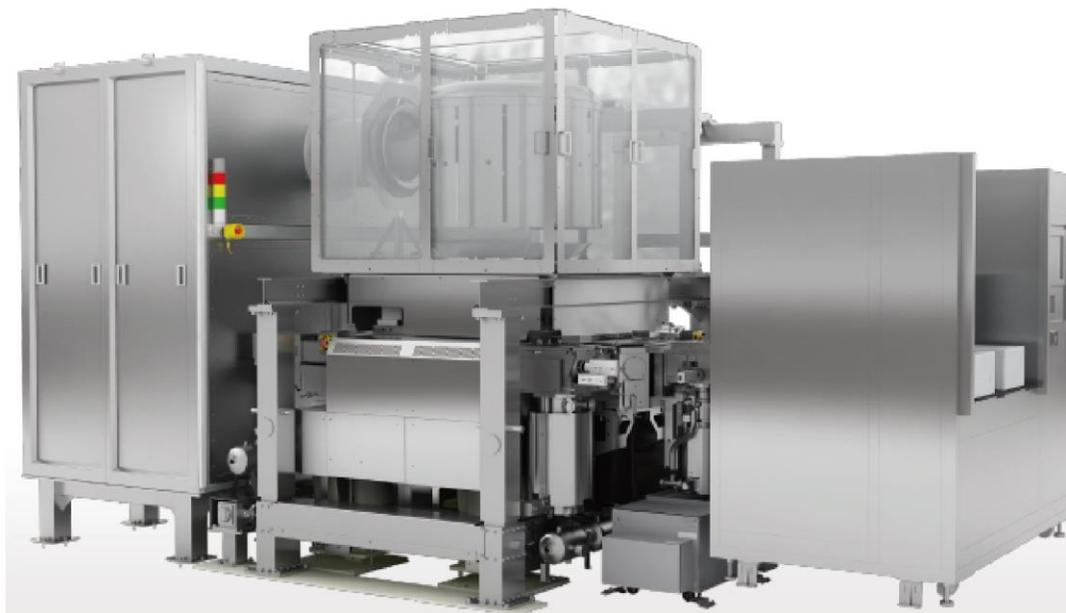


Exchange rate(1\$=)	¥ 107	¥ 110	¥ 133	¥ 141
Exchange rate(1€=)	¥ 121	¥ 131	¥ 139	¥ 154

Exchange rate(1\$=)	¥ 106	¥ 113	¥ 135	¥ 141
Exchange rate(1€=)	¥ 124	¥ 131	¥ 141	¥ 153

## Acquisition of Shares of IMS NANOFABRICATION

- Acquired 2.5% stake in IMS Nanofabrication Global, LLC, a majority-owned subsidiary of Intel Corporation, further strengthening our relationship in both technology and business as a strategic partner in Multi-Beam Mask Writer (MBMW)
- MBMW is essential in the advanced semiconductor process for the continuation of Moore's Law.



The World's 1st High-Throughput  
Multi-Beam Mask Writer



# Strong Demand of Single-Beam Mask Writer

- Demand of single-beam mask writer for legacy node is strong, especially in China, due to power semiconductor devices demand.
- Enhancing overseas service structure (installation of training back-up equipment, etc.)

Design rule  
Node (nm)

45-20

16/14

10

7

7+/5

3

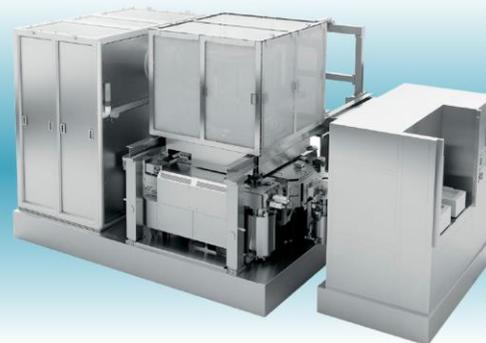


JBX-3200MV Electron Beam Lithography System  
for 28nm to 22/20nm node mask/reticle production



JBX-3050MV Electron Beam Lithography System  
for 45nm to 32nm node mask/reticle production

**Single-Beam Mask Writer**



**Multi-Beam Mask Writer**

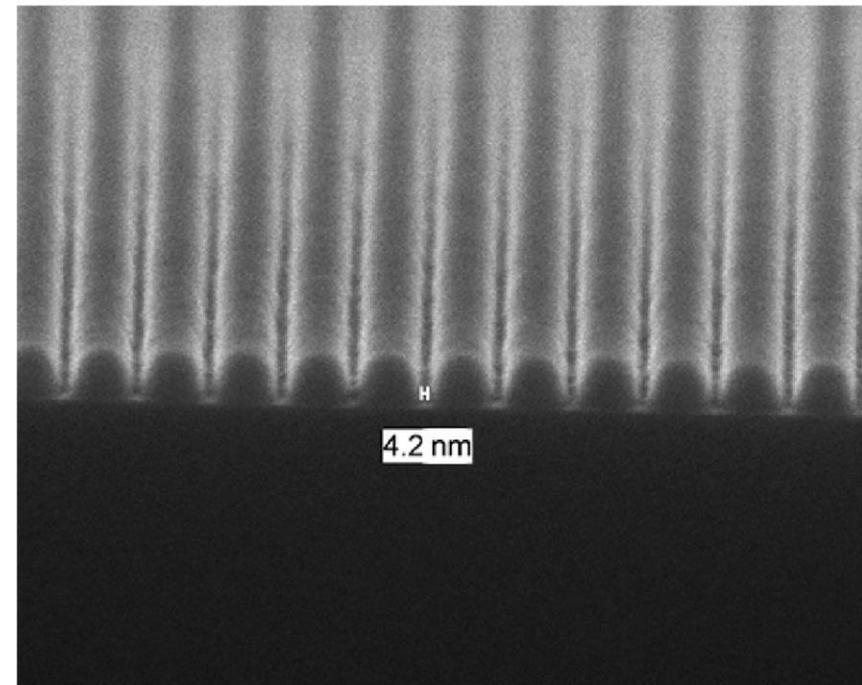
## Strong Demand of a Spot Type Electron Beam Lithography system (SB)

- Applications for SBs include R&D for next-generation devices, production of sensors used in anti-collision systems for automotive, and production of DFB (Distributed Feedback) lasers used in communication base stations for 5<sup>th</sup> and 6<sup>th</sup> generation mobile communication systems (5G/6G)
- Strong inquiries and orders due to active investments in semiconductor research by governments around the world



JBX-8100FS Electron Beam Lithography System

Cross section image of a minimum width line (×200 k)



With ZEP520A (by ZEON) at thickness 40 nm, using the low-temperature effect, a line width of 4.2 nm can be achieved.

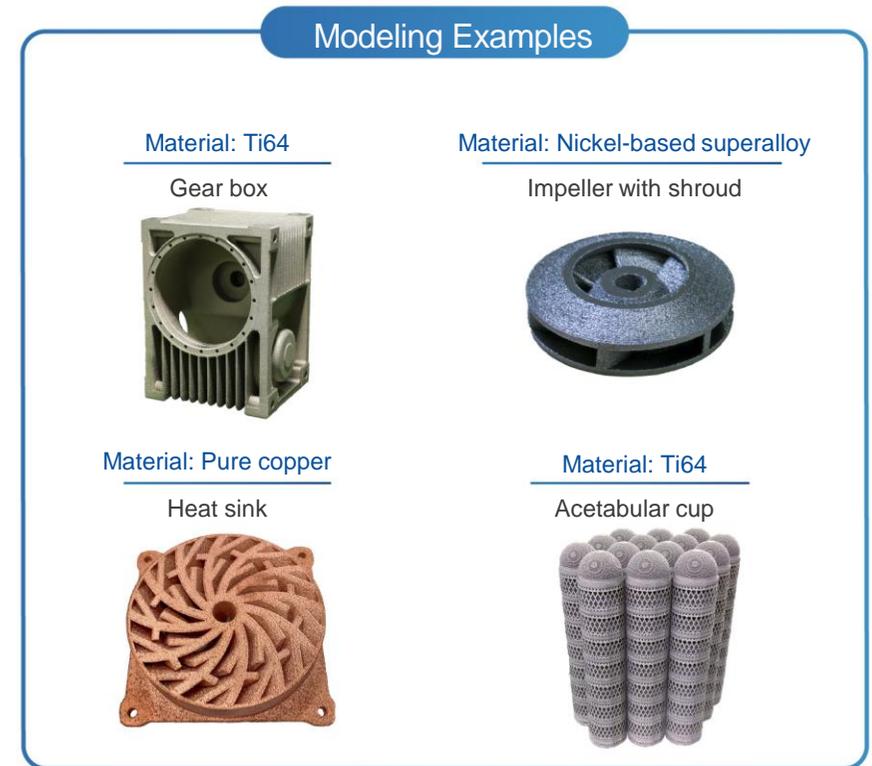
# Next Generation Industrial Electron Beam Metal 3D printer (AM machine)

- JAM-5200EBM Electron Beam Metal AM Machine (3D Printer) has been installed at Cumberland Additive Inc. (CAI) located at 'Neighborhood 91,' an end-to-end AM (Additive Manufacturing) production campus at Pittsburgh International Airport in Pennsylvania, USA  
Starting sales activities of 3D printers in the US through a partnership with CAI
- Plan to deliver a tool to a partner in Europe by the end of FY2023



**In front of JAM-5200EBM at Cumberland Additive (October 4, 2023)**

From left, Mr. Shiota (Corporate Officer, JEOL), Mr. Tazawa (Director & Senior Executive Officer, JEOL), Dr. Dawne Hickton (Chair and CEO, CAI), and Mr. Bob Pohorenec (President, JEOL USA Inc.)



2. Business status of each segment  
2-3. Medical Equipment Segment

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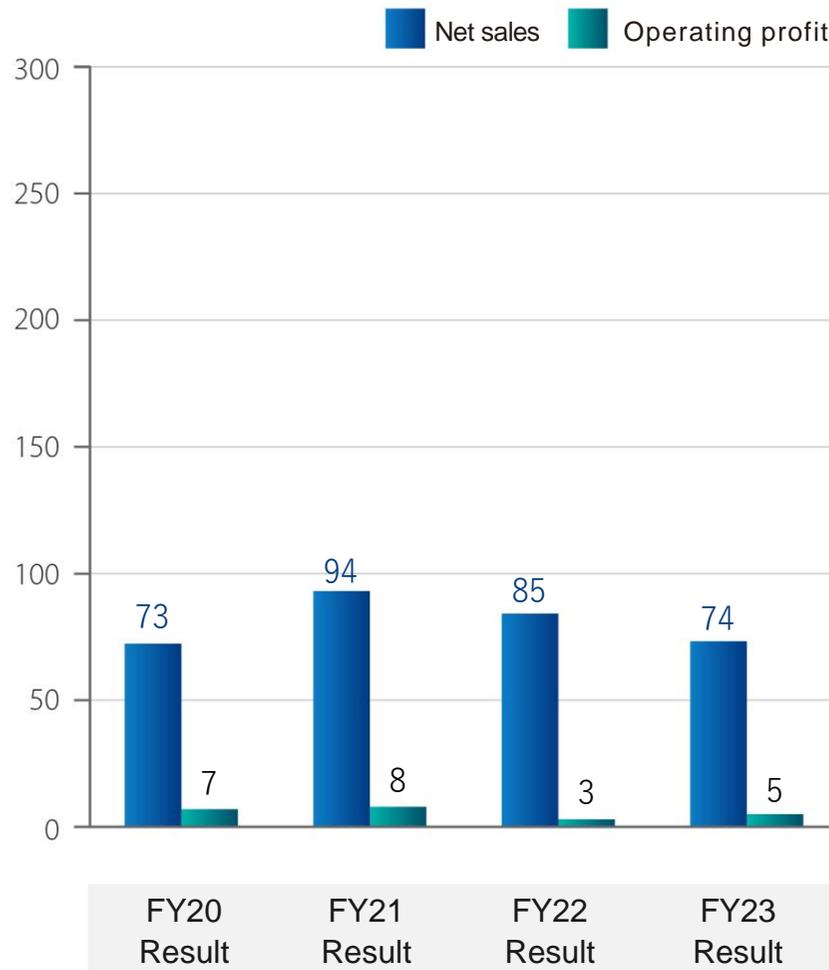


# Medical Equipment Segment

## Consolidated Net Sales and Operating Profit Transition

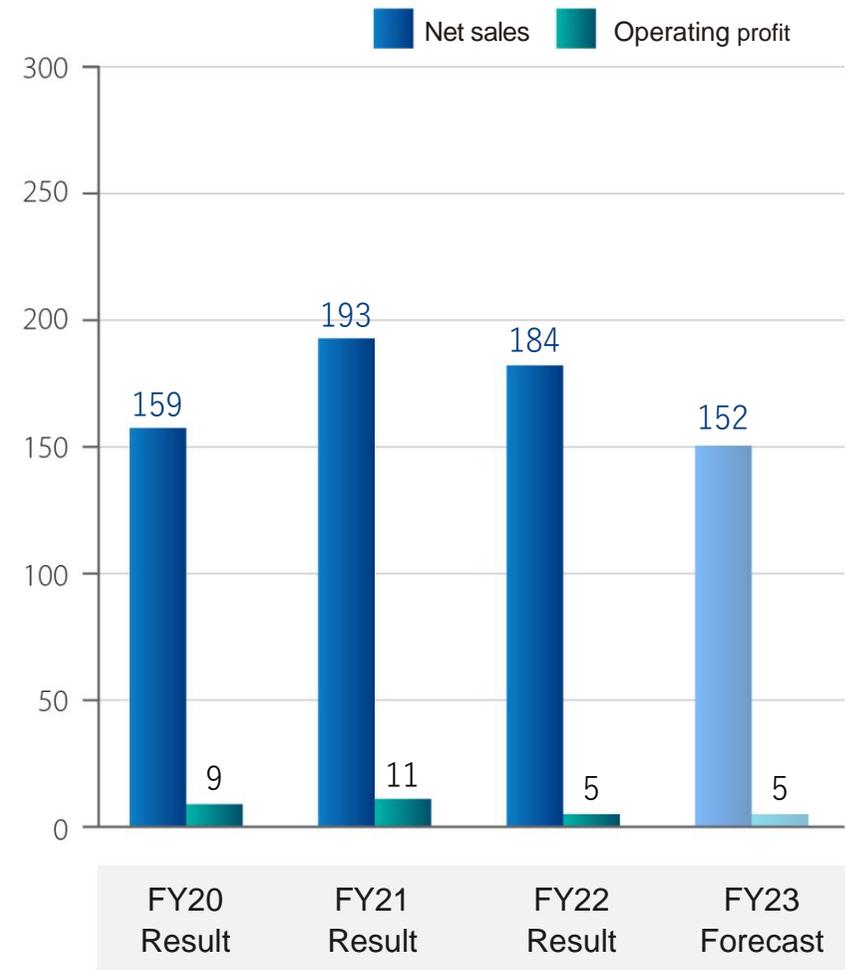
### 2nd Quarter

(100 million JPY)



### Full-year

(100 million JPY)

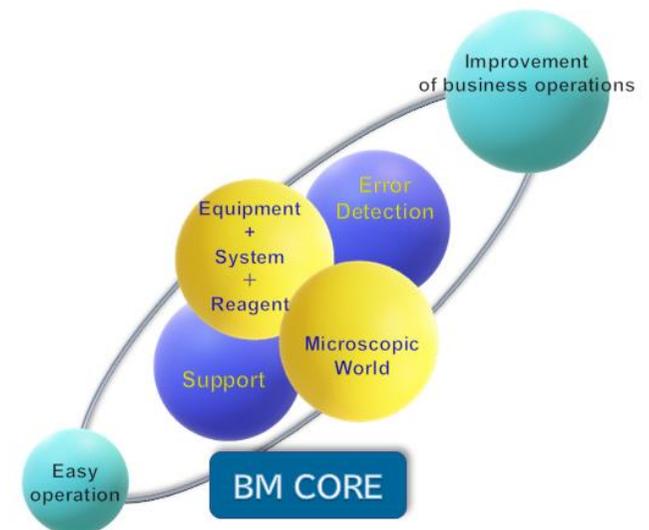
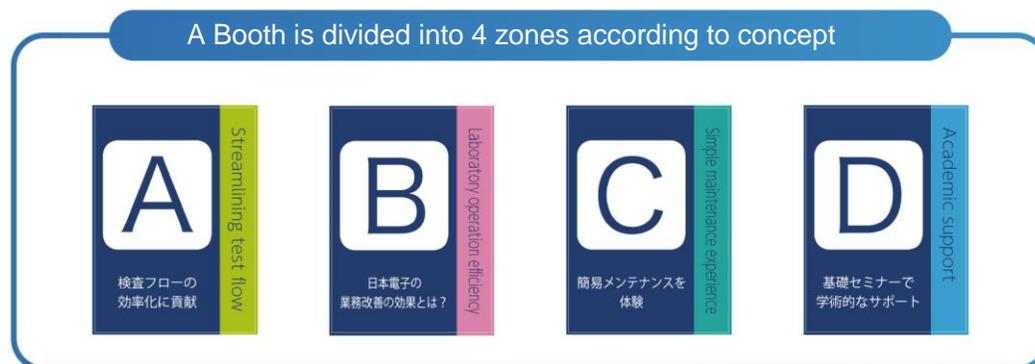
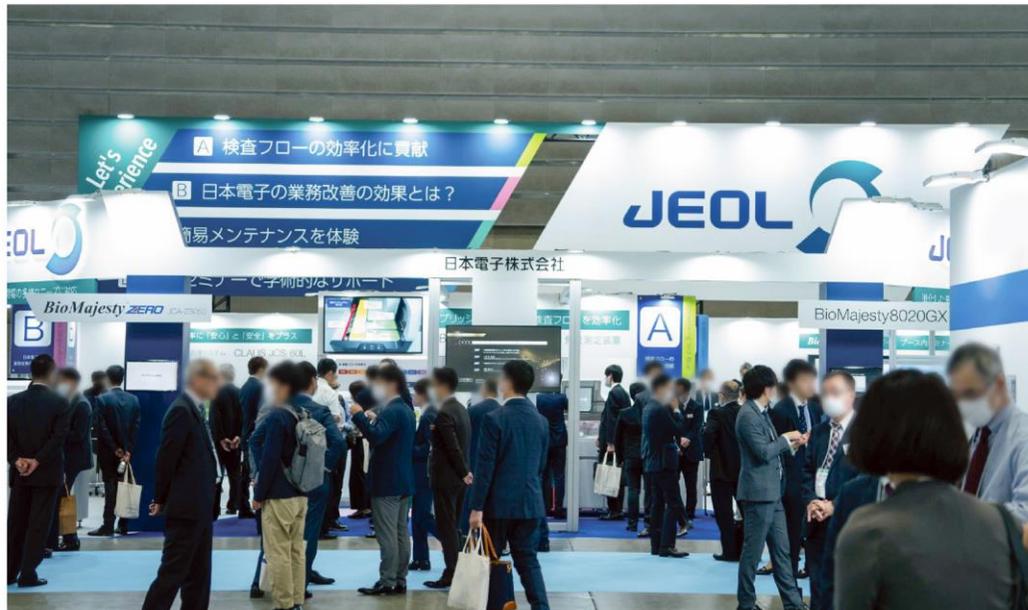


Exchange rate(1\$=)	¥ 107	¥ 110	¥ 133	¥ 141
Exchange rate(1€=)	¥ 121	¥ 131	¥ 139	¥ 154

Exchange rate(1\$=)	¥ 106	¥ 113	¥ 135	¥ 141
Exchange rate(1€=)	¥ 124	¥ 131	¥ 141	¥ 153

# Exhibited at “JACLaS EXPO 2023”

- Attended JACLaS EXPO 2023 in Yokohama Japan from October 6 to 8, 2023
- Attendance : 11,000 (8,365 in 2022)
- The booth concept is “Touch! Find! to experience the BM CORE ( JEOL’s strengths) that only JEOL can realize”



### 3. Summary

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## Becoming a top niche company supporting science and technology around the world

### Company Philosophy

On the basis of "Creativity" and "Research and Development", JEOL positively challenges the world's highest technology, thus forever contributing to the progress in both Science and Human Society through its products.

### Vision

#### "Evolving in the 70th Year"

Accelerate business expansion and achieve even higher profitability based on our unique technologies and human networks which have been developed since the company's founding.

### Mid-Term Management Plan "Evolving Growth Plan"

We aim to improve customer satisfaction by enhancing our R&D, manufacturing, and service capabilities.

▶ YOKOGUSHI ◀

Promote Innovation by co-creation

**Note on document handling**

Information provided by this document and presented orally by our representative contains assumptions and beliefs based on data currently available.

Readers should be aware that actual results could differ materially from this outlook due to various known and unknown factors that impact our performance such as economic trends, upturn or downturn in the semiconductor industry, and changes in R&D spending.

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