
Securities ID code: 6859

ESPEC CORP.

Results Briefing

for the Six Months Ended September 30, 2023

November 22, 2023

Satoshi Arata

Representative Director and President

Financial Result for the Six Months Ended September 30, 2023

Orders received were driven particularly by orders related to EVs and batteries.

Sales and profits increased significantly, reaching record highs, due to securing parts and strengthening production response.

2Q and full-year forecasts were upwardly revised.

	Year on Year	Comparison with Initial Forecasts
■ Orders Received	○ Remained at a high level in the Equipment Business and increased in the Service Business (mainly laboratory testing services)	○ Above forecasts in the Equipment Business (environmental test chambers and Energy Device Equipment) and the Service Business
■ Net Sales	○ Increased in all segments, particularly increasing substantially in the Equipment Business	○ Above forecasts in the Equipment Business and the Service Business
■ Operating Profit	○ Increased substantially due to revenue growth, despite an increase in SG&A	○ Above forecasts due to better-than-expected net sales and an improved cost of sales ratio in environmental test chambers and laboratory testing services
■ Ordinary Profit Profit Attributable to Owners of Parent	○ Increased substantially due to the increase in operating profit	○ Above forecasts due to the increase in operating profit

■ No revisions made to dividends from initial forecast (Interim: ¥25, Year-end: ¥45, Annual ¥70)

Summary of Profits and Losses

(Millions of yen)

	FY 2022 2Q Results	FY 2023 2Q Initial Forecasts	FY 2023 2Q Results	Year on Year	Comparison with Initial Forecasts
Orders Received	33,266	26,500	33,440	+0.5%	+26.2%
Net Sales	22,945	26,000	27,257	+18.8%	+4.8%
Cost of Net Sales Cost Ratio	15,150 66.0%	17,250 66.3%	17,771 65.2%	+17.3% 0.8pt melioration	+3.0% 1.1pt melioration
Gross Profit	7,794	8,750	9,485	+21.7%	+8.4%
SG&A	6,399	6,900	7,151	+11.8%	+3.6%
Operating Profit	1,395	1,850	2,333	+67.2%	+26.2%
Ordinary Profit	1,731	1,950	2,526	+45.9%	+29.6%
Profit Attributable to Owners of Parent	984	1,300	1,653	+68.1%	+27.2%

Performance by Segment

(Millions of yen)

Segment		FY 2022 2Q Results	FY 2023 2Q Initial Forecasts	FY 2023 2Q Results	Year on Year	Comparison with Initial Forecasts
Equipment Business	Orders Received	29,209	22,550	29,198	-0.0%	+29.5%
	Net Sales	19,650	22,450	23,533	+19.8%	+4.8%
	Operating Profit	1,403	1,870	2,175	+55.0%	+16.3%
Service Business	Orders Received	3,470	3,350	3,785	+9.1%	+13.0%
	Net Sales	3,020	3,150	3,445	+14.1%	+9.4%
	Operating Profit	72	30	249	+244.7%	+730.4%
Other Business	Orders Received	747	750	655	-12.3%	-12.5%
	Net Sales	405	550	475	+17.5%	-13.5%
	Operating Profit	-80	-50	-88	-	-
Elimination	Orders Received	-161	-150	-199	-	-
	Net Sales	-130	-150	-197	-	-
	Operating Profit	-0	0	-2	-	-
Total	Orders Received	33,266	26,500	33,440	+0.5%	+26.2%
	Net Sales	22,945	26,000	27,257	+18.8%	+4.8%
	Operating Profit	1,395	1,850	2,333	+67.2%	+26.2%

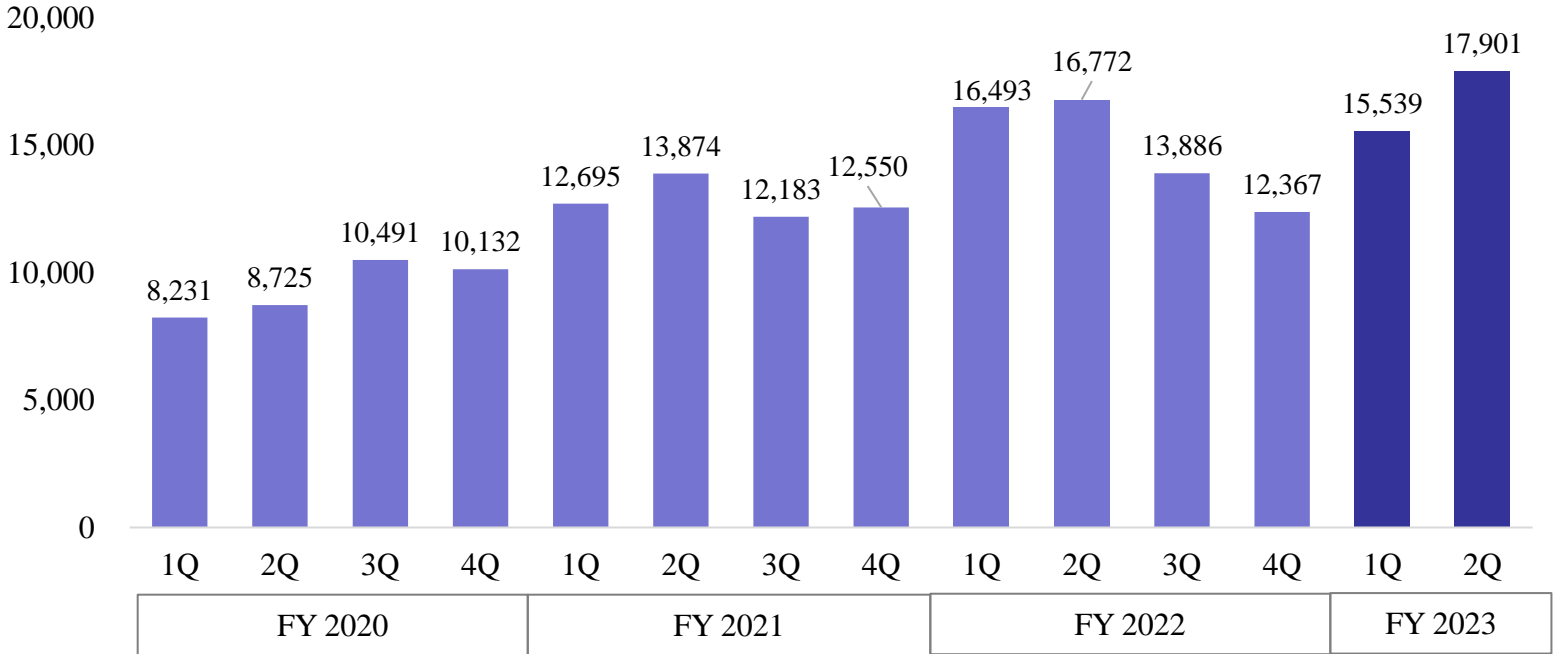
Orders Received in FY2023 2Q

■ Although orders received were forecast to decrease year on year, orders were driven by domestic investment in EVs and batteries (environmental test chambers, energy device equipment, laboratory testing services).

Orders received in FY2023 1H reached record highs for the third consecutive period.

Trends in orders received per quarter

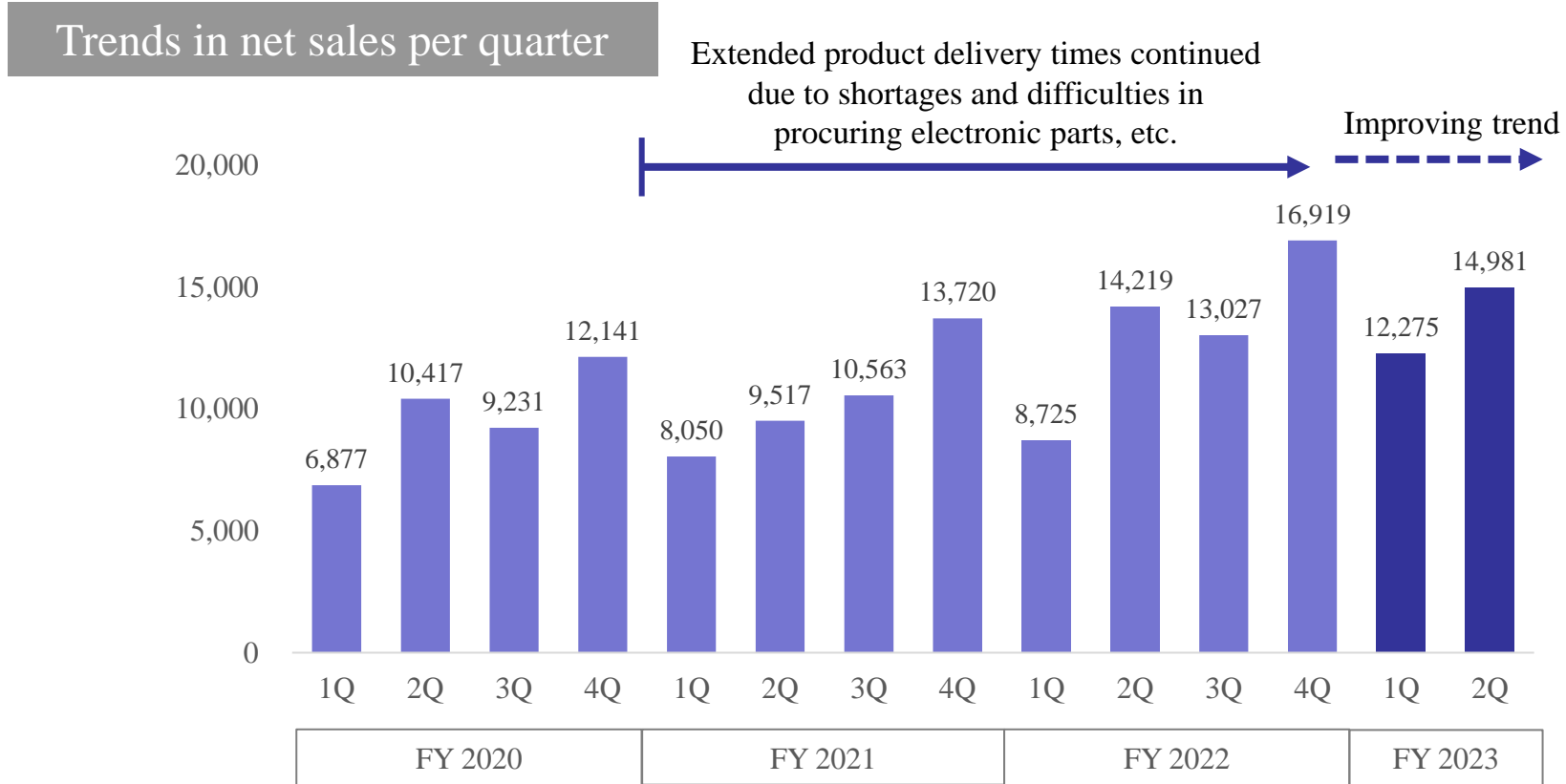
(Millions of yen)



Net Sales in FY2023 2Q

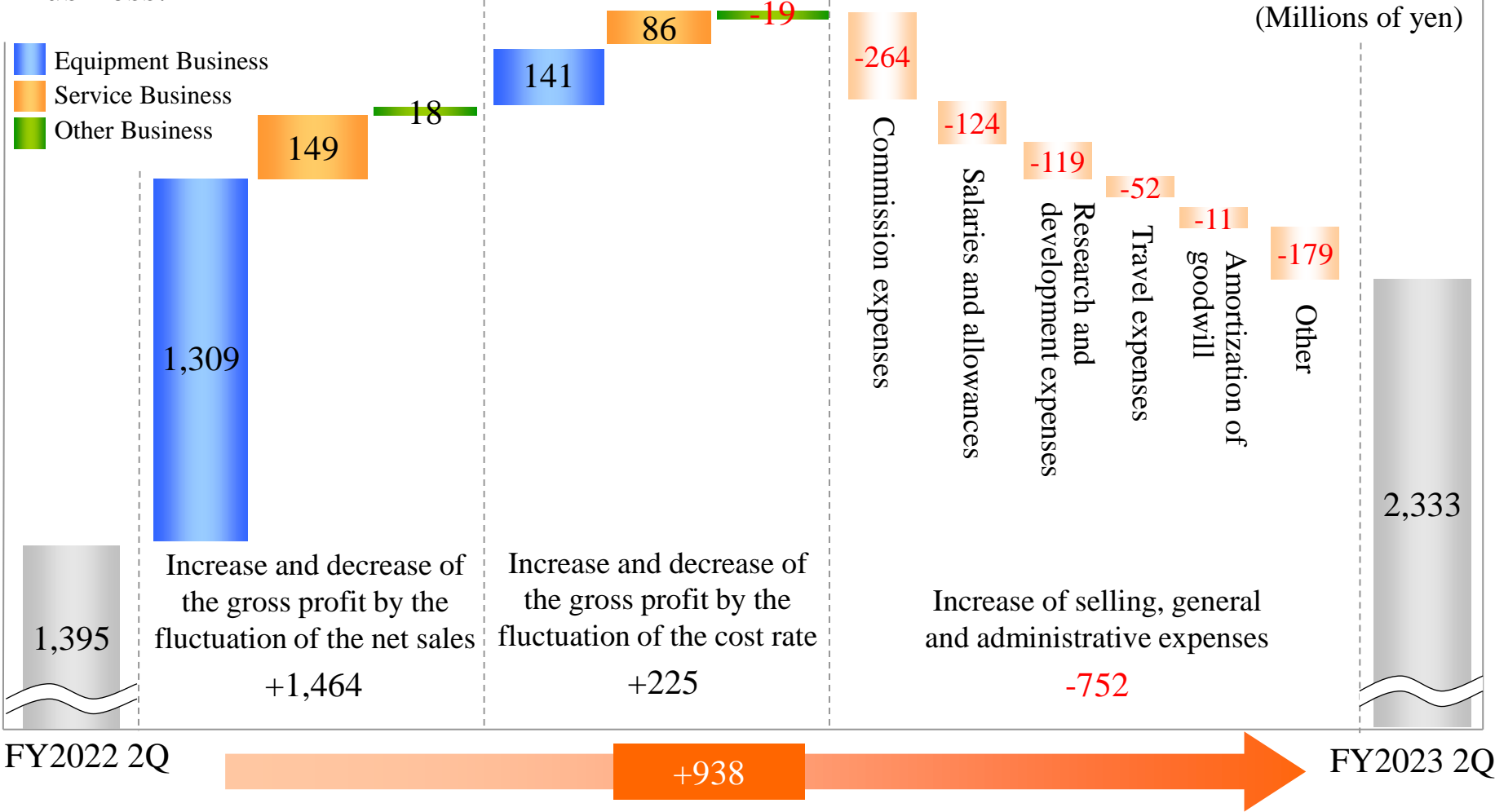
■ Although extended delivery times continued for parts, progress was made on clearing the order backlog as of the end of March 2023 and improving product lead times due to securing parts and strengthening production response.

1H net sales reached a record high for the second consecutive period.



Analysis of Operating Profit Increase and Decrease Factors

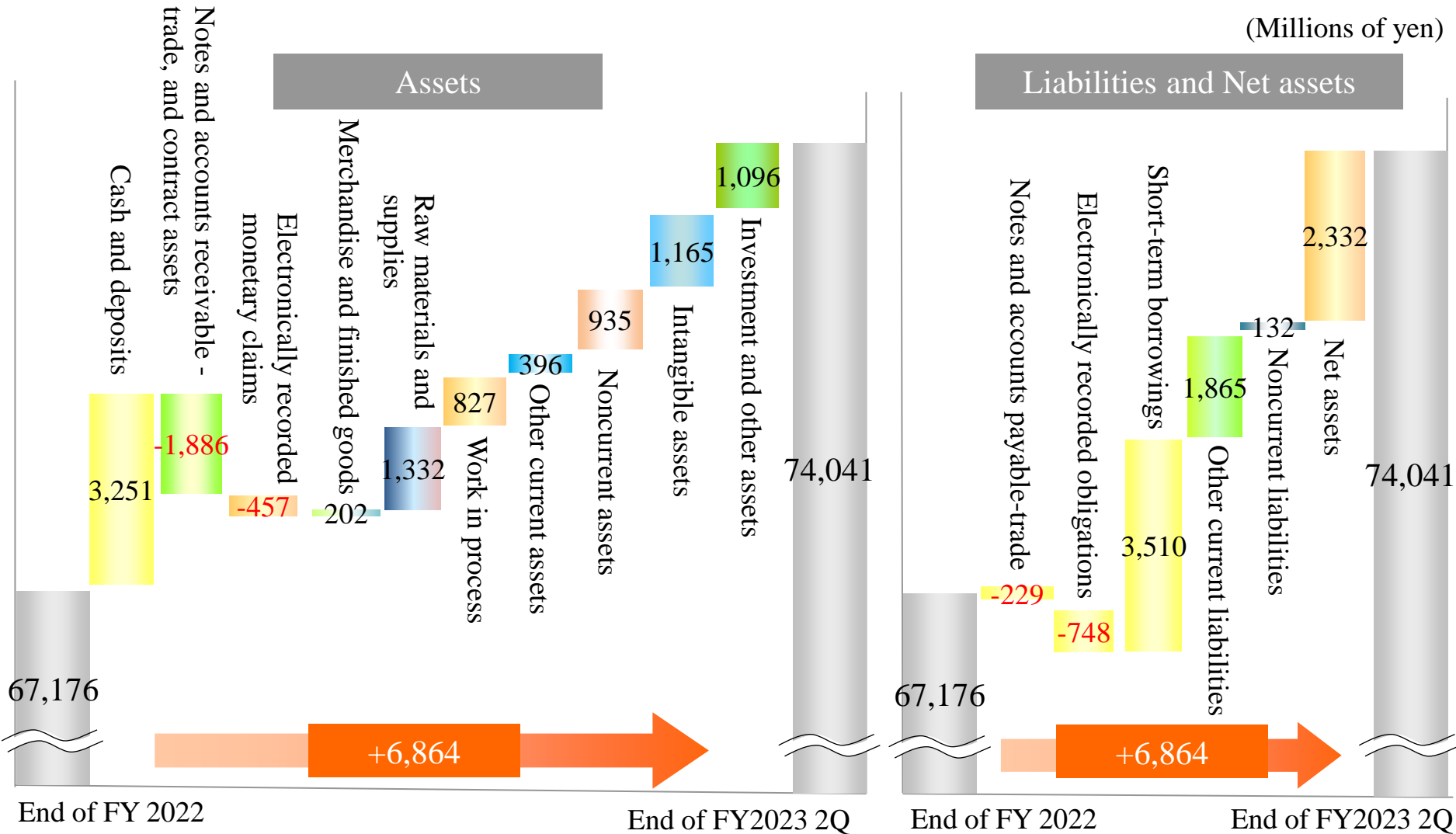
Despite an increase in selling, general and administrative expenses, profit increased by approximately ¥0.9 billion due mainly to a boost from increased sales in the Equipment Business.



*Totals have been calculated using the gross profit per net sales rate.

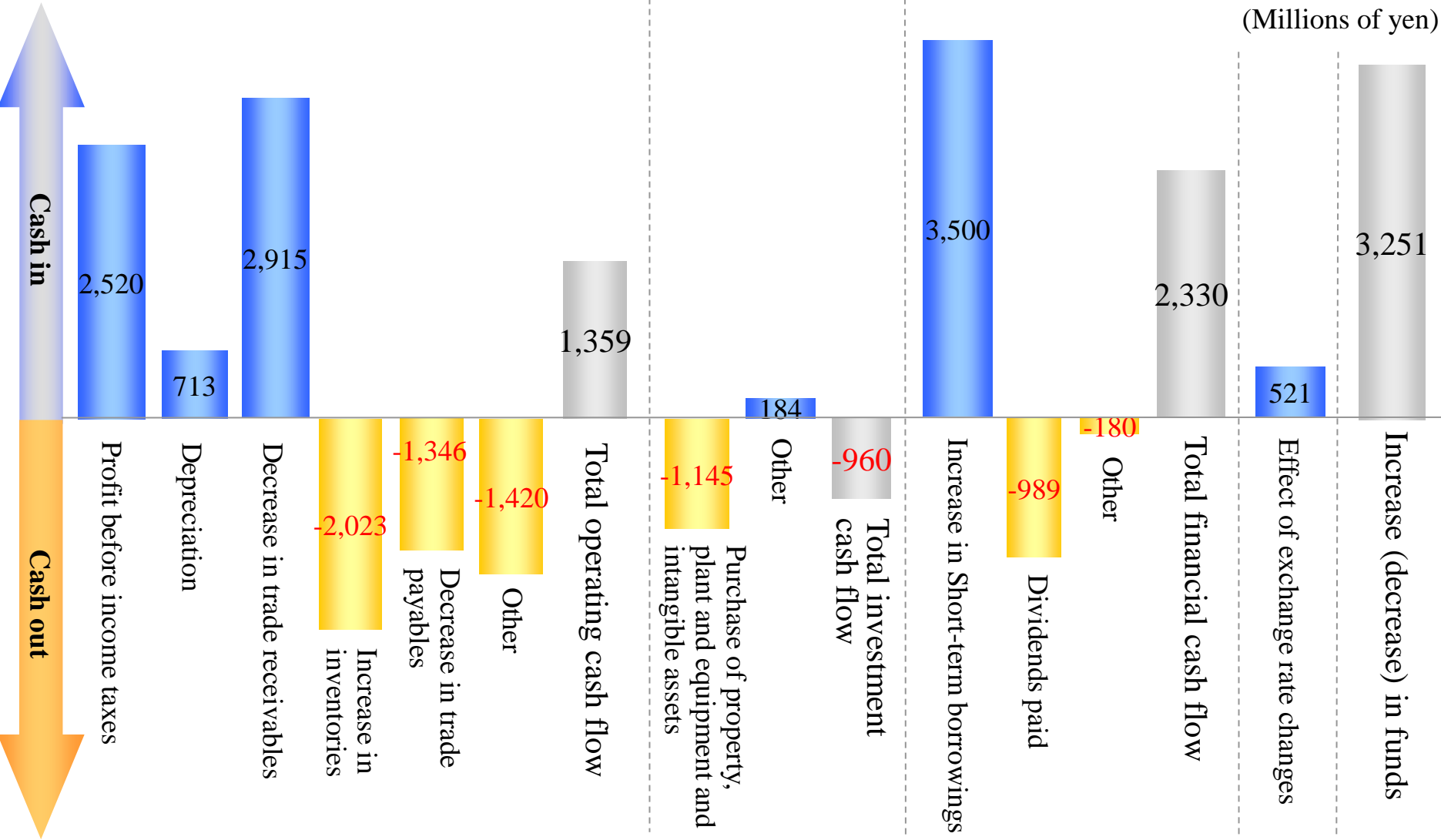
Statement of Assets and Liabilities

Assets increased by approximately ¥6.8 billion, due mainly to an increase in cash and deposits reflecting short-term borrowings and increases in noncurrent and intangible assets.



Statements of Cash Flows

■ Cash increased by approximately ¥3.2 billion, mainly due to short-term borrowings.



Equipment Business

(Millions of yen)

	FY 2022 2Q Results	FY 2023 2Q Initial Forecasts	FY 2023 2Q Results	Year on Year	Comparison with Initial Forecasts
Orders Received	29,209	22,550	29,198	-0.0%	+29.5%
Net Sales	19,650	22,450	23,533	+19.8%	+4.8%
Operating Profit	1,403	1,870	2,175	+55.0%	+16.3%
Profit Ratio(%)	7.1%	8.3%	9.2%		

Environmental Test Chambers

- In Japan, orders received decreased year on year in highly versatile standardized products but increased in customized products, mainly in the automotive-related area, and net sales increased for both standardized and customized products.
- In overseas markets, orders received were down year on year, but net sales increased. There were year-on-year increases particularly in North America and Europe, as well as in South Korea and Taiwan. China was mostly unchanged year on year.

Energy Device Equipment

- Both orders received and net sales substantially increased year on year. Sales of chambers for charge-discharge testing were strong mainly in the Japanese market, due to the expansion of investment in electric vehicles (EVs) and secondary batteries.

Semiconductor Equipment

- Orders received decreased year on year, due mainly to the impact of curbs on memory-related investment. Net sales were mostly unchanged year on year.

Service Business

(Millions of yen)

	FY 2022 2Q Results	FY 2023 2Q Initial Forecasts	FY 2023 2Q Results	Year on Year	Comparison with Initial Forecasts
Orders Received	3,470	3,350	3,785	+9.1%	+13.0%
Net Sales	3,020	3,150	3,445	+14.1%	+9.4%
Operating Profit Profit Ratio(%)	72 2.4%	30 1.0%	249 7.2%	+244.7%	+730.4%

After-Sales Service and Engineering

- Orders received were on a par year on year as preventative maintenance services and repair services were solid, and net sales increased year on year

Laboratory Testing Services and Facility Rentals

- Orders received and net sales both increased year on year, due to a strong performance in laboratory testing services, centered on automotive rechargeable batteries.

Other Business

(Millions of yen)

	FY 2022 2Q Results	FY 2023 2Q Initial Forecasts	FY 2023 2Q Results	Year on Year	Comparison with Initial Forecasts
Orders Received	747	750	655	-12.3%	-12.5%
Net Sales	405	550	475	+17.5%	-13.5%
Operating Profit	-80	-50	-88	-	-
Profit Ratio(%)	-19.8%	-9.1%	-18.6%	-	-

Environmental Preservation, Plant Production Systems

■ Orders received decreased year on year, reflecting sluggish orders received for reforestation (tree planting) and plant research devices.

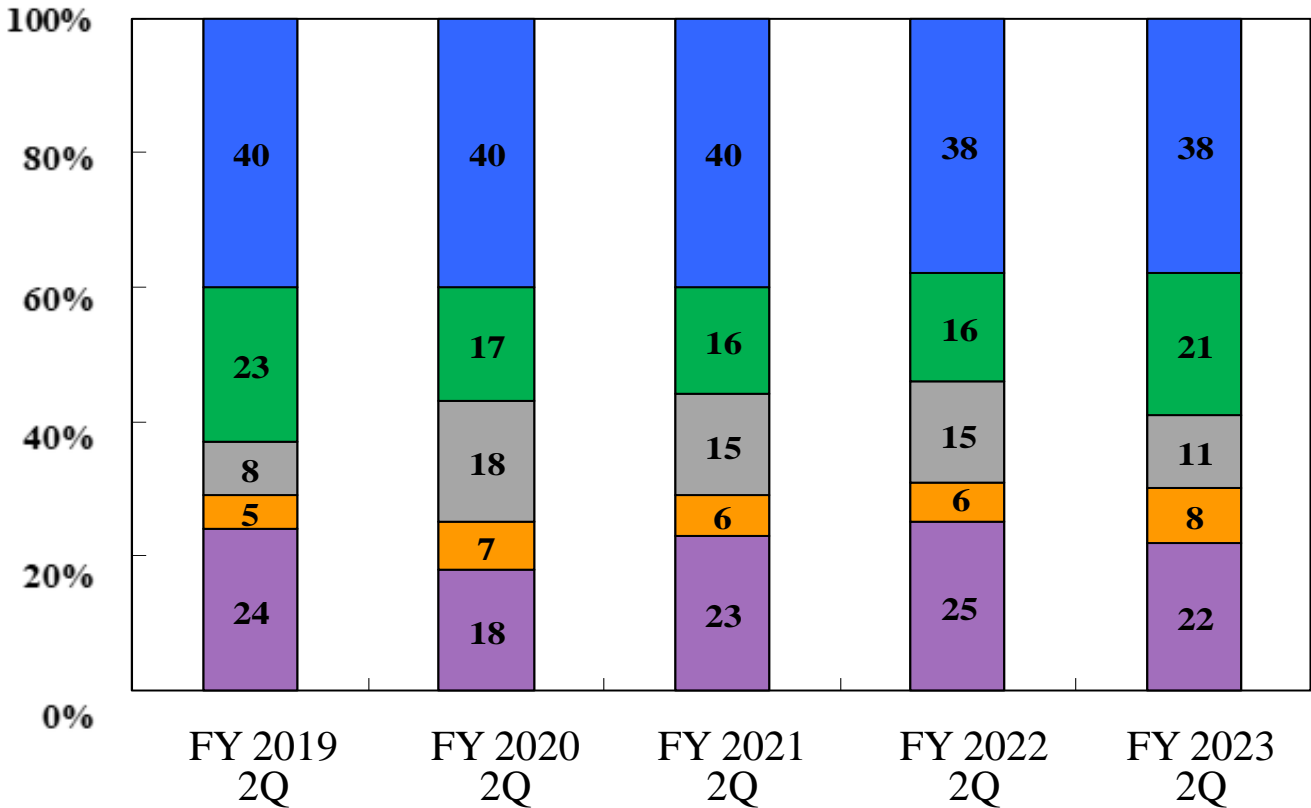
Net sales increased year on year due to factors such as the delivery of aquaponics, a new field the Company is involved in that combines hydroponics and land-based cultivation.

Sales by Market

■ Net Sales increased 1.2x in the electronic device and equipment market, 1.6x in the automobile market due to a significant increase centered on EVs and batteries and decreased in the semiconductor market.

Non-Consolidated (Equipment Business)

- Electronic device and equipment market
- Automobile market
- Semiconductor market
- Reserch institute
- Other markets

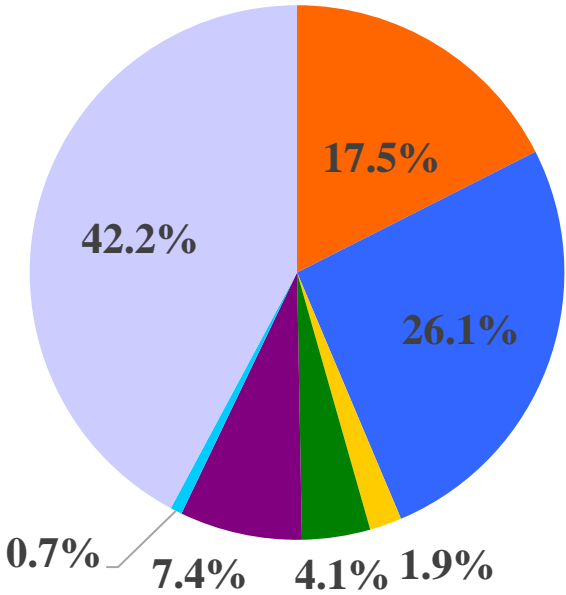


Sales by Region

■ Net sales increased primarily in Japan, North America, and Europe.
 Net sales in China were mostly unchanged year on year.

FY 2022 2Q

Overseas sales ratio: 57.8%



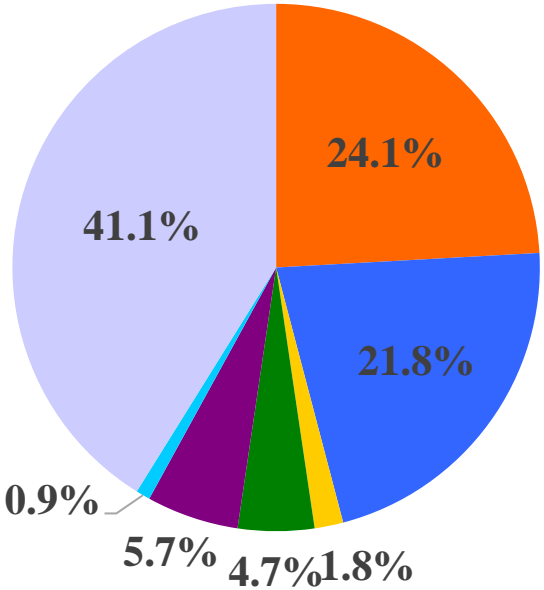
Total: 22,945 million yen

Overseas sales: 13,268 million yen

FY 2023 2Q

Overseas sales ratio: 58.9%

- North America & Europe
- China
- Taiwan
- South Korea
- Southeast Asia
- Other
- Japan



Total: 27,257 million yen

Overseas sales: 16,045 million yen

Forecasts for Fiscal 2023

■ Main points of full-year forecasts

- Although the momentum of orders received in 1H is expected to calm down, orders received should remain at a high level.
- Production of customized products is expected to be concentrated in the second half.
- Aim for record-high net sales and operating profit by making every effort to secure parts and resources.

■ Changes in assumed exchange rate

	FY 2021	FY 2022		FY 2023		
	Full Year Results	1H Results	Full Year Results	1H Results	Full Year Initial Assumption	Full Year Revised Assumption
U.S. dollars (yen)	112.40	134.04	135.51	141.06	130	145

Exchange rate sensitivity for FY2023 (¥1 depreciation against US\$1)

Net sales: Increase of ¥185 million, Operating profit: Increase of ¥35 million

■ Business transfer

Manufacturing and sales of the environmental testing equipment of Johnson Controls-Hitachi Air Conditioning Inc. were transferred to consolidated subsidiary COSMOPIA HIGHTECH CORP.

Transfer price: ¥1,800 million

Transfer date: September 30, 2023

Forecasts for Fiscal 2023

(Millions of yen)

	FY 2022	FY 2023	FY 2023			
	Full Year Results	Full Year Initial Forecasts	1H Results	Forecasts (Revised on Oct 27)		
				2H	Full year	Year on Year
Orders-received	59,521	54,000	33,440	27,559	61,000	+2.5%
Net sales	52,892	56,000	27,257	31,243	58,500	+10.6%
Gross profit	17,957	19,000	9,485	11,015	20,500	+14.2%
Profit ratio (%)	34.0%	33.9%	34.8%	35.3%	35.0%	+1.0pt
SG&A	13,590	14,000	7,151	7,848	15,000	+10.4%
SG&A ratio (%)	25.7%	25.0%	26.2%	25.1%	25.6%	-0.1pt
Operating profit	4,366	5,000	2,333	3,166	5,500	+26.0%
Profit ratio(%)	8.3%	8.9%	8.6%	10.1%	9.4%	+1.1pt
Ordinary profit	4,664	5,100	2,526	3,224	5,750	+23.3%
Profit ratio(%)	8.8%	9.1%	9.3%	10.3%	9.8%	+1.0pt
Profit attributable to owners of parent	3,330	3,650	1,653	2,346	4,000	+20.1%
Profit ratio (%)	6.3%	6.5%	6.1%	7.5%	6.8%	+0.5pt
Basic earnings per share(yen)	150.34	167.18	75.76	107.45	183.21	+21.9%

*ROE Revised FY2023 target from 7.5% to 8.1% (up 0.9-point year on year)

Investment Plans in FY2023

(Millions of yen)

	FY 2022	FY 2023	FY 2023			
	Full Year Results	Full Year Initial Forecasts	1H Results	Forecasts (no change from the initial forecasts)		
				2H	Full year	Year on Year
Capital expenditures	1,311	3,100	1,300	1,800	3,100	+136.5%
Depreciation expenses	1,328	1,480	715	765	1,480	+11.4%
R&D expenditures	1,041	1,490	619	871	1,490	+43.1%

Recognition of the Operating Environment

■ Orders will see the momentum of 1H settle down, but demand for EVs, batteries and other advanced technology fields will continue, particularly in Japan.

Equipment Business	Environmental Test Chambers	<p>Japan: Investments in EVs and batteries will remain favorable, while investment related to IoT will hold firm, despite settling down.</p> <p>China: Investments in EV and batteries will be firm, but semiconductor-related investment will decrease. Orders received in 2H are forecast to be mostly the same as in 1H.</p> <p>ASEAN: Investments related to EVs, batteries, and semiconductors will be firm.</p> <p>North America: Although investments related to airplanes and automobiles will be firm, concerns about an economic slowdown.</p> <p>Europe: Continuing trend of restrained investment due to economic slowdown.</p>
	Energy Device Equipment	Sales of chambers for charge-discharge testing will be strong, mainly in Japan.
	Semiconductor Equipment	Demand is expected to decrease year on year mainly due to curbs on memory-related investment.
Service Business	After-sales Service and Engineering, Laboratory Testing Services and Facility Rentals	<p>After-sales Service and Engineering: Expect a similar level of demand as in the previous fiscal year.</p> <p>Laboratory Testing Services: Demand will grow for testing automotive rechargeable batteries.</p>
Other Business	Environmental Preservation, Plant Production Systems	Demand will fall below the previous fiscal year due to few large projects.

Segment Financial Forecasts

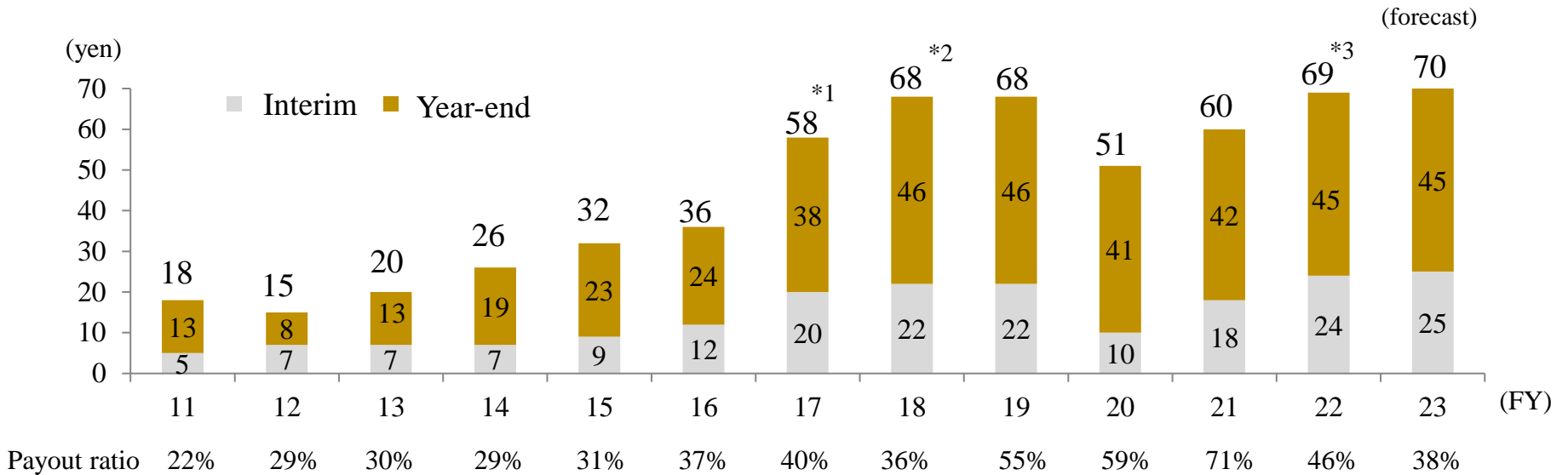
(Millions of yen)

		FY 2022	FY 2023	FY 2023			
		Full Year Results	Full Year Initial Forecasts	1H Results	Forecasts (Revised on Oct. 27)		
					2H	Full Year	Year on Year
Equipment Business	Orders-Received	51,446	45,500	29,198	23,561	52,760	+2.6%
	Net sales	45,031	47,700	23,533	26,817	50,350	+11.8%
	Operating profit	3,919	4,670	2,175	2,804	4,980	+27.0%
Service Business	Orders-Received	6,963	7,000	3,785	3,554	7,340	+5.4%
	Net sales	6,788	6,900	3,445	3,805	7,250	+6.8%
	Operating profit	428	300	249	301	550	+28.5%
Other Business	Orders-Received	1,469	1,800	655	644	1,300	-11.6%
	Net sales	1,404	1,700	475	824	1,300	-7.4%
	Operating profit	16	30	-88	58	-30	-
Elimination	Orders-Received	-359	-300	-199	-200	-400	-
	Net sales	-330	-300	-197	-202	-400	-
	Operating profit	1	0	-2	2	-0	-
Total	Orders-Received	59,521	54,000	33,440	27,559	61,000	+2.5%
	Net sales	52,892	56,000	27,257	31,243	58,500	+10.6%
	Operating profit	4,366	5,000	2,333	3,166	5,500	+26.0%

FY 2023 Dividend Forecast

■ No revision to the dividend forecast for FY2023, with the dividend payout ratio projected at 38.2%.

Dividend per share and dividend payout ratio



*1. Includes a dividend of ¥2 (interim dividend of ¥1 and year-end dividend of ¥1) to commemorate the 70th anniversary of our foundation in FY2017.

*2. FY2018 was an irregular 15-month fiscal period for overseas consolidated subsidiaries. The dividend payout ratio for a 12-month period is 39% (reference).

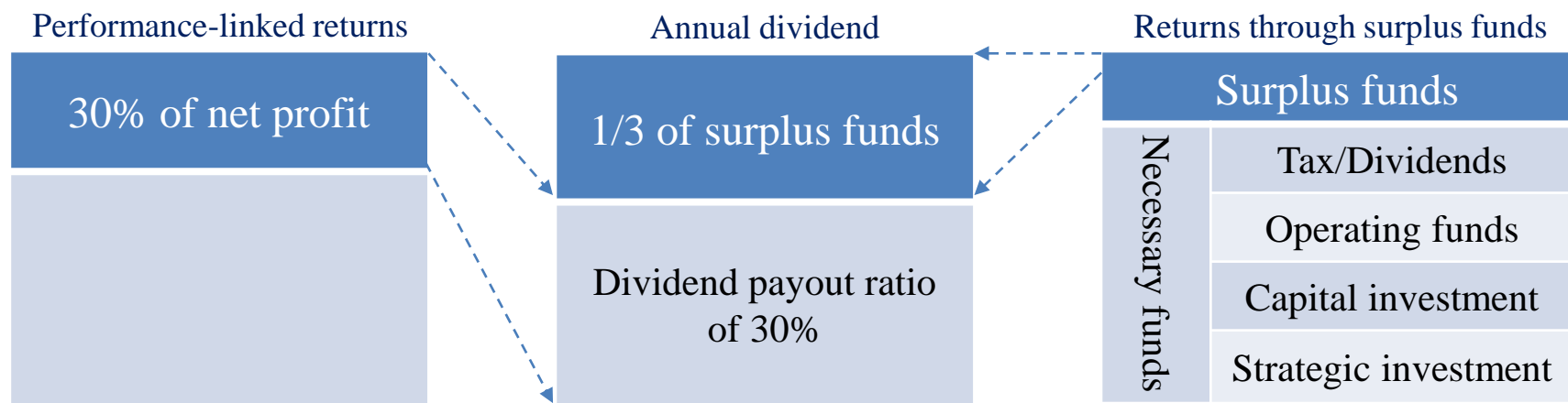
*3. Includes a dividend of ¥4 (interim dividend of ¥2 and year-end dividend of ¥2) to commemorate the 75th anniversary of our foundation in FY2022.

Basic policy on profit distribution

Our basic policy is to determine dividends reflecting sustainability and the dividend payout ratio

In addition to a dividend payout ratio of 30%, we will add dividends with 1/3 of the excess amount of scheduled necessary funds as a baseline.

While reflecting a necessary level of internal reserves, we flexibly implement acquisition of treasury shares.



*We will maintain stable dividends of ¥20 per year regardless of profit levels but will conduct a reevaluation in the event that we record a loss for two consecutive periods.

Main Initiatives in FY2023

Equipment Business

- Boost earnings power, normalize delivery schedules, and rapidly clear the order backlog
- Strengthen response to the globally expanding battery market

Service Business

After-sales Service:

Expand preventative maintenance services through “super support service plan,” a new service.

Laboratory Testing Services:

Enhance testing services for cutting-edge technology fields, primarily automobiles.

Area Strategy

Japan:

Increase sales and stimulate replacement demand through the launch of products that meet the needs of the EV, automated driving, and IoT fields.

North America:

Address demand growth in the automobile market driven by the Inflation Reduction Act (IRA).

China : Increase sales to the EV and IoT markets through Group collaboration

Europe: Cultivate the automobile and IoT markets by enhancing the product lineup

Korea : Increase sales to major global companies

Main Initiatives for ESG in FY2023

■ E (Environment)

- **Promote the 8th Medium-term Plan on the Environment (FY2022-2025)**
- **Global warming countermeasure:**
Change to low-GWP refrigerant, Reduce CO2 emissions in business activities such as manufacturing
- **Biodiversity conservation activities:**
Contributions through ESPEC MIC Corp.'s business,
Promote conservation activities through the management of “ESPEC’s 50-Year Forest”
- **In July 2023, received Science Based Targets (SBT) certification for FY2030 greenhouse gas reduction targets**

■ S (Society)

- **Strengthen human capital:**
Bolster the management skills of managers, enhance the personnel evaluation system and training system, implement “One-on-One meetings,” and train the next generation of executives
- **Promote diversity:** Train female managers, facilitate the success of senior and non-Japanese employees

■ G (Governance)

- **Strengthen Group governance, and develop and enhance the internal control system**

TOPICS 1

Battery Safety Testing Center Upgraded and expanded laboratory testing equipment

- In October 2023, upgraded and expanded charge-discharge testing equipment to address demand for battery charge-discharge testing.
- Plans call for installing additional equipment in 2024, with the aim of strengthening laboratory testing services for EVs.



Battery Safety Testing Center
(within the Utsunomiya Technocomplex)

Expanding Lineup of Semiconductor Inspection Equipment Burn-In Chamber Support for High Heat Generation Load

- In March 2023, expanded the Burn-In Chamber which has permissible heat generation load by four times (compared to the Company's existing devices) under temperatures from -20°C to 150°C .
- Enables precise temperature control even when semiconductors are in a state of high heat.
- Inspection volumes increased significantly, contributes to shorter inspection times.



Burn-In Chamber Support for High Heat
Generation Load

TOPICS 2

ESPEC MIC CORP. Started Joint Research at Kawasui Kawasaki Aquarium Using Aquaponics

In June 2023, ESPEC MIC CORP. started joint research with Kawasui Kawasaki Aquarium and the Laboratory of Tropical Crop Science, College of Bioresource Sciences, Nihon University on a demonstration experiment on a material circulation system using aquaponics.

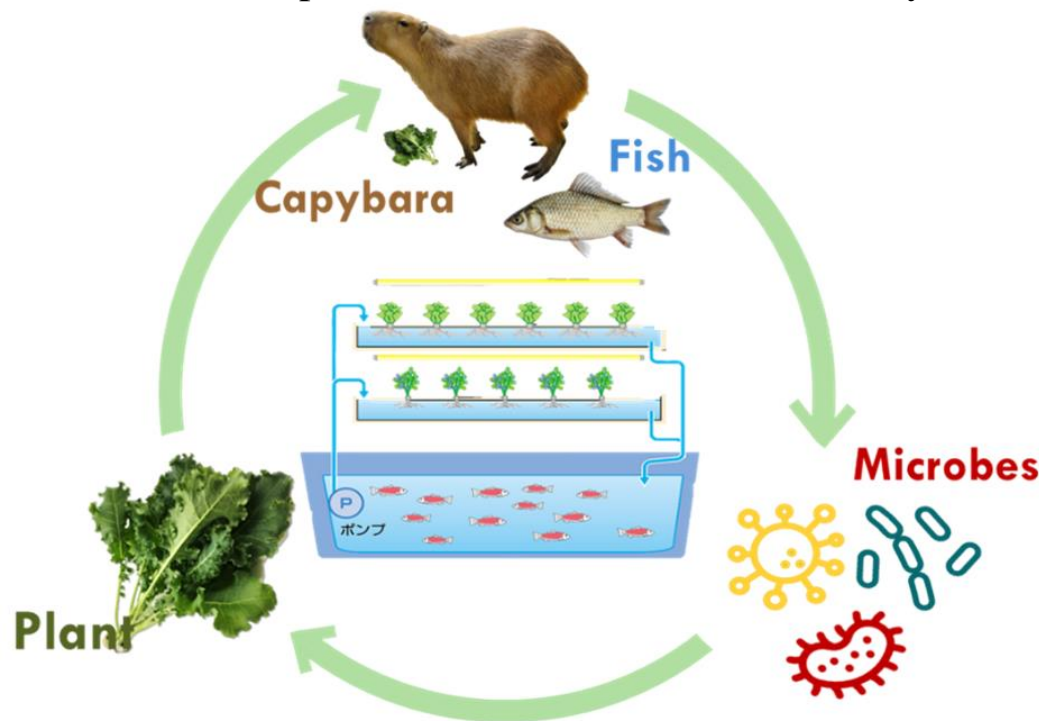


Diagram of a material circulation system using aquaponics

*What is aquaponics?

A system that combines hydroponics and land-based cultivation. Bodily waste from fish is decomposed by microorganisms and used as a source of nutrients needed to grow plants. This enables vegetables to be grown either without using chemical fertilizers or reducing the amount of their use. Has attracted attention in recent years as a farming method considerate of the environment.

External Recognition

2023

- Nov.
 - Rated 3.5 stars in the Nikkei's 5th SDGs Management Survey
 - Rated 3 stars in Nikkei's 7th Smart Work Management Survey
- Oct.
 - Ranked 157th in the Nikkan Kogyo Shimbun's 19th Corporate Power Ranking (sponsored by the Ministry of Economy, Trade and Industry)
- Aug.
 - First Awarded as an excellent company for the second consecutive year in the Gomez ESG Website Ranking 2023 by Broad Band Security, Inc.
- June
 - Selected for the First Time as an Asia-Pacific Climate Leader by the Financial Times in the UK and German data provider Statista.
- Mar.
 - Selected for the First Time as a Supplier Engagement Leader, the Top Rank in the CDP Supplier Engagement Ratings
- Feb.
 - Ranked 372nd in Toyo Keizai Inc.'s 2023 CSR Corporate Ranking



2022

- Dec.
 - A score of B for the third consecutive year in the CDP Climate Change 2022 Questionnaire
 - Selected as a "GRADE AAA" company website (overall ranking) for the second consecutive year in the All-Japanese Listed Companies' Website Ranking 2022 by Nikko Investor Relations Co., Ltd.
 - Awarded a Bronze Prize in the Gomez IR Website Ranking 2022 by Broad Band Security, Inc.
 - First Selection as Part of FTSE Blossom Japan Sector Relative Index



**FTSE Blossom
Japan Sector
Relative Index**

■ Inclusion in ESG indexes FTSE Blossom Japan Sector Relative Index (First Selection in April 2022)

These materials contain forward-looking statements, including the Company's present plans and forecasts of performance, that reflect the Company's plans and forecasts based on the information presently available. These forward-looking statements are not guarantees of future performance, and plans, forecasts, and performance are subject to change depending on future conditions and various other factors.

INQUIRIES:

ESPEC CORP.

3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan

E-mail: ir-div@espec.jp

Sustainability Management Department

Yasutoshi Nakagawa (General Manager),

IR & Public Relations Group

Natsuko Okawa and Hana Kaigawa

Quality is more than a word

ESPEC

Securities ID code:6859

Reference

Company Presentation and Business Overview

ESPEC CORP.
November 22, 2023

Company Profile

Industry-leading manufacturer of environmental test chambers

Name	ESPEC CORP.
Head Office	3-5-6, Tenjinbashi, Kita-ku, Osaka
Representative	Representative Director and President Satoshi Arata
Established	July 25, 1947
Incorporated	January 13, 1954
Paid-up Capital	¥6,895 million
Issued shares	23,781,394 Shares
Employees	1,691 (consolidated)
Main Business	Manufacture and Sales of Environmental Test Chambers, Energy Device Equipment, Semiconductor Equipment and Plant Factory. After-sales Service, Laboratory Testing Services and others.



Head Office

Share of Environmental
Test Chambers

Over 30% worldwide, Over 60% domestic

* Market shares are ESPEC estimates

(As of March 31, 2023)

Global Network

Consolidated Subsidiaries

14 companies
(Global 9 companies,
Domestic 5 companies)

Global Network

50 locations
44 companies

Business Facilities in Japan: 16
Domestic Agencies in Japan: 46

EUROPE

- ESPEC EUROPE GmbH
- ESPEC IKLIM KABINLERI SATIS VE MUHENDISLIK LIMITED SIRKETI

U.S.A.

- ESPEC NORTH AMERICA, INC *

ASIA

- SHANGHAI ESPEC ENVIRONMENTAL EQUIPMENT CORP. *
- ESPEC ENVIRONMENTAL EQUIPMENT (SHANGHAI) CO., LTD.
- ESPEC TEST EQUIPMENT (GUANGDONG) CO., LTD. *
- ESPEC TEST TECHNOLOGY (SHANGHAI) CO., LTD.
- ESPEC (CHINA) LIMITED
- ESPEC KOREA CORP. *
- ESPEC ENGINEERING (THAILAND) CO.,LTD
- ESPEC ENGINEERING VIETNAM CO., LTD.

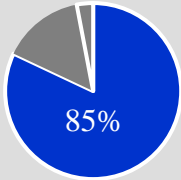
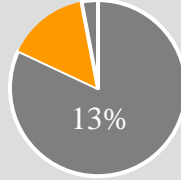
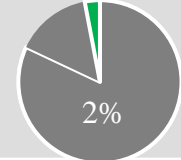
JAPAN

- ESPEC CORP. *
- ESPEC TEST SYSTEM CORP. *
- ESPEC ASSIST CORP.
- ESPEC MIC CORP.
- ESPEC THERMAL TECH SYSTEM CORP. *
- COSMOPIA HIGHTECH CORP. *

●: Consolidated Subsidiaries
-: Non-consolidated Subsidiaries

*Denotes company with production functions.

Summary of ESPEC Business (Per Market / Use)

		Main Products	Market	Use	Sales Composition (FY2022)
Equipment Business	Environmental Test Chambers	<ul style="list-style-type: none"> •Temperature & humidity chamber •Thermal shock chamber •Bench-top type temperature & humidity chamber •HAST chamber •Walk-in type temperature & humidity chamber •Combined temperature & humidity chamber •HALT & HASS test chamber •FPD equipment 	<ul style="list-style-type: none"> •Electronic component and equipment market •Automobile market •Semiconductor market •Pharmaceuticals, Cosmetics, Foods market •LCD and Organic Electro-Luminescence market 	<ul style="list-style-type: none"> •For R & D •For credibility and evaluation •For production and inspection 	
	Energy Device Equipment	<ul style="list-style-type: none"> •LIB charge-discharge cycle evaluation equipment •LIB safety evaluation system •Fuel cells evaluation system 	<ul style="list-style-type: none"> •Next generation automobile market •Secondary batteries market •Fuel cells market 	<ul style="list-style-type: none"> •For R & D •For credibility and evaluation •For safety evaluation •For production 	
	Semiconductor Equipment	<ul style="list-style-type: none"> •Burn-in system •Semiconductor evaluation system 	<ul style="list-style-type: none"> •Semiconductor market •Automobile market 	<ul style="list-style-type: none"> •For production and inspection •For development and evaluation 	
Service Business	After-sales Service and Engineering	<ul style="list-style-type: none"> •After-sales service •Construction around equipment 	<ul style="list-style-type: none"> •Electronic component and equipment market •Automobile market •Semiconductor market 	—	
	Laboratory Testing Services and Facility Rentals	<ul style="list-style-type: none"> •Laboratory testing services •Equipment rental •Resale •Calibration 		<ul style="list-style-type: none"> •For R & D •For credibility and evaluation 	
Other Business	Environmental Preservation	Reforestation (Tree planting), Waterfront biotope restoration, Urban greening			
	Plant Production Systems	Plant factory, Equipment for growing plants			

History of Environmental Test

What is Environmental Test

Test to analyze and evaluate effects of environmental factors such as temperature, humidity, pressure, and vibration on various industrial products like electronic components in order to ensure product quality.

1950s

The environmental test was JIS-standardized in Japan for consumer products.



1970s–1990s

“Reliability” and “quality control” became important issues in product development. Demand increased dramatically due to a rapid shift toward computerization and the use of electronic components.



Present

Demand is expanding in the development fields of IoT and next-generation automobiles against the backdrop of digitalization and decarbonization.



1961 Japan's First Environmental Test Chamber



Low Temperature & Humidity Chamber
"Lucifer"

Worldwide Market Share No.1



Over 60%
domestic

Over 30%
worldwide

* Market shares are ESPEC estimates

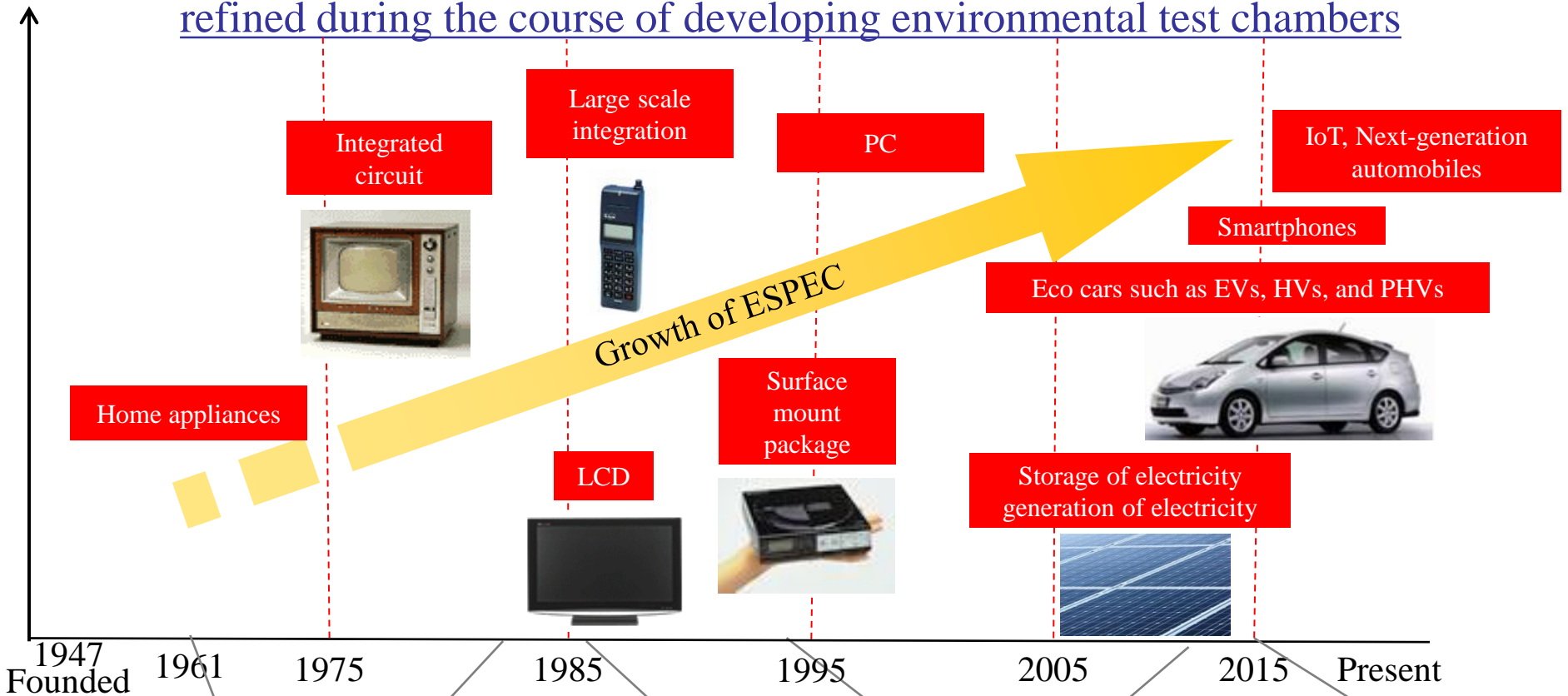
Consecutively selected as a winner of
Ministry of Economy, Trade and Industry (METI)
“Global Niche Top Companies Selection 100”
(FY 2013, FY 2020)





Temperature & Humidity Chamber
"Platinous J series"

Transition in Business

Expanding business based on the “environmental creation technology” refined during the course of developing environmental test chambers



Business expansion	<p>1947 Founded</p>	<p>1961 Environmental test chambers developed</p> 	<p>1982 Launching of the semiconductor equipment business</p> 	<p>1986 Launching of the FPD Equipment business</p> 	<p>1994 Launching of the measurement system business</p> 	<p>2011 Launching of the energy device equipment business</p> 	<p>2015 Launching of battery safety testing business</p> 
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ESPEC's Strengths

Top Market Share

Share of Environmental Test Chambers:

Over 30% worldwide, Over 60% domestic (ESPEC estimates)

First in Japan to develop environmental test chambers, rapidly established a brand in Japan and overseas and have held the top market share for many years

- Developed a variety of products with high quality and meeting customer requirements

- Production technology capabilities that enable high-mix, low-volume production

- Total solutions for environmental tests, including products, laboratory testing services and technical support, and after-sales service capabilities

Provide products globally that comply with the needs of respective countries through an extensive global network

- Consolidated subsidiaries: 14 (9 overseas, 5 domestic)

- Overseas production bases: North America 1 company, China 2 companies, South Korea 1 company

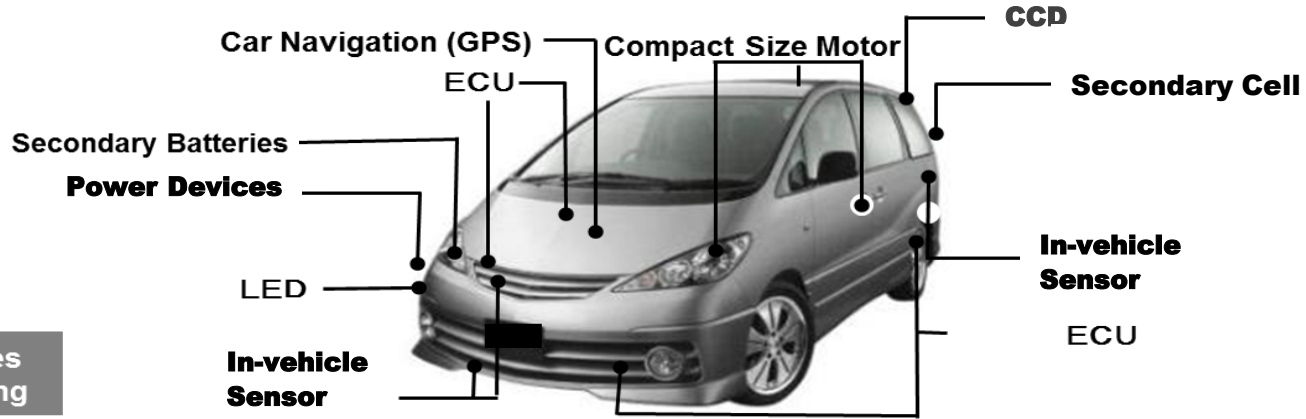
- Overseas network: 50 locations (countries or territories), 44 companies

Technological Capabilities Product and Service Capabilities




Global Structure

Equipment Business: Usage Case with Environmental Test Chambers

Ensure reliability of new technologies and new products by repeatedly testing each component, module and finished product



Representative Examples for Environmental Testing

Device	Process/Test Condition		Our Products
【Power Device】 	Inspection	■ Thermal shock test: $-40^{\circ}\text{C} \leftrightarrow +125^{\circ}\text{C}$	Thermal shock chamber
		■ High temperature exposure: $+175^{\circ}\text{C}$, $+85^{\circ}\text{C}$	(Compact size) Oven
		■ Burn-in test	Burn-in chamber
【In-vehicle Sensor】 	Inspection	■ Temperature cycle test of printed circuit board: $-40^{\circ}\text{C} \leftrightarrow +110^{\circ}\text{C}$	Temperature & humidity chamber (Platinous) /Oven
		■ Temperature characteristic test after soldering: Linear change between -30°C and $+85^{\circ}\text{C}$	Burn-in chamber, Rapid-rate thermal cycle chamber
	Evaluation	■ Thermal shock test : $-30^{\circ}\text{C} \leftrightarrow \text{RT} \leftrightarrow +80^{\circ}\text{C}$, $-55^{\circ}\text{C} \leftrightarrow +155^{\circ}\text{C}$	Thermal shock chamber
【CCD/CMOS】 	Production	■ Diffusion Test: $+150^{\circ}\text{C}$	Compact size Oven
		■ Drying after cleaning: $+85^{\circ}\text{C}$	Clean Oven
	Evaluation	■ Screening: $+85^{\circ}\text{C}$	Temperature chamber (Platinous) / Burn-in chamber
	Inspection	■ Temperature and humidity test: $+85^{\circ}\text{C} / +85\% \text{rh}$, $+60^{\circ}\text{C} / 90\% \text{rh}$	Temperature & humidity chamber (Platinous)
		■ Acceleration test: $+120^{\circ}\text{C} / 100\% \text{rh}$	HAST chamber
	■ Thermal shock test : $-40^{\circ}\text{C} \leftrightarrow +125^{\circ}\text{C}$, $-20^{\circ}\text{C} \leftrightarrow +85^{\circ}\text{C}$	Thermal shock chamber	

Equipment Business: Main New Products

Release Date	Name of product	Features
Mar. 2023	Burn-In Chamber Support for High Heat Generation Load	<ul style="list-style-type: none"> • Enables precise temperature control even when semiconductors are in a state of high heat • Inspection volumes increased significantly, contributes to shorter inspection times
Feb. 2023	Expanded Anechoic Box Thermostatic Chamber Lineup	<ul style="list-style-type: none"> • Supports temperature characteristics testing of 5G communications devices • Expanded four types with larger internal volume to support larger test products
Apr. 2022	Environmental Stress Chamber AR Series Featuring R-473A Low-GWP Refrigerant	<ul style="list-style-type: none"> • Greatly reduces GWP values (an 88% reduction), and also enables energy conservation during operation <p>*GWP: Global Warming Potential</p>
Jun. 2021	Ultra-Low-Temperature Freezers	<ul style="list-style-type: none"> • Used for small lot storage to -75°C for items such as COVID-19 vaccines
Apr. 2021	Freezer for Temperature Controlled Transport	<ul style="list-style-type: none"> • Optimal for small-lot transport and storage of items such as COVID-19 vaccines • Vibration resistant, energy efficient and portable
Feb. 2021	Vacuum Low-Temperature Heating Cooker – Model Change	<ul style="list-style-type: none"> • Enables precise control of not only temperature but also the degree of vacuum
Aug. 2020	Expanded Environmental Stress Chamber AR Series Lineup	<ul style="list-style-type: none"> • Expanded the series with launch of four new models as rapid-rate temperature cycle type products, bringing the total lineup to 32 models across the series
Mar. 2020	Transportation Evaluation System	<ul style="list-style-type: none"> • Recreates transport environments for pharmaceuticals and medical devices • Applications in biopharmaceutical R&D and medical equipment quality control
Feb. 2020	Walk-In Type Temperature (& Humidity) Chamber for Drive-In Series	<ul style="list-style-type: none"> • Recreates various weather environments in a large space accommodating two vehicles
Feb. 2020	Walk-In Type Temperature (& Humidity) Chamber for High-Power Series	<ul style="list-style-type: none"> • Compatible with international IEC standards and LV124 German Automotive Manufacturer Testing Standards

Equipment Business: New Product Introduction 1

(Released in Feb. 2020)

■ Walk-In Type Temperature (& Humidity) Chamber for High-Power Series

Feature:

- Compliant with IEC International Standards and German Automotive industry standard LV124 (Can perform rapid temperature change testing at 3K/minute with the specimens inside.)
- Low GWP coolant (R-449A) as standard equipment



Walk-In Type Temperature (& Humidity) Chamber for High-Power Series

■ Walk-In Type Temperature (& Humidity) Chamber for Drive-In Series

Features:

- Closely recreates various weather environments in a large space of approximately 500 m³ accommodating two vehicles to perform actual vehicle testing
- Multiple environmental factors can be recreated simultaneously, including temperature and humidity, sunlight, rain, snow, fog, and wind

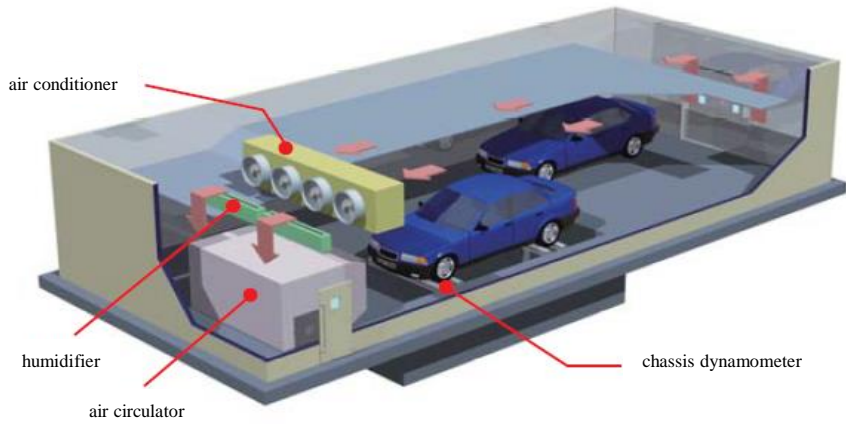


Image of vehicle test

Walk-In Type Temperature (& Humidity) Chamber for Drive-In Series

Equipment Business: New Product Introduction 2

For the medical field

(Released in Apr./Jun. 2021)

■ Freezer for Temperature Controlled Transport Ultra-Low-Temperature Freezer

Features:

- Freezer for Temperature Controlled Transport:
Supports small-lot transport and storage of items such as vaccines; vibration resistant, energy efficient and portable.
- Ultra-Low-Temperature Freezer:
Capable of small-lot storage to -75°C ; Two types of freezers, floor and table.



Freezer for Temperature Controlled Transport



Ultra-Low-Temperature Freezer

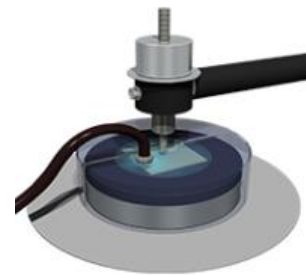
For material field

(Released in Dec. 2019)

■ Thermal Air Test System

Features:

- Can be combined with various materials testing instruments to perform materials testing in actual usage environment with given temperature
- Uses ESPEC's proprietary new method for cooling and heating test pieces efficiently



Example of set up with friction and wear testing machines and hardness meter (Left)
Thermal Air Test System (Right)

Equipment Business: Examples of Products Delivered 1

(Delivered in Jul. 2018)

■ Walk-in Type Temperature (& Humidity) Chamber, for building materials

Uses:

Reproduce the environment inside apartments (temperature and humidity) and outdoors (weather such as rain, snow, and sunlight), conduct performance evaluations and durability tests of building materials for sash, balcony, etc.



Walk-in Type Temperature (& Humidity) Chambers,
for use for building materials



Temperature (& Humidity) Chambers are movable so that building materials for testing can be easily changed



Furnished with irradiation equipment and watering (rain) equipment, to reproduce an outdoor weather environment

Equipment Business: Examples of Products Delivered 2

(Delivered in Mar. 2016)

■ Smart System Research Facility,
Fukushima Renewable Energy Institute, AIST
(Koriyama city, Fukushima)

Product delivered:

Large Walk-in Type Temperature & Humidity Chamber

Uses:

Performance and safety evaluation for large power conditioners for solar power generation

Supports heat generation loads of 100 kw and large weights (21 tons)



Large Walk-in Type Temperature & Humidity Chamber

■ National Laboratory for advanced energy storage technologies (NLAB), National Institute of Technology and Evaluation (Nanko, Osaka City)

Product delivered:

1. Walk-in Type Temperature & Humidity Chamber for charge-discharge testing
2. External short-circuit testing equipment (energy devices equipment)

Uses:

1. Evaluate the performance of storage batteries by repeatedly charging and discharging them
2. Evaluate safety by confirming that storage batteries will not catch fire or rupture if they short circuit



Walk-in Type Temperature & Humidity Chamber for charge-discharge testing

Equipment Business: Usage Case with Energy Device Equipment

Charge-discharge Cycle Evaluation Equipment

Equipment for ensuring the reliability and safety of lithium-ion secondary batteries for next-generation vehicles (e.g., hybrid and electric vehicles)

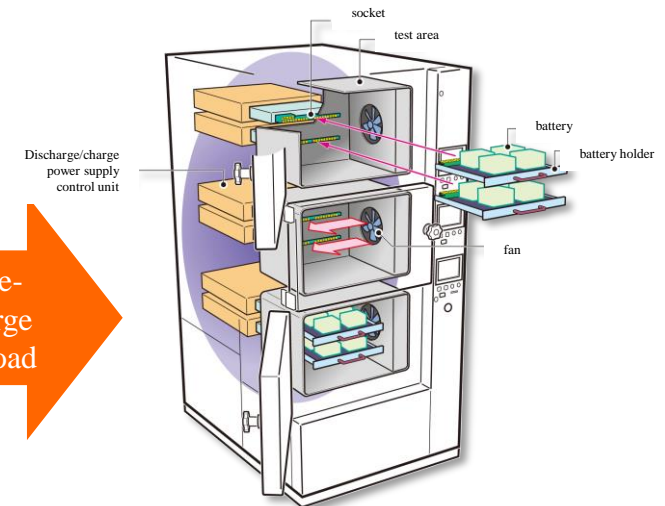


Charge-discharge Cycle Evaluation Equipment

Secondary Batteries



Charge-discharge cycle load



Checking the charge-discharge characteristics of secondary batteries

Evaluating the performance and life of secondary batteries

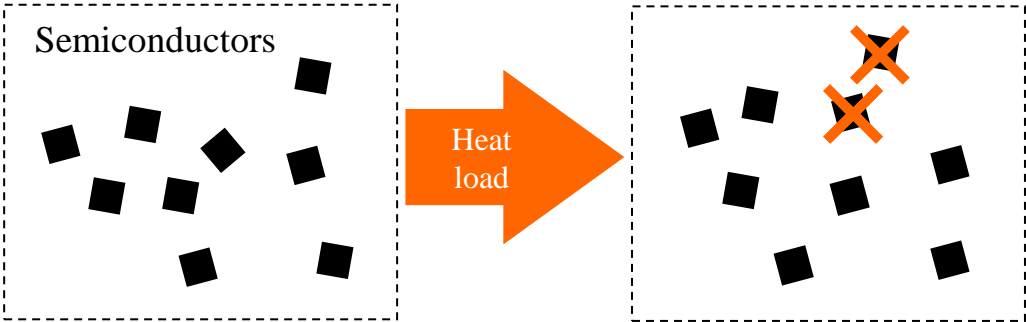
Equipment Business: Usage Case with Semiconductor Equipment

Screening

Eliminate defective products to maintain initial-period quality at the final inspection stage of semiconductor device manufacturing



Burn-In Chamber



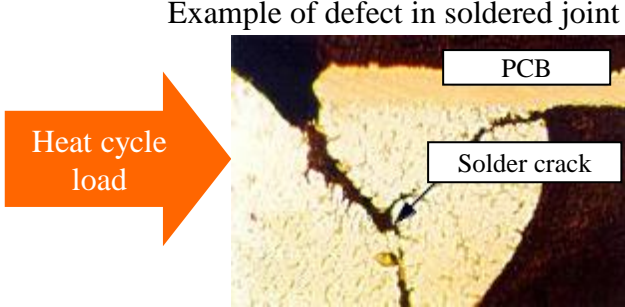
Elimination of latent early failures

Reliability Evaluation

Used to evaluate basic failure patterns to ensure reliability in the development of new technologies



Conductor Resistance Evaluation System



Electrical evaluation of reliability of joints in electronic parts

Service Business

After-Sales Service and Engineering

Preventive maintenance of products, maintenance service, and the upgrading/improvement and installation/relocation of products

- Speedy response via one of the most extensive networks in Japan
- Launching services by utilizing the network function mounted in the equipment

Laboratory Testing Services and Facility Rentals

Laboratory testing, analysis, and evaluation; consulting; equipment rental; sales of used products; calibration of test equipment, etc.

- The company has four laboratory testing centers in Japan, one in Thailand, two in China.

(Japan: Utsunomiya, Toyota, Kariya and Kobe, Thailand, China: Shanghai, Suzhou)

- The centers are also recognized as official calibration facilities under the Japan Calibration Service System (JCSS).

- **First in world** Opened Battery Safety Testing Center.(in Sep. 2015)

- Providing a one-stop service for testing and certification application services compliant with United Nations regulations on the safety of automotive secondary batteries.
- Entered into business alliance with TÜV SÜD Japan Ltd., a third-party certification agency (in Oct. 2014).

- Acquire ISO/IEC 17025* test facility certification in the three fields of automobiles, trains and airplanes.

- **First in Japan** The Toyota Test Center addressing all test items set forth by the LV124 German Automotive Manufacturer Testing Standards.

* ISO/IEC 17025: An international standard in which an authoritative third-party organization certifies whether a test facility or calibration organization is capable of producing accurate measurements or calibration results.

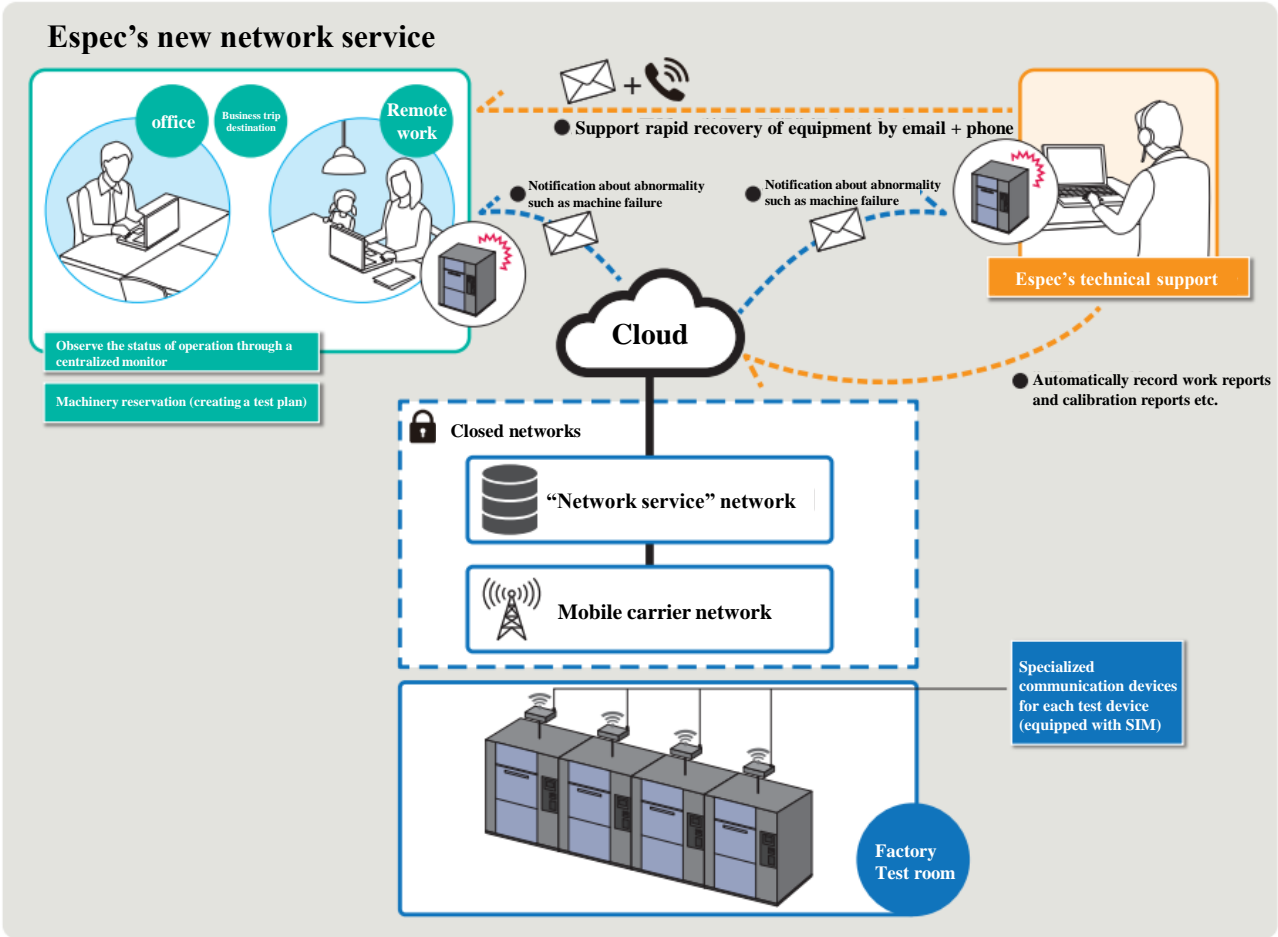


<Battery Safety Testing Center>
(within the Utsunomiya Technocomplex)

Service Business: After-Sales Service

(Started in Apr. 2022)

“Network service” utilizing mobile communications and cloud computing.
Eases the burden on customers’ tests and machinery management, and reduces equipment downtime.



Service Business: After-Sales / Laboratory Testing Services

“Home-based online service”

Supporting clients’ telework-based testing operations

When using ESPEC products

Operate equipment and monitor samples from home

- Centralized management (monitoring and data analysis)
- Receive operating status by email
- Monitor samples using in-chamber monitoring camera

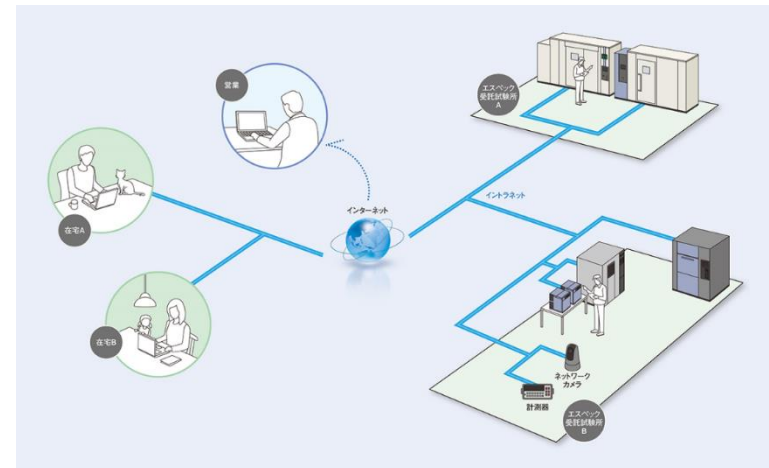


Image of in-chamber monitoring camera

When using laboratory testing center

Perform all tasks on behalf of clients, from the initiation of testing through the completion of tests and the return of test samples

- Remote consultation
- No need to attend in person
- Remote instruction



Service Business: Laboratory Testing Services

First Battery Safety Testing Center in the World Compliant with United Nations Regulations

- In September 2015, opened in Utsunomiya Technocomplex.
- Provide a one-stop service to support the implementation of 9 safety tests and applications for certification by agencies, as stipulated by UN ECE R100-2. Part II, a United Nations regulation.



Crush Testing Equipment
(No. 1 Safety Test Room)



No. 2 Safety
Test Room

First Defect Analysis Service in Japan for Battery Packs and Modules Installed in Automobiles

- In November 2022, launched an analysis service that identifies defective parts, dismantling packs and modules, then diagnosing them electronically and visually.
- Provides analysis services as an impartial third-party organization, and helps to ensure the performance and safety of automotive rechargeable batteries.



Glovebox for dismantling cells

Service Business: Laboratory Testing Services

First Testing Facility in Japan Compatible with All German Automotive Manufacturer Testing Standards

- In September 2019, Toyota Test Center became compatible with all test items set forth by the LV124 German Automotive Manufacturer Testing Standards.
- Support Japanese automotive equipment manufacturers seeking to develop global operations.



Toyota Test Center

First Commissioned Testing Service in Japan Powered 100% by Renewable Energies

- Since April 2021, commissioned testing services at five test centers across Japan (Utsunomiya, Toyota, Kariya, Kobe and the Battery Safety Testing Center) have been provided using renewable energies.
- Contributing to the reduction of CO2 emissions in customers' supply chains.



Test reports from tests conducted at ESPEC's testing centers receive the Green Power logo to clearly indicate zero CO2 emissions during testing.

Other Business

Environmental Preservation

■ Reforestation (Tree planting)

Recovery of local forest by selecting species and planting out seedlings using potential natural vegetation data.

■ Waterfront biotope restoration

Reconstruction of natural environment, development of vegetative revetments, and water quality improvement using aquatic plants.

■ Urban greening

Provision of roof and wall greening systems that use moss to effectively alleviate heat island effect.



Plant Production Systems

Provision of various cultivation environments employing advanced environmental control technologies to control light, temperature, humidity, carbon dioxide, etc.



Plant factory



Phyto-toron

Other Business: Plant Production Systems

Joint Development with NARO Cultivation Environment Emulator

- Obtained a patent jointly with the National Agriculture and Food Research Organization (NARO) and others in October 2022.
- Precisely reproduces seasonal carbon dioxide concentration, temperature, humidity, etc.
- Contributes to development of crop production technologies adapted to climate change.



Cultivation Environment Emulator

* ESPEC MIC Corp. jointly obtained the patent with the National Agriculture and Food Research Organization (NARO), Riken and the Agri Open Innovation Institute.

Produced a high value-added vegetables using deep sea water

- Production and sales of vegetables high in minerals with the use of deep sea water at a plant factory near Haneda Airport.



Interior of the plant factory and factory-produced vegetables “mineraleaf”

Other Business: Examples of Products Delivered

■ Arid Land Research Center, Tottori University

(Delivered in Mar. 2016)

Products delivered:

Experimental System for Analyzing Responses of Dryland plants to Climate Changes (2 units)
(Simulates the climates of arid lands, including high temperature, low humidity, strong sunlight, and high winds)

Uses:

Plant cultivation experiments and experiments to develop efficient water-usage technologies in arid lands, research to solve issues facing arid lands



Experimental System for Analyzing Responses of Dryland plants to Climate Changes



Experiment in progress
(Testing wheat for drought stress)

Introduction to technology development building

(Strengthen Technology Development Capability)

Objective: Strengthen technology development capabilities
by encouraging open innovation and promote
preservation of biodiversity

Concepts : “Open innovation,”

“Open communication,”

“Coexistence with the natural environment”

Location: Kanokodai, Kita-ku, Kobe, Hyogo (in Kobe R&D Center)

Start of operation: May 2020

(Construction started in June 2019)

Building area: 1,580m²

Gross floor area: 4,557m² (Three story building)



Rooftop green space using native species



Technology development building

Introduction to ESPEC's All Weather Simulation Chamber (in the Kobe R&D Center)

(Mar. 2021)

Opened the world's first All Weather Simulation Chamber

Encouraging open innovation and strengthening environmental creation technology

Replicates dynamic climate environments with high-precision control and variation of seven environmental factors (temperature, humidity, snow, fog, rain, sunlight and wind)

■ All Weather Simulation Chamber



■ Examples of tests in dynamic environments



(1) Tests to replicate the change from sleet to snow

Snow with different amounts of water content can be replicated, including snowfall at temperatures around 0°C, which is close to snowfall in a natural environment. By controlling the snow quality and temperature, the laboratory replicates the change from sleet to snow. The laboratory can confirm the performance of automated driving sensors for which snow accretion has become a problem.



Test chamber: Width 6 m x Depth 9 m x Height 3 m

A black coating is applied to suppress the diffuse reflection of light.



(2) Experiment to replicate the change from rain to fog

The laboratory controls the thickness, temperature and humidity of fog and replicates the change from rain to fog. The laboratory can confirm the performance of automated driving sensors in response to the effects of fog.

INQUIRIES:

ESPEC CORP.

3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan

E-mail: ir-div@espec.jp

Sustainability Management Department

Yasutoshi Nakagawa (General Manager),

IR & Public Relations Group

Natsuko Okawa and Hana Kaigawa

Securities ID code:6859

Reference

Sustainability Initiatives

ESPEC CORP.
November 22, 2023

About ESPEC's Sustainability

Guided by our corporate philosophy,
“THE ESPEC MIND,” ESPEC will help to solve social and environmental issues through businesses centered on environmental creation technology, with the aim of achieving sustainable growth.

Corporate Philosophy

Our important values that have been passed on since our inception
“THE ESPEC MIND” (Excerpt)

The Origin

Aim for better value exchange as a public institution

Mission

Provide more certain Seikankyo (living environment) via environmental creation technology

Style

Progressive, Reliable, Open, Fair

Declaration

What ESPEC promises society

“compliance,” “culture,” “human rights,” “the environment,”
“education/enlightenment.”

Sustainability Policy and Materiality

Looking toward sustainable growth, we formulated a sustainability policy, and identified materiality (important issues) that must be addressed in order to produce social and economic value.

Sustainability Policy

- By putting our corporate philosophy (THE ESPEC MIND) into practice, we are working to create and improve both social value and economic value.
- By maintaining a good exchange of value with our stakeholders, we are aiming for continuing growth.
- Based on ESPEC Vision 2025, we will contribute to solutions for the global environment and social issues through our business activities, centering on Environmental Creation Technology.
- We will engage in active disclosure of information related to sustainability.

Materiality

- Innovations in business structures
- Preservation of the global environment
- Developing human resources and vitalizing workplaces
- Strengthening functions
- Strengthening governance
- Promoting diversity and respecting human rights

ESPEC's Contribution to the SDGs

ESPEC will contribute to the realization of a sustainable society by supplying products and services centered on environmental creation technology in a wide range of fields, including advanced technologies.

ESPEC

The Value ESPEC Provides

- Supply products and services centered on environmental creation technology
- Provide environmental preservation services
- Provide plant factories to address global warming and extreme weather

Strengths

- Business domains essential to the development of society
- Global leading brand and high-quality products and services based on a unique technologies
- Global production and sales networks

Customer products and technologies



- Automobiles (EVs and automated driving)
- Electronic components (semiconductors)
- IoT
- AI
- Batteries
- Pharmaceuticals
- Food
- Materials
- Environmental preservation
- Agriculture etc.

Society

Realize a sustainable society



- Realize a safe and secure society through the development of automated driving and preventive safety technologies for automobiles
- Contribute to the solution of environmental and energy problems through the development of energy-saving technologies and EV technologies
- Alleviate personnel shortages and improve productivity through the development of IoT-related technologies
- Preserve biodiversity through the environmental preservation business, including reforestation (tree planting) and waterfront biotope restoration
- Support research on the creation of new plant species to cope with extreme weather and provide a stable supply of food through plant factories. etc.

ESPEC's Businesses and the SDGs

Equipment Business



Contribute to the development of advanced technologies through the supply of products and services leveraging environmental creation technology

- Supply products and services that contribute to the development of advanced technologies to solve social and environmental issues

● Environmental Test Chamber

Supply environmental test chambers that artificially replicate environmental factors such as temperature and humidity, thereby ensuring the reliability of products

● Energy Device Equipment

Supply evaluation systems for secondary batteries and fuel cells installed in eco cars

● Semiconductor Equipment

Supply products such as burn-in chambers and systems for semiconductor inspection and measurement and evaluation systems

● Pharmaceutical Equipment

Supply products such as freezers for COVID-19 vaccines and stability test chambers used for quality control of items such as pharmaceuticals and food



Temperature & Humidity Chamber
"Platinous J series"



Drive-In Chamber for Vehicle Testing



Burn-In chamber
for semiconductor inspection



Advanced Battery Tester
for secondary batteries

ESPEC's Business and the SDGs

Service Business



Contribute to the development of advanced technologies through the supply of products and services leveraging environmental creation technology

- Supply products and services that contribute to the development of advanced technologies to solve social and environmental issues

● After-sales Service and Engineering

Conduct product maintenance and preventive maintenance so that customers can use systems with peace of mind.

● Laboratory Testing Services

Provide laboratory testing services based on technologies and testing expertise developed through environmental tests.



Technical support using IT



Capable of performing various safety tests for secondary batteries compliant with United Nations regulations and other standards
Battery Safety Testing Center

ESPEC's Business and the SDGs

Environmental Preservation Business



Contribute to biodiversity preservation

A business to restore natural environments through projects such as reforestation (tree planting) with local native plant species and waterfront biotope restoration to rehabilitate natural river ecosystems
Contribute to the prevention of global warming and biodiversity preservation



A forest restored along the approach to Rinno-ji Temple in Sendai



Waterfront biotope restoration on the Sumida River Terrace in Tokyo

Plant Production Systems Business



Contribute to a stable food supply to address global warming and extreme weather

Supply plant factories that artificially replicate plant growing environments and enable vegetables to be grown systematically even under extreme weather conditions

Contribute to a stable food supply by supplying systems that can be used in research into drought-tolerant plants



Plant factory using deep sea water
Produce and sell vegetables high in minerals



Experimental System for Analyzing Responses of Dryland Plants to Climate Change
(Arid Land Research Center, Tottori University)

Contribute to SDGs in the Supply Chain

Procurement

- Conduct supplier evaluations, including factors such as the environment and compliance
- Address unforeseen conditions through business continuity management
- Curtail increases in effluents at the time of procurement



Development and design

- Develop and design environmentally friendly products with features such as energy efficiency, low GWP, reduced emissions of chemical substances, and reduced environmental impact during disposal



Production and logistics

- Reduction of CO₂ emissions
- Appropriate management of chemical substances and emissions mitigation
- Reduction of water intake amount and appropriate management of wastewater
- Effluent reduction and recycling
- Environmentally friendly logistics



Sale of products and services

- Supply products and services that contribute to the development of advanced technologies to solve social and environmental issues
- Supply environmentally friendly products and services
- Promote the environmental preservation business such as reforestation (tree planting) and waterfront biotope restoration
- Promote the plant production systems business



Disposal

- Product collection
- Chlorofluorocarbon gas collection
- Recycling and resale



Foundation supporting the supply chain

- Improve customer satisfaction and ensure product quality and safety
- Respect for human rights • Promote the success of diverse human resources
- Provide appropriate information disclosure and communication
- Fair management with transparency



Products and Services that Contribute to Resolving Environmental and Energy Issues

- Product lineup to evaluate the performance and durability of secondary batteries, fuel cells, solar batteries and power devices



Secondary Battery Charge-Discharge Evaluation System



Fuel Cells Evaluation System



Temperature Cycle Test System for Solar Battery Modules



Power Cycle Test System for Power Device

- World's first Battery Safety Testing Center

Supports the implementation of testing and certification application services compliant with United Nations regulations on the safety of automotive rechargeable batteries.



Battery Safety Testing Center

- Laboratory testing services using 100% renewable energies (domestic)

Environment Targets / Mid-term Plan on the Environment

Environment Targets for FY2030

Reduce greenhouse gas emissions

by 60% for SCOPE 1+2, 30% for SCOPE 3 (compared with FY2019 levels)

In July 2023, received Science Based Targets (SBT) certification from the international SBT Initiative*

*SBT Initiative

An international initiative that encourages firms to set scientifically-grounded targets for reducing greenhouse gas emissions so that the goals of the Paris Agreement may be achieved. Jointly managed by CDP, which is an NGO involved in environmental information disclosure, UNGC (United Nations Global Compact), WRI (World Resources Institute), and WWF (World Wide Fund for Nature).



The 8th Mid-Term Plan on the Environment (FY2022-FY2025)

Basic Policy: “Contributing through business with customers involved with developing green technologies”

Strengthening efforts toward combating global warming and conserving biodiversity

■ Environment Targets for FY2025

- Reduce greenhouse gas emissions by 55% for SCOPE 1+2 and 10% for SCOPE 3 (compared with FY2019 levels)
- Contribution of 95t (total) of carbon fixation through 50,000 trees planted by ESPEC MIC Corp.
- Biodiversity conservation activities through the “ESPEC’s 50-Year Forest” in Sanda City, Hyogo Prefecture

Biodiversity Preservation Initiatives

Kobe R&D Center, a hub for biodiversity preservation activities ESPEC Bambi-no-Sato Certified as a “Natural Symbiosis Site” by the Ministry of the Environment

The site has a forest of approximately 30,000 trees comprising native plant species, planted and grown by employees; rooftop green space using plant species native to the northern Rokko region on the roof of the technology development building; and a biotope made up of two ponds and a stream. Certified as “Natural Symbiosis Site” an Other Effective area-based Conservation Measures (OECM) site by the Ministry of the Environment in October 2023.



Received 2022 the Kansai Director-General's Award of a Regional Bureau of Economy, Trade and Industry (FY 2022), at the National Award for Greenery Factory sponsored by METI.



Acquired the FY 2022 ABINC Certification of the Association for Business Innovation in harmony with Nature and Community (ABINC)*.

Promotion of Diversity

Initiatives to promote women's success



From the Ministry of Health, Labor and Welfare:
The Company received the "Kurumin" certification,
which is granted to companies that support child-rearing.
And the highest ranking of the certification mark
"Eruboshi" based on the Act on Promotion of Women's
Participation and Advancement in the Workplace.



The female leadership development program

ESPEC Smile Farm: a plantation staffed by workers with disabilities

- Opened a farm staffed by workers with disabilities within a rented farm operated by a company to support the hiring of people with disabilities in November 2021.
- 4 individuals were hired to work at ESPEC Smile Farm, specifically 3 staff members with disabilities and 1 farm foreman.
- The cultivated vegetables were donated to local children's cafeterias and distributed to employees.



Employees picked vegetables as a team

Employee Education / Donation System

Employee Education System Enhancement

- Implement training sessions to share the corporate philosophy
- Implement a Global Trainee Program aimed at developing human resources who are capable of working in international settings
- Enhance the education program to support management executive education and self-development



On-site training in the Global Trainee Program (U.S.)

ESPEC Smile Club: a donation system featuring employee participation

- The matching gift system in which the company matches donations made by employees as part of activities to promote SDGs.
- Donated to an organization that conducts CSR activities related to children and medical care.
- In April 2023, donated to support the areas affected by the Turkey-Syria earthquake. We donated a total of 860,600 yen to Save the Children Japan and Médecins Sans Frontières Japan.



Contributions to Society

ESPEC Foundation for Earth Environment Research and Technologies

- Provides funding support every year for research, technology development on global environmental conservation
- Grants totaling ¥138.4 million have been provided to a total of 273 groups over the past 25 years since the Foundation was established.
- Held a ceremony to commemorate the 25th anniversary of founding in September 2022



FY2022 award ceremony
and 25th anniversary commemorative ceremony

Tree Planting Ceremony at “Millenium Hope Hills” in Iwanuma, Miyagi Prefecture

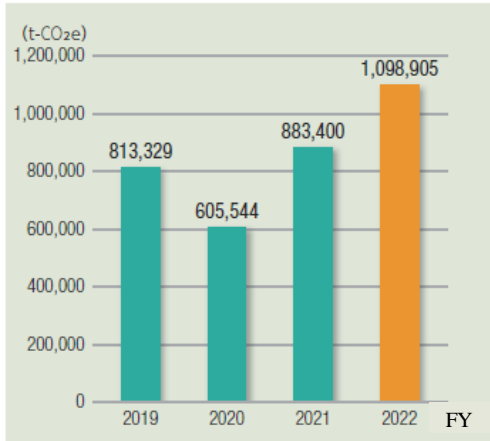
- A disaster recovery project started in 2013
- The project has cumulatively planted about 350,000 trees that will form a forested coastal tide embankment across a roughly 10km stretch of coastline in the city of Iwanuma.
- Group company ESPEC MIC CORP. supported the project.
- The final tree planting ceremony was held in June 2021 (first part) and May 2022 (second part).



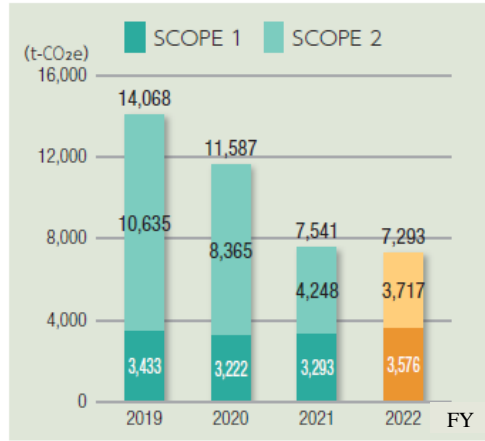
Tree Planting Ceremony

Non-Financial Data (1)

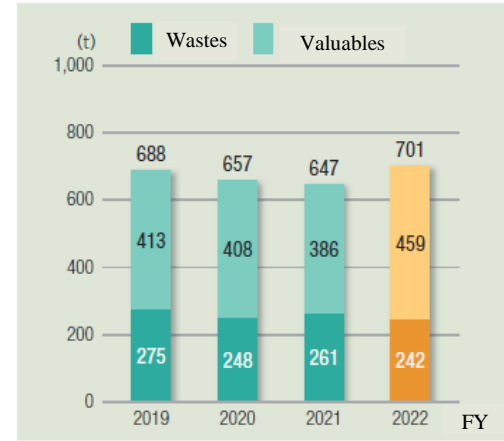
Greenhouse gas emissions
Total of SCOPE 1 + 2 + 3 (consolidated)



Greenhouse gas emissions
Total of SCOPE 1 + 2 (in-house emissions)
(consolidated)



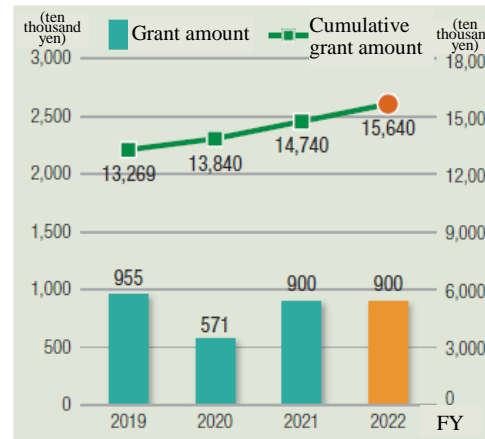
Total amount of Discharge (non-consolidated)



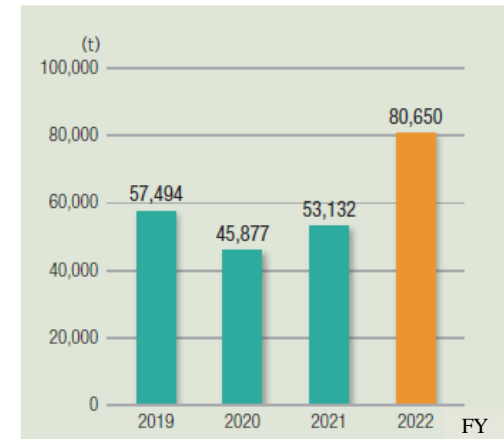
Certification acquisition rate for the
Certification Test for Environmental
Specialists (Eco Test) (non-consolidated)



Grants from the ESPEC Foundation for Earth
Environment Research and Technologies



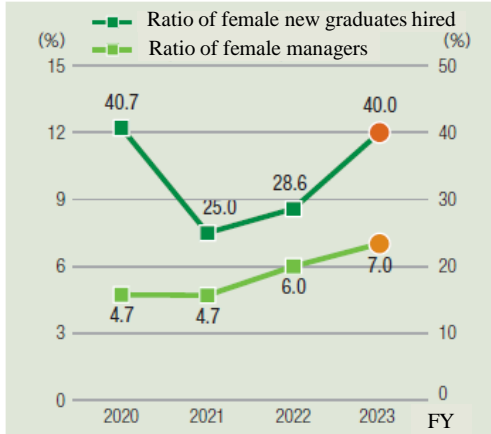
Number of trees planted through
environmental preservation business



*Actual results for ESPEC MIC CORP.

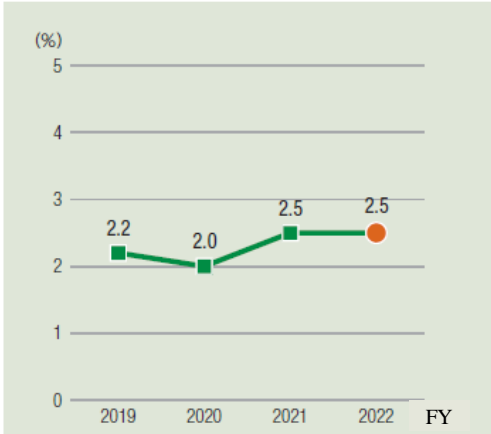
Non-Financial Data (2)

Ratio of female managers
Ratio of female new graduates hired
(non-consolidated)



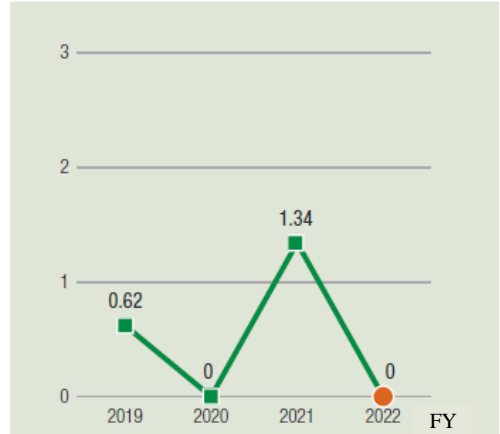
*As of beginning of each fiscal year

Percentage of employees with disabilities
(non-consolidated)



*As of the end of each fiscal year

Frequency rate* (non-consolidated)



*Number of accidents with sick leave /total number of worked hours × million hours

Non-Financial Data (3)

		Unit	2019	2020	2021	2022
Number of Employees*1	Consolidated total	Persons	1,512	1,526	1,628	1,691
Number of Employees*1	Male	Persons	673	658	643	636
	Female	Persons	113	122	127	142
	Non-consolidated total	Persons	786	780	770	778
Average years of service		Years	17.4	19.2	19.1	17.2
Average age		Years old	41.2	43.1	43.0	41.2
Turnover rate*2		%	2.4	2.3	1.6	1.4
Average overtime hours		Hours	21.2	11.0	15.5	22.6
Average number of paid holidays taken		%	73.4	65.8	69.1	75.1
Ratio of employees taking childcare leaves	Male	%	7.0	12.5	30.8	13.3
	Female	%	None	100	100	100
Occupational accident (excluding cases without lost workdays)		Cases	1	0	2	0
Percentage of health checkups		%	100	100	100	100
Composition of Board of Directors*3	Ratio of independent outside*4	%	25	25	25	40
	Female ratio*4	%	0	0	0	20

*1 The number of employees is as of the end of each fiscal year.

*2 Retirees are excluded.

*3 The Company has transitioned from a company with an Audit & Supervisory Board to a company with an Audit & Supervisory Committee in June 2022.

*4 The number of female directors (including executive officers) is as of the end of June of each fiscal year.

External Recognition

2023

- Nov. • Rated 3.5 stars in the Nikkei's 5th SDGs Management Survey
- Nov. • Rated 3 stars in Nikkei's 7th Smart Work Management Survey
- Oct. • Ranked 157th in the Nikkan Kogyo Shimbun's 19th Corporate Power Ranking (sponsored by the Ministry of Economy, Trade and Industry)
- Aug. • First Awarded as an excellent company for the second consecutive year in the Gomez ESG Website Ranking 2023 by Broad Band Security, Inc.
- June • Selected for the First Time as an Asia-Pacific Climate Leader by the Financial Times in the UK and German data provider Statista.
- Mar. • Selected for the First Time as a Supplier Engagement Leader, the Top Rank in the CDP Supplier Engagement Ratings
- Feb. • Ranked 372nd in Toyo Keizai Inc.'s 2023 CSR Corporate Ranking



2022

- Dec. • A score of B for the third consecutive year in the CDP Climate Change 2022 Questionnaire
- Dec. • Selected as a "GRADE AAA" company website (overall ranking) for the second consecutive year in the All-Japanese Listed Companies' Website Ranking 2022 by Nikko Investor Relations Co., Ltd.
- Dec. • Awarded a Bronze Prize in the Gomez IR Website Ranking 2022 by Broad Band Security, Inc.
- Dec. • First Selection as Part of FTSE Blossom Japan Sector Relative Index



**FTSE Blossom
Japan Sector
Relative Index**

■ Inclusion in ESG indexes FTSE Blossom Japan Sector Relative Index (First Selection in April 2022)

INQUIRIES:

ESPEC CORP.

3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan

E-mail: ir-div@espec.jp

Sustainability Management Department

Yasutoshi Nakagawa (General Manager),

IR & Public Relations Group

Natsuko Okawa and Hana Kaigawa