

Securities ID code:6859

ESPEC CORP.

**Results Briefing for The Second Quarter
of Fiscal Ending March 2017**

November 17, 2016

www.espec.co.jp

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Company Profile

Industry-leading manufacturer of environmental test chambers:
69th year since company was founded in Osaka

Name	ESPEC CORP.
Head Office	3-5-6, Tenjinbashi, Kita-ku, Osaka
Represented By	Masaaki Ishida
Established	July 25, 1947
Incorporated	January 13, 1954
Paid-up Capital	¥6,895 Million
Shares Issued	23,781,394 Shares
Employees	1,427 (consolidated)
Main Business	Manufacture and Sales of Environmental Test Chambers, Energy Device Equipment, Semiconductor Equipment, Plant Factory, After-sales Service, Commissioned Tests and others.



Head office

(As of September 30, 2016)

Global Network

Consolidated Subsidiaries
13 companies

Global Network
43 countries
34 companies

Business facilities in Japan:26
Domestic agencies in Japan:46

EUROPE

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

● ESPEC CORP.
● ESPEC TEST SYSTEM CORP.
● ESPEC KYUSHU CORP.
● ESPEC MIC CORP.
△ MIC FARM OHGUCHI CORP.

JAPAN

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 SOUTH EAST ASIA SDN. BHD
△ ESPEC ENGINEERING(THAILAND)CO.,LTD

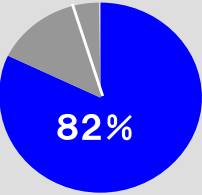
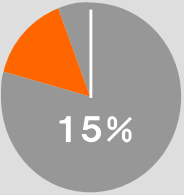
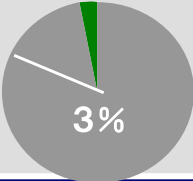
U.S.A.

● ESPEC NORTH AMERICA, INC
● QUALMARK CORPORATION
● Real Chambers Corporation

●: Consolidated Subsidiaries
△: Non-consolidated Subsidiaries

(As of September 30, 2016)

Summary of ESPEC Business (Per Market / Use)

		Main Products	Market	Use	Sales composition (FY2016 2Q)
Equipment Business	Environmental Test Chambers	<ul style="list-style-type: none"> • Temperature & humidity chamber • Thermal shock chamber • Bench-top type temperature & humidity chamber • Walk-in type temperature & humidity chamber • Combined temperature & humidity chamber • HAST chamber • FPD equipment 	<ul style="list-style-type: none"> • Electronic component and equipment market • Automobile market • Semiconductor market • Medicine, 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 	 <p>82%</p>
	Energy Device Equipment	<ul style="list-style-type: none"> • Advanced battery tester • LIB safety evaluation system • Fuel cells chamber 	<ul style="list-style-type: none"> • Next generation automobile • Secondary batteries • Fuel cells 	<ul style="list-style-type: none"> • For R & D • For credibility and evaluation • Safety evaluation • For production 	
	Semiconductor Equipment	<ul style="list-style-type: none"> • Burn-in system • Semiconductor evaluation system • Instrumentation 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 	—	 <p>15%</p>
	Commissioned Tests and Facility Rentals	<ul style="list-style-type: none"> • Commissioned test • Equipment rental • Resale • Calibration 		<ul style="list-style-type: none"> • For R & D • For credibility and evaluation 	
Other Business	Environmental Engineering Business	Reforestation (Tree planting), Waterfront biotope restoration, urban greening			 <p>3%</p>
	New Business	Plant factory, developing and creating new businesses as a major source of profit			

<TOPICS> Examples of Products Delivered (Equipment Business)

(Delivered in March 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

<TOPICS> Examples of Products Delivered (Equipment Business)

(Delivered in February 2016)

■ Sangenjaya Campus, College of Sports Sciences, Nihon University (Newly established in April 2016)

Products delivered:

Hypoxic training room, Hypoxic swimming pool chamber

Uses:

Improve cardiovascular and respiratory performance, as well as athletic ability,
through training under hypoxic conditions

Research into athlete development and effective training methods



Hypoxic training room



Hypoxic swimming pool chamber

<TOPICS> Examples of Products Delivered (Other Business)

■ Arid Land Research Center, Tottori University

(Delivered in March 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

〈TOPICS〉 Award Received for Forestation Activities at the Urban Green Awards

In recognition of their forestation activities, ESPEC MIC CORP., along with Rinno-ji Temple (Sendai), received the Award of the Chairman of the Organization for Landscape and Urban Green Infrastructure at the 36th Urban Green Awards✳.

This project involved restoring a row of cedar trees at Sotoshu Kongohozan Rinno-ji Temple (Sendai, Miyagi) that had been cut down for the construction of a tunnel. Over five years, more than 30,000 trees of around 60 different species were planted, thereby restoring a vibrant broadleaf forest.

✳Sponsored by Organization for Landscape and Urban Green Infrastructure



Tree planting with local community residents



The trees have grown into a tall broadleaf forest (the approach to Rinno-ji Temple in Sendai).

Financial Result for the Second Quarter of Fiscal Ending March 31, 2017

Review of the First Half of Fiscal 2016

External Environment

- Further appreciation of the yen
- Accelerated development of eco-friendly cars such as electric vehicles and fuel-cell vehicles following stricter environmental regulations
Entry into force of ECE R100-2. Part II, the United Nations standard on the safety of automotive rechargeable batteries: July 2016
- Accelerated development of autonomous driving technology
- Development of cutting-edge technologies such as IoT and AI

Developments within ESPEC

- Established a “One ESPEC Structure” in the Chinese market
(July 2015 Converted SHANGHAI ESPEC ENVIRONMENTAL EQUIPMENT CORP. into a wholly owned subsidiary)
- Converted QUALMARK CORPORATION of North America into a consolidated subsidiary
(December 2015)
- Opened the Battery Safety Certification Center in Utsunomiya
(September 2015)
- Formed business alliance with NAGANO SCIENCE CO. LTD. on validation work for pharmaceutical safety testing
(Signing ceremony in May 2016)

Financial Highlights

ESPEC announced the downward revision of financial forecasts for the first half and full year of fiscal 2016, along with reducing its dividend forecast, as business performance saw higher sales but lower earnings year on year in the first half, and also fell sharply below initial plans.

- Orders-received decreased year on year, due to year-on-year declines in the Equipment Business and the Other Business. However, orders-received surpassed the initial plan as the timing for receiving orders was brought forward for certain products in the Equipment Business.
- Net sales increased year on year due to the recognition of sales from large FPD equipment for which orders were received in the Equipment Business in the previous fiscal year. However, net sales underperformed the initial plan as mainstay environmental test chambers and the Service Business fell short of plan.
- Operating income fell short of both the same period of the previous fiscal year and the initial plan, mainly owing to a worsening cost ratio due to a change in the sales mix and foreign exchange movements.
- Ordinary income and net income both fell short of both the same period of the previous fiscal year and initial plans, mainly owing to the impact of foreign exchange losses, in addition to the decline in operating income.
- The yen's appreciation had a negative impact of ¥520 million and ¥130 million on net sales and operating income, respectively, on a year-on-year basis.
- Looking at dividends per share, the interim dividend was set at ¥12 as initially planned while the year-end dividend is forecast at ¥20 per share, down ¥4 from the initial forecast; accordingly, the annual dividend is forecast at ¥32 per share.

Summary of Profits and Losses

(millions of yen)

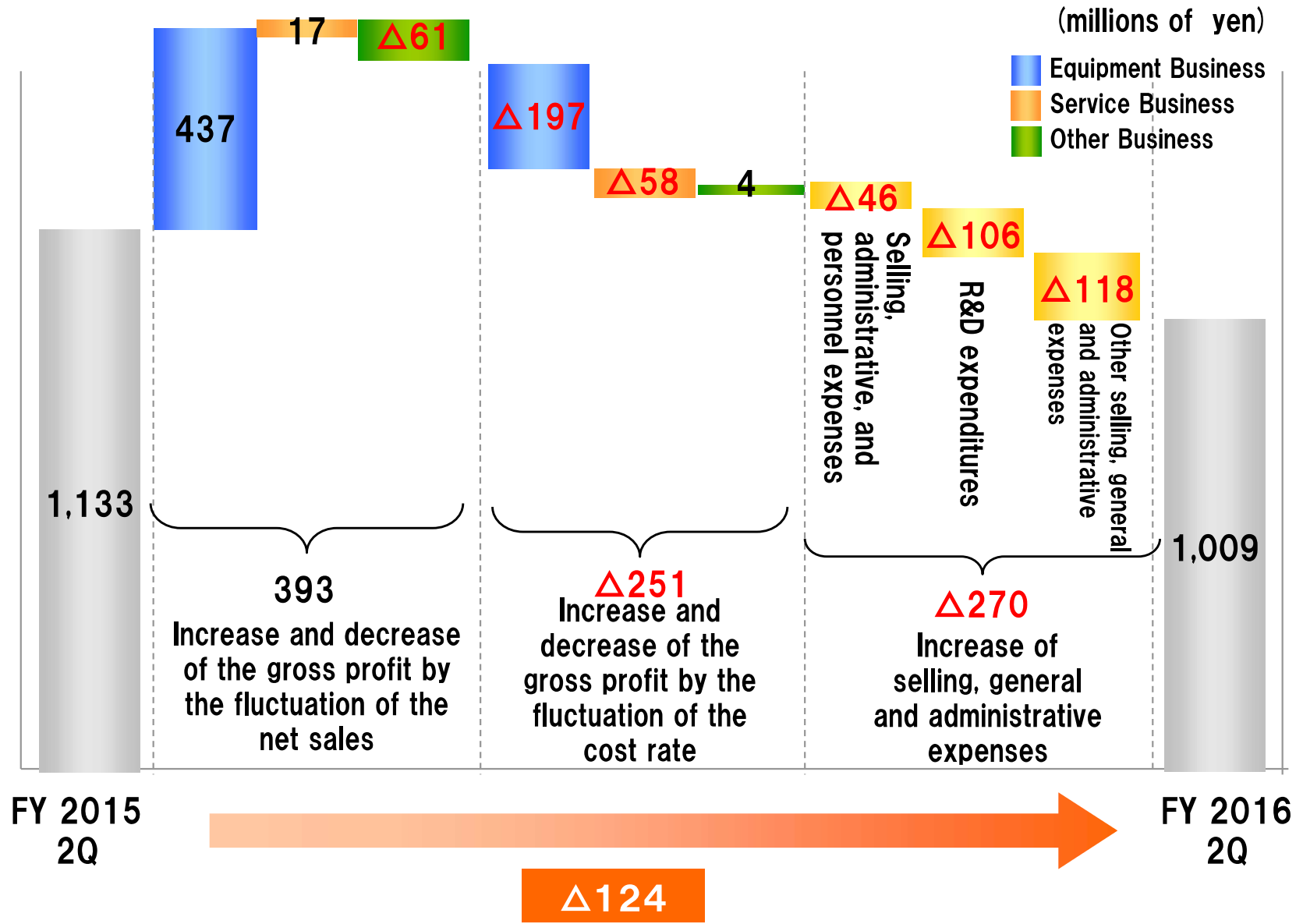
	FY 2015 2Q	Plan for FY 2016 2Q (Beginning of the period)	FY 2016 2Q	Year on Year	Beginning of the period ratio
Orders-Received	20,764	19,000	19,914	Δ4.1%	4.8%
Net sales	16,136	18,000	17,250	6.9%	Δ4.2%
Cost of Net Sales	10,392 (64.4%)	11,650 (64.7%)	11,360 (65.9%)	9.3%	Δ2.5%
Gross profit	5,743	6,350	5,889	2.5%	Δ7.3%
SG & A	4,609	4,950	4,880	5.9%	Δ1.4%
Operating income	1,133	1,400	1,009	Δ11.0%	Δ27.9%
Ordinary income	1,274	1,450	833	Δ34.6%	Δ42.6%
Profit attributable to owners of parent	802	1,000	512	Δ36.1%	Δ48.8%

Performance by Segment

(millions of yen)

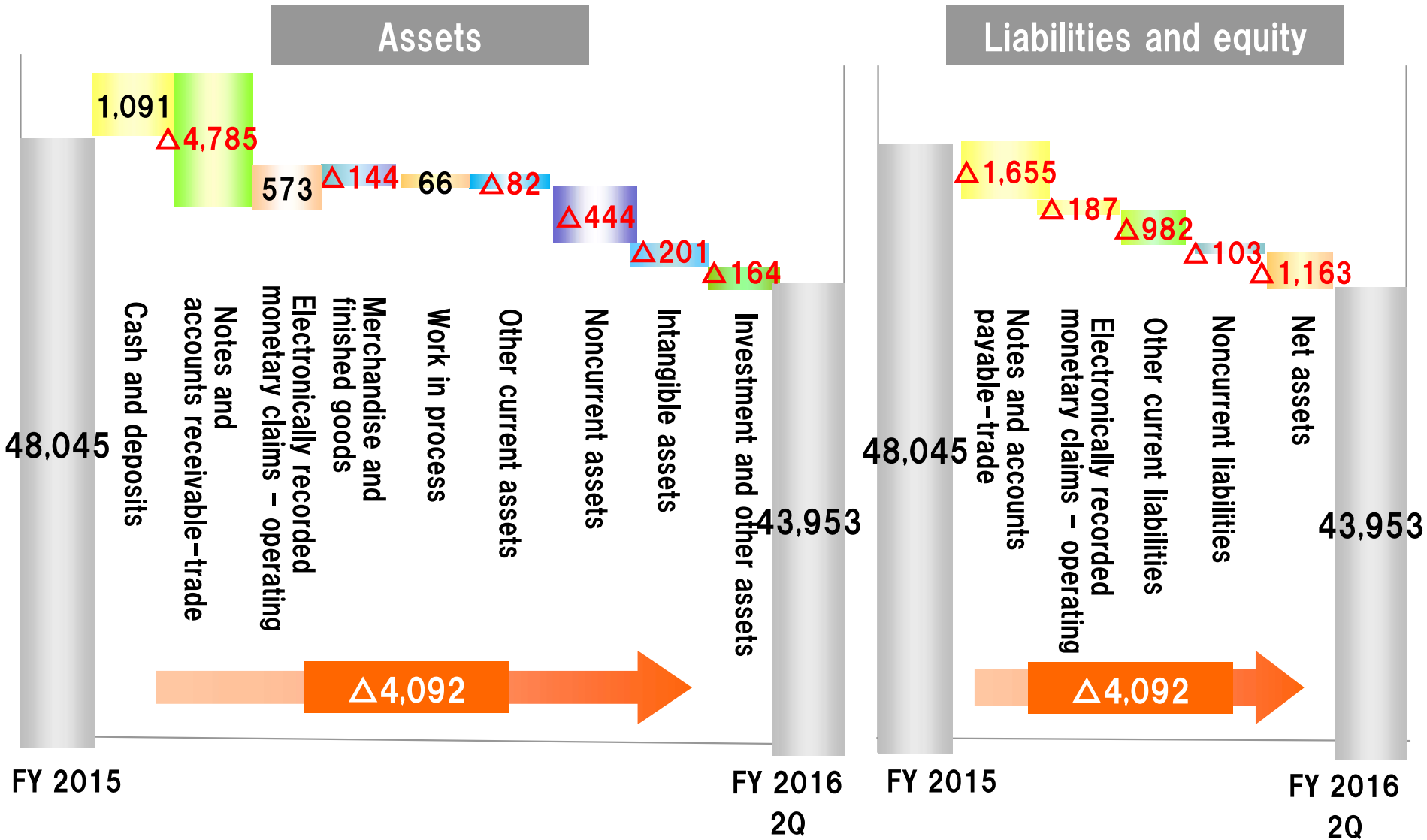
Segment		FY 2015 2Q	Plan for FY 2016 2Q (Beginning of the period)	FY 2016 2Q	Year on Year	Beginning of the period ratio
Equipment Business	Orders-Received	17,156	15,600	16,508	Δ3.8%	5.8%
	Net Sales	12,909	14,900	14,188	9.9%	Δ4.8%
	Operating Income	887	1,150	901	1.5%	Δ21.7%
Service Business	Orders-Received	2,944	2,800	2,908	Δ1.2%	3.9%
	Net Sales	2,615	2,800	2,666	1.9%	Δ4.8%
	Operating Income	215	300	152	Δ29.3%	Δ49.3%
Other Business	Orders-Received	808	700	621	Δ23.2%	Δ11.3%
	Net Sales	733	400	502	Δ31.5%	25.5%
	Operating Income	32	Δ50	Δ45	—	—
Elimination	Orders-Received	Δ145	Δ100	Δ124	—	—
	Net Sales	Δ122	Δ100	Δ108	—	—
	Operating Income	Δ2	—	1	—	—
Total	Orders-Received	20,764	19,000	19,914	Δ4.1%	4.8%
	Net Sales	16,136	18,000	17,250	6.9%	Δ4.2%
	Operating Income	1,133	1,400	1,009	Δ11.0%	Δ27.9%

Analysis of Operating Income Increase and Decrease Factor



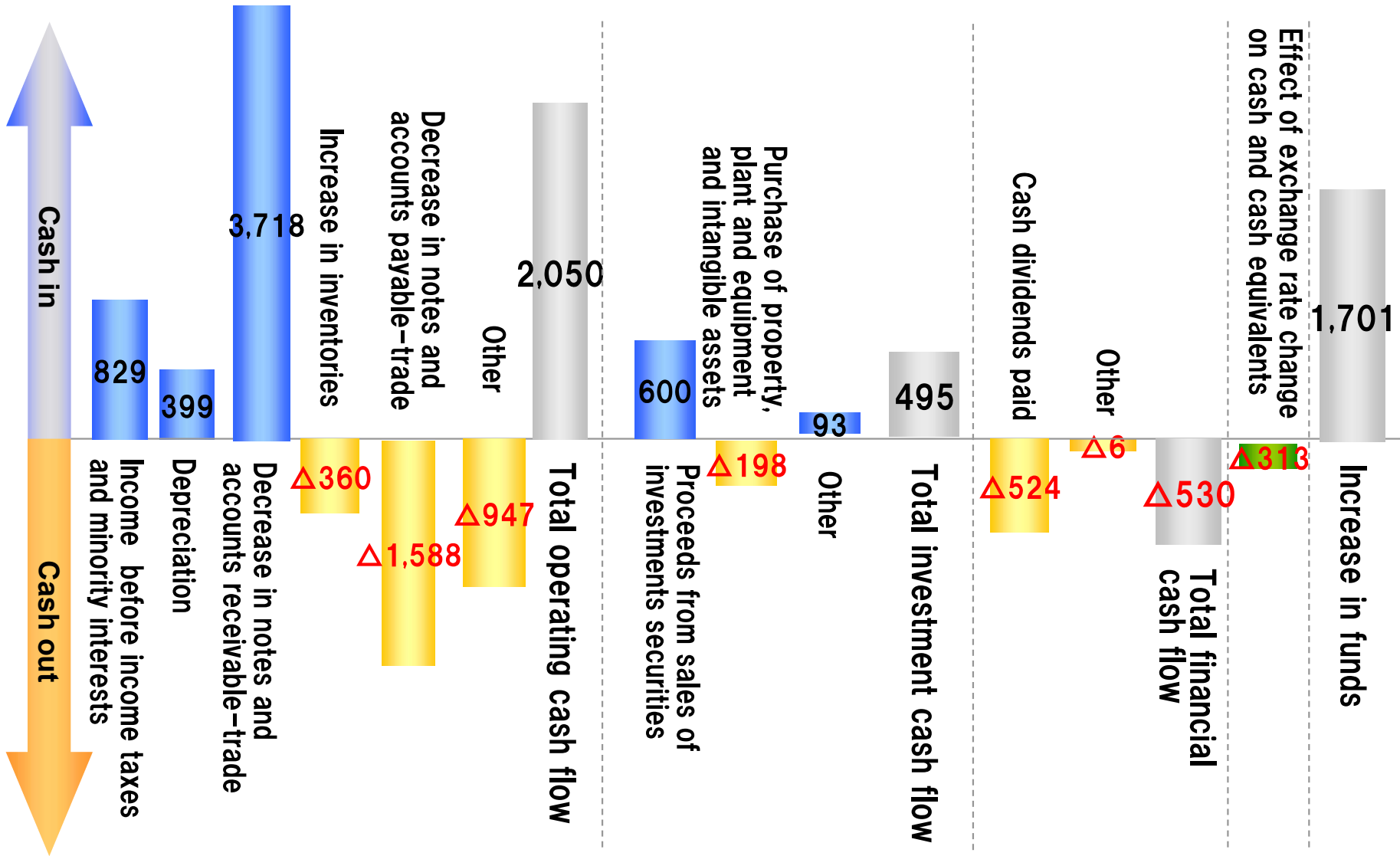
Analysis of Assets and Liabilities Increase and Decrease Factor

(millions of yen)



Statement of Cash Flow

(millions of yen)



Analysis per Segment for the Second Quarter of Fiscal Ending March 31, 2017

Equipment Business

Environmental Test Chambers

- Orders—received decreased both year on year and against the initial plan

In terms of year-on-year comparisons, the drop in exports centered on Southeast Asia and Europe had a large impact.

In terms of comparisons with initial plans, subsidiaries in North America, China and South Korea did not reach their initial plans.

- Net sales rose year on year, but fell short of the large growth anticipated in the initial plan.

In terms of year-on-year comparisons, large FPD equipment for which orders were received in the same period of the previous fiscal year made a positive contribution, and customized products also managed to post strong sales worldwide.

In terms of comparisons with initial plans, the major reasons for the shortfall were that customized products did not reach plans and overseas subsidiaries fell short of plans too.

Energy Device Equipment

- Orders—received increased both year on year and against the initial plan

Orders—received for fuel cell evaluation systems were concentrated in the first half.

- Net sales decreased both year on year and against the initial plan

Sales of fuel cell evaluation systems will be recognized from the second half onward; rechargeable battery systems were sluggish.

Semiconductor Equipment

- Both orders—received and net sales increased year on year and against initial plans.

Strong performance centered on semiconductor equipment for the automotive sector.

Equipment Business

(millions of yen)

	FY 2015 2Q	Plan for FY 2016 2Q (Beginning of the period)	FY 2016 2Q	Year on Year	Beginning of the period ratio
Orders- Received	17, 156	15, 600	16, 508	Δ3. 8%	5. 8%
Net Sales	12, 909	14, 900	14, 188	9. 9%	Δ4. 8%
Operating Income [Profit ratio (%)]	887 [6. 9%]	1, 150 [7. 7%]	901 [6. 4%]	1. 5%	Δ21. 7%

Service Business

(millions of yen)

	FY 2015 2Q	Plan for FY 2016 2Q (Beginning of the period)	FY 2016 2Q	Year on Year	Beginning of the period ratio
Orders- Received	2,944	2,800	2,908	Δ1.2%	3.9%
Net Sales	2,615	2,800	2,666	1.9%	Δ4.8%
Operating Income [Profit ratio (%)]	215 [8.2%]	300 [10.7%]	152 [5.7%]	Δ29.3%	Δ49.3%

After-sales Service and Engineering

- Both orders-received and net sales were mostly unchanged year on year with no major changes from initial plans

Commissioned Tests and Facility Rentals

- Orders-received were about the same year on year, largely in line with plan
- Net sales were mostly unchanged year on year, but did not reach the initial plan, which anticipated growth. Facility rentals were sluggish; test consulting saw steady growth centered on the automobile market but fell short of plans

Other Business

(millions of yen)

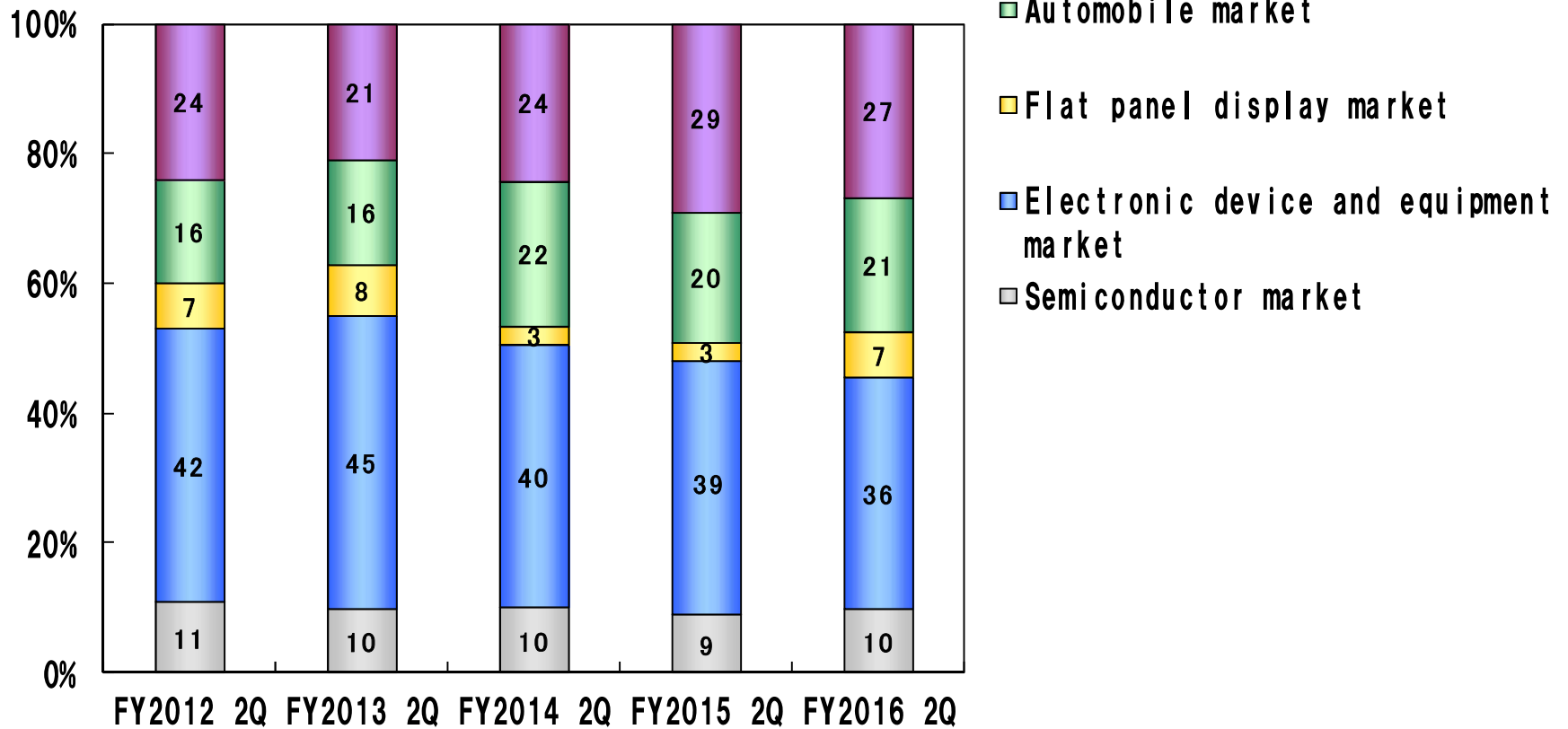
	FY 2015 2Q	Plan for FY 2016 2Q (Beginning of the period)	FY 2016 2Q	Year on Year	Beginning of the period ratio
Orders- Received	808	700	621	Δ23. 2%	Δ11. 3%
Net Sales	733	400	502	Δ31. 5%	25. 5%
Operating Income [Profit ratio (%)]	32 [4. 4%]	Δ50 [Δ12. 5%]	Δ45 [Δ9. 1%]	—	—

Environmental Engineering and Plant Factory

- The plant factory business and the reforestation (tree planting) business were sluggish, with orders-received, net sales, and operating income all decreasing year on year.
- Net sales and operating income surpassed initial plans

Breakdown of Sales by Market

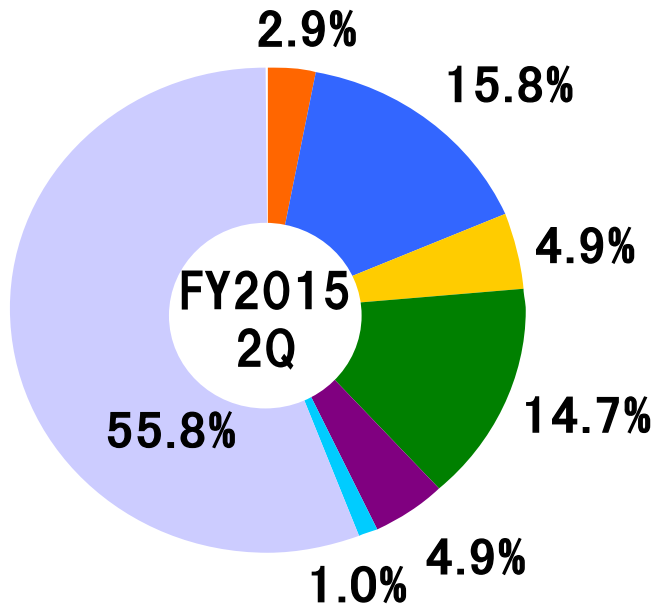
Non-consolidated (Equipment business)



Sales by Region

FY 2015 2Q

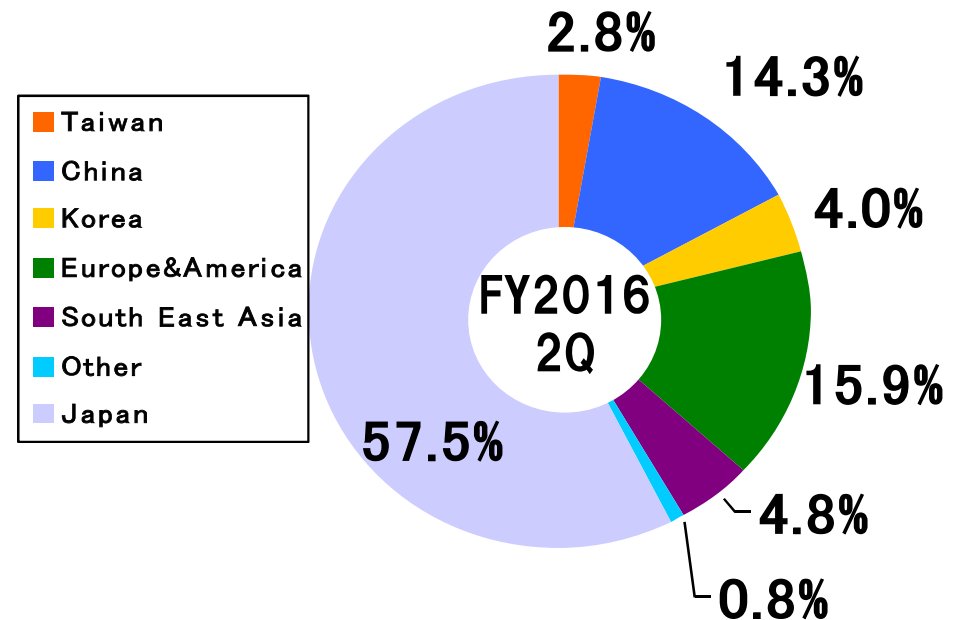
Overseas sales ratio: 44.2%



Total: 16,136 million yen
(Overseas sales: 7,125 million yen)

FY 2016 2Q

Overseas sales ratio: 42.5%



Total: 17,250 million yen
(Overseas sales: 7,339 million yen)

Business Plan for the Fiscal Ending March 31, 2017

FY 2016 Assumed exchange rate

■ Assumed exchange rate

	FY 2015		FY 2016		
	First half Results	Fiscal Results	Results		Fiscal Assumed
			1Q	First half	
US\$(yen)	120.31	121.11	115.33	111.74	105

■ FY 2016 Exchange rate sensitivity

(for every appreciation of ¥1 against the U.S. dollar)

Net Sales	A decrease of ¥126 million
Operating Income	A decrease of ¥2,560 thousand

FY 2016 Awareness of the Environment in the Second Half

Equipment Business	Environmental Test Chambers	◎	Strong investment sentiment in the automobile market, both in Japan and overseas based on ongoing computerization, use of electronic components and development of automated driving.
		○	Firm demand in Japan and overseas in the smartphone market, supported by the development of next-generation smartphones.
		△	Concerns about restrained investment in Japan due to the impact of the yen's appreciation.
		△	Overseas, demand will hold firm in China, but will remain sluggish in Southeast Asia.
	Energy Device Equipment	○	Demand for fuel cells is firm, based on ongoing development of fuel cell vehicles.
Semiconductor Equipment	○	Firm demand for semiconductors centered on the automotive sector.	
Service Business	Semiconductor Equipment, Commissioned Tests and Facility Rentals	○	Demand in the after-sales service and engineering field should remain about the same as last year. Firm demand for commissioned tests centered on the automobile market.
Other Business	Environmental Engineering Business, Plant factory	×	Solid demand for waterfront biotope restoration, despite sluggish demand for the plant factory business and the reforestation (tree planting) business.

Business Plan for the Fiscal Ending March 31, 2017

(millions of yen)

	FY 2015	FY 2016				
	Fiscal (Results)	2Q (Results)	Revised Plan			Fiscal (Beginning of the period)
			Second half (Plan)	Fiscal (Plan)	Year on Year (%)	
Orders-received	39,903	19,914	19,086	39,000	△2.3%	40,000
Net sales	39,035	17,250	20,750	38,000	△2.7%	39,000
Gross profit [Profit ratio (%)]	13,573 (34.8%)	5,889 (34.1%)	7,264 (35.0%)	13,153 (34.6%)	△3.1%	13,830 (35.5%)
Operating income (loss) [Profit ratio (%)]	3,521 (9.0%)	1,009 (5.9%)	1,991 (9.6%)	3,000 (7.9%)	△14.8%	3,600 (9.2%)
Ordinary income (loss) [Profit ratio (%)]	3,570 (9.1%)	833 (4.8%)	2,017 (9.7%)	2,850 (7.5%)	△20.2%	3,700 (9.5%)
Profit attributable to owners of parent [Profit ratio (%)]	2,410 (6.2%)	512 (3.0%)	1,488 (7.2%)	2,000 (5.3%)	△17.0%	2,600 (6.7%)
Capital expenditures	1,162	243	355	598	△48.5%	480
Depreciation expenses	757	396	410	806	6.5%	746
R&D expenditures	956	519	465	984	2.9%	960
Profit Per Share (yen)	104.75	22.47	65.25	87.72	△16.3%	113.98

Equipment Business

(millions of yen)

	FY 2015	FY 2016				
	Fiscal (Results)	2Q (Results)	Revised Plan			Fiscal (Beginning of the period)
			Second half (Plan)	Fiscal (Plan)	Year on Year (%)	
Orders-received	32,951	16,508	15,552	32,060	△2.7%	33,000
Net sales	32,030	14,188	16,722	30,910	△3.5%	32,000
Operating income [Profit ratio (%)]	2,986 [9.3%]	901 [6.4%]	1,599 [9.6%]	2,500 [8.1%]	△16.3%	3,000 [9.4%]

Service Business

(millions of yen)

	FY 2015	FY 2016				
	Fiscal (Results)	2Q (Results)	Revised Plan			Fiscal (Beginning of the period)
			Second half (Plan)	Fiscal (Plan)	Year on Year (%)	
Orders-received	5,874	2,908	3,002	5,910	0.6%	6,000
Net sales	5,786	2,666	3,284	5,950	2.8%	6,000
Operating income [Profit ratio (%)]	516 [8.9%]	152 [5.7%]	348 [10.6%]	500 [8.4%]	Δ3.1%	600 [10.0%]

Other Business

(millions of yen)

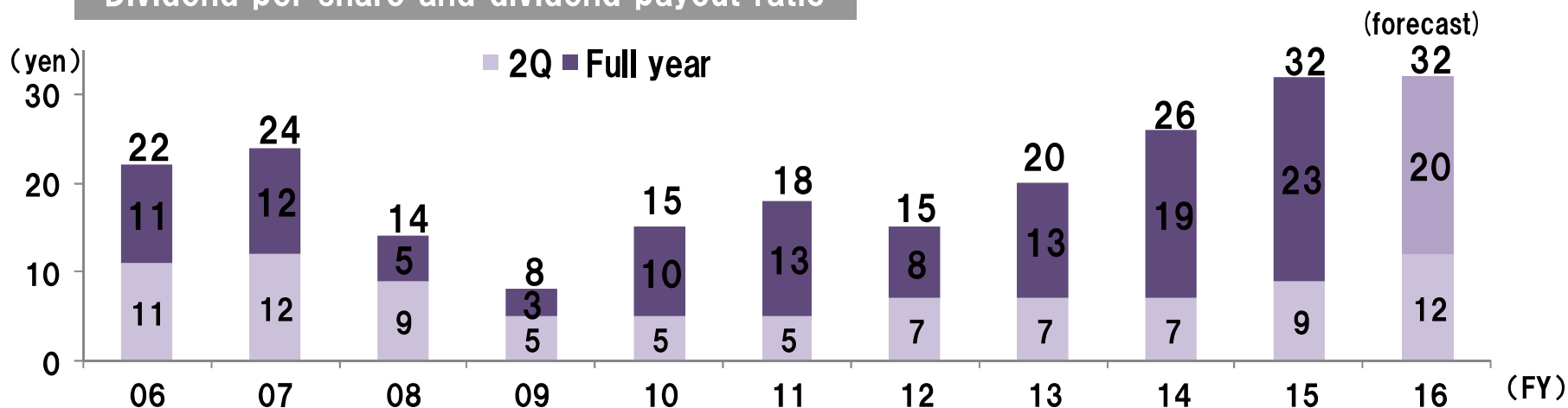
	FY 2015	FY 2016				
	Fiscal (Results)	2Q (Results)	Revised Plan			Fiscal (Beginning of the period)
			Second half (Plan)	Fiscal (Plan)	Year on Year (%)	
Orders-received	1,340	621	609	1,230	Δ8.2%	1,200
Net sales	1,474	502	838	1,340	Δ9.1%	1,200
Operating income [Profit ratio (%)]	19 [1.3%]	Δ45 [Δ9.1%]	45 [5.4%]	0	—	0

Dividends

Dividend policy

Recognizing that passing on profits to our shareholders is a key priority and that raising corporate value on a lasting basis is fundamental to raising shareholder value, dividends are decided taking into account sustainability and the dividend payout ratio.

Dividend per share and dividend payout ratio



Dividend payout ratio

20.6% 46.7% — — 21.4% 21.9% 28.6% 29.6% 28.5% 30.5% 36.5%

※The dividend per share for FY2007 included a commemorative dividend of ¥2 per share to mark the Company's 60th founding anniversary.

※Dividends were implemented in FY2008 and FY2009, despite posting a net loss.

Quality is more than a word

ESPEC

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.

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E-mail: ir-div@espec.jp

Jyunko Nishitani (General Manager),

Natsuko Ookawa and Yui Ikeshima

Corporate Communication Department

Reference

History of Environmental Test

What is Environmental Test

Test to analyze and evaluate effects of environmental factors such as temperature, humidity, pressure, and light 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.



<Today>

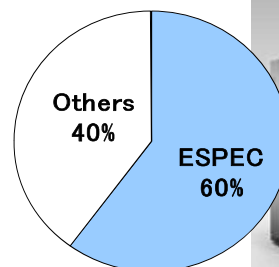
Demand has been growing in new energy sectors such as secondary batteries and solar batteries.



1961 Japan's First Environmental Test Chamber



【 Low temperature & humidity chamber "Lucifer" 】



To Domestic Market Share No.1

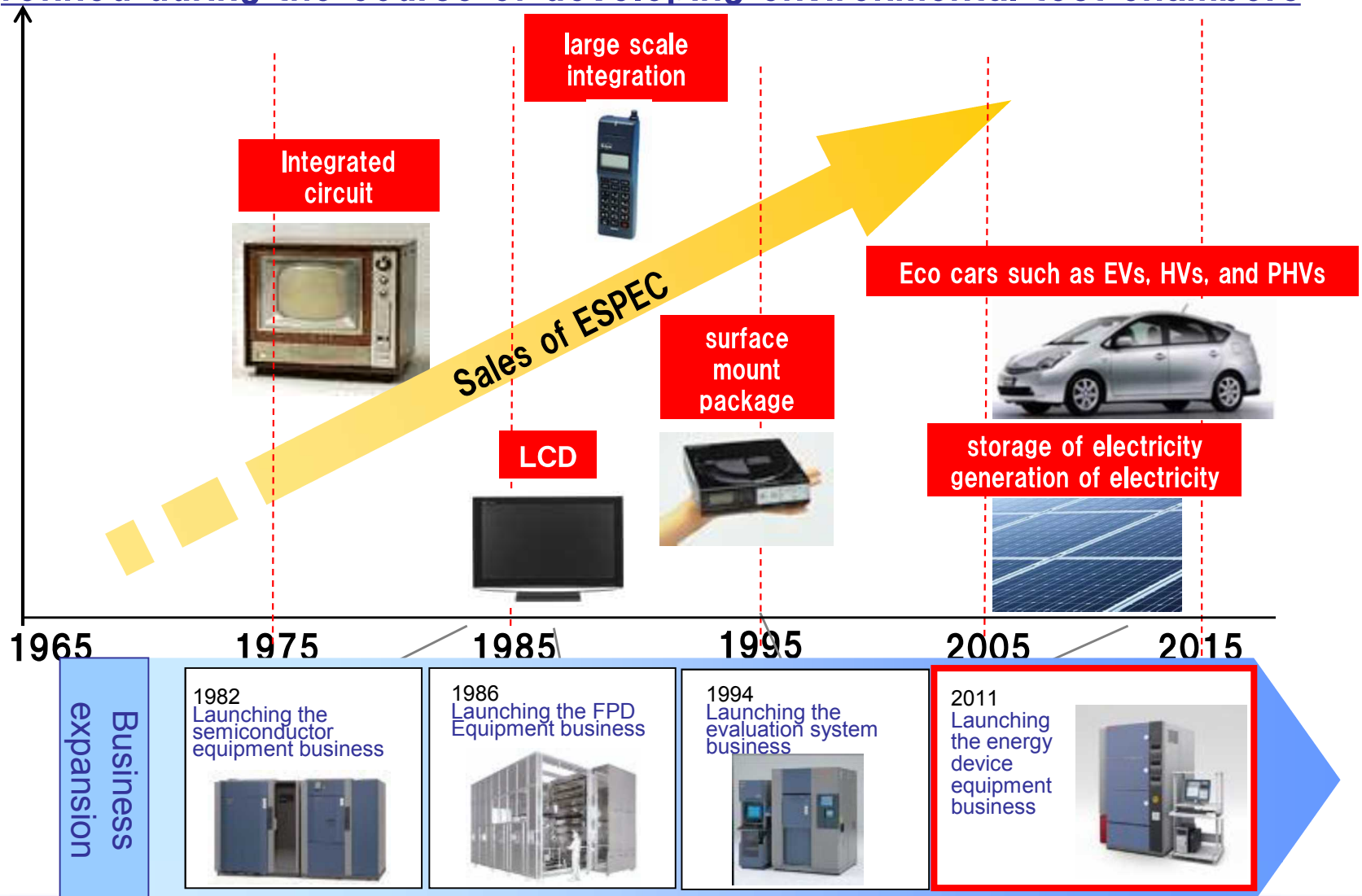


【 Temperature & Humidity Chamber 】

"Platinous J series"

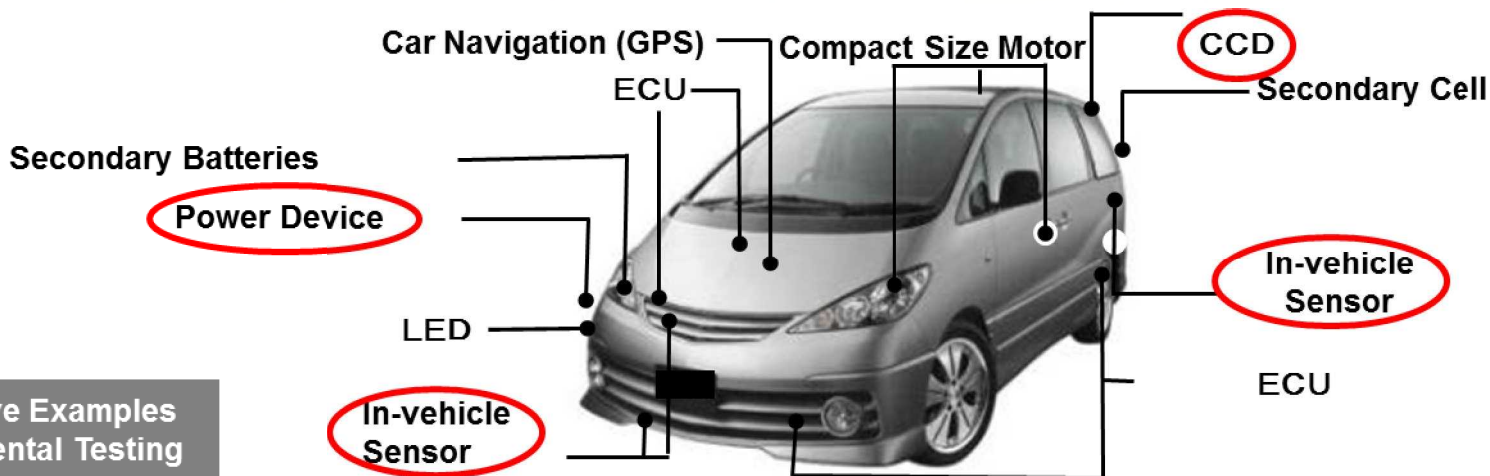
Transition in Business

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






[Equipment Business]

Usage Case with Environmental Test Chambers



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
2016/11	High-Power Temperature & Humidity Chamber AR Series Rapid temperature change type	<ul style="list-style-type: none"> •Compatible with IEC standards and automobile-related standards •Achieves rapid temperature change rate of up to 18° C/min
2016/6	IPX9K-compatible testing equipment (High-pressure steam cleaning injection)	<ul style="list-style-type: none"> •Evaluates the impact of high-pressure steam on electronic devices during cleaning of automobiles; meets ISO standards
2016/6	Siloxane endurance testing equipment	<ul style="list-style-type: none"> •Evaluates the impact on electronic devices of siloxane contained in resins and other materials, mainly in automobiles
2016/4	Added new functions to Online Core, a communications network product	<ul style="list-style-type: none"> •Central management system for equipment and peripheral devices (monitoring of operating condition, schedule management, etc.)
2015/9	Constant-Temperature Bath for Combined Testing Equipment	Material evaluation testing of mainly plastics, rubbers, and fibers
2015/2	Low Temperature (&Humidity) Chamber	Preservation testing of foods Long-term refrigerated storage testing of pharmaceuticals and cosmetics
2014/11	Thermal Shock Chamber TSA series	Build in state-of-the-art controllers to improve operability
2014/11	Advanced Safety Tester	Conduct three types of safety testing of rechargeable batteries on one platform

[Equipment Business] TOPICS

Bench-Top Type Temperature (& Humidity) Chamber receives an iF DESIGN AWARD 2016 international design award

ESPEC's Bench-Top Type Temperature (& Humidity) Chamber received an iF DESIGN AWARD 2016, the most prestigious design award in the world, in the product design category.

This product is used in the R&D stage for primarily evaluating the reliability of electronic and automotive components. The product's unrivaled compact and highly functional design was praised around the world.



[Service Business] TOPICS

Start the industry-first "5-year Product Guarantee"

In January 2015, ESPEC started the industry's first free 5-year product guarantee service for its three core products. With its high product quality and thorough after-sales service network, ESPEC is well positioned to offer this unique service.

● Applicable products



Temperature & Humidity Chamber
Platinous J Series



Bench-Top Type
Temperature (& Humidity) Chamber



Thermal Shock Chamber
TSA Series

[Equipment Business]

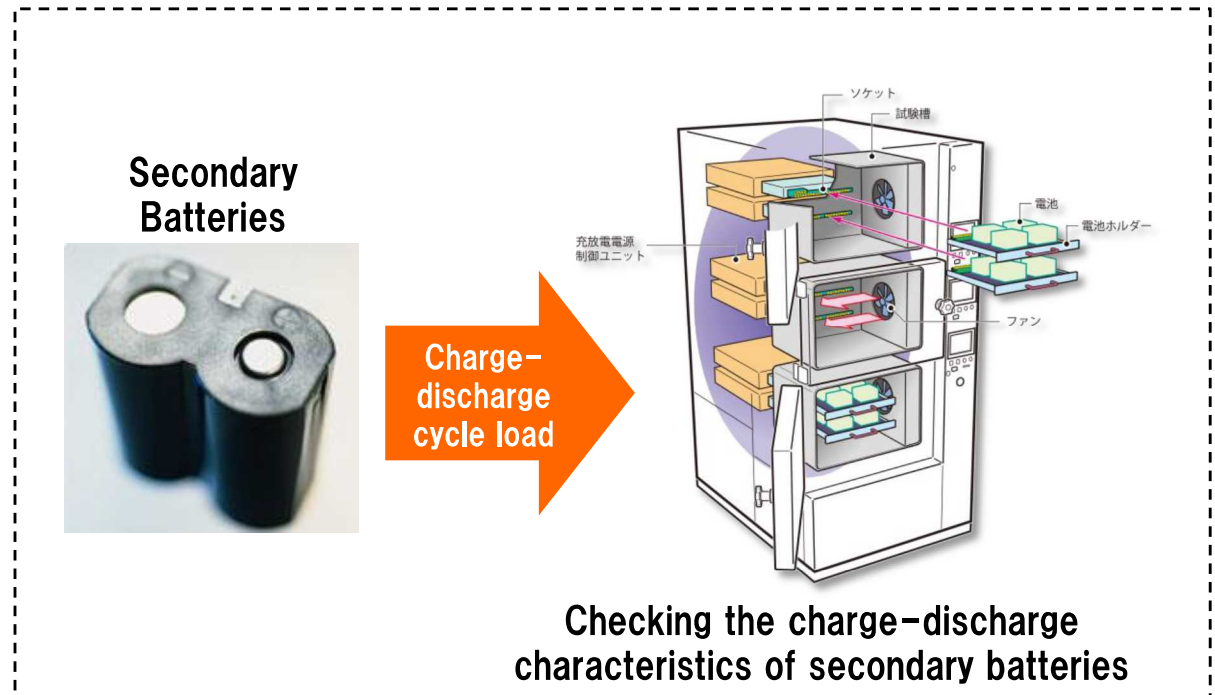
Usage Case with Energy Device Equipment

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



Evaluating the performance and life of secondary batteries

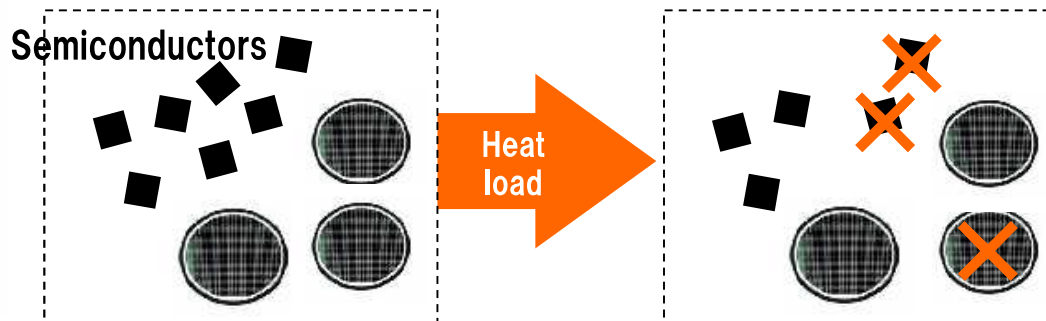
[Equipment Business] Usage Case with Semiconductor Equipment

Screening

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



Burn-in chamber



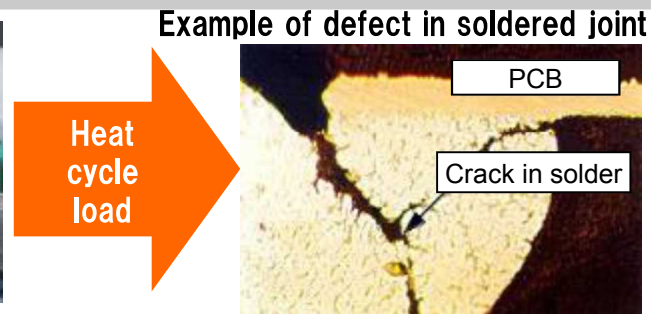
Elimination of latent early failures

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 new services by utilizing the network function mounted in the equipment
- In overseas, established “Global Support Desk”, global framework, with distributors located in many countries

Commissioned Tests and Facility Rentals

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

- The company has five commissioned test centers in Japan, two commissioned test centers in China. (In Japan, 2 points of Utsunomiya, Toyota, Kariya and Kobe. In China, Shanghai, Suzhou)
- These centers are IECQ-approved independent testing laboratories that meet ISO/IEC17025 standards.
- The centers are also recognized as official calibration facilities under the Japan Calibration Service System (JCSS).
- September 2015, Opened the world's first Battery Safety Certification Center.
 - Providing a one-stop service for testing and certification application services compliant with United Nations regulations on the safety of automotive rechargeable batteries.
 - Entered into business alliance with TÜV SÜD Japan Ltd., a third-party certification agency (October 2014)



Battery Safety Certification Center
(in Utsunomiya Technocomplex)

[Service Business] TOPICS

Opened the world's first Battery Safety Certification Center

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

※Entered into force in July 2016



Battery Safety Certification Center
(in Utsunomiya Technocomplex)



Crush Testing Equipment
(No. 1 Safety Test Room)



No. 2 Safety Test Room

[Other Business]

Environmental Engineering Business

Environmental Engineering Business

■ 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 factory

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



Container plant factory



Phyto-toron

[Service Business] TOPICS

Establishment of a plant factory near Haneda Airport

Established a test production facility※ in March 2016 for high value-added vegetables produced using deep-seawater

※ Joint research with DHC Corporation and Kyoto University



Interior of the plant factory and Factory-produced vegetables mineraleaf