

FREUND CORPORATION

Selected by the Japanese Ministry of Economy, Trade
and Industry as a Global Niche Top 100 Company

JASDAQ

(Securities code: 6312)

Results of Operations for the Fiscal Year Ended February 28, 2018 (FY2/18)

April 13, 2018

2017 Award for Excellence in
Corporate Disclosure
-Emerging Markets-



SAA The Securities Analysts
Association of Japan

Freund **FREUND**

Table of Contents

● Consolidated Financial Summary for FY2/18	• • •	P.02
● Consolidated Earnings and Dividend Forecasts for FY2/19	• • •	P.15
● Goals of the 7th Medium-term Management Plan and Results for FY2/18	• • •	P.19
● FY2/19 Initiatives for Progress toward the Goals of the 7th Medium-term Management Plan	• • •	P.23
● Examples of Key Initiatives for Consistent Earnings Growth	• • •	P.29
Supplementary Materials	• • •	P.33
Fact Sheet	• • •	Appendix

Consolidated Financial Summary for FY2/18



Consolidated Financial Summary

- Pharmaceutical industry capital expenditures were down sharply in Japan due to the significant negative impact of April 2016 national insurance drug price revisions.
- Freund-Vector: Big drop in earnings caused by large low-margin orders
- Freund-Turbo: Products used for making lithium-ion batteries performed well
- Chemicals Business: Sales down and earnings up as planned due to a decline in dietary supplement products sales at companies that use Freund ingredients

(unit: ¥ million)

	FY2/17	FY2/18		YoY change	
	Actual	Actual	Initial forecast	Amount	%
Net sales	21,164	19,801	21,000	(1,363)	(6.4)%
Operating profit	2,041	1,971	2,100	(70)	(3.4)%
Ordinary profit	2,097	1,994	2,100	(103)	(4.9)%
Profit	1,064	1,477	1,400	+413	+38.8%
Earnings per share (yen)	61.72	85.69	81.19	+23.97	+38.8%
Orders received	18,286	12,129	-	(6,157)	(33.7)%
Order backlog	8,790	5,906	-	(2,884)	(32.8)%
Capital investment	564	524	-	(40)	(7.1)%
Depreciation	338	344	-	+6	+1.9%
R&D expenses	640	862	-	+222	+34.8%
ROA	5.6%	7.7%	-	-	-
ROE	9.0%	11.6%	-	-	-

Machinery Business: Overview

● Sales By Product Field

- Pharmaceutical products: Sales as planned because of the order backlog at the end of FY2/17
End of FY2/18 order backlog was down because of a sharp decline in the demand for pharmaceutical equipment in Japan
- Industrial products: Large volume of capital expenditures involving GMP in the dietary supplements sector; started shipping products for lithium-ion batteries

● Segment Profit

- Freund-Vector: Big drop in earnings caused by large low-margin orders

(unit: ¥ million)

	FY2/17		FY2/18	
	Amount	YoY change(%)	Amount	YoY change(%)
Net sales	14,914	+14.4	14,403	(3.4)
Pharmaceutical Products	12,441	+8.7	12,250	(1.5)
Industrial Products	2,473	+55.2	2,152	(13.0)
Operating profit	1,750	+47.1	1,631	(6.8)
Orders received	16,358	+24.8	11,513	(29.6)
Pharmaceutical Products	14,092	+25.5	9,556	(32.2)
Industrial Products	2,266	+20.5	1,956	(13.7)
Order backlog	8,561	+20.8	5,822	(32.0)
Pharmaceutical Products	7,741	+24.5	5,025	(35.1)
Industrial Products	819	(5.5)	796	(2.8)
Yen/dollar rate (+ is yen depreciation)	109.5	-11.6 yen/dollar	111.5	+2.0 yen/dollar

Machinery Business: Group Company Performance

- Freund Corporation: Difficulty capturing new orders because of the big impact of drug price revisions
- Freund-Vector: Sales were much lower because of large low-margin orders
- Freund-Turbo: Strong orders, sales and earnings in part due to lithium-ion battery machinery

(unit: ¥ million)

	FY2/17		FY2/18	
	Amount	YoY change(%)	Amount	YoY change(%)
Net sales	14,914	+14.4	14,403	(3.4)
FREUND CORPORATION	9,446	+21.4	8,883	(6.0)
FREUND-VECTOR	4,727	+0.9	4,354	(7.9)
FREUND-TURBO	1,641	+36.2	1,722	+4.9
Operating profit	1,750	+47.1	1,631	(6.8)
FREUND CORPORATION	1,281	+59.9	1,430	+11.6
FREUND-VECTOR	388	+32.4	86	(77.7)
FREUND-TURBO	79	(15.5)	114	+43.4
Orders received	16,358	+24.8	11,513	(29.6)
FREUND CORPORATION	10,350	+26.1	6,201	(40.1)
FREUND-VECTOR	4,797	+18.1	3,814	(20.5)
FREUND-TURBO	1,210	+44.2	1,497	+23.7
Order backlog	8,561	+20.8	5,822	(32.0)
FREUND CORPORATION	6,543	+19.3	3,999	(38.9)
FREUND-VECTOR	1,508	+17.9	1,218	(19.3)
FREUND-TURBO	508	+58.8	605	+19.0

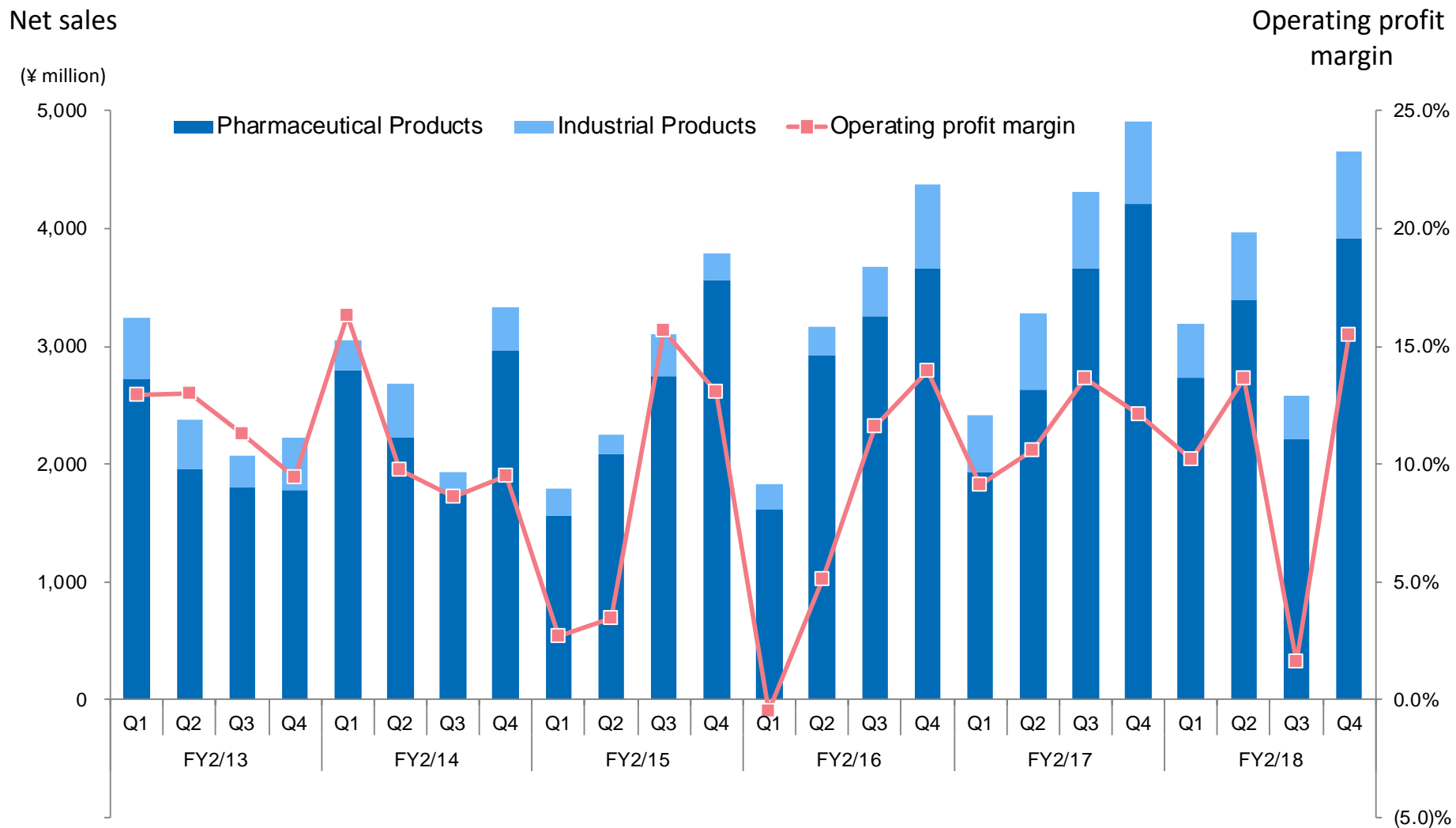
Machinery Business: Sales by Region

- Japan: Capital expenditures down sharply due to drug price revisions
- North America: Sales down due to a large, one-time order near the end of FY2/17, which was a transitional 14-month fiscal period at Freund-Vector
- South America: Captured orders for machinery primarily in Brazil
- Europe: Large orders were received in EU countries

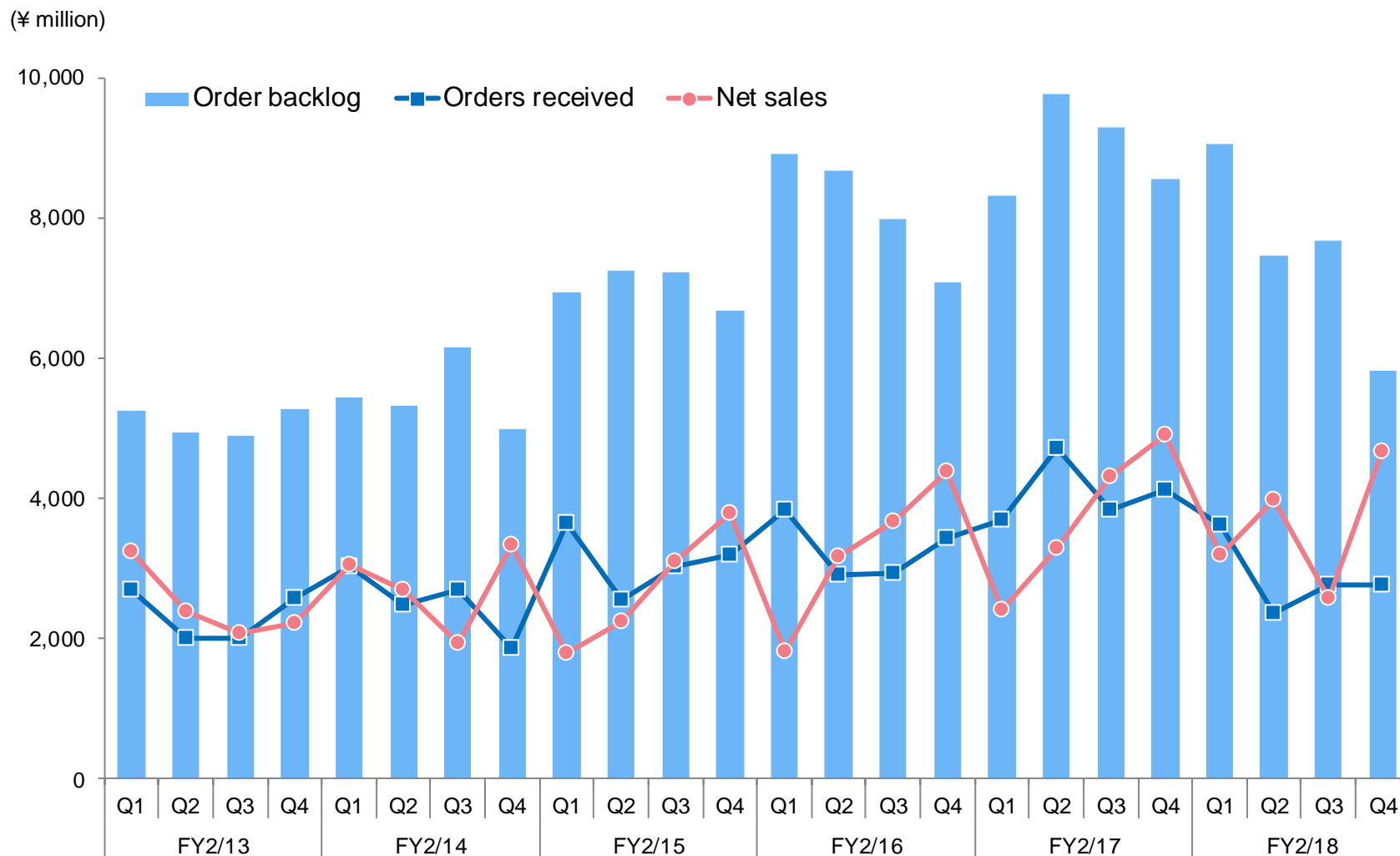
(unit: ¥ million)

	FY2/17		FY2/18	
	Amount	YoY change(%)	Amount	YoY change(%)
Net sales	14,914	+14.4%	14,403	(3.4)%
Japan	9,459	+23.4%	8,493	(10.2)%
Overseas	5,454	+1.6%	5,909	+8.3%
North and South Americas	3,884	+11.2%	2,979	(23.3)%
Europe and Africa	867	(11.6)%	1,782	+105.4%
Middle East, Asia and Pacific	702	(21.5)%	1,147	+63.3%

Machinery Business: Quarterly Results (by Product Field)



Machinery Business: Quarterly Results (Net sales/Orders received/Order backlog)



Chemicals Business: Overview

● Net Sales

- ❑ Pharmaceutical excipients: Higher sales and earnings despite inventory reductions, mainly at generic drug manufacturers
- ❑ Food preservatives: Sales and earnings as planned
- ❑ New food products: Big decline in sales as planned
- ❑ Export: Expanded sales channels in India by enlarging the manufacturing infrastructure

● Segment Profit: Higher because of an improvement in the sales mix

(unit: ¥ million)

	FY2/17		FY2/18	
	Amount	YoY change(%)	Amount	YoY change(%)
Net sales	6,249	+4.3	5,398	(13.6)
Pharmaceutical Excipients	2,357	+10.6	2,546	+8.0
Food Preservatives	1951	(2.7)	2091	+7.2
Dietary Supplement Products	1941	+4.7	760	(60.8)
(Export sales)*1	108	+37.3	215	+98.7
Operating profit	748	+44.0	801	+7.1

Note: Sales to India, South Korea and Taiwan

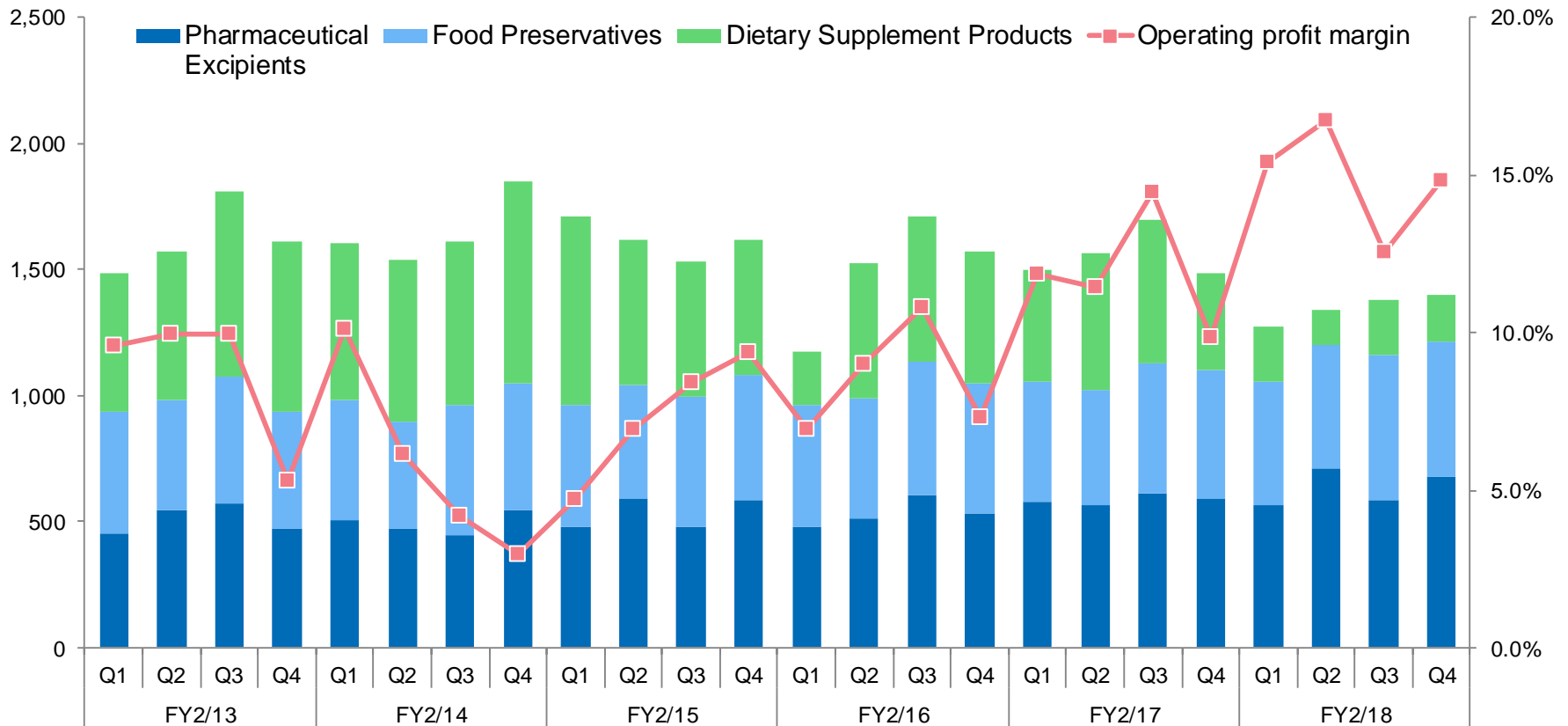
Chemicals Business: Quarterly Results (by Product Field)

- Operating profit increased due to an improvement in the product mix
- Negative effect on pharmaceutical excipients of inventory reductions, mainly at generic drug companies, was offset by sales of high-margin products

Net sales

(¥ million)

Operating profit margin



Summary of Consolidated Statement of Income

(unit: ¥ million)

	FY2/17		FY2/18		YoY change	
	Amount	Composition ratio	Amount	Composition ratio	Amount	%
Net sales	21,164	100.0%	19,801	100.0%	(1,363)	(6.4)%
Cost of sales	14,343	67.8%	12,985	65.6%	(1,358)	(9.5)%
Gross profit	6,821	32.2%	6,816	34.4%	(4)	(0.1)%
SG&A expenses	4,779	22.6%	4,845	24.5%	+65	+1.4%
Operation profit	2,041	9.6%	1,971	10.0%	(70)	(3.4)%
Non-operating income and expenses	56	0.3%	22	0.1%	(33)	(59.4)%
Ordinary profit	2,097	9.9%	1,994	10.1%	(103)	(4.9)%
Extraordinary income and losses	(313)	-	99	0.5%	+412	-
Profit before income taxes	1,783	8.4%	2,093	10.6%	+309	+17.3%
Profit	1,064	5.0%	1,477	7.5%	+413	+38.8%

Non-operating income and expenses

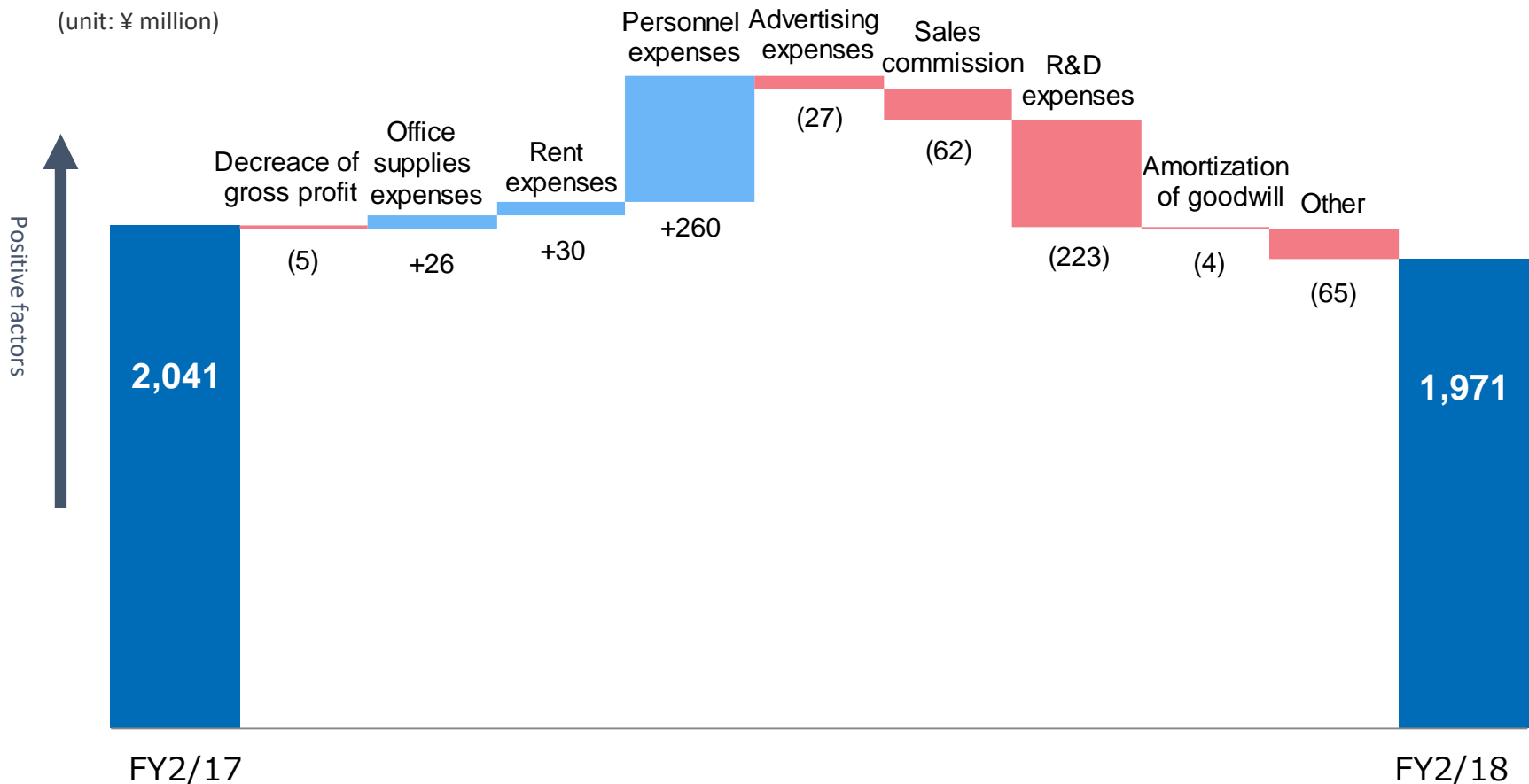
- Non-operating income → (30)
- Non-operating expenses → 3

Extraordinary income and losses

- Gain on redemption of investment securities → 101
- Loss on sales of non-current assets → (2)

Change in Consolidated Operating Profit

- Operating profit increased because of growth in sales, sales of high-margin machinery in Europe and higher gross margin
- An improvement in the sales mix of chemicals caused lower sales and higher earnings



Summary of Consolidated Balance Sheet

	(unit: ¥ million)		
	FY2/17-End	FY2/18-End	YoY change Amount
Current assets	14,938	14,784	(154)
Cash and deposits	6,982	6,568	(414)
Accounts receivable ^{*1}	4,403	4,451	+48
Inventories	2,765	3,185	+420
Non-current assets	4,162	4,341	+178
Property, plant and equipment	3,234	3,370	+135
Intangible assets	55	102	+46
Investments and other assets	872	868	(3)
Total assets	19,101	19,125	+24
Current liabilities	6,592	5,564	(1,027)
Accounts payable ^{*1}	3,058	2,823	(234)
Advances received	1,831	1,498	(333)
Non-current liabilities	323	318	(5)
Net defined benefit liability	201	200	(1)
Total liabilities	6,916	5,883	(1,032)
Total net assets	12,185	13,242	+1,056

Inventories + ¥420 million

- Merchandise and finished goods (141)
- Work in process +334
- Raw materials and supplies +227

Property, plant and equipment

- Buildings and structures +27
- Construction in progress +100
- Other +8

Intangible assets

- Goodwill +92
- Software (46)

*1: Includes electronically recorded monetary claims-operating and obligations-operating

*In FY2/17, consolidated subsidiaries Freund-Vector Corporation and Freund-Turbo Corporation changed the end of their fiscal years from December 31 to the end of February. Consequently, results for FY2/17 include the 14-month period from January 1, 2016 to February 28, 2017 for these two companies.

Summary of Consolidated Statement of Cash Flows

	(unit: ¥ million)	
	FY2/17	FY2/18
Cash flows from operating activities	3,605	594
Profit before income taxes	1,783	2,093
Depreciation	338	344
Decrease (increase) in notes and accounts receivable - trade	1,243	(66)
Decrease (increase) in inventories	(382)	(415)
Increase (decrease) in advances received	571	(315)
Increase (decrease) in notes and accounts payable - trade	409	(152)
Income taxes paid	(245)	(694)
Cash flows from investing activities	(351)	(493)
Purchase of property, plant and equipment	(474)	(592)
Cash flows from financing activities	(277)	(499)
Repayments of lease obligations	(61)	(48)
Cash dividends paid	(215)	(343)
Net increase (decrease) in cash and cash equivalents	2,940	(431)
Cash and cash equivalents at end of period	6,982	6,568
Free cash flow	3,253	100

Consolidated Earnings and Dividend Forecasts for FY2/19



Summary of Consolidated Forecasts

- Gross profit: Goal is raising the gross margin at least 1 pct. point
- SG&A expenses: Reexamining comprehensive cost at group companies
- Using all group resources to aim for higher earnings, including measures to raise sales outside the pharmaceutical sector (in the food and lithium-ion battery sectors)

(unit: ¥ million)

	FY2/18 (Actual)	FY2/19 (Forecast)	YoY change	
			Amount	%
Net sales	19,801	20,000	+198	+1.0
Operating profit	1,971	1,900	(71)	(3.6)
Ordinary profit	1,994	1,900	(94)	(4.7)
Profit	1,477	1,350	(127)	(8.6)
Earnings per share (yen)	85.69	78.29	(7.40)	(8.6)
Capital investment	524	500	-	-
Depreciation	344	300	-	-
R&D expenses	862	750	-	-

Summary of Segment Forecasts

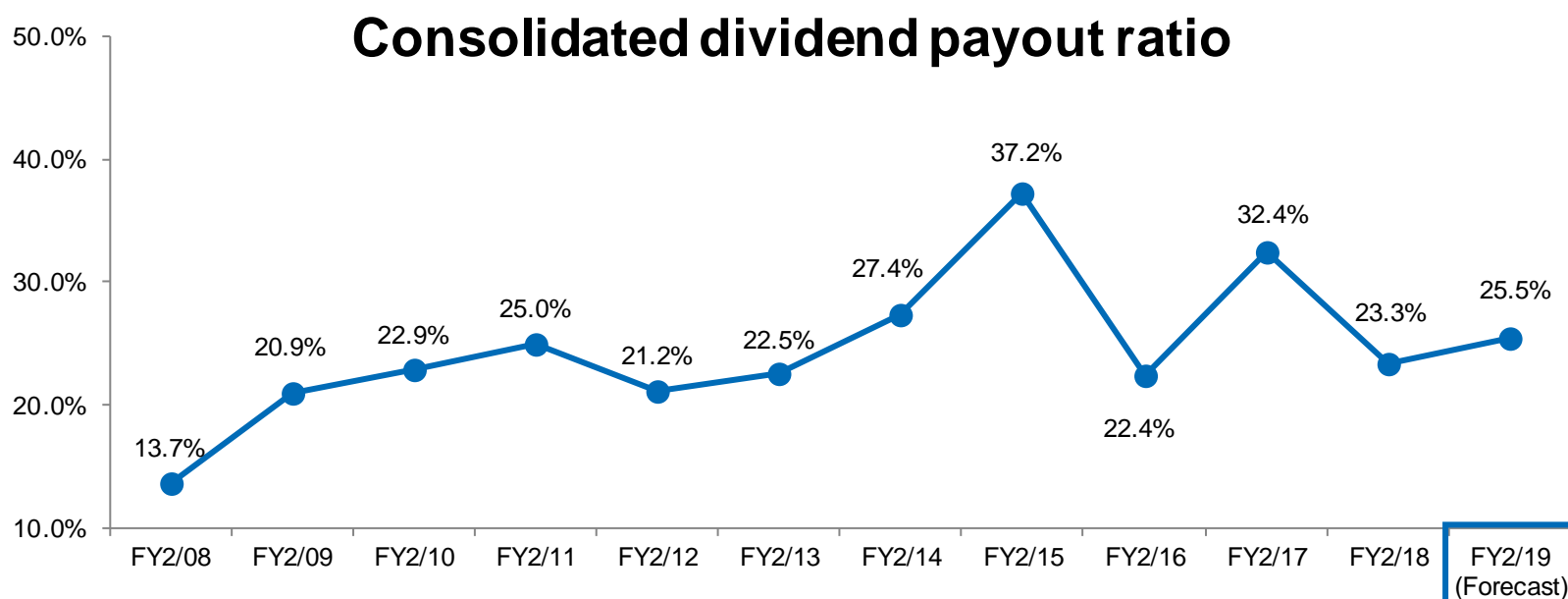
- Machinery: Growth of the lithium-ion business, sales activities for the TABREX tablet printer, and growth of maintenance business
- Chemicals: Goal is higher sales of pharmaceutical excipients in Japan and higher exports (to India)

(unit: ¥ million)

	FY2/18		FY2/19 (Forecast)		YoY change	
	Amount	Composition ratio (%)	Amount	Composition ratio (%)	Amount	%
Consolidated net sales	19,801	100.0	20,000	100.0	+198	+1.0
Machinery Business Segment	14,403	72.7	14,000	70.0	(403)	(2.8)
Chemicals Business Segment	5,398	27.3	6,000	30.0	+601	+11.1
Segment income	1,971	100.0	1,900	100.0	(71)	(3.6)
Machinery Business Segment	1,631	82.8	-	-	-	-
Chemicals Business Segment	801	40.6	-	-	-	-
Adjustments	(461)	(23.4)	-	-	-	-
Yen/dollar rate (+ is yen depreciation)	111.46	-	110.00	-	-	-

Summary of Dividend Forecasts

- Consolidated dividend payout ratio target is 30%
- Plan to pay a dividend of 20 yen per share (ordinary dividend)



Profit (¥ million)	943	619	563	516	608	765	787	695	961	1,064	1,477	1,350
Dividend per share (yen)	7.5	7.5	7.5	7.5	7.5	10.0	12.5	15.0	12.5	20.0	20.0	20.0
Number of shares outstanding (Thousand shares)	4,600	4,600	9,200	9,200	9,200	9,200	9,200	9,200	9,200	18,400	18,400	18,400

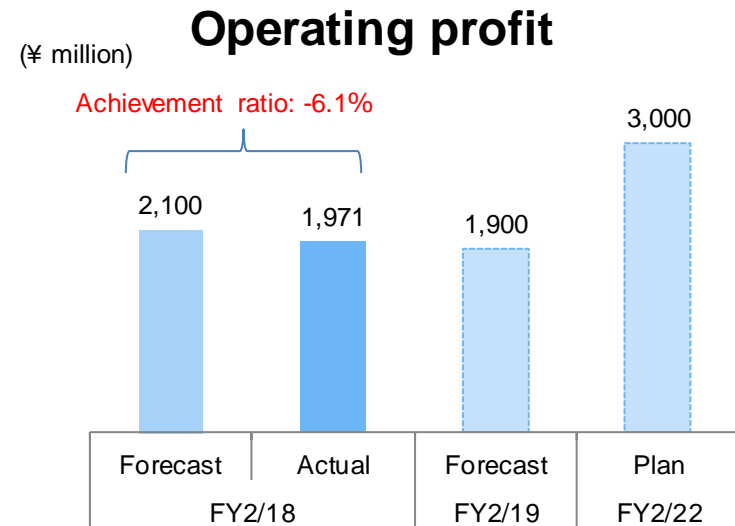
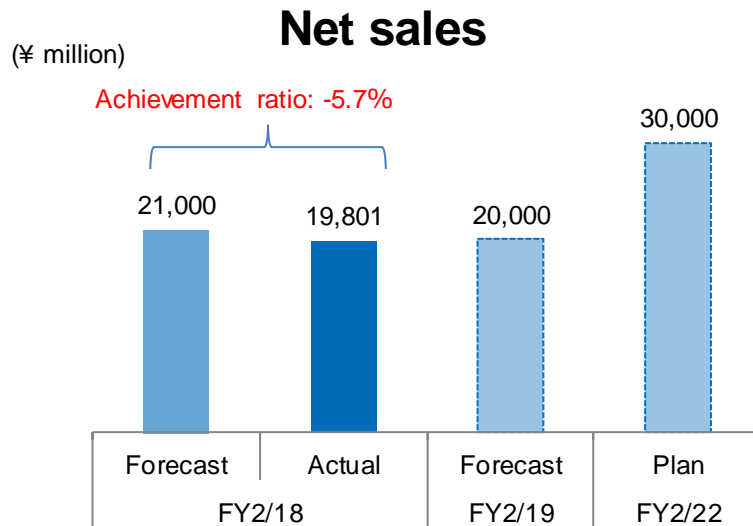
Note: Freund conducted a 2-for-1 common stock split on June 1, 2009 and March 1, 2016.

The dividends per share for FY2/16 and earlier have been adjusted to reflect the stock split.

Goals of the 7th Medium-term Management Plan and Results for FY2/18

Goals of the 7th Medium-term Management Plan vs. Performance and Forecasts

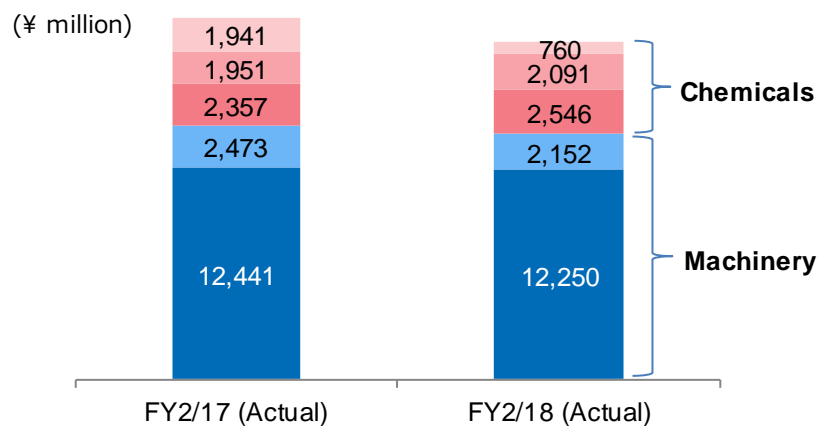
- FY2/18 performance was below the initial forecast because of drug price revisions
- FY2/19 forecast is about the same as FY2/18 performance due to the smaller order backlog at the end of Feb. 2018 compared with one year earlier
- Goal is non-pharmaceutical business (nutritional supplements and lithium-ion battery sectors) growth to offset sluggish capital expenditures in the pharmaceutical industry



Business Segment and Regional Sales

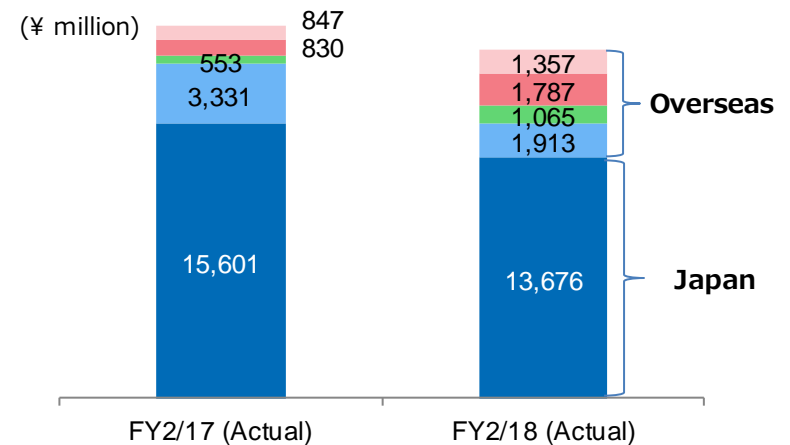
- FY2/18 Machinery/Chemicals sales ratio was 7-to-3, the same as in FY2/17
- In regional sales, sales growth in Asia and Europe offset lower sales in Japan caused by drug price revisions

Net sales by business segment



- Pharmaceutical Products
- Industrial Products
- Pharmaceutical Excipients
- Food Preservatives
- Dietary Supplement Products

Net sales by region



- Japan
- North America
- Central and South America
- Europe
- Others

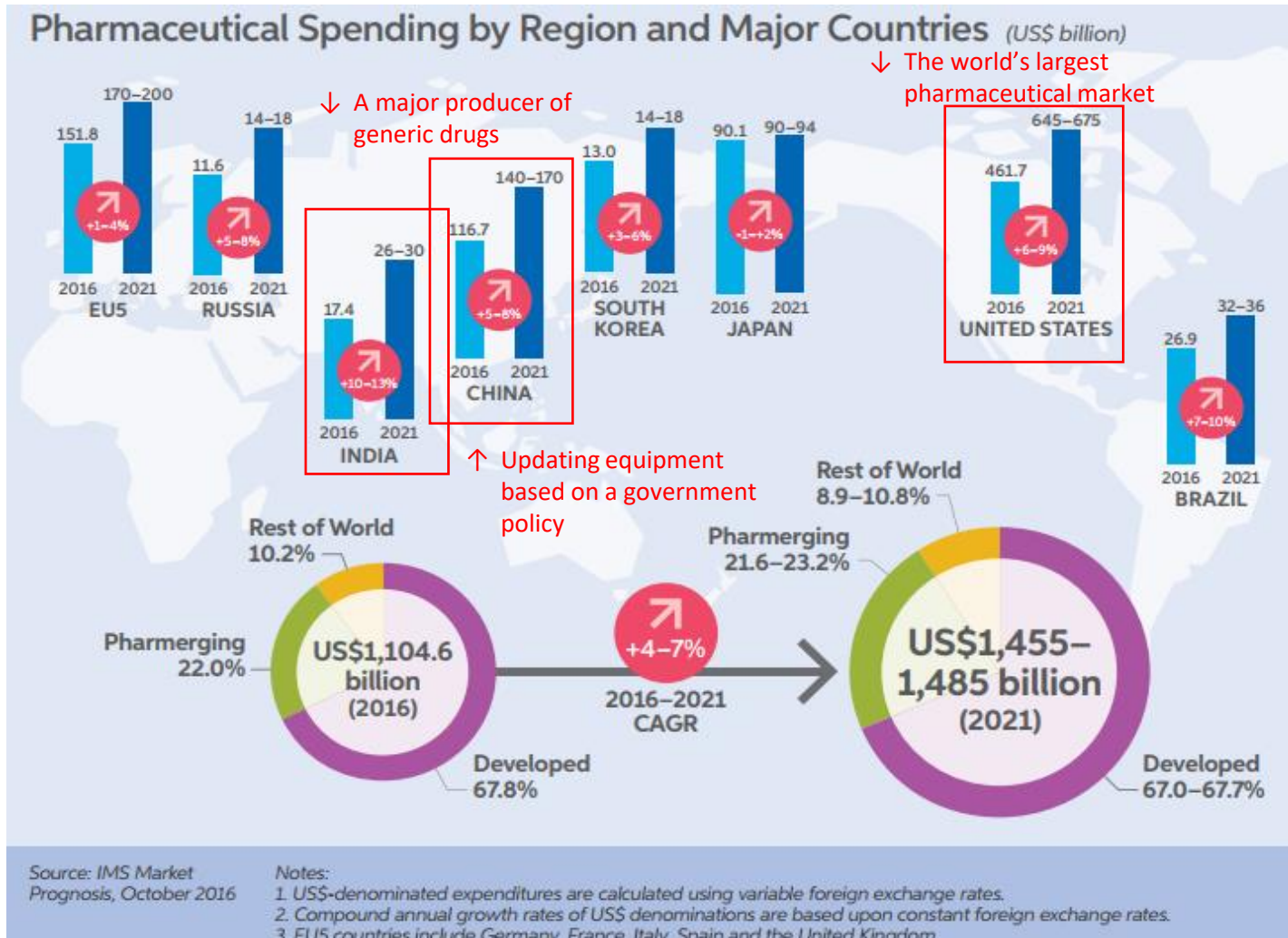
7th Medium-term Management Plan – First Year Accomplishments and Outlook

- First year sales to pharmaceutical companies in Japan fell sharply due to drug price revisions
 - ▣ Signs of a recovery in capital expenditures at some Japanese pharmaceutical companies emerged during FY2/18
- Delays in sales of new products (tablet printer) mainly because of user requests for revisions and additions
 - ▣ Finished responding to these requests and resuming sales activities
- Growth of the maintenance business
 - ▣ Created a new organization for this business in FY2/19
- Increase sales of products used by lithium-ion battery manufacturers
 - *See supplementary materials for more information
- Increase overseas sales of pharmaceutical excipients
 - ▣ Expand the supply infrastructure to increase sales in other countries

FY2/19 Initiatives for Progress toward the Goals of the 7th Medium-term Management Plan

Operating Environment: Global Pharmaceutical Market

- The pharmaceutical market is growing in emerging countries, especially India.



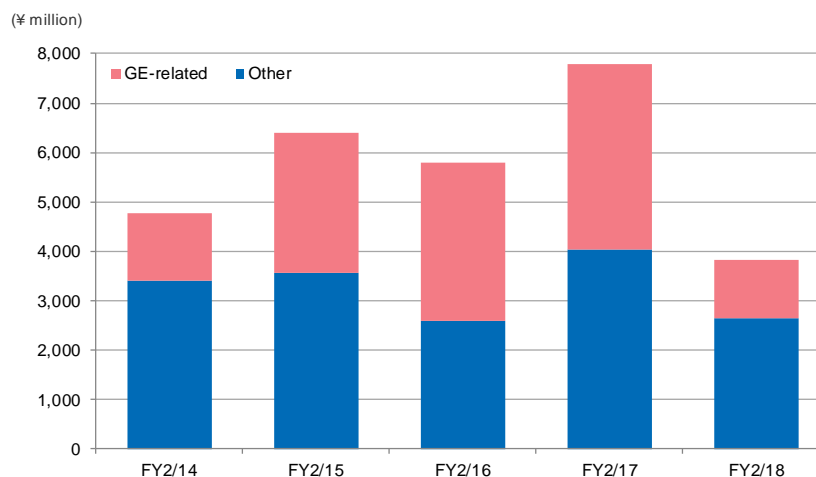
Operating Environment: Japanese Pharmaceutical Market

- In FY2/18, demand for machinery in Japan's pharmaceutical industry (where the government policy of raising the generic drug share to 80% is temporarily creating extra demand), the Freund Group's core business sector, slowed down faster than expected.
- In the generic drug category, demand associated with capital expenditures is recovering at some companies.
- Capital expenditures are rising in the non-pharmaceutical sector (supplements).

Machinery Orders Received

(¥ million)	FY2/17	FY2/18
Orders received	16,358	11,513
Pharmaceutical Products	14,092	9,556
Industrial Products	2,266	1,956
Order backlog	8,561	5,822
Pharmaceutical Products	7,741	5,025
Industrial Products	819	796

Pharmaceutical Industry Orders Received in Japan



Note: Excluding industrial machinery and parts

7th Medium-term Management Plan: First-year Performance as Generally Planned

Corporate
Philosophy

Develop the Future through Creativity

Management
Vision

Freund Group will contribute to better medical care and health for people worldwide and creating and utilizing technologies for fulfilling lives and food safety

7th Medium-term Management Plan (FY2/18-FY2/22)

Values which the FREUND
Group holds precious



Create special forms
of value

Aim to be the leader in
all of the group's
business sectors



Always use the
customer's perspective

Be a company like no
other for customers and
society



Networking

Solidify the group to
create a unified
organization

	FY2/18 Accomplishments
Business expansion	
Expand new business domains	Extended core competences (pulverizing, granulation, coating particles) to non-pharmaceutical product field
Faster global growth	Considering establishment of laboratories in growing markets (India, China)
Open innovation (business alliances)	Preparing to start supplying spray dryers and other equipment for higher molecular weight drugs
Developing a win-win business model with customers and suppliers	Entrusted with a maintenance work for realizing effective operation of a customer's plant
Establish a base for a service business	Finished preparations to start a contract organization (CDO) business
New technologies	
More group solidarity	Integrate Japan and U.S. group technology and product development capabilities
Joint development	Develop additional functions for continuous production equipment
Tie-ups with the academic sector	Cooperate with academic institutions for R&D and testing for next-generation technologies
Business operations	
Reform business processes	Improve efficiency by centralizing the data management for product components
Make all businesses more profitable	Identify and monitor cost items required to oversee profitability
Employee training and development	Give people skills to succeed globally, such as by using international assignments and rotations of people within the group

7th Medium-term Management Plan: Major Goals for FY2/19

● Machinery

- ❑ Increase sales of the new product (tablet printer)
- ❑ Improve the profitability of Freund-Vector
- ❑ Target opportunities outside the pharmaceuticals market (nutritional supplements and other high-potential markets)
- ❑ Strengthen maintenance services
- ❑ Capture repeat orders for production machinery used by lithium-ion battery companies
- ❑ Start operations at the Nishinomiya Testing Center (for equipment involving lithium-ion batteries)

● Chemicals

- ❑ Increase sales of excipients outside Japan
- ❑ Develop ink for tablet printers used overseas
- ❑ Prepare to start a CDO business
- ❑ Increase the efficiency of food preservative production

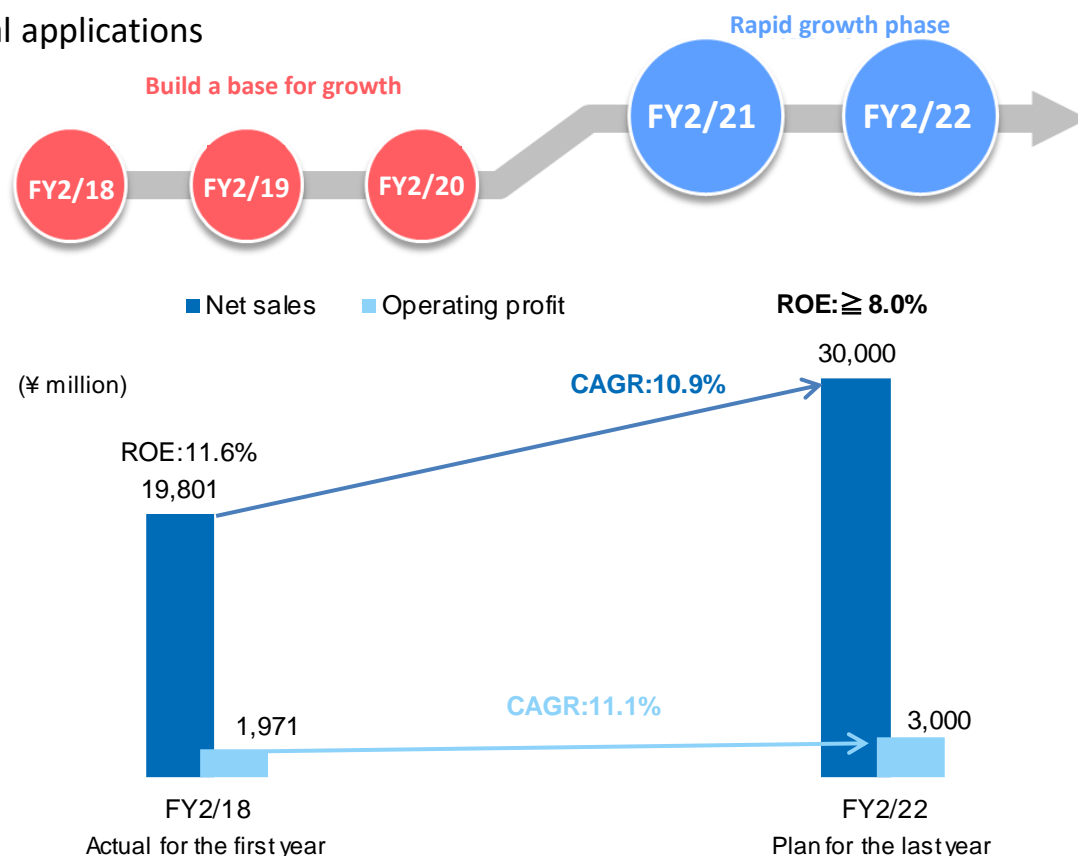
7th Medium-term Management Plan: Core Goals

Assumption regarding market conditions

- For pharmaceutical industry capital expenditures in Japan, the benefits of government measures to raise the generic drug share to 80% will start declining in 2020.
- Pharmaceutical industry capital expenditures in other countries are expected to continue growing until at least 2022 and probably afterward as well.
- Many opportunities exist for using Freund's technologies and products (pulverizing, granulation, coating particles) in non-pharmaceutical applications

Overview of initiatives and outlook for performance

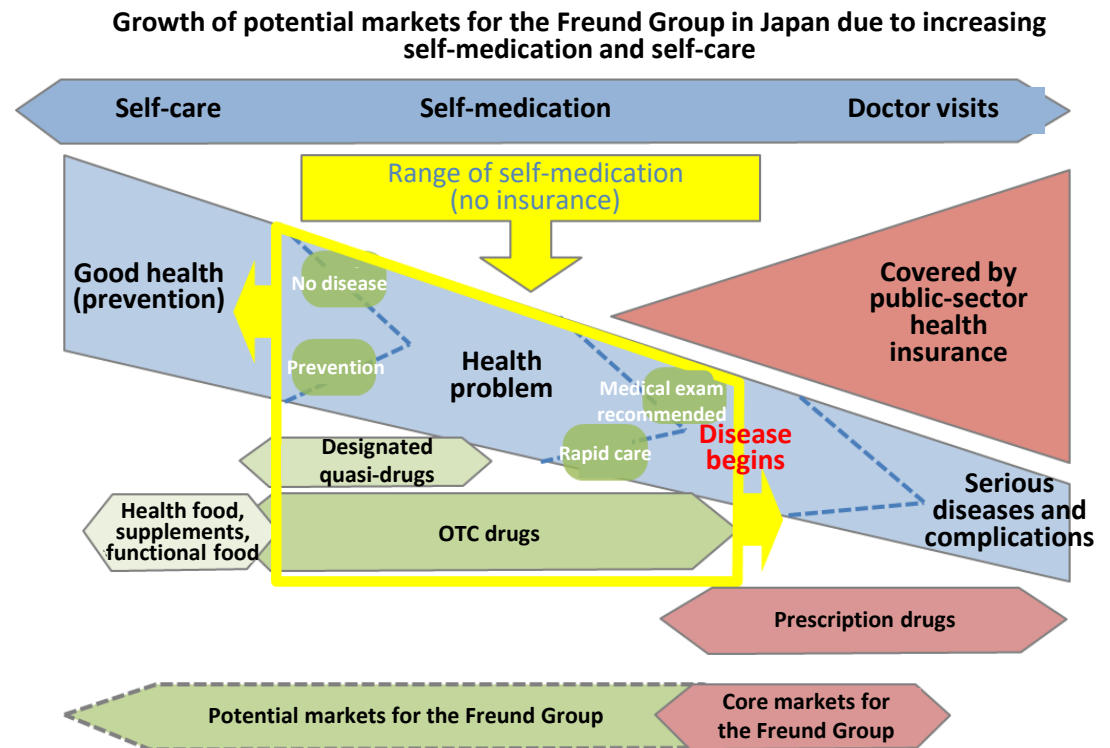
- Expect new products, industrial machinery and overseas growth to offset weakness in Japan's pharmaceutical market
- Aiming for sales of ¥30 billion and operating profit of ¥3 billion in FY2/22, but expect no significant growth in the plan's first three years because this is a period for structural reforms



Examples of Key Initiatives for Consistent Earnings Growth

Machinery: Upgrade Activities in Industries Peripheral to Pharmaceuticals in Japan

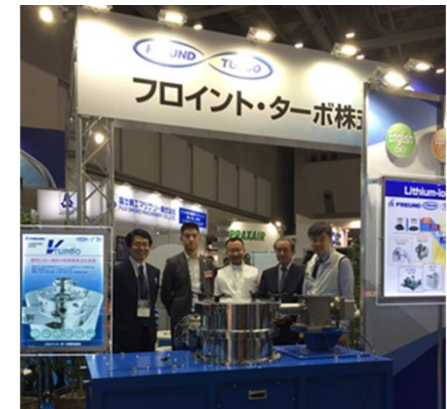
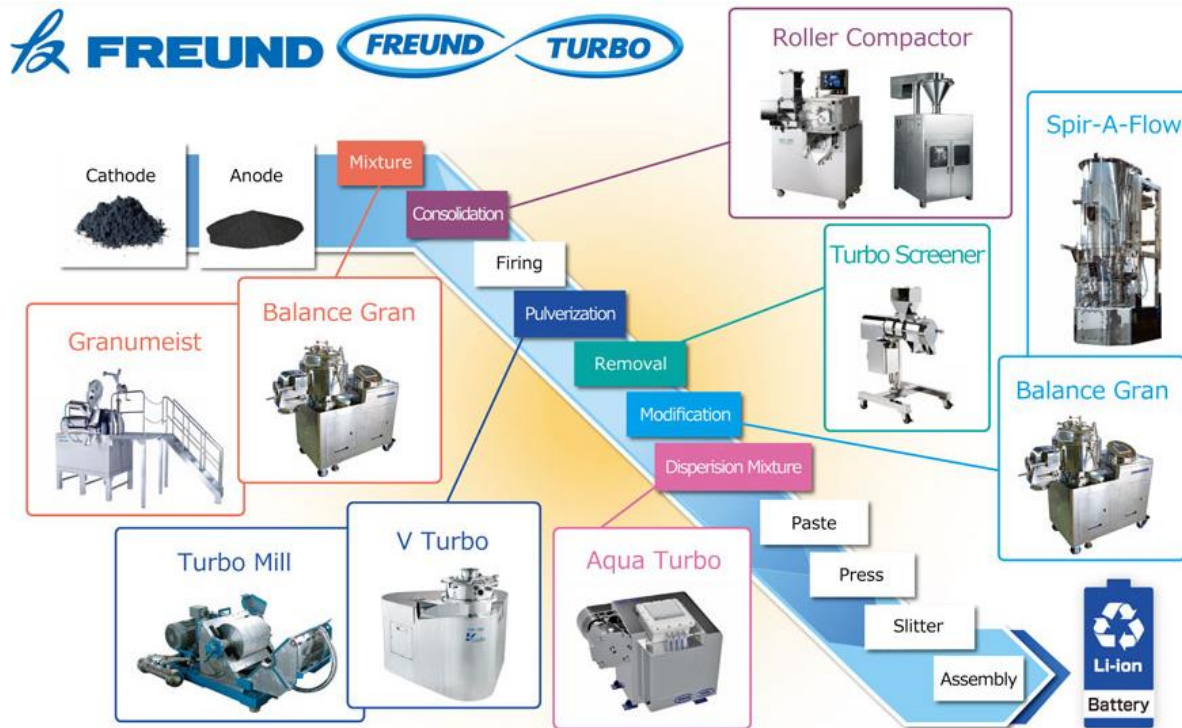
- Market growth driven by self-medication and self-care (Granulating and coating equipment)
 - ▣ Growth of markets for over-the-counter drugs, health food and supplements, and functional food products
 - ▣ The same trends are likely to emerge in other Asian countries



Source: Freund based on documents at the Grand Design press conference of the Japan Self-Medication Industry

Machinery: Faster Global Growth of Industrial Machinery Operations

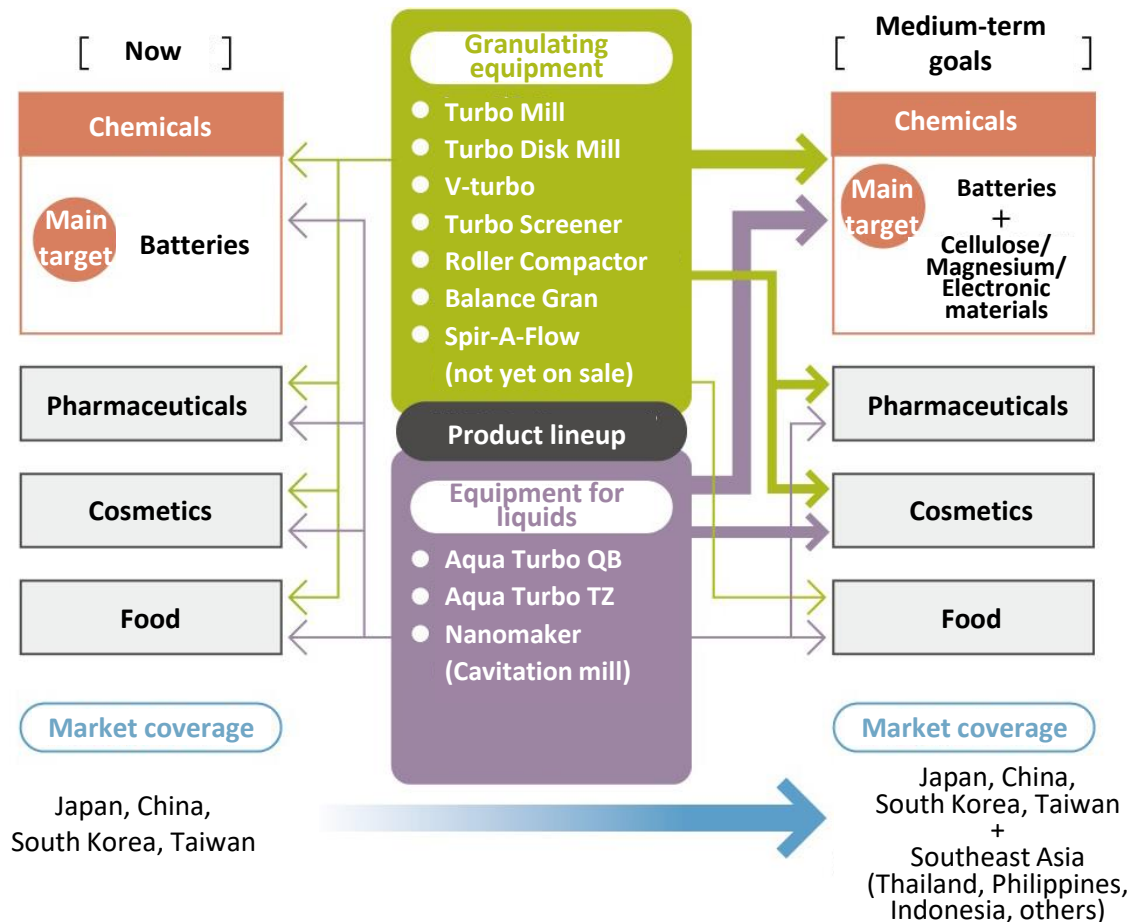
- A lineup of equipment for producing lithium-ion battery electrode materials
 - ❑ A lineup that covers all processes; able to offer prospective customers several models
 - ❑ Machines have been sold to companies in China and South Korea, the world's major lithium-ion battery producers; receiving more orders as these companies start commercial production and raise output
 - ❑ Products added by a 2018 acquisition have already been sold and are in use



Sales partners from China and South Korea were also at the Freund-Turbo booth at the Battery Japan 2018 exhibition.

Machinery: More Coverage of Industries and Markets Associated with Industrial Machinery

- Focusing on the chemicals, pharmaceuticals and cosmetics industries
- Start selling products in Thailand, Philippines, Indonesia and other ASEAN countries



(Supplementary Materials)

- Company Overview
- Segment Information

Company Overview

- **Company name** : Freund Corporation
 - **Established** : April 1964
 - **Representative** : Iwao Fusejima, President & CEO
 - **Location** : 6-25-13 Nishi-shinjuku, Shinjuku-ku, Tokyo, Japan
 - **Paid-in capital** : 1,035,600,000 yen (As of February 28, 2018)
 - **Sales** : 19,800 million yen (Fiscal year ended February 2018, consolidated)
 - **Number of employees** : 407 (As of February 28, 2018, consolidated)
 - **Business** : Machinery business- Manufacturing and sales of granulation and coating equipment and others
Chemicals business- Manufacturing and sales of pharmaceutical excipients, food preservatives, and others
 - **Group companies** : Freund-Vector Corporation, Freund-Turbo Corporation
-

The Freund Group and R&D Facilities



Research and Development Laboratory (Hamamatsu, Shizuoka)

Marion Laboratory (Iowa, USA)

Yokosuka, Kanagawa

Iowa, USA

Sales of machinery and chemical products

Milan Laboratory (Milan, Italy)

Sales of machinery and chemical products

Our “Pen” (Machinery) and “Ink” (Chemicals) Business Model

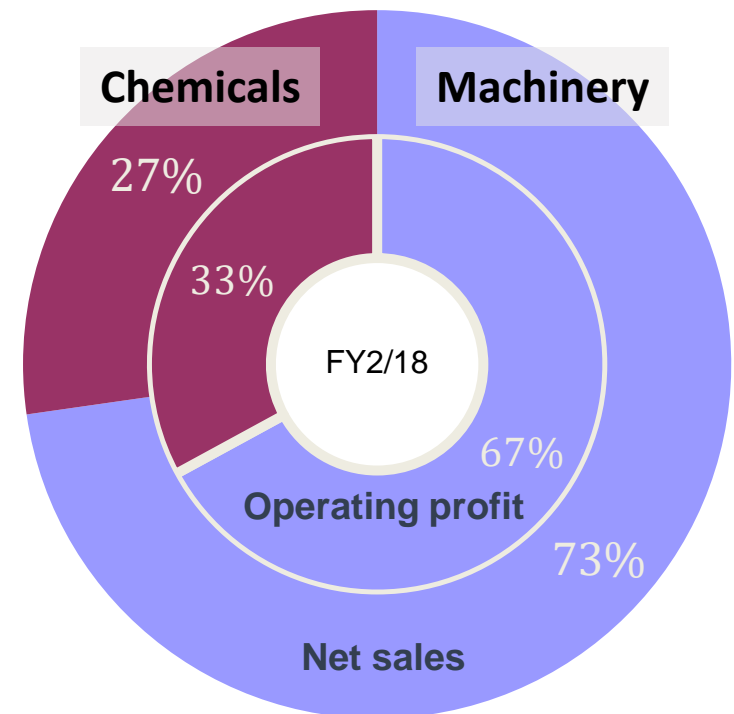
1. Machinery Business Segment (Pen)

- Manufacturing and sales of **granulation and coating equipment** for the pharmaceutical, food, and fine chemical industries.
- For coating equipment, Freund **ranks first in Japan** and sales growth is accelerating in Asian market and in Freund-Vector’s U.S. and European operations. **No other company in the world has expertise in both drug formulation technologies and the associated machinery.**
- Aiming to increase sales of machinery for industrial applications too by **combining** granulating and coating technologies **with milling and sieving technologies.**

2. Chemicals Business Segment (Ink)

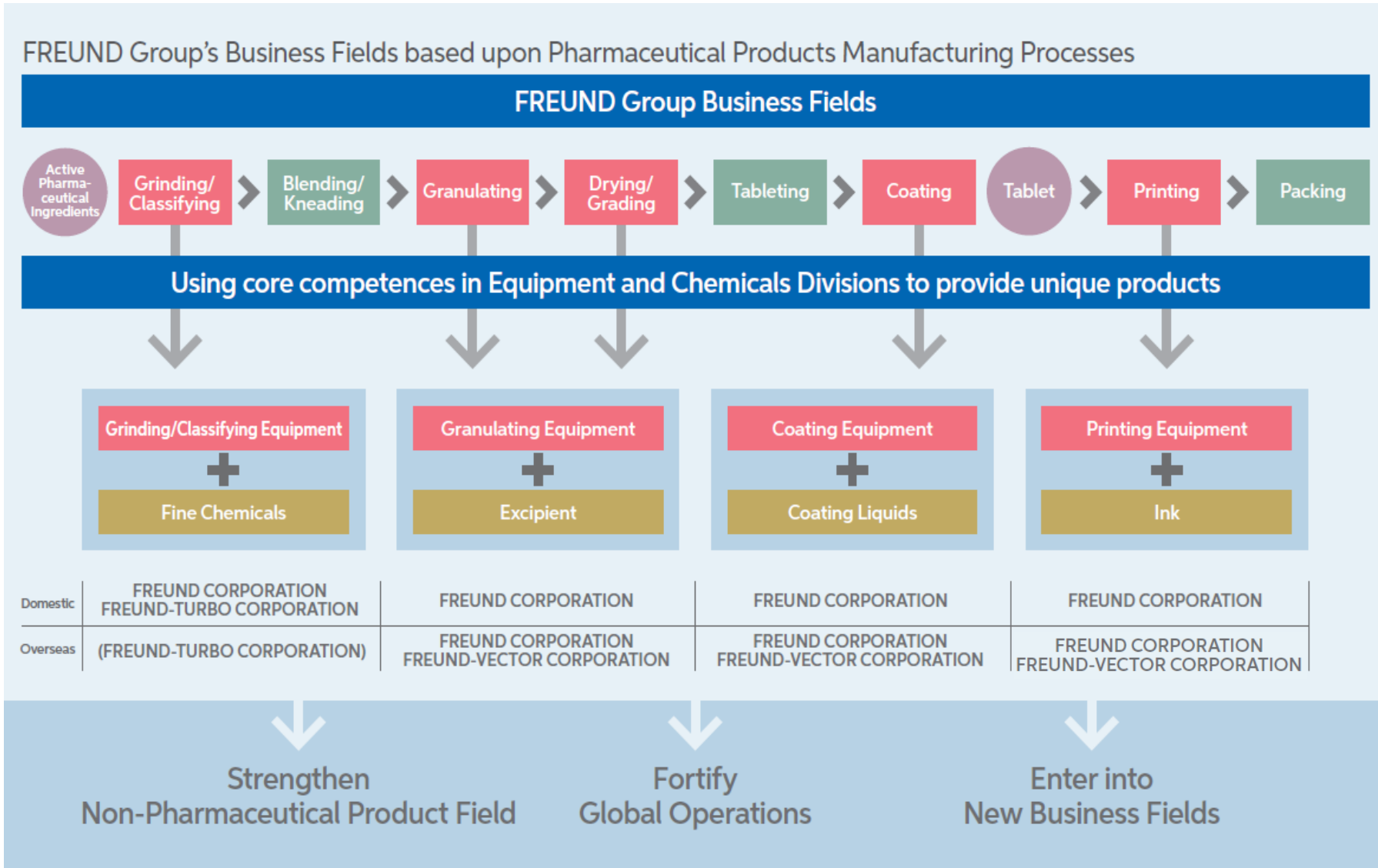
- Manufacturing and sales of **pharmaceutical excipients, food preservatives, nutritional supplements, and others.**
- Freund uses **Good Manufacturing Practice (GMP) compliant equipment** to produce pharmaceutical excipients.
- Food preservatives made by Freund help ensure the safety of food by maintaining the quality of many types of products.
- By using its granulating and coating technologies, Freund has worked with customers to develop and commercialize nutritional supplements and seamless mini-capsules.

Composition of Net Sales and Profit by Segment



Consolidated sales: ¥19.80 billion
Consolidated operating profit: ¥1.97 billion

Freund Group's Business Fields



Machinery Business: Main Products are Granulating and Coating Equipment for Pharmaceutical Companies

- In the machinery business, pharmaceutical machinery is 83% of sales and industrial machinery is 17%
- Granulating and coating equipment for pharmaceutical companies are the core products
Start of accepting orders for tablet printers
- Industrial machinery sales are increasing



Continuous granulating device (Granuformer®)



Automated tablet coating device (HICOATER FZ)



Tablet Printing ("TABREX Rev.)



Agitation granulation device (BALANCE GRAN)

Machinery Business: Effective Use of Group Resources

Production

A HICOATER machine for customers outside Japan (HICOATER ORIGINAL)

Manufacture



Receipt of orders and sales
(Sales to India and other Asian countries)

Freund-Vector

Freund Corporation

Development and Sales

F: Freund Corporation
F-V: Freund-Vector
F.T: Freund-Turbo

	Development	Sales
HICOATER FZ	F	F / F-V
GRANUREX®	F	F / F-V
SPHEREX®	F	F / F-V
Compu 4 (control system)	F-V	F / F-V
FLOW COATER 12 Bar	F-V	F / F-V
Turbo Screener	F.T	F.T / F-V

The FREUND Group Business Portfolio

*1 In business fields, Δ indicates fields where the group companies supplies some products.

*2 In internal processes, Δ indicates processes where some steps are outsourced.

Business	Company	Business fields*1			Internal processes*2	
		Pharmaceutical products	Non-pharmaceutical products	Development/design	Manufacturing	Test
Machinery	Freund Corporation	○	○	○	—	○
	Freund-Vector	○	Δ	○	○	○
	Freund-Turbo	Δ	○	○	○	○
Chemicals	Freund Corporation	○ (Pharmaceutical excipients)		○	Δ	○
			○ (Functional food materials)	○	○	○
			○ (Food preservatives)	○	Δ	○

Chemicals Business: A Growing Product Lineup for the Healthcare Sector

- Product lineup includes pharmaceutical excipients, food preservatives, nutritional supplements and other products
- Sales of pharmaceutical excipients for generic drugs continue to increase

1. Pharmaceutical excipients

- Direct compression excipients
- Adsorbent/solidified agents/fluidized agents
- White coloring agents
- Lubricant agents
- Luster agents



2. Food preservatives

- Food excipients
- Food quality preserving agents



3. Nutritional supplements/others

- Seamless mini capsule
- AQ shelax® (aqueous liquid)
- Supplements



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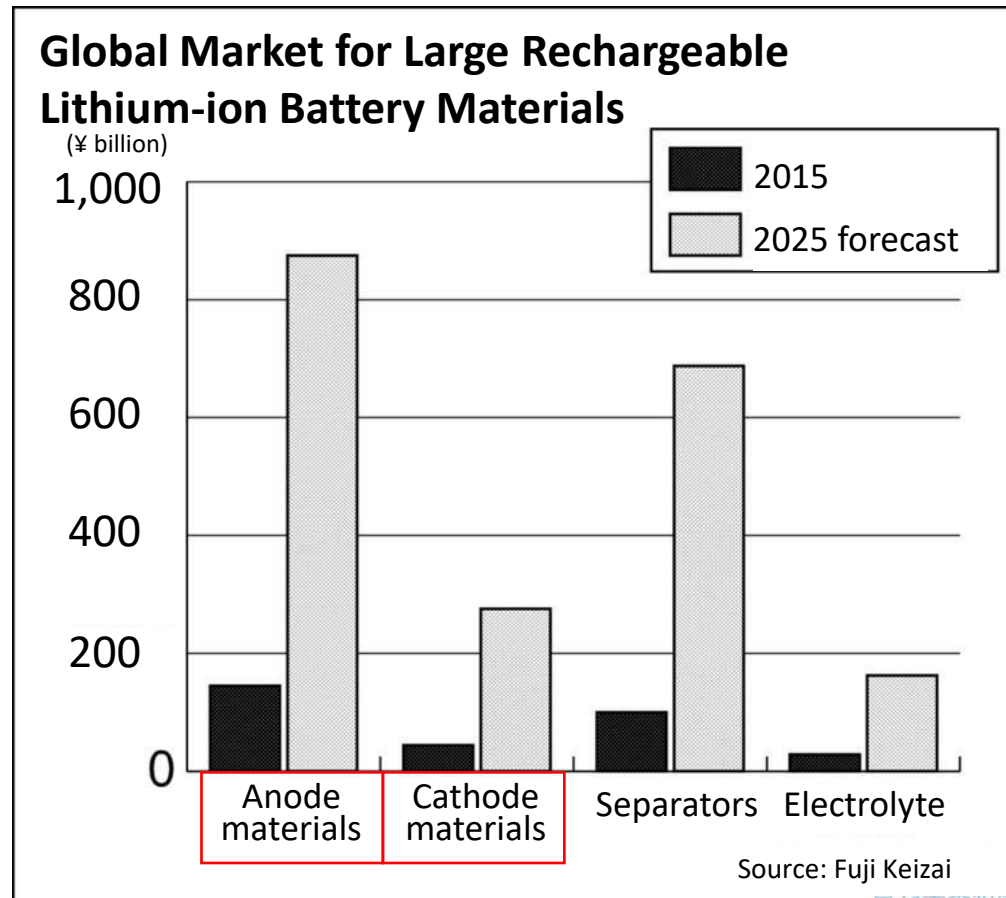
IR website: <http://www.freund.co.jp>

This presentation contains forward-looking statements involving plans, outlooks, strategies and policies. These statements reflect the judgments of management and assumptions based on information available at the time of this presentation. Actual results of operations may differ from these statements for a number of reasons. Consequently, forecasts and other forward-looking statements are not guarantees about future performance. Although Freund has checked this presentation carefully, there is still a possibility of errors in this information.

Overview of the Rechargeable Battery Manufacturing Equipment Business

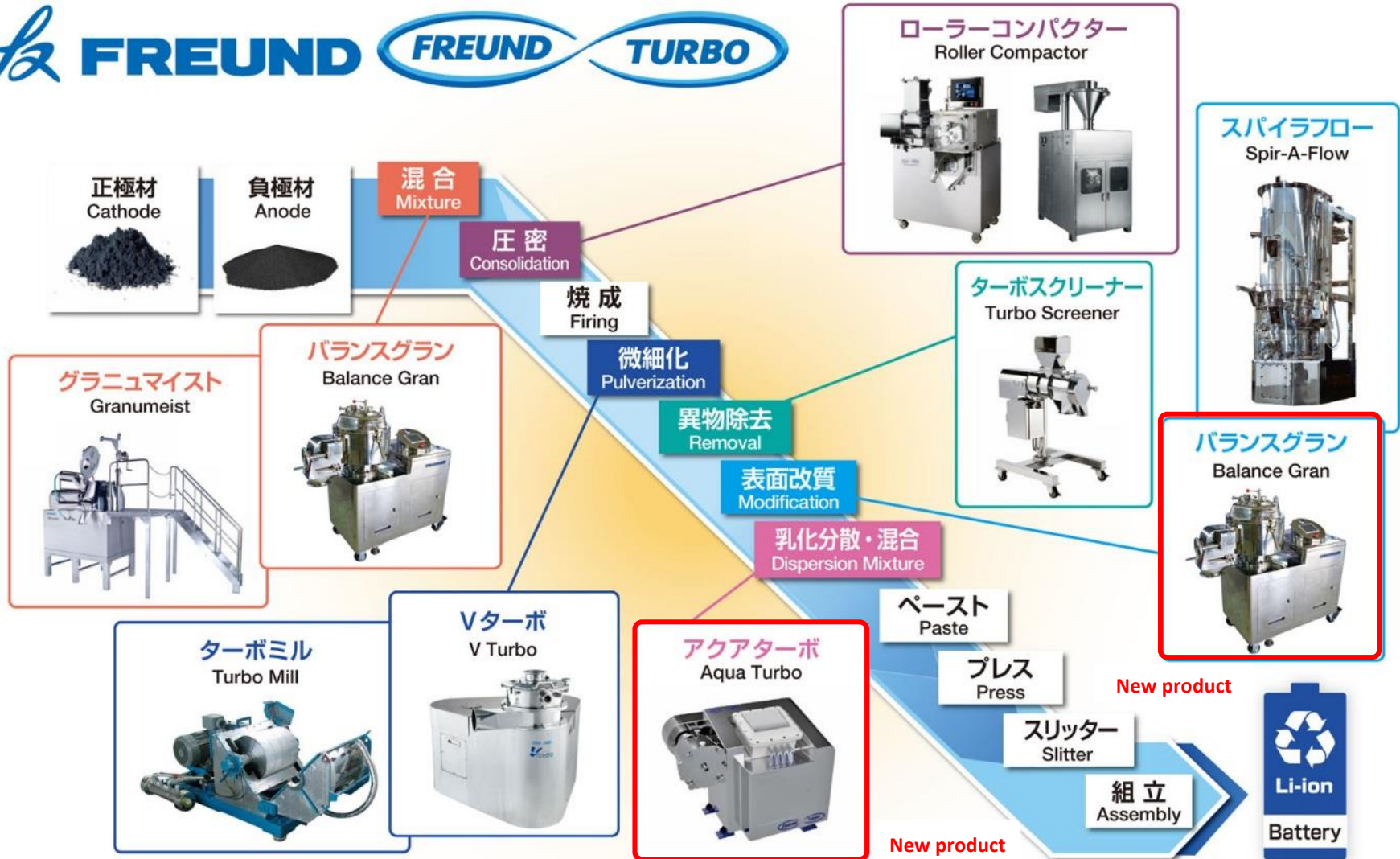


Market Overview: Medium-term Forecast for Anode/Cathode Materials Market



- The Freund Group manufactures machinery for the production of anode and cathode materials, which are critical to the operation of lithium-ion batteries.

Lithium-ion Battery



Overview: Growth of Capital Expenditures for Electric Vehicle Rechargeable Batteries

- **Freund Group activities in FY2/18**
- Participation in rechargeable battery exhibition
- **Completed delivery by the end of 2017 of machinery to large battery electrode manufacturers in [China and South Korea](#)**
- **This machinery is now operating as part of the mass production of rechargeable batteries for automobiles**
- Participation in the next rechargeable battery exhibition
- **Delivered Balance Gran, a new product added** through an M&A, and **received a follow-up order**

The Balance Gran BG-600L Active Material Electrode Additive Mixing Unit

- Granule capacity: 600 liters x 2 units
- Powder contact: WC spray
- Model for cathodes
- Model for mixing three types of materials



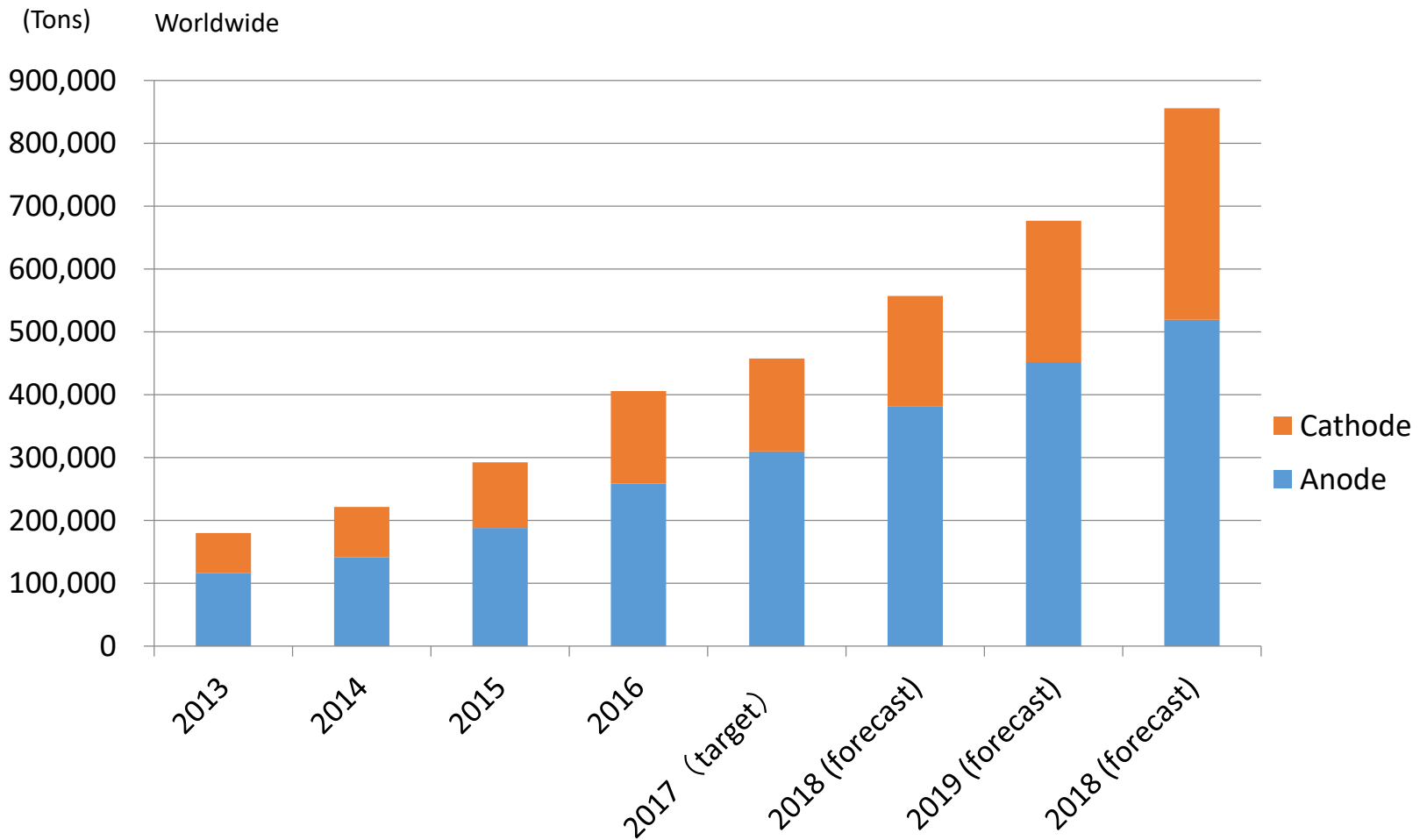
* Mixing units for pharmaceuticals are generally no larger than 400 liters, but mixing units used by automotive rechargeable battery manufacturers are much larger.

Future Plan: Continue Adding New Models to the Lineup

- **Many repeat orders from lithium ion battery companies already using Freund machines** – Anticipate more repeat orders during FY2/19
- Adding new models
- Upgraded the VT-300C to the **VT-400C, a large** electrode material pulverizing **machine** for manufacturers that are further raising production capacity
- Started selling the **A-Turbo, a fine pulverizing machine**, for nano-level granulation required for next-generation batteries
- Freund will have a booth at the China International Battery Fair, which will take place in Shenzhen from May 22 to 24, 2018
 - ▣ One step to speed up sales in China

Supplementary Materials

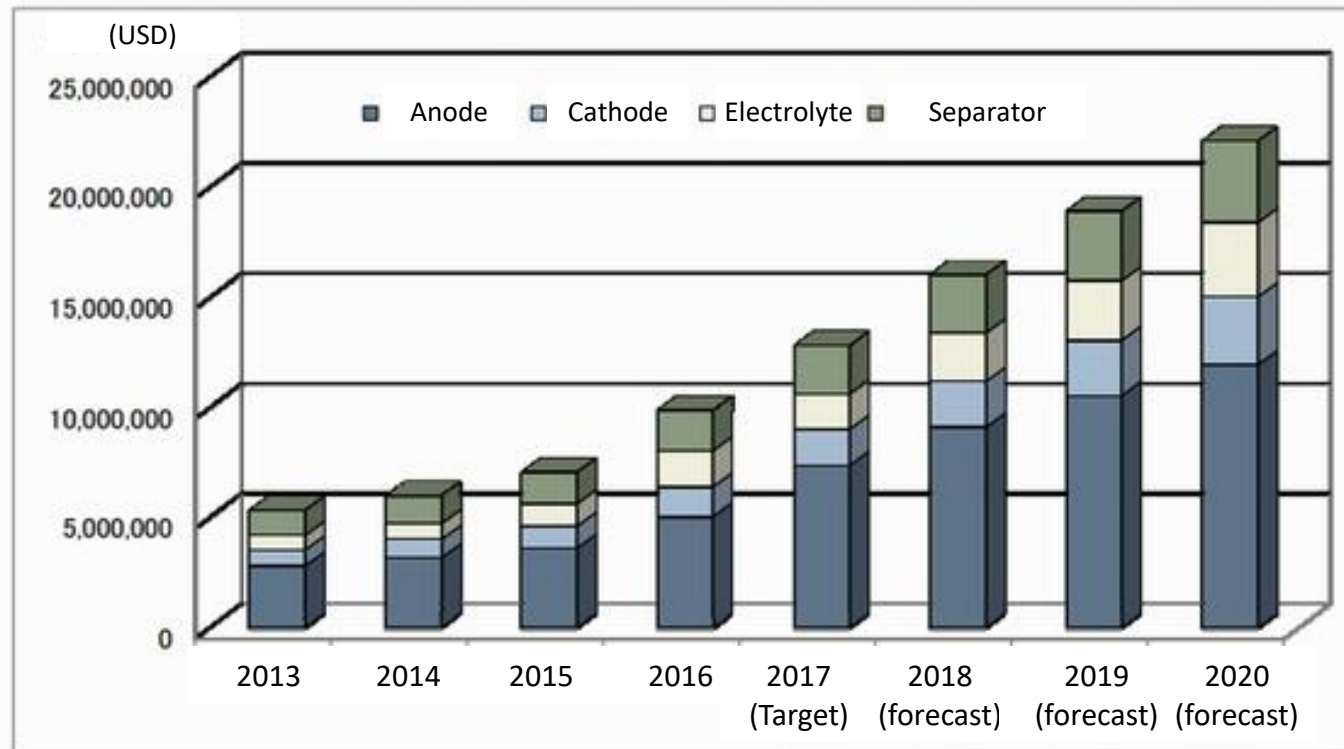
Annual Production Volume of Anode and Cathode Materials



Source: Yano Research Institute

Production capacity is increasing faster than monetary sales as manufacturers continue to make substantial capital expenditures.

Market Overview: Monetary Sales of the Four Main Lithium-ion Battery Components



Estimated by Yano Research Institute

Notes:

1. Based on shipment values to manufacturers.
2. Estimations for 2017; forecasts for 2018 and afterward.
3. Figures are translated based on the following exchange rates: for 2013, 1 US dollar= 97.8 yen, 1,116.97 Korean won, 6.16 Chinese yuan, and 0.75 Euro; for 2014, 1 US dollar= 105.9 yen, 1,152.93 Korean won, 6.14 Chinese yuan, and 0.75 Euro; for 2015, 1 US dollar= 121.0 yen, 1,129.94 Korean won, 6.23 Chinese yuan, and 0.90 Euro; and from 2016 onwards, 1 US dollar=108.8 yen, 1,207.70 Korean won, 6.64 Chinese yuan, and 0.94 Euro.
4. Due to rounding off, some of ratios in the charts are different.

Rechargeable Battery Progress and Upcoming Advances

The Evolution of Batteries – Currently lithium-ion batteries are the main axis of electric vehicles

