

Organo Corporation

Report on the First Half Financial Results of the Fiscal Year Ending March 31, 2017

November 8, 2016



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Corporate Outlines

First Half Financial Results of the Fiscal Year Ending March 31, 2017

Forecasts for the Fiscal Year Ending March 31, 2017

Efforts in Medium-term Management Plan

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Corporate Outlines



Corporate Name	Organo Corporation			
Head Office	1-2-8, Shinsun	a, Koto-ku,	Tokyo 136-8631, JAPAN	
Establishment	May 1, 1946			
Representative	Yasuyuki Koie	(President)		
Capital	¥ 8,225,499,31	12		
Number of Employees	2,088 (Consolidated) * as of the end of March 2016			
Business Lineup	Water Treatment Engineering	Plant Business	Manufacturing and Sales of Large-scale Water Treatment Plants	
		Solution Business	Maintenance, Operation, Refurbishment, etc. of Water Treatment Plants	
	Functional ProductManufacturing and Sales of Standardized WaterFunctional ProductTreatment Equipment, Water TreatmentChemicals, and Food Processing Materials			
Major Business Offices	Head Office (Tokyo), R&D Center (Kanagawa), Tsukuba Factory (Ibaraki), Iwaki Factory (Fukushima), Hokkaido Branch (Hokkaido), Tohoku Branch (Miyagi), Kanto Branch (Tokyo), Chubu Branch (Aichi), Kansai Branch (Osaka), Chugoku Branch (Hiroshima), Kyushu Branch (Fukuoka)			



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Scope of Consolidation

	Area Company Name		Company Name	Major Business
Ja			Organo Plant Service Corporation	Construction and Maintenance of Water Treatment Plants
	Jap	ban	Organo Food Tech Corporation	Manufacturing and Sales of Food Processing Materials
ubsidi	ubsidia		Organo Eco Tech Corporation	Design and Sales of Wastewater Treatment Plants
ed 0			Organo Acty Corporation	Printing, Insurance Brokerage, etc.
Tanon Consolidate	China	Organo (Suzhou) Water Treatment Co., Ltd.		
	Over-	Taiwan	Organo Technology Co., Ltd.	
		Sver- seas South- east Asia	Organo (Asia) Sdn. Bhd. <malaysia></malaysia>	Water Treatment Engineering
	0040		Organo (Thailand) Co., Ltd. <thailand></thailand>	
			PT Lautan Organo Water <indonesia></indonesia>	
ated	Japan		Hostech Corporation	Manufacturing of Standardized Water Treatment Equipment
Non-Consolid Subsidiarie seas	South-	Organo (Singapore) Pte Ltd <singapore></singapore>		
	Over-	east Asia	Organo (Vietnam) Co., Ltd. <vietnam></vietnam>	Water Treatment Engineering
	3043	South Asia	Murugappa Organo Water Solutions Private Limited <india></india>	

Corporate Outlines

Business Description of Water Treatment Engineering Segment



Plant Business

- Water production (pure water, ultrapure water, etc.)
- Wastewater treatment and recovery
- Valuable resource recovery
- Process-related (sugar purification, etc.)

Water treatment plants appropriate for various uses based on combinations of the advanced technologies





Solution Business

- Maintenance
- Operation management
- Refurbishment
- Contract water treatment service

Provides solutions to achieve optimal operation of water treatment plants



Electronics industries

Applied Areas

Semiconductors, liquid crystal, electronic components, etc.

Power plants

Thermal power plants, nuclear power plants, etc.

Municipal water and sewerage Water and sewerage treatment

General industries

Food, beverages, pharmaceuticals, chemicals, machinery, etc.

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Corporate Outlines



Business Description of Functional Product Segment





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First Half Financial Results of the Fiscal Year Ending March 31, 2017

- Business Environments
- Results
- Results by Business Segments
- Sales by Business Areas and Customers [Water Treatment Engineering Segment]
- Sales by Business Areas [Functional Product Segment]
- Sales by Regions
- Analysis of Operating Income by Factors
- Balance Sheet
- Analysis of Cash Flow

Business Environments



/	
Mid-long Term Forecasts as of the April 2016	Actual Situations in First Half
 < Japan > Promotion of consolidation of production bases and overseas relocation Company policies that aim at achieving growth through M&As instead of the capital investments ⇒ Tough conditions will prevail in the capital investment environment 	 < Japan > Electronics industry: large capital investments decreased / maintenance and refurbishments increased General industries: investments were mainly related to maintenance or replacement / large investments for capacity enhancement such as facilities extensions were slow
 Overseas > China: prolonged economic slowdown / investments in semiconductor-related industries will increase East and South Asia: water business market will increase 	 < Overseas > China: concerns over economic slowdown due to streamlining of excessive production facilities / capital investment increased in semiconductor industry Emerging Asia countries: trend of improvement in the economic environment / concerns over a slowdown due to the prospect of an interest rate raise by the US FRB



(millions of Yen)

	09/2015 Results	09/2016 Plan	09/2016 Result	Y/Y Change	Change from the Plan
Orders Received	40,820	31,500	38,332	- 2,487	+ 6,832
Net Sales	33,479	32,000	34,364	+ 885	+ 2,364
Gross Profit (%)	6,658 (19.9%)	6,650 (20.8%)	7,744 (22.5%)	+ 1,086 (+ 2.6pt)	+ 1,094 (+ 1.8pt)
SG & A	6,846	7,000	7,057	+ 211	+ 57
Operating Income (%)	- 187 (- 0.6%)	- 350 (- 1.1%)	687 (2.0%)	+ 874 (+ 2.6pt)	+ 1,037 (+ 3.1pt)
Ordinary Income	- 221	- 400	533	+ 755	+ 933
Net Income Attributable to Owners of the Parent	- 278	- 335	89	+ 368	+ 424

Results



Results by Business Segments



[Functional Products Segment]

Sales/Operating income: Increased as a result of growth in sales of water treatment chemicals.

[Water Treatment Engineering Segment]

Orders received: Declined in plants for the electronics industry .

<u>Sales</u>: Increased both in plant and solution business for general industries, despite decrease in plants for the electronics industry. <u>Operating income</u>: Increased due to strong sales of higher-margin solution business for electronics and general industries.

Sales by Business Areas and Customers [Water Treatment Engineering Segment]



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[Solution Business]

Increased in maintenance for the general and electronics industries.

[Plant Business]

Declined due to significant drop in plants for the electronics industry, despite increase in municipal water and sewerage treatment plants and wastewater plants.



[General Industries]

Increased in plants for wastewater treatment, and maintenance. [Power Plants + Municipal Water and Sewerage]

Increased in plants for municipal water and sewerage.

[Electronics Industry]

Declined due to substantial drop in plants, despite increase in maintenance.

First Half Financial Results

10,000

Sales by Business Areas [Functional Product Segment]



(millions of Yen)



Sales by Regions





* The depreciation of Asian currencies against the yen caused a decrease of 2,000 million yen in net sales (year-on-year comparison).



First Half Financial Results







* Increase in sales and profit ratio increase are calculated using the gross profit margin.



Balance Sheet



* Current Assets and Others does not include Cash and Deposits

First Half Financial Results





(millions of Yen)





- Forecasts Summary
- Forecasts by Business Segments
- Sales by Business Areas and Customers [Water Treatment Engineering Segment]
- Sales by Business Areas [Functional Product Segment]
- Sales by Regions
- Analysis of Operating Income by Factors
- Progress of Orders Received, Net Sales and Orders on Hand
- Major Indicators



Summary

- Sales from some plant projects scheduled for the second half of the FY moved forward to the first half.
- Less large projects, particularly in the electronics industry, are expected in the second half of the FY.
- A cautious stance on new investments is expected in overall industries in Japan and abroad.

< The previous forecasts are maintained for the full year >

(millions of Yen)

	03/2016 Result	03/2017 Plan	03/2017 Forecast	Y/Y Change	Change from Initial Plan
Orders Received	76,485	76,500	76,500	+ 15	-
Net Sales	78,719	79,000	79,000	+ 281	-
Gross Profit (%)	17,749 (22.5)	17,300 (21.9)	17,300 (21.9)	- 449 (- 0.6pt)	-
SG & A	13,802	14,300	14,300	+ 498	-
Operating Income (%)	3,947 (5.0)	3,000 (3.8)	3,000 (3.8)	- 947 (- 1.2pt)	-
Ordinary Income	3,871	2,900	2,900	- 971	-
Net Income Attributable to Owners of the Parent	2,485	1,950	1,950	- 535	-

Forecasts by Business Segments



(millions of Yen)

Orders Received Net Sales **Operating Income** 80,000 80,000 4,000 70,000 70,000 3,500 +539+39460.000 60,000 3,000 50,000 50,000 2,500 + 77 40,000 40,000 2,000 30,000 30,000 1,500 - 257 20,000 20,000 1,000 - 379 - 1,023 10,000 500 10,000 0 0 0 03/2016 03/2017 03/2016 03/2017 03/2016 03/2017 Total 76,485 Total 78,719 Total 3,947 76,500 79,000 3,000 Functional Functional Functional 15,956 16.350 15,811 16,350 1,393 1,470 Product Product Product Water Water Water Treatment 60,529 60,150 Treatment 62,907 Treatment 2,553 1,530 62,650 Engineering Engineering Engineering

[Functional Products]

Sales / Operating income: Will increase primarily due to growth of water treatment chemicals.

[Water Treatment Engineering]

<u>Sales</u>: Will decrease in plants for electronics industry in Japan and abroad, despite increase in plants for domestic general industries.

Operating income: Will decrease in both plant and solution business for electronics industries in Japan and abroad.

Sales by Business Areas and Customers [Water Treatment Engineering Segment]



Sales by Business Areas 70,000 60.000 + 17550,000 40,000 30,000 20,000 - 433 10,000 0 03/2016 03/2017 Total 62,907 62,650 Solution Business 31,075 31,250 Plant Business 31,833 31,400

[Solution Business]

Will increase in maintenance for general industries.

[Plant Business]

Will decrease in plants for electronics industry in Japan and abroad, despite increase in plants for domestic general industries.



[General Industries]

Will increase primarily in plants for water production and

wastewater treatment

[Electronics Industry]

Will decrease in plants and maintenance in Japan and abroad

Sales by Business Areas [Functional Product Segment]



(millions of Yen)



Sales by Regions



(millions of Yen)







Analysis of Operating Income by Factors



* Increase in sales and profit ratio decrease are calculated using the gross profit margin.



Progress of Orders Received, Net Sales and Orders on Hand

(millions of Yen)



Major Indicators



	03/2016	03/2017 (plan)	03/2017 (forecast)
Capital Investment (millions of yen)	603	800	800
Technological Development Expenses (millions of yen)	1,407	1,550	1,550
Depreciation (millions of yen)	950	950	950
Interest-bearing Debt (millions of yen)	17,412	17,800	17,800
Number of Employees	2,088	2,110	2,110
Dividend per Share (yen/year)	9	10	10
ROE (%)	5.4	4.1	4.1



- Outlines of Current Medium-term Management Plan
- Efforts for Business Field of Electronics Industry
- Efforts for Overseas Business
- Efforts for Municipal Water and Sewerage Treatment Business
- Expansion of Business Segments
 - Efforts for Aqueous Solution Treatment
 - Efforts for Non-aqueous Liquid Treatment



Outlines of Current Medium-term Management Plan

Management Vision	A profitable engineering company that can supply water at the most reasonable cost and in the timeliest manner, with the quality required by industries, in the main Asian economic zones.
Metrics on Management Objectives	 Aim to achieve ROE of 5% or more consistently by FY2018 and 8% or more long term. To meet the targets, we consider operating income ratio as the most important metric on management objectives, and establish the revenue structure to achieve 5% or more stably in and after FY2018.

	03/2016 Result	03/2017 Plan	03/2018 Plan	03/2019 Plan
Orders Received	76,485	76,500	80,000	86,000
Net Sales	78,719	79,000	81,000	84,000
Operating Income	3,947	3,000	3,400	4,200
Operating Income Ratio(%)	5.0	3.8	4.2	5.0
ROE (%)	5.4	4.1	4.5	5.3



Efforts for Business Field of Electronics Industry

Focus on the Active Semiconductor Investment Plans in China < Targets: Chinese and Foreign Companies >

Improve the proposals of systems for ultrapure water, process, and wastewater
 Strengthen cooperation between our group companies in China (Organo Suzhou), Taiwan (Organo Technology), and Japan (Organo)

Semiconductor manufacturing plant investment plan in China (major plans already announced)







Efforts for Business Field of Electronics Industry

Development into semiconductor manufacturing process

Strengthen <u>development into the wet process</u>, in addition to the conventional utility business (ultrapure water and wastewater) < proposal for differentiation technologies >



L Expanding sales of multi-functional water



Efforts for Business Field of Electronics Industry

Development into semiconductor manufacturing process

production systems						
J.	Key products					
Primary Use	Hydrogen Water System	Ozone Water System	Ammonia Water System			
Minute particle removal	\bigcirc		0			
Electrification prevention			0			
Surface oxidation prevention	0					
Organic matter removal		\bigcirc				
Resist residue removal		0				

Used in semiconductor cleaning process

New Method Ammonia Water Production System

- Improved minute particle cleaning capacity
- Improved performance of static electricity prevention
- Increased prevention rate of corrosion of substrate surface materials



Efforts for Business Field of Electronics Industry



Development into semiconductor manufacturing process

II. Technology to remove and control hydrogen peroxide in ultrapure water

[Background]

- 5~40µg/L of hydrogen peroxide contained in ultrapure water causes oxidation corrosion of wafer surface
- Hydrogen peroxide is likely to be added to the items for ultrapure water management
- Oxidizer removing catalyst "Ordetox"
- Catalyst developed originally by Organo <u>decomposes hydrogen</u> peroxide to less than 1µg/L
 - \Rightarrow Prevents corrosion of semiconductor materials and products
- Treatment 10 times faster than conventional systems
- ➤ <u>1/25th the size</u> of conventional systems ⇒ can be placed near the point of use





Ordetox

Copper corrosion control effect

 High-sensitivity hydrogen peroxide monitor

* at the stage of demo product evaluation by customers

- New monitor using original technologies
- Lower detection limit < 1µg/L</p>
- Propose both "treatment" and "management" of <u>hydrogen peroxide in</u> <u>ultrapure water</u> by using this system with Ordetox





Efforts for Business Field of Electronics Industry

Development into semiconductor manufacturing process

- III. Analysis of minute particles in ultrapure water
 - World's first 10-nm minute particle measurement technology that uses a membrane originally developed by Organo
 - ⇒ Corresponds to semiconductor miniaturization Contributes to the improvement of quality and yields



Ecologically Clean

Efforts for Business Field of Electronics Industry

Expanding sales of slime control chemical for RO membrane

Orpersion E266 Series

- Contains uniquely developed stabilized hypobromite oxidizing agent
- Strong sterilizing effect and slime cleaning effect
- Low damage to RO membrane
- High level of safety

Expand sales for RO membranes in ultrapure water production, wastewater recovery systems, etc. at semiconductor plants

Application case < raw water: well water and recovered water / RO system: 17m³/h, recovery rate 75% >



Efforts for Overseas Business



< Business Environments >

1. Global Market of Water Business

0

2011



2018

2. Global Market of Industrial Water & Wastewater

		- K	(billions of Yen)
Area	2011	2018	Average Annual Growth Rate (2011-2018)
East Asia and Oceania	340	649	9.7%
South Asia	63	126	10.3%
Western Europe	212	298	4.9%
Middle East and North Africa	42	66	6.7%
North America	268	360	4.3%
Latin America	131	213	7.2%

Source: Compiled from the Project of Surveys on the Promotion of the Export of Infrastructure Systems in FY2014 (survey on trends in the water business market) issued by METI (March 2015).

Efforts for Overseas Business



< Business Environments >

Water Business Market Forecasts of Asian Countries



Source: Compiled and estimated from Global Water Market 2017 by Global Water Intelligence and World Economic Outlook Database, Oct. 2016 by International Monetary Fund

Market (Millions of US\$)

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Efforts for Overseas Business



Business Development of Organo Group by Region



Zero Liquid Discharge (ZLD): system for collecting and reusing wastewater without discharging it outside 36

Efforts for Overseas Business



Responding to demand for wastewater treatment and Zero Liquid Discharge (ZLD)

Background

Rise in awareness of environmental and water resource

- protection associated with industrial development of
- emerging countries

[Primary target areas]

- India and China
- [Key industries]
 - Food and pharmaceutical

[Efforts]

- Development and sharing of original technologies
- Development of businesses, systems and facilities
- ⇒ Technical and business support by wastewater technology divisions, business divisions, and R&D center



Efforts for Municipal Water and Sewerage Treatment Business

[Aerobic granular technology for sewerage treatment]

Problems with the conventional method (activated sludge method) Sewerage treatment is slow due to low sludge concentration ⇒ requires a large footprint for facilities

Aerobic Granular Method

Biological treatment using granular sludge containing a high concentration of microorganisms that are effective in sewerage treatment



Can accelerate sewerage treatment

 \Rightarrow Reduces the size of facilities

Reduces construction and maintenance expenses

Currently undertaking research jointly with the Bureau of Sewerage of the Tokyo Metropolitan Government into the development of aerobic granular technology for low-concentration organic wastewater such as the urban sewerage in Japan.

Targets: Renewal demand of sewerage treatment plant



Efforts for Municipal Water and Sewerage Treatment Business

[Responses to demand for renewal of water treatment plant facilities]

<u>"Wave Settler"</u> ~ New type pulsation-based high-speed coagulation basin



Expansion of Business Segments



- From water to aqueous solution and non-aqueous liquid
- From utilities to processes

Non-aqueous liquid treatment

- NMP recovery and purification (for lithium battery manufacturing process)
- Chemical purification (for semiconductor manufacturing process)

Aqueous solution treatment

- Functional water manufacturing (for semiconductor manufacturing process)
- Saccharide solution purification (for sugar production process)

Water treatment

- Pure water and ultrapure water production
- Wastewater treatment and recovery



Expansion of Business Segments [Efforts for Aqueous Solution Treatment]

Development of adsorbent for chromatographic separation of monosaccharides

- Business related to sugar purification (desalination and decolorization) commenced in the 1950s
 Many experiences in sucrose (disaccharides), oligosaccharide, etc. production
 No experience for separating monosaccharides due to a lack of appropriate adsorbents
 - - New Adsorbent (Amberite[™]CR3220 Ca launched on Nov. 1, 2016)
 - < Use >
 - Chromatographic separation of monosaccharides widely used in food and beverages such as fructose and rare sugars.



< Features >

- High separation performance and durability appropriate for the separation and purification of monosaccharides
- Reduces increase in the loss of pressure during operation by increasing the uniformity of particle sizes
- Can be installed in existing facilities in operation



Enter into the business of separation and purification of monosaccharides

Business development in the separation and purification market of all saccharides [Chromatographic separation system + Adsorbent]

Expansion of Business Segments [Efforts for Non-aqueous Liquid Treatment]



NMP (N-methyl-2-pyrrolidone) on-site purification and recycle system

 NMP Solvent used for manufacturing lithium-ion battery (LiB) electrod The market is expected to grow as the use of electric vehicles in Distillation method has been used in purification of NMP. 	les, etc. ncreases.
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< Primary Targets > LiB manufacturing industries in Japan, China, etc.



Further development

Purification of LiB electrolytes business / metal material collection and recycling business for electric vehicles for the age of automatic driving



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