

Financial Results for Second Quarter FY2018

November, 2018 Hitachi Zosen Corporation



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1. Overview of Second Quarter FY2018 Consolidated Financial Results



■ Hitachi Zosen Inova suffers declined earnings, e.g., weak profitability of EPC project in the UK

■ FY2018 forecasts are revised downward for operating income and ordinary income; however, initial forecasts remain unadjusted for order intake, net sales, and net income

Results for Second Quarter FY2018- Overview



					(Onit. Dill	,
	FY2017-2Q (a)		FY2018 (b)	-2Q	Difference (b)-(a)	
	(Ratio to net sales)		(Ratio to net sales)		(Ratio to net sale	es)
Order intake	2	23.1		185.5		-37.6
Net sales	1	62.3		153.2		-9.1
Operating income	(-2.1%)	-3.3	(-5.5%)	-8.4	(-3.4%)	-5.1
Ordinary income	(-3.1%)	-5.1	(-5.6%)	-8.6	(-2.5%)	-3.5
Net income	(-3.3%)	-5.4	(-5.0%)	-7.6	(-1.7%)	-2.2

Results for Second Quarter FY2018- Order intake



			,
	FY2017-2Q	FY2018-2Q	Difference
	(a)	(b)	(b)-(a)
Environmental Systems and Industrial Plants	158.0	123.4	-34.6
Machinery	44.1	42.5	-1.6
Infrastructure	15.8	13.6	-2.2
Others	5.2	6.0	0.8
Total	223.1	185.5	-37.6

Results for Second Quarter FY2018- Net sales



			(Offic. Billion Tell)
	FY2017-2Q	FY2018-2Q	Difference
	(a)	(b)	(b)-(a)
Environmental Systems and Industrial Plants	101.0	87.9	-13.1
Machinery	44.8	47.2	2.4
Infrastructure	11.4	12.7	1.3
Others	5.1	5.4	0.3
Total	162.3	153.2	-9.1

Results for Second Quarter FY2018- Operating income



			(Unit: Billion Yen)	
	FY2017-2Q	FY2018-2Q	Difference	
	(a)	(b)	(b)-(a)	
Environmental Systems and Industrial Plants	-3.7	-8.1	-4.4	
Machinery	0.3	-0.5	-0.8	
Infrastructure	0.0	-0.1	-0.1	
Others	0.1	0.3	0.2	
Total	-3.3	-8.4	-5.1	



FY2017-2Q Operating income				
Breakdown of decrease in Operating income	 ·Hitachi Zosen Inova suffers declined earnings ·Increase in other costs -0. 	-5.1		
FY2018-2Q Operating income				

Results for Second Quarter FY2018- Non-operating income



	FY2017-2Q (a)	FY2018-2Q (b)	Difference (b)-(a)
Net interest expense	-0.3	-0.3	0.0
Equity in net income of affiliates	0.0	0.3	0.3
Others	-1.5	-0.2	1.3
Total	-1.8	-0.2	1.6



(Unit: Billion Yen)

Cash flows (Unit: Billion Yen)

	FY2017-2Q	FY2018-2Q	Difference
	(a)	(b)	(b)-(a)
Cash flows from operating activities	8.7	0.0	-8.7
Cash flows from investing activities	-4.1	-4.1	0.0
Cash flows from financing activities	-14.6	0.4	15.0
Increase in cash and cash equivalents	*1 -10.0	*1 -4.1	5.9
Cash and cash equivalents at beginning	50.8	32.7	-18.1
Cash and cash equivalents at end	40.8	28.6	-12.2

Interest-bearing debt

	FY2017-4Q	FY2018-2Q	
	(a)	(b)	(b)-(a)
Borrowings	*2 97.2	*2 87.1	-10.1
Bond	10.0	25.0	15.0
Total	107.2	112.1	4.9

^{*1:} Including translation gains and losses, (FY2017-2Q: 0.0, FY2018-2Q:-0.4) *2: Including lease debt



2. Forecast of FY2018

FY2018 Forecast-Overview



(Unit: Billion Yen)

	FY20	17	FY2018						Difference	
	Resu	ılts		cast May		ecast		ecast		
	(a))	u3 0 1	Tidy	as of Aug. (b)		as of Nov. (C)		(c) - (a)	(c) - (b)
	(Ratio to net	t sales)	(Ratio to n	et sales)	(Ratio to n	et sales)	(Ratio to n	et sales)		
Order intake	•	400.4		430.0		430.0		430.0	29.6	0.0
Net sales	:	376.4		380.0		380.0		380.0	3.6	0.0
Operating income	(1.6%)	5.9	(3.3%)	12.5	(3.3%)	12.5	(2.4%)	9.0	3.1	-3.5
Ordinary income	(0.9%)	3.3	(2.4%)	9.0	(2.4%)	9.0	(1.7%)	6.5	3.2	-2.5
Net income	(0.6%)	2.1	(1.3%)	5.0	(1.3%)	5.0	(1.3%)	5.0	2.9	0.0



(Unit: Billion Yen)

	FY2017		FY2018		Difference	
	Results (a)	Forecast as of May	Forecast as of Aug. (b)	Forecast as of Nov. (C)	(c) - (a)	(c) - (b)
Environmental Systems and Industrial Plants	257.2	280.0	280.0	280.0	22.8	0.0
Machinery	98.4	100.0	100.0	100.0	1.6	0.0
Infrastructure	31.4	40.0	40.0	40.0	8.6	0.0
Others	13.4	10.0	10.0	10.0	-3.4	0.0
Total	400.4	430.0	430.0	430.0	29.6	0.0



	FY2017		FY2018		Diffe	ence
	Results (a)	Forecast as of May	Forecast as of Aug. (b)	Forecast as of Nov. (C)	(c) - (a)	(c) - (b)
Environmental Systems and Industrial Plants	231.8	240.0	240.0	240.0	8.2	0.0
Machinery	100.6	100.0	100.0	100.0	-0.6	0.0
Infrastructure	28.2	30.0	30.0	30.0	1.8	0.0
Others	15.8	10.0	10.0	10.0	-5.8	0.0
Total	376.4	380.0	380.0	380.0	3.6	0.0

FY2018 Forecast-Operating income



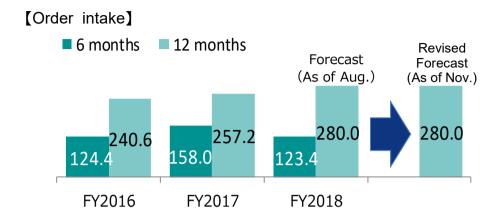
	FY2017		FY2018		Difference	
	Results (a)	Forecast as of May	Forecast as of Aug. (b)	Forecast as of Nov. (C)	(c) - (a)	(c) - (b)
Environmental Systems and Industrial Plants	1.3	9.0	9.0	5.5	4.2	-3.5
Machinery	2.5	2.0	2.0	2.0	-0.5	0.0
Infrastructure	1.4	1.0	1.0	1.0	-0.4	0.0
Others	0.7	0.5	0.5	0.5	-0.2	0.0
Total	5.9	12.5	12.5	9.0	3.1	-3.5

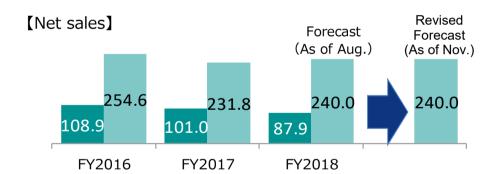


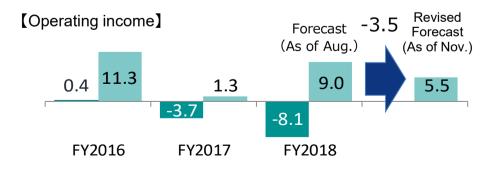
3. Details by Segments

Environmental Systems and Industrial Plants









(Unit: Billion Yen)

Order intake

- FY2018 2Q results (vs. FY2017 2Q) 123.4 (-34.6)
- Decrease in EPC at Inova (postponed to H2)
- FY2018 revised forecast (vs. as of August) $280.0 (\pm 0)$
- Japan stable business to cover decrease in Japan EPC
- Several EPC projects anticipated at Inova

Net sales

- FY2018 2Q results (vs. FY2017 2Q) 87.9 (-13.1)
- Decrease in turnover for Qatar desalination plant
- FY2018 revised forecast (vs. as of August) $240.0 (\pm 0)$
- Japan stable business to cover decrease in EPC turnover at Inova

Operating income

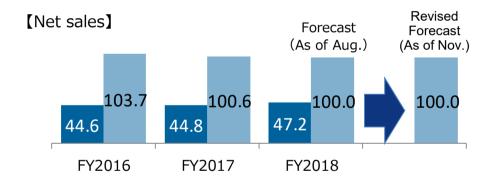
- FY2018 2Q results (vs. FY2017 2Q) -8.1 (-4.4)
- Increase in costs for a specific project at Inova
- FY2018 revised forecast (vs. as of August) 5.5(-3.5)
- Increase in earnings for Japan stable business not sufficient to cover increase in costs for a specific project at Inova

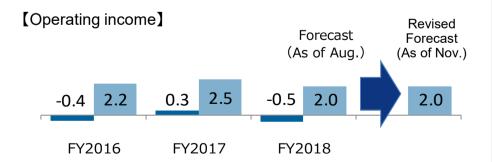
Machinery



(Unit: Billion Yen)







Order intake

- FY2018 2Q results (vs. FY2017 2Q) 42.5 (-1.6)
- Increase in process equipment
- Decrease in marine engines (postponed to H2)
- FY2018 revised forecast (vs. as of August) $100.0 (\pm 0)$
- Marine engines, etc. to cover decrease in precision machinery

Net sales

- FY2018 2Q results (vs. FY2017 2Q) 47.2 (+2.4)
- Increase in press machines and process equipment
- FY2018 revised forecast (vs. as of August) $100.0 (\pm 0)$
- Process equipment to cover decrease in precision machinery

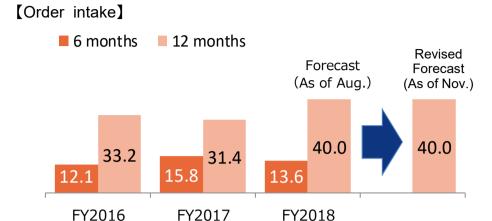
Operating income

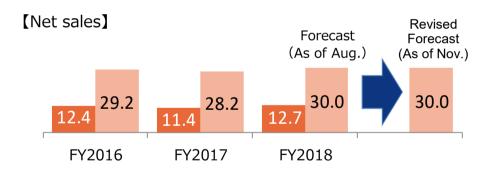
- FY2018 2Q results (vs. FY2017 2Q) -0.5 (-0.8)
- Decline in earnings for precision machinery and delay in improving earnings for marine engines not covered by increase in earnings for process equipment
- FY2018 revised forecast (vs. as of August) $2.0 (\pm 0)$
- Increase in earnings for process equipment to cover delay in improving earnings for marine engines and decrease in earnings for press machines

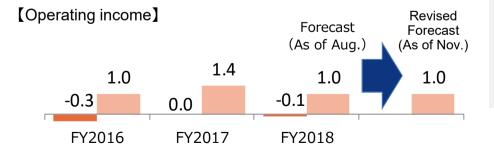
Infrastructure



(Unit: Billion Yen)







Order intake

- FY2018 2Q results (vs. FY2017 2Q) 13.6 (-2.2)
- Decrease in bridges not covered by shield tunneling machines
- FY2018 revised forecast (vs. as of August) 40.0 (±0)
- Expansion anticipated in shield tunneling machines

Net sales

- FY2018 2Q results (vs. FY2017 2Q) 12.7 (+1.3)
- Increase in large projects for bridges and hydraulic gates
- FY2018 revised forecast (vs. as of August) $30.0 (\pm 0)$
- Increase in H2 sales centering on bridges

Operating income

- FY2018 2Q results (vs. FY2017 2Q) -0.1 (-0.1)
- Decrease in high-profitability projects
- FY2018 revised forecast (vs. as of August) $1.0 (\pm 0)$
- Improved earnings anticipated owing to increase in H2 sales



4. Second Quarter FY2018 Topics

Environmental Systems and Industrial Plant Segment : Status of large projects at Inova (1) Two UK projects



(1) Ferrybridge Multifuel 2

Outline

- Description: EPC of EfW plant, 2,030 tons/day (1,015 tons/day x 2 units)
- Completion schedule: Initially July 2019 → Currently July-Sept. 2019

Weak profitability causes and countermeasures Causes and breakdown:

Breakdown
• Increase in boiler installation costs (3.7 billion yen)
• Error in estimated material quantity (0.9 billion yen)
Added cost of project delays,etc. (1.2 billion yen)

Complexity, expanded interface

Delays in identifying costs

Countermeasures Fortified project team:

- Switched project directors (Aug.)
- Augmented site managers, supervisors (Aug.-Sept.)
- Switched, augmented cost controllers (June)



As of Oct. 2018

Environmental Systems and Industrial Plant Segment: Status of large projects at Inova (1) Two UK projects



(2) Edinburgh

■ Outline

• Description: EPC of EfW plant, 465 tons/day

• Completion schedule: Initially May 2019 → Currently Feb.-March 2019

■ Status

Progressing smoothly; completion projected ahead of deadline



As of Oct. 2018



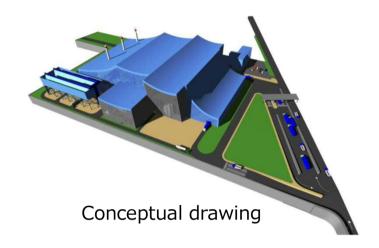
Conceptual drawing

Environmental Systems and Industrial Plant Segment: Status of large projects at Inova (2) Istanbul project

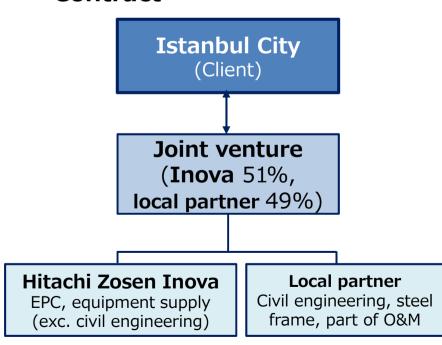


■ Outline

- First order in Turkey
- Description: EPC of EfW plant + 1 year O&M
- Processing capacity: 3,000 tons/day (1,000 tons/day x 3 units)
- Completion schedule: Oct. 2020



■ Contract



■ Risk hedge

- Escalation clause included in contract
- Foreign-exchange risk covered by local partner
- Construction fee collection risk covered by export credit insurance (SERV*)
 - * Swiss public export risk insurance, equivalent to Japanese NEXI

■ Status

- Civil engineering work in progress
- Inova in detailed design stage
- Machine and electrical work scheduled to start mid 2019

Environmental Systems and Industrial Plant Segment : Shift to stable income structure at Inova



Restructure EPC business, improve business portfolio toward shift to stable income structure

■ Restructure EPC business

• Strengthen order intake process, project execution system, governance by Hitachi Zosen

	Item Issues		Counterr	measures		
	пеш	issues	Inova			
	•	Excess of full turn-key contracts in the UK	Diversify projects (e.g., full turn- key, system and equipment supply, lot based*) Minimize risks by forming consortium with local operators	Approve risk evaluation, pricing at time of order intake		
	ECHMAI AC	Errors between unit price and Fortify order intake process material quantity division		Inspect cost estimates		
Pro		9	Freeze large-scale modular construction			
Project execution	techniques	Ordering from new suppliers (Asia)	Fortify procurement division	Establish procurement base in		
		Segmented ordering aimed at cost reduction	Review procurement policy (optimize ordering units)	Bangkok		
	Project Expanded management tasks managem due to increase in suppliers	Reduce suppliers				
~	ent		Augment project controllers			
em			Establish independent project office (for monitoring)	Dispatch Hitachi Zosen personnel (2) to project office		

^{*} Lot based: Order intake not by full plant but by system, e.g., combustion or flue gas treatment

■ Improve business portfolio (redress reliance on EPC)

Promote balance by expanding service business, renewable methane gas business

Environmental Systems and Industrial Plant Segment: Progress in expanding service business at Inova



Expansion of service business progressing smoothly

■ Progress as of FY2018 2Q

- Promoting efforts to fortify structure (organization, personnel) and expand service menu (added upgrading work)
- Planning establishment of joint venture for service business in the UK
- Received orders (2) for upgrading work in Germany

UK market for EfW plant services

- Number of EfW plants: 42 in operation (8 by Inova), 16 under construction (2 by Inova)
- Many plants operating since late 2000s; increase anticipated in demand for upgrading work

German market for EfW plant services

- Number of EfW plants: 80 in operation (over 50 lines for at least 25 years)
- Demand increasing for maintenance of aging existing plants

Inova Group service business

(Unit: Billion yen)

	FY2	017	FY2	018	Comparison		
	2Q Annual (a) (A)		2Q (b)	Annual* (B)	2Q (b)-(a)	Annual (B)-(A)	
Order intake	2.3	5.1	3.7	8.3	1.4	3.2	
Net sales	3.5	5.4	3.0	5.8	-0.5	0.4	

^{*} Projection

Environmental Systems and Industrial Plant Segment: Example of business expansion in environmental field in Japan



First DBO contract of sewage treatment facility

■ Outline

- Client: Aizuwakamatsu Wide-area Municipal Services Association
- Period: Design and construction to March 2021 Operation and maintenance April 2021–March 2036 (15 years)
- Value: Approx. 8.2 billion yen (inc. joint venture personnel)



new facility exterior

■ Market for sewage treatment facilities

- Increase in operation contracts awarded to private sector for cost reduction and standardization of operation management costs
- Intense competition due to increase in players focusing on upgrading work and O&M of existing facilities
- Many contracts awarded based on comprehensive evaluation; differentiation is key

■ Hitachi Zosen efforts in business expansion

- Striving to increase new orders with proposals for life-cycle extension and long-term operation of facilities 15–20 years after construction
- Drawing on track record and experience in waste treatment field

(Ref) Track record in operation contracts in Environmental Systems and **Industrial Plant Segment**

- Total 43 waste treatment facilities in Japan (as of April 2018)
- Of the above, 4 are DBO contracts won in FY2017; order intake remains stable

Addressing social issues: Flap-gate seawall against flood disasters



Promoting sustainable disaster prevention and mitigation with operation requiring no human intervention

■ Social issues

- Flooding caused by tsunami, storm surges, and torrential rain
- Risk to operators of disaster prevention equipment

■ Solution: Develop and promote flap-gate seawall against flood disasters

Gates close automatically using the force of nature, requiring no external power source or

human intervention

- (1) Land-mounted series (neo RiSe®)
- > Seawall for bay and port mouths, watertight wall for building and subway entrances, flood prevention with in-wall installation in building openings

Over 90 units installed (as of Sept. 30, 2018)

- (2) Seabed type
- Movable breakwater for bay and port mouths First order from Iwate Prefecture for Ofunato Fishing Port (Hosoura district)

* Assembly in progress at Sakai Works (completion scheduled March 2020)



neo RiSe®

■ Efforts in overseas expansion

- Promoting license business outside Japan
 - > Having concluded license agreement with Taiwanese firm, installed first unit (demonstration equipment) in June 2018
- Product development underway toward overseas promotion

Business expansion: Creating value through ICT use



Hitz Advanced Information Technology Center (A.I/TEC)— Hub of ICT use commences operation

■ Functions of A.I/TEC

- 24-hour remote monitoring and operational support system for power generation facilities transferred from head office building
- Use AI and other ICT to collect, store, analyze, and visualize data
- Introduce the knowledge obtained into all existing Hitachi Zosen businesses and products toward promoting AOM, creating business plans, and expanding business







Remote monitoring and operational support area



5. Support Documentation (Details by small Segments)

Results for Second Quarter (By Small Segment of Environmental Systems & Industrial Plants)



		FY2015 2Q	FY2016 2Q	FY2017 2Q (a)	FY2018 2Q (b)	Difference (b)-(a)	(Unit: Billion Ye
	EPC	49.1	61.5	59.5	33.4	-26.1	
Order intake	Stable Business*	86.4	62.9	98.5	90.0	-8.5	
	Total	135.5	124.4	158.0	123.4	-34.6	
Net sales	EPC	56.0	61.7	50.5	38.5	-12.0	
	Stable Business*	39.4	47.2	50.5	49.4	-1.1	
	Total	95.4	108.9	101.0	87.9	-13.1	
Operating income	EPC	0.7	-1.9	-4.9	-9.4	-4.5	
	Stable Business*	0.9	2.3	1.2	1.3	0.1	
	Total	1.6	0.4	-3.7	-8.1	-4.4	

^{*}Stable Business: After-sales services, Operation, and Maintenance (AOM) and other post-completion services.

Results and Forecast (By Small Segment of Environmental Systems & Industrial Plants)



(Unit: Billion Yen)

		FY2015	FY2016	FY2017		FY2018		Difference		
		Results	Results	Results (a)	Forecast as of May	Forecast as of Aug. (b)	Forecast as of Nov. (c)	(c)-(a)	(c)-(b)	
	EPC	127.3	117.0	86.8	145.0	145.0	139.0	52.2	-6.0	
Order intake	Stable Business	156.4	123.6	170.4	135.0	135.0	141.0	-29.4	6.0	
	Total	283.7	240.6	257.2	280.0	280.0	280.0	22.8	0.0	
	EPC	122.6	130.0	97.4	115.0	115.0	106.0	8.6	-9.0	
Net sales	Stable Business	119.0	124.6	134.4	125.0	125.0	134.0	-0.4	9.0	
	Total	241.6	254.6	231.8	240.0	240.0	240.0	8.2	0.0	
Operating income	EPC	0.5	-4.9	-12.6	-3.5	-4.5	-9.0	3.6	-4.5	
	Stable Business	14.3	16.2	13.9	12.5	13.5	14.5	0.6	1.0	
	Total	14.8	11.3	1.3	9.0	9.0	5.5	4.2	-3.5	

Results for Second Quarter (By Small Segment of Machinery)

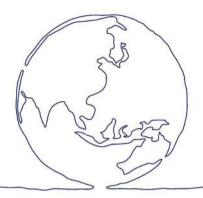


	(Unit: Billion Ye								
		FY2015 2Q	FY2016 2Q	FY2017 2Q (a)	FY2018 2Q (b)	Difference (b)-(a)			
	Marine Diesel Engine	10.7	12.2	9.0	5.2	-3.8			
	Press Machine	12.0	13.0	13.1	13.4	0.3			
Order	Process Equipment	5.7	4.6	2.1	4.0	1.9			
intake	Precision Machinery	9.1	12.8	12.4	10.5	-1.9			
	Others	7.8	8.0	7.5	9.4	1.9			
	Total	45.3	50.6	44.1	42.5	-1.6			
	Marine Diesel Engine	12.7	11.0	7.5	8.0	0.5			
	Press Machine	11.2	11.8	11.5	12.5	1.0			
Net sales	Process Equipment	6.5	6.9	7.3	7.9	0.6			
ivet sales	Precision Machinery	9.4	8.0	12.0	12.1	0.1			
	Others	7.8	6.9	6.5	6.7	0.2			
	Total	47.6	44.6	44.8	47.2	2.4			
	Marine Diesel Engine	-1.3	-0.2	-0.5	-0.9	-0.4			
	Press Machine	1.5	1.4	0.5	0.3	-0.2			
Operating income	Process Equipment	0.0	-0.7	-0.1	0.4	0.5			
	Precision Machinery	-0.7	-0.5	0.7	0.1	-0.6			
	Others	-0.8	-0.4	-0.3	-0.4	-0.1			
	Total	-1.3	-0.4	0.3	-0.5	-0.8			

Results and Forecast (By Small Segment of Machinery)



		FY2015	FY2016	FY2017		FY2018		,	rence
		Results	Results	Results (a)	Forecast as of May	Forecast as of Aug. (b)	Forecast as of Nov. (c)	(c)-(a)	(c)-(b)
	Marine Diesel Engine	35.4	20.8	17.7	18.5	18.5	19.5	1.8	1.0
	Press Machine	22.9	23.6	22.9	21.5	21.5	21.5	-1.4	0.0
Order	Process Equipment	16.9	18.3	15.1	16.0	16.0	16.0	0.9	0.0
intake	Precision Machinery	17.1	28.7	27.0	27.0	27.0	25.5	-1.5	-1.5
	Others	14.9	15.5	15.7	17.0	17.0	17.5	1.8	0.5
	Total	107.2	106.9	98.4	100.0	100.0	100.0	1.6	0.0
	Marine Diesel Engine	25.4	25.5	20.4	21.0	21.0	21.0	0.6	0.0
	Press Machine	23.4	24.1	24.4	21.0	21.0	21.0	-3.4	0.0
Net sales	Process Equipment	16.0	16.4	13.7	16.0	16.0	16.5	2.8	0.5
Net Sales	Precision Machinery	23.0	21.8	27.0	26.0	26.0	25.0	-2.0	-1.0
	Others	16.7	15.9	15.1	16.0	16.0	16.5	1.4	0.5
	Total	104.5	103.7	100.6	100.0	100.0	100.0	-0.6	0.0
	Marine Diesel Engine	-2.6	-0.4	-0.3	-0.5	-0.5	-0.8	-0.5	-0.3
	Press Machine	2.7	2.3	1.0	1.0	1.0	0.8	-0.2	-0.2
Operating	Process Equipment	0.9	0.0	0.3	0.2	0.2	0.7	0.4	0.5
income	Precision Machinery	-1.0	0.2	1.5	1.2	1.2	1.2	-0.3	0.0
	Others	-0.8	0.1	0.0	0.1	0.1	0.1	0.1	0.0
	Total	-0.8	2.2	2.5	2.0	2.0	2.0	-0.5	0.0



Technology for People, the Earth, and the Future

Hitachi Zosen creates links between mother nature and our future

Cautionary Statement

Forward-looking statements are based on information currently available to Hitachi Zosen Corporation. Therefore those forward-looking statements include unknown risks and uncertainties. Accordingly, you should note that the actual results could differ materially from those forward-looking statements. Risks and uncertainties that could influence the ultimate outcome include, but are not limited to, the economic conditions surrounding Hitachi Zosen Corporation and/or exchange rate fluctuation.

