

MedTech

Results Comment
March 13, 2019

(Downgrade) **Trading Buy**

Target Price (12M, W) **▲ 41,000**

Share Price (03/12/19, W) **36,000**

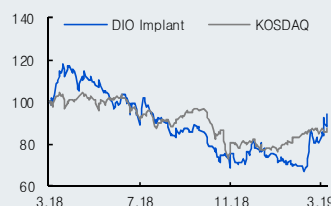
Expected Return **14%**

OP (18F, Wbn) 9
Consensus OP (18F, Wbn) 19

EPS Growth (18F, %) -32.1
Market EPS Growth (18F, %) 4.7
P/E (18F, x) 64.4
Market P/E (18F, x) 8.9
KOSDAQ 754.76

Market Cap (Wbn) 546
Shares Outstanding (mn) 15
Free Float (%) 68.6
Foreign Ownership (%) 20.6
Beta (12M) 0.50
52-Week Low 25,500
52-Week High 44,950

(%)	1M	6M	12M
Absolute	35.3	9.3	-13.1
Relative	31.0	19.6	1.8



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[MedTech/Healthcare Solutions]

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DIO Implant

(039840 KQ)

Big bath in 2018 = Favorable comparison in 2019

4Q18 review: Earnings shock

For 4Q18, DIO Implant reported revenue of W19.6bn (-22.3% YoY), well below the consensus. The dental IT segment performed poorly, with revenue falling 18.7% YoY on a high base of comparison (4Q17 revenue was a record W5.1bn). Implant revenue also contracted 9.2% YoY. At the operating level, the company posted a loss of W6.9bn, hurt by outsized one-off expenses, including bad debt expenses and refund liabilities.

Continuous expansion of digital dentistry portfolio

1) Digital dentistry full lineup: DIO Implant has diversified its dentistry portfolio (prosthetics, implants, and orthodontics) by expanding its equipment business (from lab-side to chairside solutions), widening its technology lead over competitors. DIO Implant's chairside solutions can allow dental implant surgeries to be completed in two hours, depending on the patient's oral condition. That said, the equipment business has been experiencing some delays in the domestic market. We expect the domestic equipment business to gain traction from 2Q19.

2) Overseas-driven growth to continue: In 2019, we expect the company to see strong growth overseas (+25.9% YoY). In the core Iran market, the company is exhibiting high growth and margins on the back of its joint venture strategy. The company has also been ramping up its sales operations in the US, especially among large hospitals. We are also optimistic on China, where the company has switched its sales strategy from dealers to direct sales, as well as India, a fast-growing market.

Raise TP to W41,000, but downgrade to Trading Buy

We raise our target price on DIO Implant to W41,000 (from W33,000), due to our 12-month forward EPS revision. That said, we downgrade our rating to Trading Buy, as recent share price gains have reduced the upside potential to 14%. The stock is currently trading at a 12-month forward P/E of 26.5x, a premium to peers (26.2x).

DIO Implant is continuing to widen its digital dentistry technology lead over competitors with its chairside solutions and digital orthodontics technologies. However, in 2018, the company's domestic business fared poorly, as most of the expected benefits from changes in dental implant policies went to the existing market leader. In 2019, we expect earnings to improve, driven by new products (UV implants) in the domestic market and robust sales operations in North America, the biggest overseas market. We see meaningful earnings growth coming in 2H19, when sales efforts in North America are likely to bear fruit.

FY (Dec.)	12/15	12/16	12/17	12/18F	12/19F	12/20F
Revenue (Wbn)	72	88	95	91	104	129
OP (Wbn)	20	27	24	9	24	31
OP margin (%)	27.8	30.7	25.3	9.9	23.1	24.0
NP (Wbn)	9	21	10	7	19	25
EPS (W)	706	1,352	658	447	1,283	1,633
ROE (%)	15.8	22.2	8.9	5.7	14.7	16.0
P/E (x)	42.5	29.3	53.9	64.4	28.1	22.0
P/B (x)	5.3	5.0	4.0	3.1	3.4	2.9
Dividend yield (%)	0.0	0.0	0.0	0.0	0.0	0.0

Note: All figures are based on consolidated K-IFRS; NP refers to net profit attributable to controlling interests
Source: Company data, Mirae Asset Daewoo Research estimates

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Table 1. 4Q18 review

(Wbn, %, %p)

	4Q17	3Q18	4Q18P			Growth	
			Preliminary	Mirae Asset Daewoo	Consensus	YoY	QoQ
Revenue	25.2	24.0	19.6	26.1	0.0	-22.3	-18.2
Operating profit	3.8	4.3	-6.9	4.8	0.0	TTR	TTR
OP margin (%)	15.0	17.9	-35.0	18.4	N/A	-50.1	-53.0
Pretax profit	-3.4	2.2	-7.6	4.1	0.0	RR	TTR
Net profit	-4.3	2.0	-5.9	2.8	0.0	RR	TTR

Notes: Based on K-IFRS

Source: Mirae Asset Daewoo Research estimates

Table 2. Earnings forecast revisions

(Wbn, W, %)

	Previous		Revised		% chg.		Notes
	19F	20F	19F	20F	19F	20F	
Revenue	113.1	135.7	104.2	129.3	-7.8	-4.7	Reflects 4Q18 results
Operating profit	24.1	30.6	24.3	30.7	1.2	0.4	
Pretax profit	21.0	27.5	24.0	30.5	14.3	10.8	
Net profit	17.0	22.4	19.5	24.8	14.3	10.8	
EPS (W)	1,122	1,474	1,283	1,633	14.3	10.8	

Notes: Based on K-IFRS

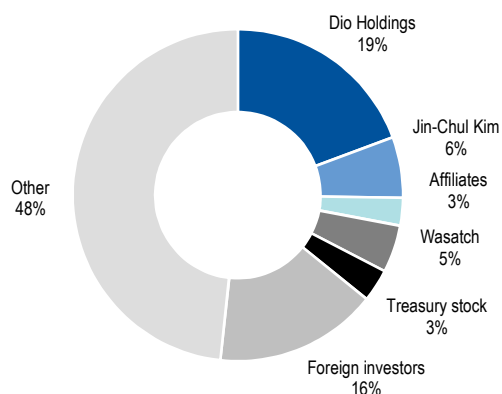
Source: Mirae Asset Daewoo Research estimates

Table 3. Quarterly and annual earnings

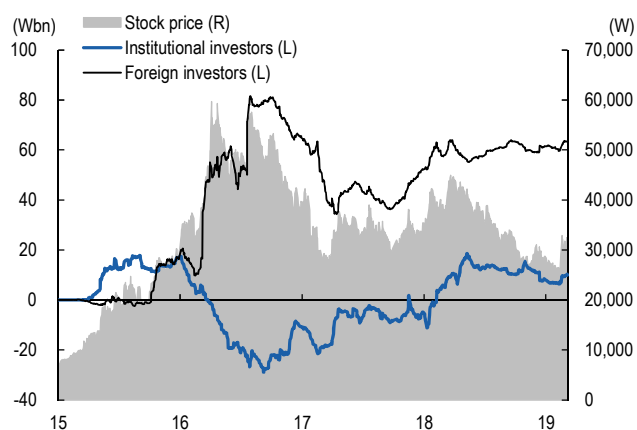
(Wbn, %)

	1Q18	2Q18	3Q18	4Q18P	1Q19F	2Q19F	3Q19F	4Q19F	2018P	2019F	2020F
Revenue	24.2	23.2	24.0	19.6	25.6	25.0	27.7	25.8	91.0	104.2	129.3
Domestic	10.2	9.6	9.6	6.9	8.0	9.1	10.5	7.6	36.2	35.2	37.1
Iran	3.9	3.9	4.5	5.9	5.5	5.5	5.4	5.6	18.3	22.0	26.4
China	2.1	4.1	3.2	2.0	3.1	3.7	3.8	2.4	11.3	13.1	15.8
US	2.1	1.1	1.6	0.7	1.0	1.0	2.0	5.0	5.4	9.0	21.0
Other	5.9	4.6	5.1	4.2	8.1	5.7	5.9	5.3	19.8	24.9	29.0
Operating profit	7.2	4.0	4.3	-6.9	5.6	5.2	7.2	6.4	8.7	24.3	30.7
Pretax profit	8.0	4.1	2.2	-7.6	5.5	5.1	7.1	6.3	6.7	24.0	30.5
Net profit	6.9	3.7	2.0	-5.9	4.4	4.1	5.8	5.1	6.8	19.5	24.8
OP margin (%)	29.9	17.2	17.9	-35.0	21.7	20.8	26.0	24.7	9.5	23.4	23.8
Pretax margin (%)	32.9	17.8	9.3	-38.7	21.3	20.3	25.6	24.5	7.4	23.0	23.6
Net margin (%)	29.0	16.4	9.9	-30.1	17.5	16.7	21.0	20.1	7.4	18.7	19.2

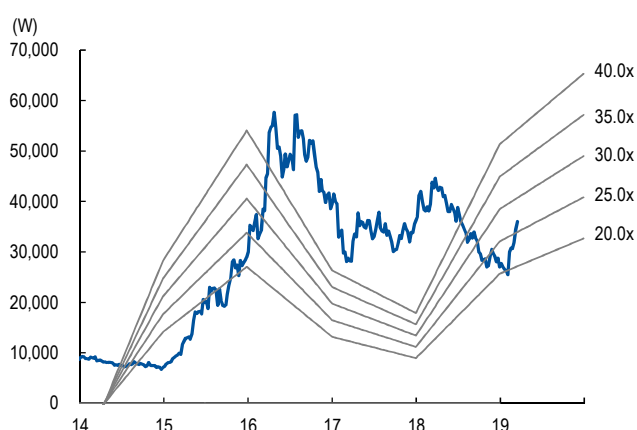
Source: Mirae Asset Daewoo Research estimates

Figure 1. Ownership breakdown

Source: Bloomberg, Mirae Asset Daewoo Research

Figure 2. Institutional and foreign net buying vs. share price

Source: Mirae Asset Daewoo Research

Figure 3. P/E band chart

Source: Mirae Asset Daewoo Research

Table 4. Global peer valuation

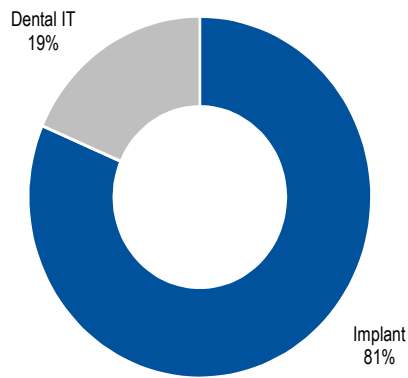
Companies	Market cap	OP margin (%)			P/E (x)			PSR (x)			ROE (%)			EV/EBITDA (x)		
		18	19F	20F	18	19F	20F	18	19F	20F	18	19F	20F	18	19F	20F
Straumann	14,132	25.1	26.1	26.6	46.0	35.9	30.6	9.2	8.1	7.1	23.9	25.8	25.6	24.6	26.3	22.8
Zimmer Biomet	28,083	0.4	27.6	28.1	23.2	15.6	14.6	3.1	3.1	3.0	-3.3	13.7	12.9	27.5	11.9	11.5
Dentsply Sirona	12,497	-24.0	17.2	18.6	35.0	21.4	18.8	2.8	2.7	2.7	-17.2	8.9	9.5	-	14.5	13.4
Align Technology	22,025	23.7	22.7	24.6	49.6	47.1	34.9	9.9	8.0	6.5	33.3	29.7	33.2	30.6	29.8	22.7
Danaher	101,997	17.1	21.4	22.9	33.6	26.4	23.7	4.4	4.4	4.0	9.7	11.6	14.2	17.3	19.8	17.3
Dentium	696	22.8	22.4	22.6	16.4	17.1	14.1	3.1	3.0	2.5	19.1	19.4	19.7	20.0	14.1	11.4
Osstem Implant	774	5.9	8.0	8.9	136.2	28.2	22.5	1.7	1.5	1.4	4.7	20.5	21.1	19.5	15.3	12.9
DIO Implant	546	9.6	-	-	62.8	-	-	5.4	-	-	6.7	17.4	-	19.7	-	-
Average		10.1	20.8	21.8	50.3	27.4	22.7	5.0	4.4	3.9	9.6	18.4	19.5	22.7	18.8	16.0

Source: Bloomberg, Mirae Asset Daewoo Research

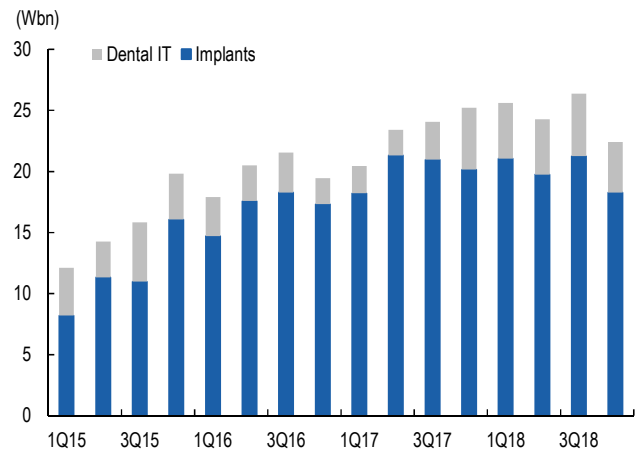
Table 5. Overview of digital implants by generation

Method	Gen.	Extraoral scanning	Plaster cast	Intraoral scanning	CAD/CAM	Process	Surgical guides	Details
Analog	1G	2D panorama	O	X	X	Manual	2D stent	- Extraoral images are used as references - Analog stents are made based on plaster casts
	2G	3D CBCT	O	X	X	Manual	2D stent	- Equivalent to 1G
	3G	3D CBCT	O	X	O	Milling machine/ 3D printers	3D stent	- 3D CBCT is used to fabricate guides
Semi-digital	4G	3D CBCT	O	O (impression scanners)	O	Milling machine/ 3D printers	3D stent	- Plaster casts are scanned via impression scanners - Images of extraoral structures (CBCT) are processed via CAD/CAM
Digital	5G	3D CBCT	X	O (oral scanners)	O	Milling machine/ 3D printers	3D stent	- Oral structures are scanned through intraoral scanners - Images of extraoral structures (CBCT) are processed via CAD/CAM

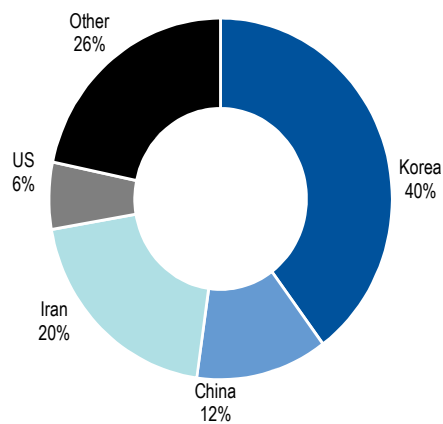
Source: Mirae Asset Daewoo Research

Figure 4. Revenue breakdown by category (2018)

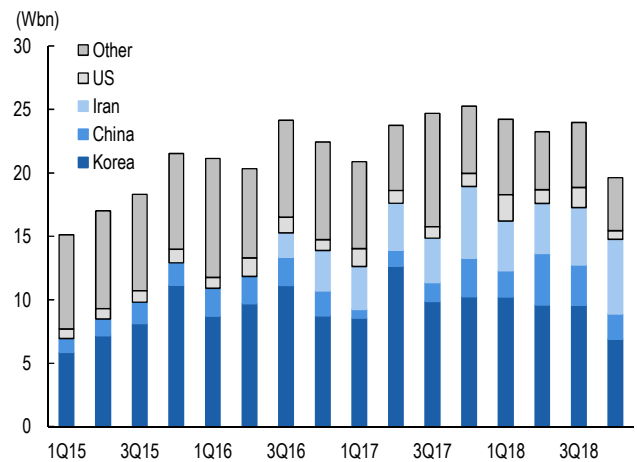
Source: Company data, Mirae Asset Daewoo Research

Figure 5. Revenue from key products

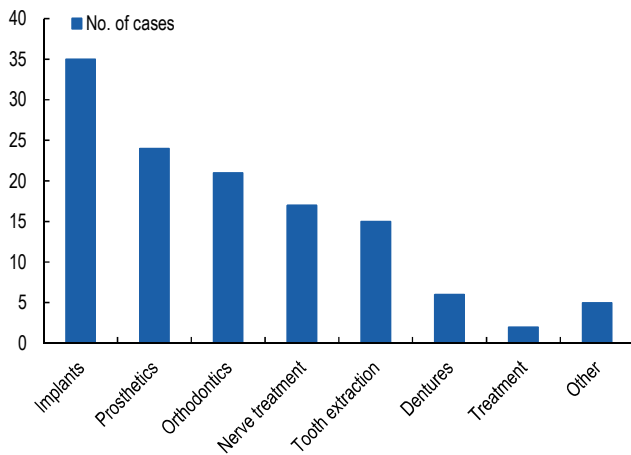
Source: Company data, Mirae Asset Daewoo Research

Figure 6. Revenue breakdown by region (2018)

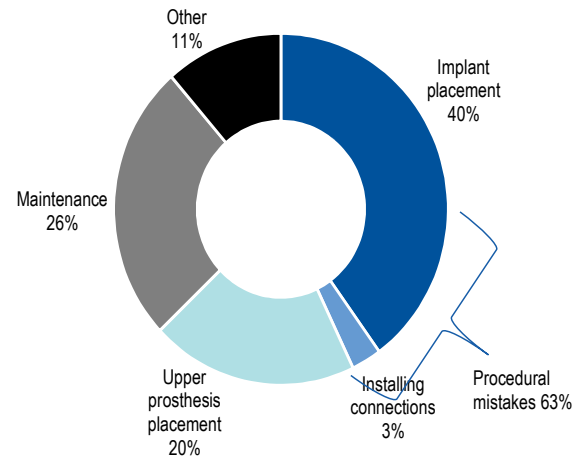
Source: Company data, Mirae Asset Daewoo Research

Figure 7. Revenue in key regions

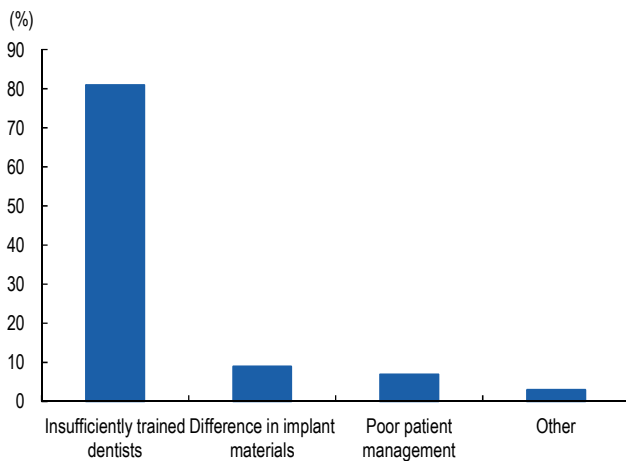
Source: Company data, Mirae Asset Daewoo Research

Figure 8. Medical dispute cases by category

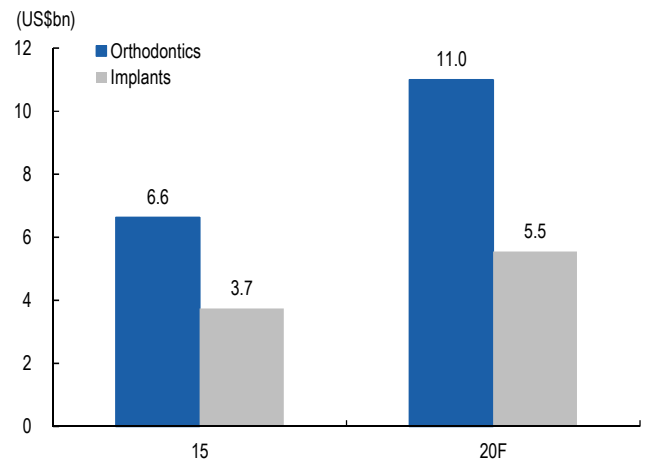
Source: KCA, Mirae Asset Daewoo Research

Figure 9. Dental implant-related disputes stem mainly from procedural mistakes

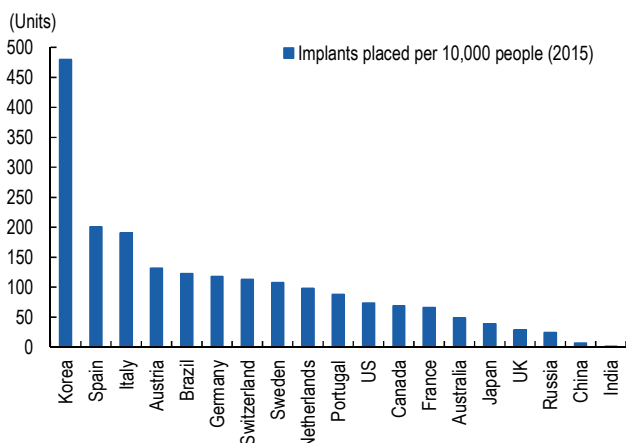
Source: KCA, Mirae Asset Daewoo Research

Figure 10. Contributors to implant failure

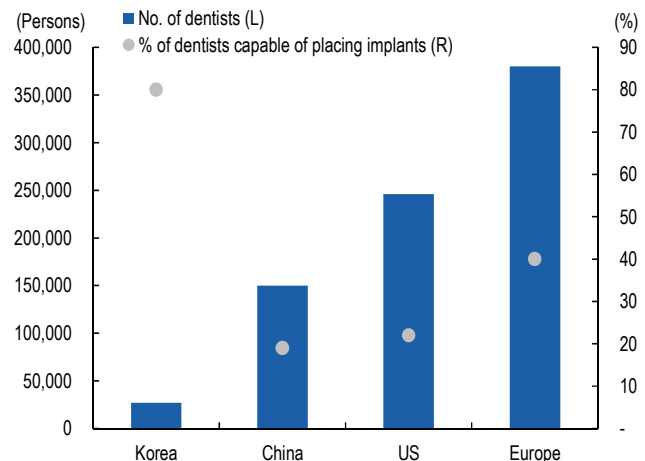
Source: KCA, Mirae Asset Daewoo Research

Figure 11. Orthodontics market is 1.8 times larger than dental implant market

Source: MarketsandMarkets, Transparency Market Research, Mirae Asset Daewoo Research

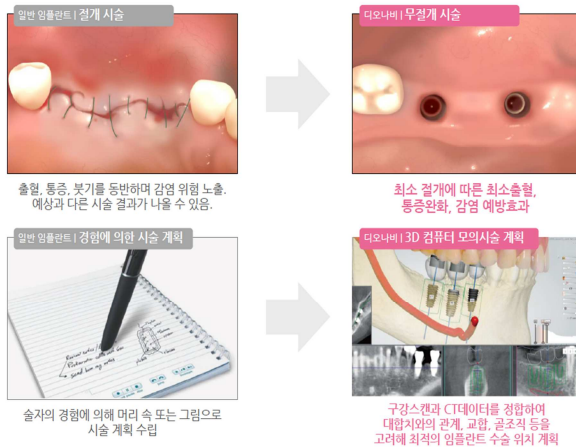
Figure 12. Implants placed per 10,000 people in key countries

Source: MRG, Straumann, Mirae Asset Daewoo Research

Figure 13. No. of dentists vs. % of dentists capable of placing implants

Source: Company data, Mirae Asset Daewoo Research

Figure 14. 3D intraoral scanner



Source: 3Shape, Mirae Asset Daewoo Research

Figure 15. DIONavi ensures greater accuracy than rivals

	DIONavi.	Megagen	Nobel Biocare
Accuracy of Installed Guide			
Method	Full Digital	Half Digital	Model Base
Height of Guide	9mm	12~13.5mm	9mm
Drilling RPM	50 RPM No Irrigation	1,000~1,200 RPM Irrigation	1,000~1,200 RPM Irrigation
Deviation values before and after	0.1~1.9 degree Average of 0.4 degree	0.1~5 degree Average 2.5 degree	0.1~15.3 degree Average 4.9 degree

Source: Company materials, Mirae Asset Daewoo Research

Figure 16. Digital Chairside Solutions



Source: Company materials, Mirae Asset Daewoo Research

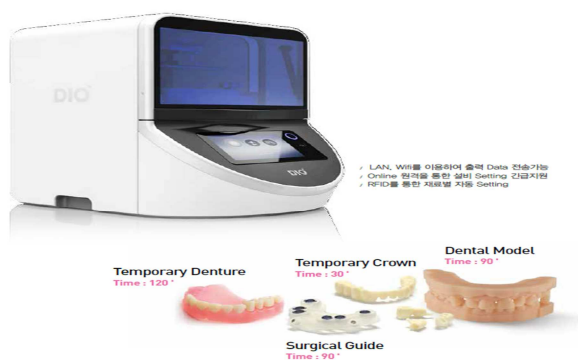
Figure 17. Digital Chairside Solutions: 3D oral scanner



Source: Company materials, Mirae Asset Daewoo Research

Figure 18. Digital Chairside Solutions: 3D printer

Printing DIO Dental 3D Printer



Source: Company materials, Mirae Asset Daewoo Research

Figure 19. Digital Chairside Solutions: CAD/CAM

Milling Ivoclar PrograMill One



Source: Company materials, Mirae Asset Daewoo Research

DIO Implant (039840 KQ/Trading Buy/TP: W41,000)

Comprehensive Income Statement (Summarized)

(Wbn)	12/17	12/18F	12/19F	12/20F
Revenue	95	91	104	129
Cost of Sales	30	28	31	39
Gross Profit	65	63	73	90
SG&A Expenses	41	54	49	60
Operating Profit (Adj)	24	9	24	31
Operating Profit	24	9	24	31
Non-Operating Profit	-9	-2	0	0
Net Financial Income	-1	-1	0	0
Net Gain from Inv in Associates	0	0	0	0
Pretax Profit	15	7	24	31
Income Tax	4	-1	4	5
Profit from Continuing Operations	11	7	20	25
Profit from Discontinued Operations	0	0	0	0
Net Profit	11	7	20	25
Controlling Interests	10	7	19	25
Non-Controlling Interests	1	1	0	0
Total Comprehensive Profit	16	6	20	25
Controlling Interests	16	7	17	21
Non-Controlling Interests	0	-1	3	4
EBITDA	28	14	30	36
FCF (Free Cash Flow)	-9	12	10	21
EBITDA Margin (%)	29.5	15.4	28.8	27.9
Operating Profit Margin (%)	25.3	9.9	23.1	24.0
Net Profit Margin (%)	10.5	7.7	18.3	19.4

Statement of Financial Condition (Summarized)

(Wbn)	12/17	12/18F	12/19F	12/20F
Current Assets	97	98	130	163
Cash and Cash Equivalents	8	29	39	59
AR & Other Receivables	69	53	70	81
Inventories	16	13	17	19
Other Current Assets	4	3	4	4
Non-Current Assets	79	89	83	78
Investments in Associates	0	0	0	0
Property, Plant and Equipment	74	80	74	70
Intangible Assets	1	4	4	4
Total Assets	176	187	213	242
Current Liabilities	39	34	39	43
AP & Other Payables	8	7	9	10
Short-Term Financial Liabilities	16	16	16	16
Other Current Liabilities	15	11	14	17
Non-Current Liabilities	16	26	27	27
Long-Term Financial Liabilities	13	23	23	23
Other Non-Current Liabilities	3	3	4	4
Total Liabilities	55	59	66	70
Controlling Interests	117	122	142	167
Capital Stock	8	8	8	8
Capital Surplus	80	80	80	80
Retained Earnings	34	40	59	84
Non-Controlling Interests	4	5	5	5
Stockholders' Equity	121	127	147	172

Cash Flows (Summarized)

(Wbn)	12/17	12/18F	12/19F	12/20F
Cash Flows from Op Activities	6	25	10	21
Net Profit	11	7	20	25
Non-Cash Income and Expense	18	10	10	11
Depreciation	4	5	5	5
Amortization	0	0	0	0
Others	14	5	5	6
Chg in Working Capital	-13	8	-15	-10
Chg in AR & Other Receivables	-9	15	-16	-10
Chg in Inventories	-4	3	-4	-2
Chg in AP & Other Payables	-5	-3	1	1
Income Tax Paid	-9	0	-4	-5
Cash Flows from Inv Activities	-16	-14	0	0
Chg in PP&E	-15	-13	0	0
Chg in Intangible Assets	-1	-2	0	0
Chg in Financial Assets	2	0	0	0
Others	-2	1	0	0
Cash Flows from Fin Activities	11	10	0	0
Chg in Financial Liabilities	17	10	0	0
Chg in Equity	1	1	0	0
Dividends Paid	0	0	0	0
Others	-7	-1	0	0
Increase (Decrease) in Cash	1	21	10	20
Beginning Balance	7	8	29	39
Ending Balance	8	29	39	59

Source: Company data, Mirae Asset Daewoo Research estimates

Forecasts/Valuations (Summarized)

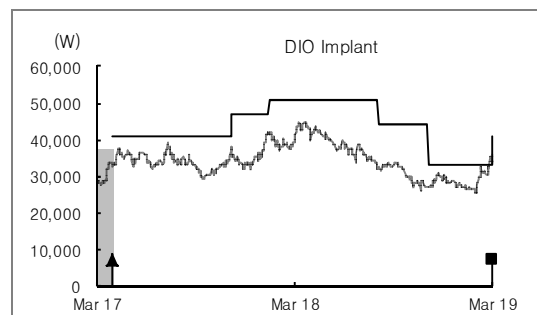
	12/17	12/18F	12/19F	12/20F
P/E (x)	53.9	64.4	28.1	22.0
P/CF (x)	18.2	24.5	18.2	15.3
P/B (x)	4.0	3.1	3.4	2.9
EV/EBITDA (x)	20.2	31.4	18.3	14.9
EPS (W)	658	447	1,283	1,633
CFPS (W)	1,948	1,173	1,982	2,356
BPS (W)	8,924	9,319	10,602	12,234
DPS (W)	0	0	0	0
Payout ratio (%)	0.0	0.0	0.0	0.0
Dividend Yield (%)	0.0	0.0	0.0	0.0
Revenue Growth (%)	8.0	-4.2	14.3	24.0
EBITDA Growth (%)	-3.4	-50.0	114.3	20.0
Operating Profit Growth (%)	-11.1	-62.5	166.7	29.2
EPS Growth (%)	-51.3	-32.1	187.0	27.3
Accounts Receivable Turnover (x)	1.6	1.6	1.8	1.9
Inventory Turnover (x)	6.5	6.3	7.1	7.2
Accounts Payable Turnover (x)	6.6	6.5	7.0	7.1
ROA (%)	6.8	4.0	9.8	11.0
ROE (%)	8.9	5.7	14.7	16.0
ROIC (%)	12.9	5.2	13.6	16.2
Liability to Equity Ratio (%)	45.2	46.6	44.7	40.5
Current Ratio (%)	250.8	291.3	330.0	382.4
Net Debt to Equity Ratio (%)	16.8	7.9	0.2	-11.7
Interest Coverage Ratio (x)	19.6	6.3	39.0	49.2

APPENDIX 1

Important Disclosures & Disclaimers

2-Year Rating and Target Price History

Company (Code)	Date	Rating	Target Price
DIO Implant (039840)	03/12/2019	Trading Buy	41,000
	11/14/2018	Buy	33,000
	08/14/2018	Buy	44,000
	01/24/2018	Buy	51,000
	11/15/2017	Buy	47,000
	04/11/2017	Buy	41,000



Stock Ratings

Buy	: Relative performance of 20% or greater
Trading Buy	: Relative performance of 10% or greater, but with volatility
Hold	: Relative performance of -10% and 10%
Sell	: Relative performance of -10%

Industry Ratings

Overweight	: Fundamentals are favorable or improving
Neutral	: Fundamentals are steady without any material changes
Underweight	: Fundamentals are unfavorable or worsening

Ratings and Target Price History (Share price (—), Target price (—), Not covered (≡), Buy (▲), Trading Buy (■), Hold (●), Sell (◆))

* Our investment rating is a guide to the relative return of the stock versus the market over the next 12 months.

* Although it is not part of the official ratings at Mirae Asset Daewoo Co., Ltd., we may call a trading opportunity in case there is a technical or short-term material development.

* The target price was determined by the research analyst through valuation methods discussed in this report, in part based on the analyst's estimate of future earnings.

* The achievement of the target price may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Equity Ratings Distribution & Investment Banking Services

	Buy	Trading Buy	Hold	Sell
Equity Ratings Distribution	81.28%	9.63%	9.09%	0.00%
Investment Banking Services	84.61%	3.85%	11.54%	0.00%

* Based on recommendations in the last 12-months (as of December 31, 2018)

Disclosures

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