

MedTech

Earnings Preview

June 20, 2019

(Downgrade) **Trading Buy**

Target Price (12M, W) ▼ **97,000**

Share Price (06/19/19, W) **87,500**

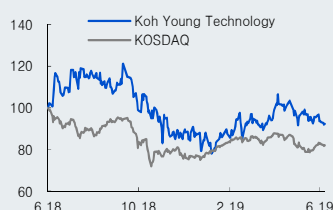
Expected Return **11%**

OP (19F, Wbn) 41
Consensus OP (19F, Wbn) 49

EPS Growth (19F, %) -5.4
Market EPS Growth (19F, %) -21.3
P/E (19F, x) 29.9
Market P/E (19F, x) 12.1
KOSDAQ 717.71

Market Cap (Wbn) 1,198
Shares Outstanding (mn) 14
Free Float (%) 77.1
Foreign Ownership (%) 56.8
Beta (12M) 0.94
52-Week Low 74,100
52-Week High 115,000

(%)	1M	6M	12M
Absolute	-4.6	7.6	-11.1
Relative	-5.1	0.8	1.0



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Koh Young Technology

(098460 KQ)

Expectations on new ventures matter more

2Q19 preview: Earnings likely to miss consensus

For 2Q19, we forecast Koh Young Technology (Koh Young) to post revenue of W59.6bn (-8.8% YoY), below the consensus. Due to weaker downstream capex, revenue is likely to decline for both solder paste inspection (SPI) equipment (-10.0% YoY) and automated optical inspection (AOI) equipment (-14% YoY). Still, we view our revenue estimate as decent, given the high base of comparison (quarterly record set in 2Q18). We see operating profit coming in at W10bn (-21.2% YoY), which is also below the consensus. OP margin should fall 2.7%p YoY to 16.8%, as slower top-line growth is likely to push up cost pressures.

More than just an equipment maker: Turning core technology into solutions and platforms

1) High valuation reflects strong core technology: Koh Young's core technology is its 3D sensing technology, developed by Korea's first generation of robotics engineers. The biggest advantage of 3D measurement technology is its ability to measure data with high reproducibility and precision. Leveraging the competitiveness of its core technology, Koh Young has developed full-fledged solutions and platforms.

2) Solutions based on core technology to support mainstay businesses: We believe Koh Young is well-positioned to strengthen its dominance in the surface mount technology (SMT) inspection market. In 2018, we believe the AOI equipment business (the company's key growth driver) grew more than 40%, supported by rising demand for high-precision inspection, and held a market share of over 30%. In 2019, the company will likely expand its equipment portfolio to mid-end products in order to gain market share. The company also offers smart factory solutions based on AI and 3D measurement data, with compelling features (auto programming, integration with PCB manufacturing equipment, etc.) that competitors are unable to mimic. Such solutions are becoming more advanced over time, further raising entry barriers.

3) Platforms based on core technology form new businesses: We believe 2019 will be the year in which Koh Young's new ventures begin to take off. In particular, the company's machine optical inspection (MOI) equipment business has been expanding its client base, after receiving its first purchase order from a global auto parts supplier in March. Also worth noting is the company's surgical robot business. Following confirmatory clinical trials and fee discussions, we believe the company will begin to generate related revenue in 2H19.

Downgrade to Trading Buy and cut TP to W97,000

We cut our target price on Koh Young to W97,000 (from W102,000), reflecting our earnings revisions. With our target price implying 11% upside potential, we downgrade our rating to Trading Buy. The stock is trading at a 12-month forward P/E of 28.2x, a premium to global peers (27.3x for the ROBO index).

With demand for high-precision inspection rising across industries, we believe Koh Young's long-term growth story remains intact, supported by its ability to leverage its core technologies to build solutions and platforms. That said, customers' capex cuts are increasing uncertainties over near-term earnings in core businesses. We thus believe the company's new ventures will matter more to its share performance than its core businesses for some time.

In our view, 1) the growth of mid-end AOI equipment (core businesses) and 2) recognition of the value of MOI and surgical robots (new businesses) will be critical for shares to move higher in 2H19.

FY (Dec.)	12/16	12/17	12/18	12/19F	12/20F	12/21F
Revenue (Wbn)	172	203	238	240	286	332
OP (Wbn)	33	44	46	41	56	66
OP margin (%)	19.2	21.7	19.3	17.1	19.6	19.9
NP (Wbn)	30	27	42	40	45	59
EPS (W)	2,173	1,950	3,091	2,924	3,289	4,339
ROE (%)	20.6	16.8	21.9	16.7	16.6	18.8
P/E (x)	20.8	42.3	26.7	29.9	26.6	20.2
P/B (x)	3.7	6.0	4.8	4.5	3.9	3.4
Dividend yield (%)	0.9	0.8	0.8	0.7	0.7	0.7

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. 2Q19 preview

(Wbn, %, %p)

	2Q18	1Q19	2Q19F		Growth	
			Mirae Asset Daewoo	Consensus	YoY	QoQ
Revenue	65.4	47.8	59.6	66.6	-8.8	24.7
Operating profit	12.7	6.7	10.0	12.3	-21.2	49.4
OP margin (%)	19.5	14.1	16.8	18.4	-2.7	2.8
Pretax profit	17.6	9.0	14.6	13.6	-17.1	62.8
Net profit	13.9	7.1	12.1	11.6	-13.0	70.0

Notes: Based on consolidated K-IFRS

Source: FnGuide, company data, Mirae Asset Daewoo Research estimates

Table 2. Earnings forecast revisions

(Wbn, W, %)

	Previous		Revised		% chg.		Notes
	19F	20F	19F	20F	19F	20F	
Revenue	261.7	319.0	240.3	285.7	-8.2	-10.4	
Operating profit	50.2	64.3	41.0	55.8	-18.3	-13.2	
Pretax profit	53.9	69.4	48.6	54.2	-9.8	-21.8	
Net profit	44.7	57.6	40.0	45.0	-10.5	-21.8	
EPS (W)	3,267	4,206	2,924	3,289	-10.5	-21.8	

Notes: Based on consolidated K-IFRS

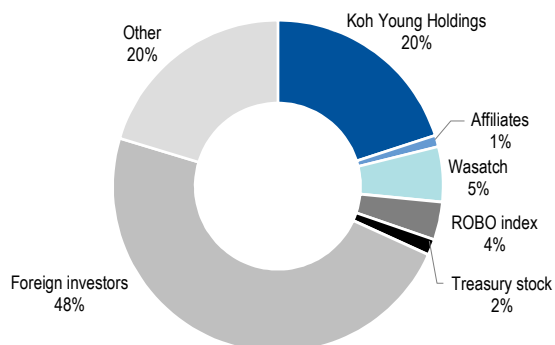
Source: Mirae Asset Daewoo Research estimates

Table 3. Quarterly and annual earnings

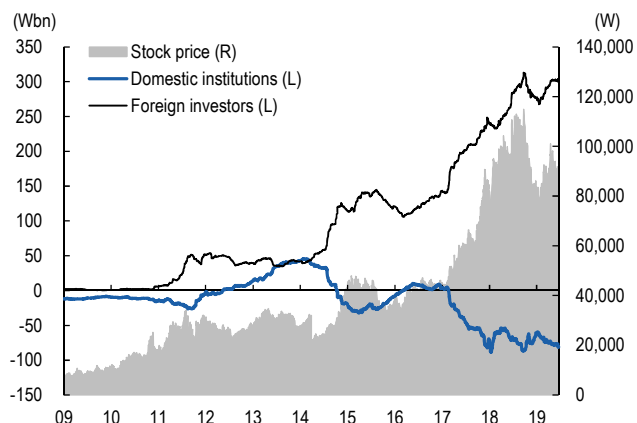
(Wbn, %)

	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19F	3Q19F	4Q19F	2018	2019F	2020F
Revenue	49.0	65.4	64.0	59.8	47.8	59.6	67.0	65.8	238.2	240.3	285.7
SPI	23.1	31.3	32.6	25.2	22.9	28.2	31.0	23.9	112.3	106.1	108.3
AOI	20.8	32.4	28.6	31.8	22.1	27.9	30.6	36.6	113.7	117.2	148.8
Other	5.0	1.7	2.8	2.8	2.8	3.6	5.4	5.3	12.3	17.0	28.6
Operating profit	9.3	12.7	13.9	10.0	6.7	10.0	11.9	12.3	46.0	41.0	55.8
Pretax profit	9.9	17.6	14.7	10.6	9.0	14.6	12.3	12.7	52.8	48.6	54.2
Net profit	8.1	13.9	11.2	9.1	7.1	12.1	10.2	10.6	42.3	40.0	45.0
OP margin (%)	19.0	19.5	21.8	16.7	14.1	16.8	17.8	18.7	19.3	17.1	19.5
Pretax margin (%)	20.2	26.9	22.9	17.7	18.8	24.5	18.4	19.3	22.2	20.2	19.0
Net margin (%)	16.5	21.3	17.5	15.2	14.9	20.3	15.2	16.0	17.8	16.7	15.8

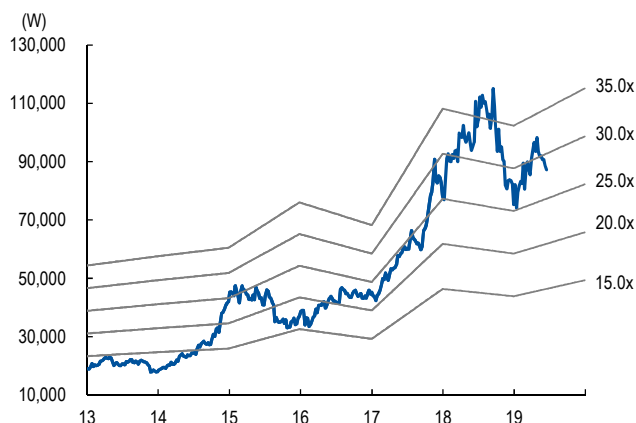
Source: Company data, Mirae Asset Daewoo Research estimates

Figure 1. Ownership structure

Source: Bloomberg, Mirae Asset Daewoo Research

Figure 2. Domestic institutional and foreign net buying vs. share price

Source: WISEfn, Mirae Asset Daewoo Research

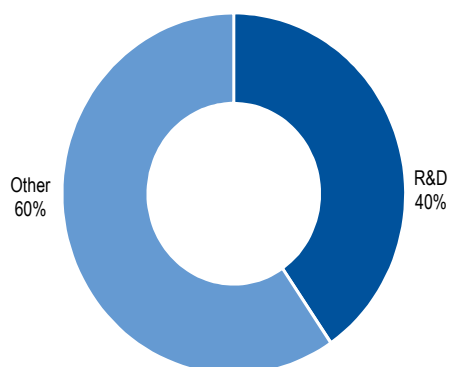
Figure 3. 12-month forward P/E band

Source: WISEfn, Mirae Asset Daewoo Research

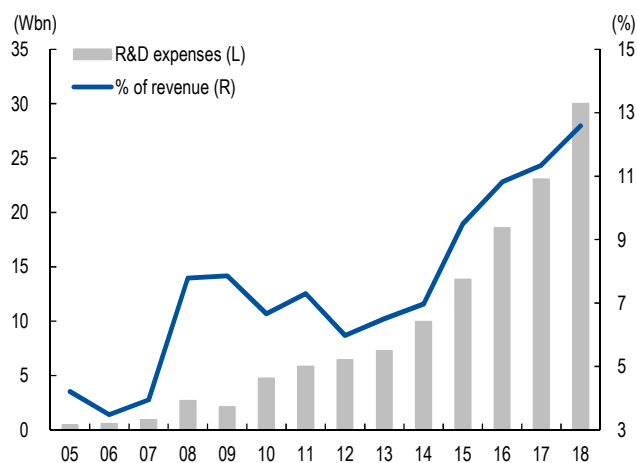
Table 4. Global peer valuation: ROBO index

Companies	Market Cap	OP margin (%)			P/E (x)			P/S (x)			ROE (%)			EV/EBITDA (x)		
		18	19F	20F	18	19F	20F	18	19F	20F	18	19F	20F	18	19F	20F
Koh Young	1,225	19.3	18.9	20.5	29.3	28.1	22.2	5.1	4.7	4.0	19.7	18.1	19.8	21.4	20.8	16.4
Nvidia	106,895	32.5	31.9	35.4	31.1	28.1	21.2	8.4	8.2	6.9	37.8	27.7	31.1	32.6	24.2	18.5
Keyence	83,510	54.1	54.1	54.4	33.7	31.0	27.3	13.0	11.9	10.7	15.2	14.6	14.5	22.8	19.3	17.1
Qualcomm	100,648	3.3	25.1	31.3	21.9	18.2	13.5	4.4	4.1	3.6	17.7	16.0	16.2	22.0	13.8	10.3
Intuitive Surgical	69,105	32.2	37.9	38.4	51.3	43.1	37.4	15.0	13.7	11.9	18.3	18.2	19.1	48.1	34.7	30.1
Fanuc	43,127	25.7	20.3	23.0	24.3	36.4	29.6	5.9	6.8	6.2	10.6	7.4	8.8	15.0	20.4	16.5
Hexagon	22,042	24.6	25.0	25.7	22.3	20.1	18.4	4.3	4.0	3.8	14.4	14.6	14.5	15.4	13.7	12.7
Omron	12,601	8.9	8.6	9.8	20.7	22.5	19.2	1.3	1.4	1.4	10.8	9.5	10.4	8.9	10.6	9.4
Cognex	9,133	27.4	24.1	27.6	47.0	43.3	33.7	9.5	9.8	8.5	19.0	16.1	19.5	34.1	32.1	25.4
Qiagen	10,646	17.8	27.7	28.5	45.5	27.7	24.8	6.1	5.7	5.3	7.2	8.4	9.1	21.6	17.8	16.5
Average		24.6	27.4	29.4	32.7	29.9	24.7	7.3	7.0	6.2	17.1	15.0	16.3	24.2	20.7	17.3

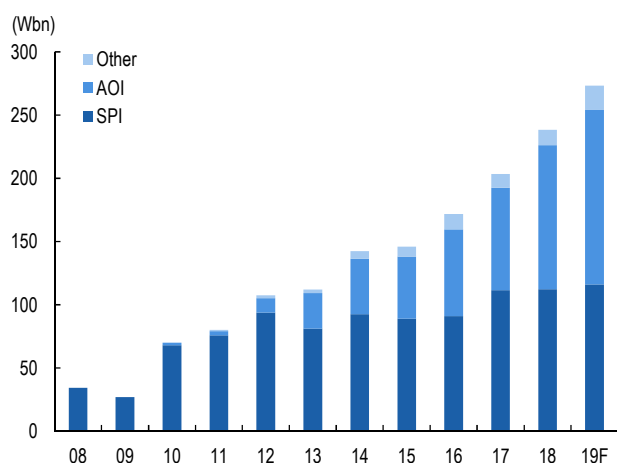
Source: Bloomberg, Mirae Asset Daewoo Research

Figure 4. Workforce structure

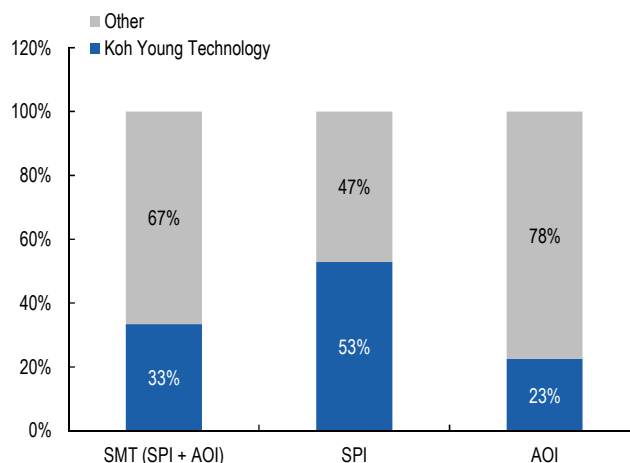
Source: Company data, Mirae Asset Daewoo Research

Figure 5. R&D spending trend

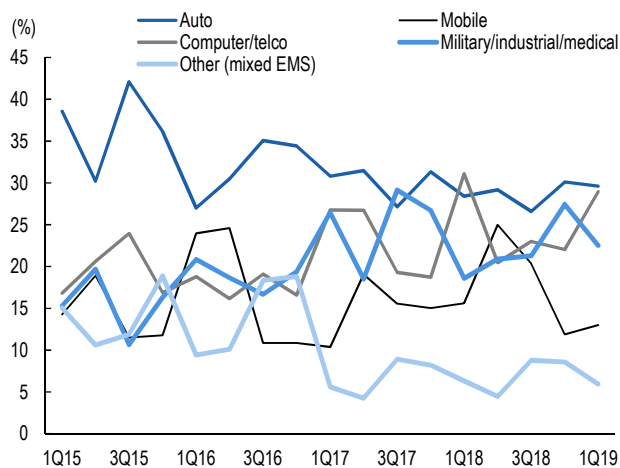
Source: Company data, Mirae Asset Daewoo Research

Figure 6. Revenue by product category

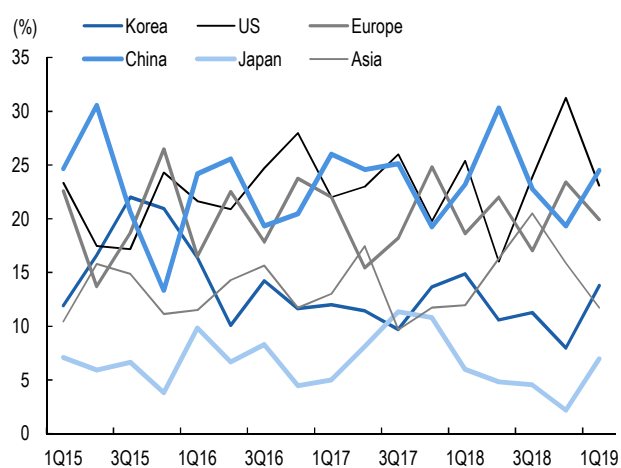
Source: Company data, Mirae Asset Daewoo Research

Figure 7. SMT M/S (2017)

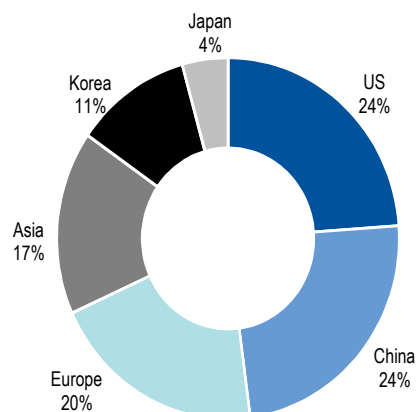
Source: Company data, Mirae Asset Daewoo Research

Figure 8. Revenue trends by industry

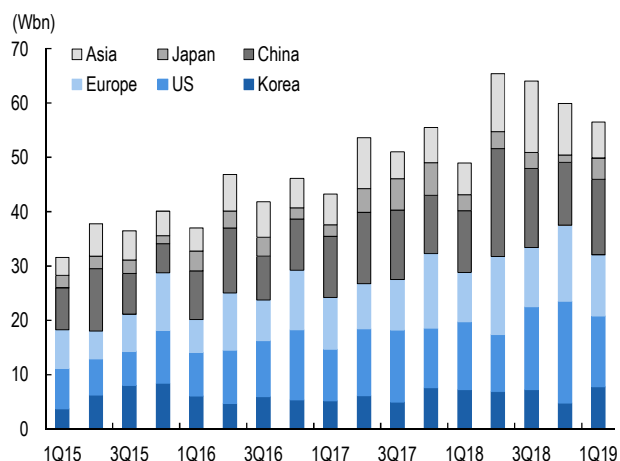
Source: Company data, Mirae Asset Daewoo Research

Figure 9. Revenue trends by region

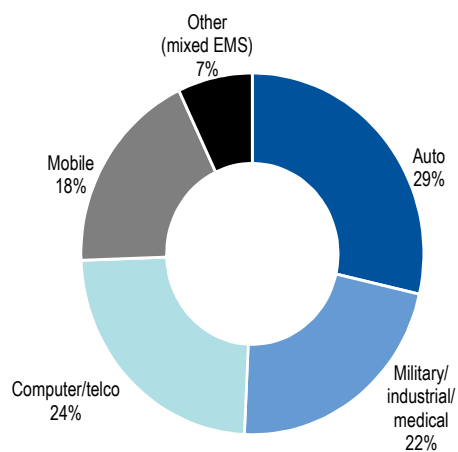
Source: Company data, Mirae Asset Daewoo Research

Figure 10. Revenue mix by region (2018)

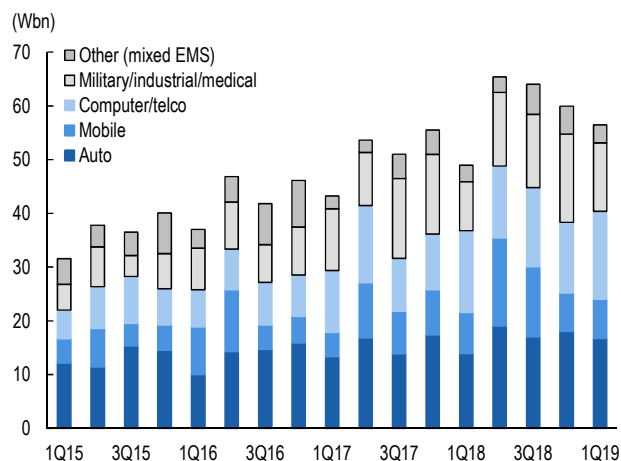
Source: Company data, Mirae Asset Daewoo Research

Figure 11. Revenue by region

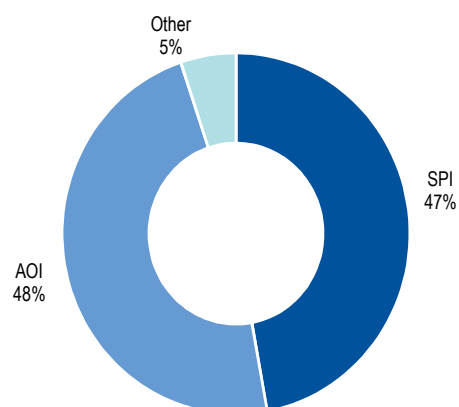
Source: Company data, Mirae Asset Daewoo Research

Figure 12. Revenue mix by industry (2018)

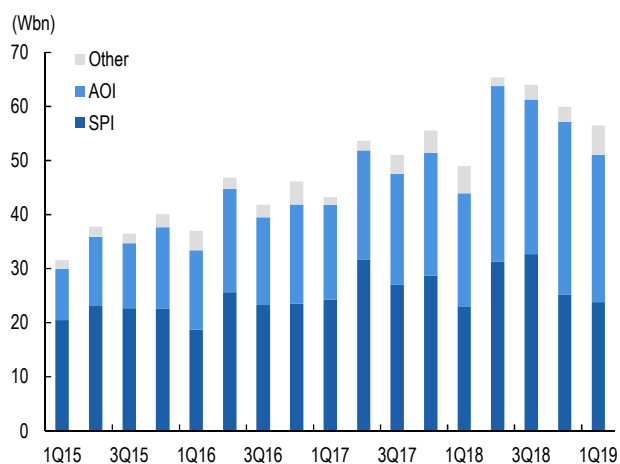
Source: Company data, Mirae Asset Daewoo Research

Figure 13. Revenue by industry

Source: Company data, Mirae Asset Daewoo Research

Figure 14. Revenue mix by product category (2018)

Source: Company data, Mirae Asset Daewoo Research

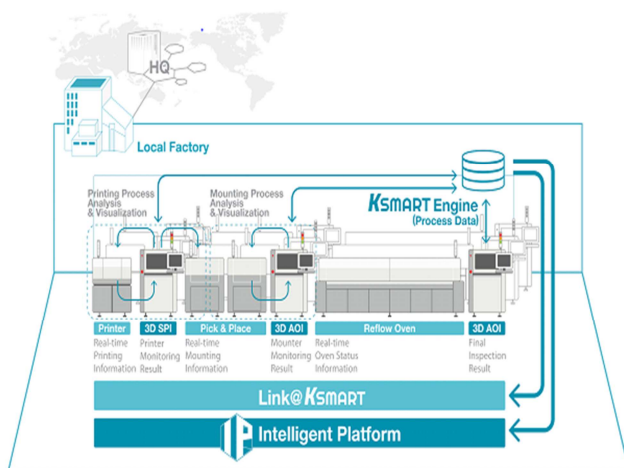
Figure 15. Revenue by product category

Source: Company data, Mirae Asset Daewoo Research

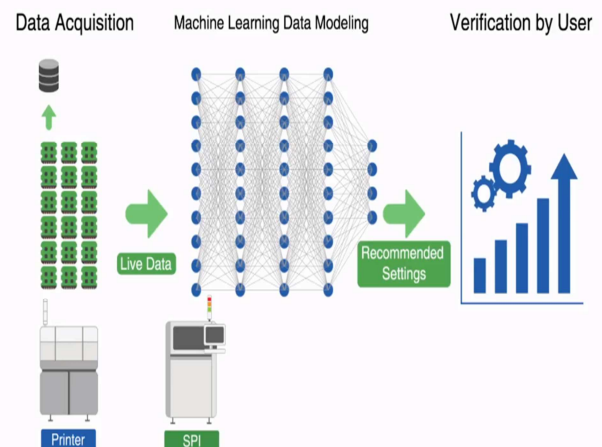
Table 5. KSMART smart factory solution modules

Application	Module	Purpose	Details
Real data management	RTM@KSMART	Real-time monitoring	Real-time monitoring
	LM@KSMART	Library management	Collection and sharing of data from equipment
	Link@KSMART	Communication solution	Integration of SPI and AOI findings to derive correlation between individual processes and errors
Analysis	SPC@KSMART	Process control	Statistical analysis and tolerance adjustment tool
Optimization	OPO@KSMART	Offline program optimization	Process fine-tuning
	RMS@KSMART	Remote monitoring system	Process optimization via smartphones or from remote locations
	KPO@KSMART	KSMART process optimization	Next-generation closed-loop system (real-time feedback and optimization via SPI/printer, AOI/mounter connections)

Source: Company data, Mirae Asset Daewoo Research

Figure 16. KSMART smart factory solutions

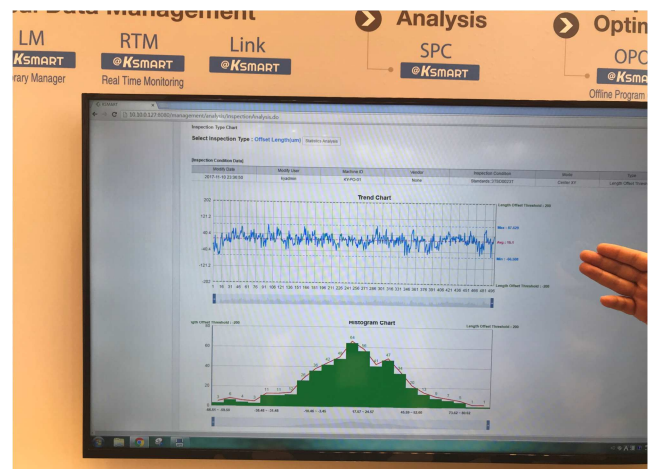
Source: Company materials, Mirae Asset Daewoo Research

Figure 17. KPO solution: Advanced process control feedback

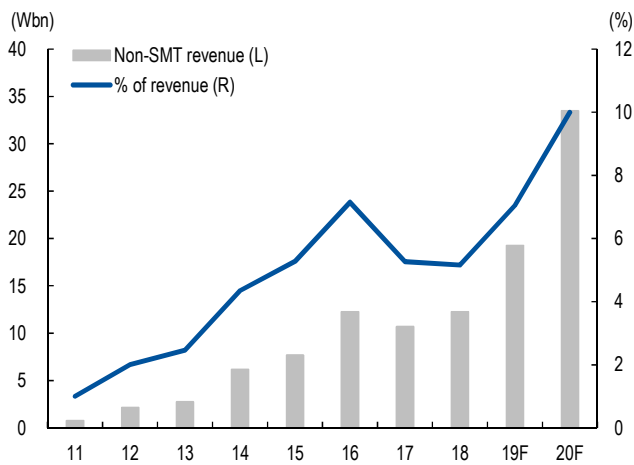
Source: Company materials, Mirae Asset Daewoo Research

Figure 18. KSMART's statistical analysis tool (1)

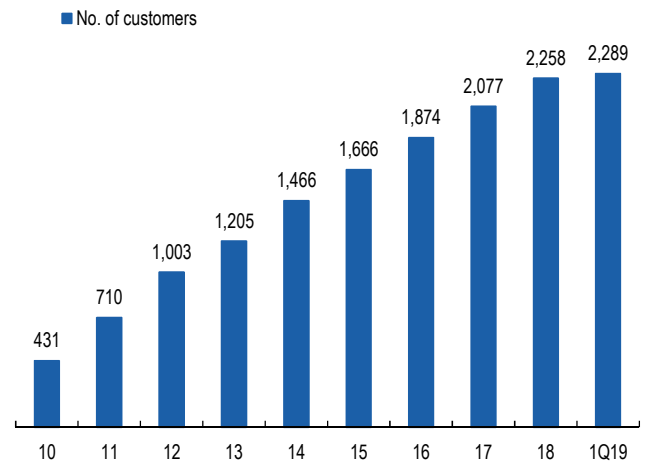
Source: Company materials, Mirae Asset Daewoo Research

Figure 19. KSMART's statistical analysis tool (2)

Source: Company materials, Mirae Asset Daewoo Research

Figure 20. New business revenue and % of overall revenue

Source: Company data, Mirae Asset Daewoo Research

Figure 21. Customer base expanding

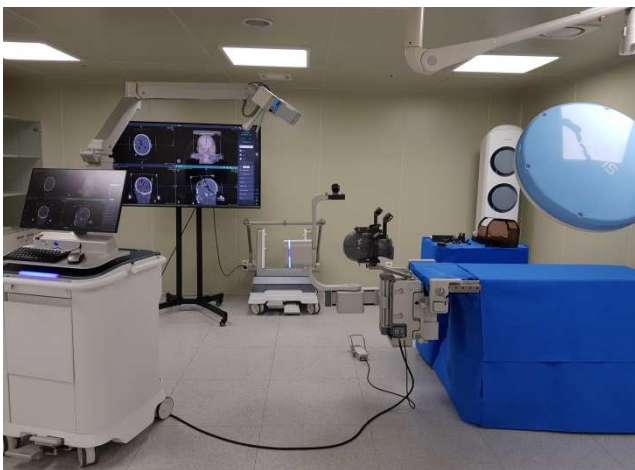
Source: Company data, Mirae Asset Daewoo Research

Figure 22. New businesses (1): MOI equipment

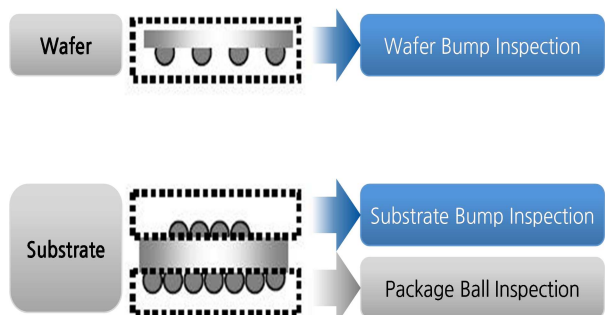
Source: Company materials, Mirae Asset Daewoo Research

Figure 23. New businesses (1): MOI equipment

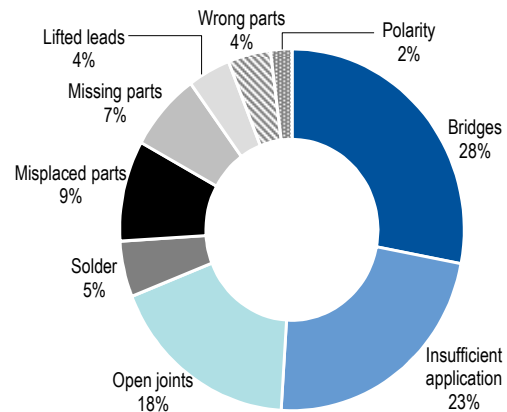
Source: Company materials, Mirae Asset Daewoo Research

Figure 24. New businesses (2): Surgical robot in R&D; manufacturing approval process in progress

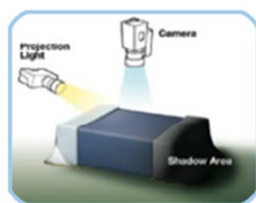
Source: Company materials, Mirae Asset Daewoo Research

Figure 25. New businesses (3): WBI and SBI technologies

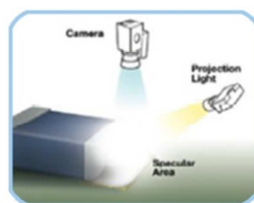
Source: Company materials, Mirae Asset Daewoo Research

Figure 26. 70% of defects are related to printing

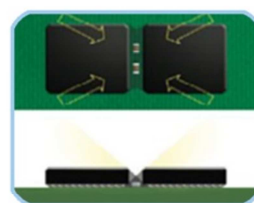
Source: Mirae Asset Daewoo Research

Figure 27. Koh Young has emerged as a leading player by addressing 2D technology issues**Shadow**

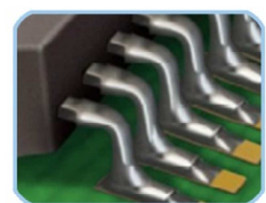
AOI with a single projection light can be susceptible to shadows

**Specular reflection**

Glossy solder joints in conventional inspection equipment could generate specular reflection, leading to sensor saturation

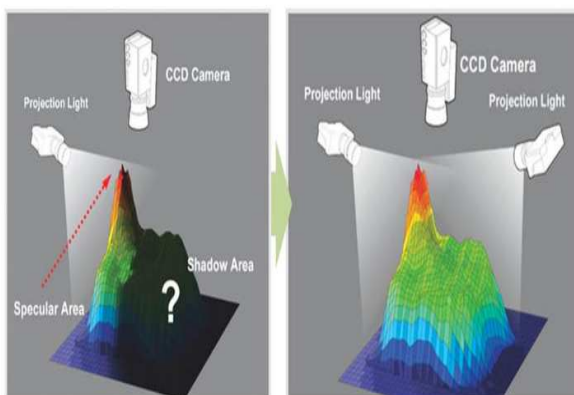
**Projection obstacles**

Conventional AOI equipment cannot inspect components that are hidden by shadows from adjacent components

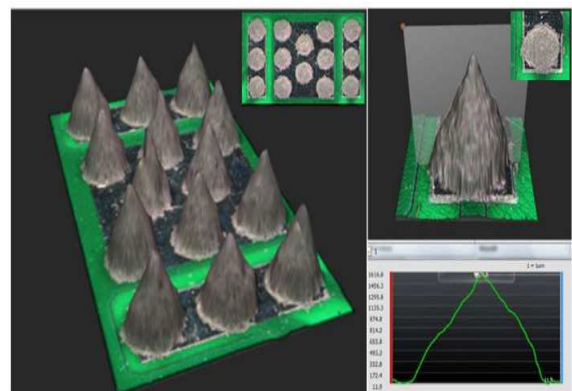
**Measurement range**

Accurate measurement of data is impossible without high z-resolution and a wide measurement range

Source: Mirae Asset Daewoo Research

Figure 28. Two-way, four-way projection technology: Resolution of shadow and reflected light issues

Source: Company materials, Mirae Asset Daewoo Research

Figure 29. Moiré technology allows for measurement of product heights

Source: Company materials, Mirae Asset Daewoo Research

Koh Young Technology (098460 KQ/Trading Buy/TP: W97,000)

Comprehensive Income Statement (Summarized)

(Wbn)	12/18	12/19F	12/20F	12/21F
Revenue	238	240	286	332
Cost of Sales	89	89	106	123
Gross Profit	149	151	180	209
SG&A Expenses	103	111	124	143
Operating Profit (Adj)	46	41	56	66
Operating Profit	46	41	56	66
Non-Operating Profit	7	8	-2	3
Net Financial Income	1	1	2	2
Net Gain from Inv in Associates	0	0	0	0
Pretax Profit	53	49	54	69
Income Tax	10	9	9	9
Profit from Continuing Operations	42	40	45	59
Profit from Discontinued Operations	0	0	0	0
Net Profit	42	40	45	59
Controlling Interests	42	40	45	59
Non-Controlling Interests	0	0	0	0
Total Comprehensive Profit	42	40	45	59
Controlling Interests	42	40	45	59
Non-Controlling Interests	0	0	0	0
EBITDA	50	50	61	70
FCF (Free Cash Flow)	5	31	34	47
EBITDA Margin (%)	21.0	20.8	21.3	21.1
Operating Profit Margin (%)	19.3	17.1	19.6	19.9
Net Profit Margin (%)	17.6	16.7	15.7	17.8

Statement of Financial Condition (Summarized)

(Wbn)	12/18	12/19F	12/20F	12/21F
Current Assets	228	264	318	385
Cash and Cash Equivalents	23	39	44	61
AR & Other Receivables	86	94	115	136
Inventories	31	35	42	50
Other Current Assets	88	96	117	138
Non-Current Assets	51	51	46	43
Investments in Associates	0	0	0	0
Property, Plant and Equipment	33	28	24	21
Intangible Assets	5	4	3	2
Total Assets	279	315	364	428
Current Liabilities	40	45	54	64
AP & Other Payables	23	26	31	37
Short-Term Financial Liabilities	0	0	0	0
Other Current Liabilities	17	19	23	27
Non-Current Liabilities	13	17	20	23
Long-Term Financial Liabilities	0	3	3	3
Other Non-Current Liabilities	13	14	17	20
Total Liabilities	53	61	74	87
Controlling Interests	226	254	290	341
Capital Stock	7	7	7	7
Capital Surplus	40	40	40	40
Retained Earnings	190	221	257	308
Non-Controlling Interests	0	0	0	0
Stockholders' Equity	226	254	290	341

Cash Flows (Summarized)

(Wbn)	12/18	12/19F	12/20F	12/21F
Cash Flows from Op Activities	22	32	34	47
Net Profit	42	40	45	59
Non-Cash Income and Expense	14	15	13	10
Depreciation	3	8	5	3
Amortization	2	1	1	1
Others	9	6	7	6
Chg in Working Capital	-28	-12	-16	-16
Chg in AR & Other Receivables	-14	-6	-20	-20
Chg in Inventories	-8	-3	-8	-8
Chg in AP & Other Payables	-2	0	4	4
Income Tax Paid	-8	-12	-9	-9
Cash Flows from Inv Activities	-72	-10	-21	-21
Chg in PP&E	-8	-1	0	0
Chg in Intangible Assets	-1	0	0	0
Chg in Financial Assets	-60	-9	-21	-21
Others	-3	0	0	0
Cash Flows from Fin Activities	27	-7	-9	-9
Chg in Financial Liabilities	0	3	0	0
Chg in Equity	14	0	0	0
Dividends Paid	-9	0	-9	-9
Others	22	-10	0	0
Increase (Decrease) in Cash	-23	16	5	17
Beginning Balance	46	23	39	44
Ending Balance	23	39	44	61

Source: Company data, Mirae Asset Daewoo Research estimates

Forecasts/Valuations (Summarized)

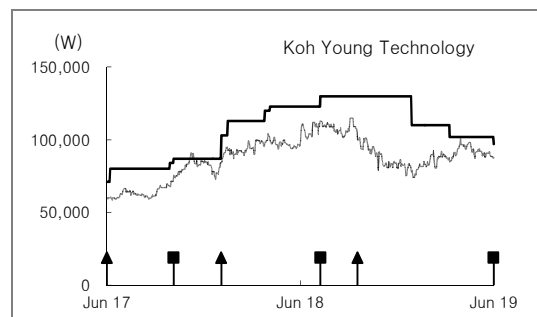
	12/18	12/19F	12/20F	12/21F
P/E (x)	26.7	29.9	26.6	20.2
P/CF (x)	19.9	21.8	20.7	17.1
P/B (x)	4.8	4.5	3.9	3.4
EV/EBITDA (x)	20.3	21.5	17.0	14.4
EPS (W)	3,091	2,924	3,289	4,339
CFPS (W)	4,148	4,017	4,233	5,105
BPS (W)	17,301	19,581	22,230	25,929
DPS (W)	650	650	650	650
Payout ratio (%)	20.8	21.9	19.5	14.7
Dividend Yield (%)	0.8	0.7	0.7	0.7
Revenue Growth (%)	17.2	0.8	19.2	16.1
EBITDA Growth (%)	4.2	0.0	22.0	14.8
Operating Profit Growth (%)	4.5	-10.9	36.6	17.9
EPS Growth (%)	58.5	-5.4	12.5	31.9
Accounts Receivable Turnover (x)	3.2	2.8	2.8	2.8
Inventory Turnover (x)	8.9	7.3	7.4	7.2
Accounts Payable Turnover (x)	5.6	5.4	5.5	5.4
ROA (%)	17.5	13.5	13.3	15.0
ROE (%)	21.9	16.7	16.6	18.8
ROIC (%)	34.9	27.4	35.1	39.1
Liability to Equity Ratio (%)	23.6	24.2	25.6	25.6
Current Ratio (%)	562.3	592.4	585.0	600.0
Net Debt to Equity Ratio (%)	-47.9	-51.1	-53.5	-56.6
Interest Coverage Ratio (x)	5,839.9	260.3	309.3	358.9

APPENDIX 1

Important Disclosures & Disclaimers

2-Year Rating and Target Price History

Company (Code)	Date	Rating	Target Price
Koh Young Technology (098460)	06/19/2019	Trading Buy	97,000
	03/28/2019	Buy	102,000
	01/15/2019	Buy	110,000
	10/05/2018	Buy	130,000
	07/27/2018	Trading Buy	130,000
	04/23/2018	Buy	123,000
	04/13/2018	Buy	120,000
	02/02/2018	Buy	113,000
	01/21/2018	Buy	103,000
	10/23/2017	Trading Buy	87,000
	10/16/2017	Buy	84,000
	06/25/2017	Buy	80,000
	05/25/2017	Buy	71,000



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	83.52%	8.24%	8.24%	0.00%
Investment Banking Services	82.61%	4.35%	13.04%	0.00%

* Based on recommendations in the last 12-months (as of March 31, 2019)

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