

# Koh Young Technology (098460 KS)

## Earnings stability to shine through

**BUY** (MAINTAIN)

Price (Jan 8) W80,200  
Target Price W109,000  
% variance 35.9%

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KOSPI	2,025.27p
KOSDAQ	668.49p
Market Cap.	W1,097.8bn/ US\$963.0mn
Par Value	W500
Outstanding Shares	13.7mn
Free Floating Shares	10.6mn(77.4%)
52-Week High/Low	W115,000/W72,800
60-Day Avg. Trading Volume	72,522shrs
60-Day. Avg. Trading T/O	W6,267mn
Foreign Ownership	54.23%
Major Shareholders	
Koh Young Holdings and 11 others	21.04%
Absolute Performance	3M -21.0%
	6M -23.0%
	12M 6.5%
Relative performance	3M -9.3%
to KOSDAQ	6M -6.9%
	12M 33.8%

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- ◆ 4Q18 preview: Earnings likely solid as expected
- ◆ 2019 outlook: Growth led by 3D AOI to continue; new businesses to take off
- ◆ Retain BUY for a revised-down target price of W109,000

### 4Q18 preview: Earnings likely solid as expected

Koh Young Technology is expected to have generated sales of W64.8bn (+16.7% YoY) and operating profit of W13bn (+10.5% YoY) in 4Q18, meeting consensus estimates. Earnings were likely solid in 4Q18 on 8% QoQ growth in sales of 3D automated optical inspection (AOI) equipment, recovering from a 12% QoQ drop in 3Q18. Even at 20-30% higher ASP than peers, Koh Young Technology continues to add 40-60 new clients each quarter for its high-precision inspection equipment. The company also generates steadier earnings than peers, with the supply of products to a total of 2,210 customers in a wide variety of industries helping to limit the impact of macro issues on overall earnings.

### 2019 outlook: Growth led by 3D AOI to continue; new businesses to take off

Based on 2017 figures, Koh Young Technology holds an estimated 23% share in the roughly W400bn AOI equipment market. Considering past sales of 3D solder paste inspection (SPI) equipment and the growth potential of AOI equipment, we expect the company's 3D AOI sales to reach W139.2bn (+23.5%, 33% market share) and drive company-wide earnings improvement in 2019.

Adding to the growth in 3D AOI sales, shipments of machining optical inspection (MOI) equipment to automotive electronics makers should pick up in earnest and sales of medical devices (national health insurance coverage currently under review) will likely start within 2019. Despite limited earnings contribution expected in 2019, we remain upbeat as the addition of new engines should help to strengthen the outlook for mid/long-term growth.

### Retain BUY for a revised-down target price of W109,000

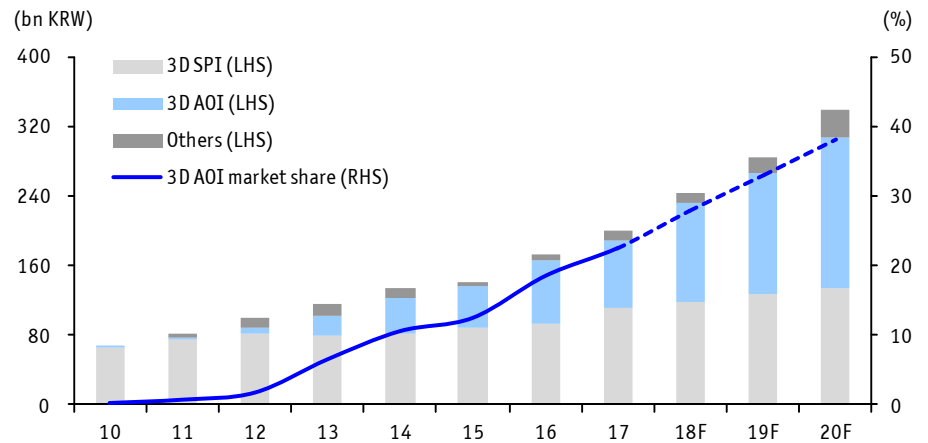
We revise down our target price for Koh Young Technology by 18% to W109,000. Long-term growth potential added from 3D AOI and MOI systems remains intact. On a conservative view, however, we take into account: 1) the decline in peer average PER from 28x in October 2018 to 23x in January 2019; and 2) possible delays in order placement for relatively expensive inspection equipment on concerns over macro issues. We expect to see a re-rating of shares on the removal of macro issues weighing on the sector as a whole.

Year to Dec.	Sales (W bn)	OP (W bn)	Pre-tax (W bn)	NP (W bn)	EPS (Won)	Growth (%)	BPS (Won)	PER (X)	EV/EBITDA (X)	PBR (X)	ROE (%)	Net Debt Ratio (%)
2016	171.8	33.2	35.9	29.7	2,173	25.8	11,477	20.8	14.7	3.9	20.6	(49.3)
2017	203.4	43.7	32.8	26.7	1,950	(10.3)	11,787	42.3	22.3	7.0	16.8	(41.7)
2018F	243.2	49.0	55.7	44.3	3,239	66.2	16,389	25.5	19.1	5.0	23.0	(50.3)
2019F	283.6	59.7	64.7	53.1	3,881	19.8	19,283	20.7	15.0	4.2	21.8	(56.8)
2020F	338.7	72.6	76.3	62.7	4,581	18.0	22,580	17.5	12.1	3.6	21.9	(59.8)

Source: Company data, Shinhan Investment

**3D AOI market share to rise from 23% in 2017 to 38% by 2020, driving top-line growth**

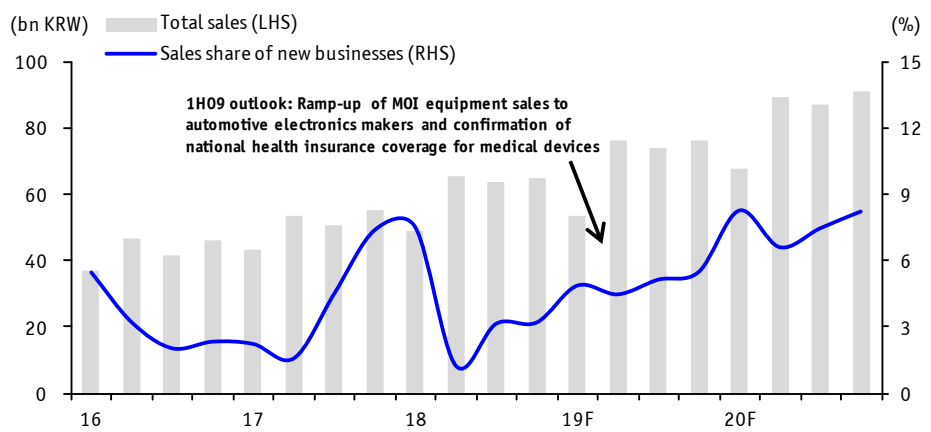
#### Sales by division and 3D AOI market share



Source: Shinhan Investment Corp.

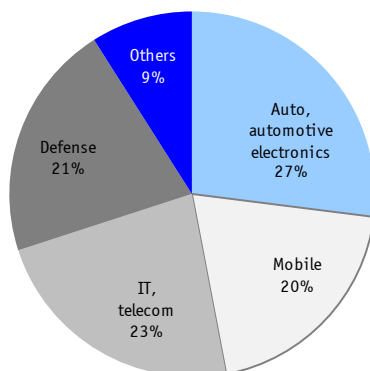
**New businesses to see top-line growth on shipment of MOI equipment to automotive electronics makers and start of medical device sales in 2019**

#### Total sales and sales share of new businesses



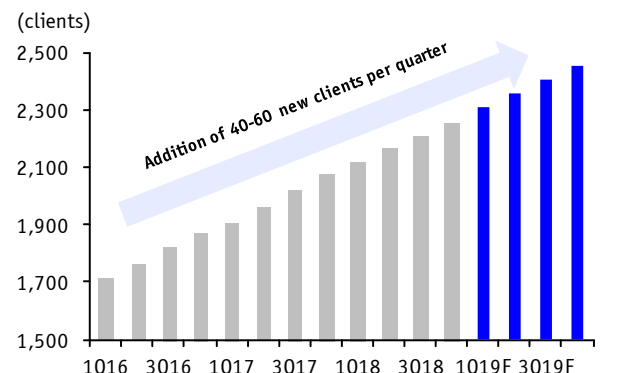
Source: Shinhan Investment Corp.

#### Sales breakdown by client industry



Source: Koh Young Technology, Shinhan Investment Corp.

#### Cumulative number of clients



Source: Koh Young Technology, Shinhan Investment Corp.

## 4Q18 preview

(bn KRW)	4Q18F	3Q18	QoQ (%)	4Q17	QoQ (%)	Previous	Consensus
Sales	64.8	64.0	1.2	55.5	16.7	65.3	65.8
OP	13.0	13.9	(6.4)	11.8	10.5	13.5	14.0
NP	11.1	11.2	(1.0)	2.9	276.6	11.1	10.8
OPM (%)	20.1	21.8		21.3		20.7	21.3
NPM (%)	17.1	17.5		5.3		17.0	16.4

Source: Shinhan Investment Corp.

## Earnings forecast revision

(bn KRW)	Before		After		Change	
	2018F	2019F	2018F	2019F	2018F	2019F
Sales	240.6	295.8	243.2	283.6	1.0	(4.1)
OP	48.8	63.6	49.0	59.7	0.5	(6.2)
NP	44.3	52.7	44.3	53.1	0.0	0.9
OPM (%)	20.3	21.5	20.2	21.1	-	-
NPM (%)	18.4	17.8	18.2	18.7	-	-

Source: Shinhan Investment Corp.

## Earnings trend and outlook

(bn KRW, %)	1Q18	2Q18	3Q18	4Q18F	1Q19F	2Q19F	3Q19F	4Q19F	2017	2018F	2019F	2020F
Sales	49.0	65.4	64.0	64.8	53.7	77.9	74.7	77.3	203.4	243.2	283.6	338.7
3D SPI	23.1	31.3	32.6	31.3	25.4	33.5	34.5	33.5	110.6	118.3	126.9	134.5
3D AOI	20.8	32.4	28.6	30.9	25.2	40.0	35.4	38.6	76.9	112.8	139.2	171.7
MOI and others	5.0	1.7	2.8	2.6	3.1	4.4	4.8	5.2	11.6	12.1	17.5	32.5
QoQ												
Sales	(11.8)	33.6	(2.1)	1.2	(17.0)	44.9	(4.0)	3.4				
3D SPI	(16.6)	35.3	4.2	(3.9)	(18.8)	31.6	3.3	(3.0)				
3D AOI	(7.6)	55.9	(11.8)	8.0	(18.4)	58.7	(11.6)	9.1				
MOI and others	(4.8)	(66.3)	65.7	(9.1)	21.4	41.6	9.0	8.4				
YoY												
Sales	13.2	22.0	25.5	16.7	9.8	19.1	16.7	19.3	18.4	19.6	16.6	19.4
3D SPI	(5.0)	(1.0)	20.8	13.0	10.0	7.0	6.0	7.0	19.7	6.9	7.3	6.0
3D AOI	19.0	97.6	39.5	37.2	21.2	23.4	23.7	24.9	3.9	46.6	23.5	23.4
MOI and others	262.3	43.9	(25.3)	(51.7)	(38.4)	158.8	70.3	103.0	114.9	4.1	44.4	85.7
OP	9.3	12.7	13.9	13.0	10.1	17.5	16.5	15.6	43.7	49.0	59.7	72.6
QoQ	(21.2)	37.0	9.3	(6.4)	(22.2)	73.1	(6.3)	(5.3)				
YoY	16.4	6.6	16.2	10.5	9.0	37.7	18.1	19.5	31.8	12.0	21.8	21.6
OPM	19.0	19.5	21.8	20.1	18.9	22.5	22.0	20.2	21.5	20.2	21.1	21.4

Source: Shinhan Investment Corp.

## Target price based on PER valuation

(KRW, x)	2019F	Remarks
Target price	109,000	
EPS	3,881	Target price based on 12-month forward EPS in view of earnings growth; 20% premium applied to 2019F average PER (23.4x) of ROBO Global Index peers; Koh Young Technology deserves to trade at a premium given: 1) higher profitability vs. index peers; 2) visible growth potential of MOI; and 3) re-rating in view of the evolution from a device maker to a comprehensive inspection solution provider. On a conservative view, premium lowered from 30% to 20% in reflection of macro issues.
Target PER	28.0	
Value per share	108,856	

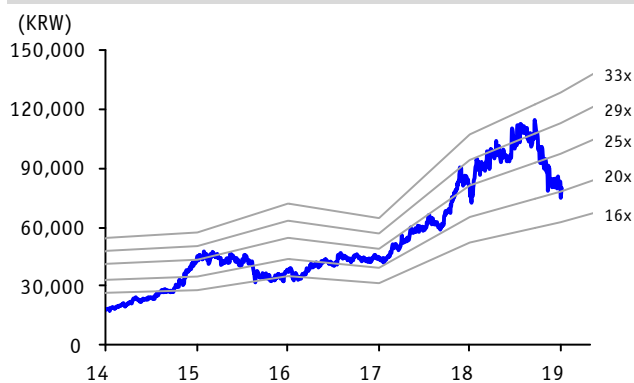
Source: Shinhan Investment Corp.

## PER trend and outlook

(KRW, x)	2011	2012	2013	2014	2015	2016	2017	2018	2019F	2020F
EPS	1,218	1,155	1,036	1,645	1,728	2,173	1,950	3,239	3,881	4,581
PER (term-end)	16.9	16.2	18.0	26.0	22.4	20.8	42.3	25.5	20.7	17.5
PER (high)	19.2	18.3	22.8	26.8	28.2	22.1	47.5	36.1	21.9	18.6
PER (low)	9.3	12.6	16.5	10.8	18.2	15.0	21.5	22.3	18.6	15.8
PER (average)	14.3	15.2	20.0	16.1	23.6	19.3	31.5	29.7	20.5	17.4

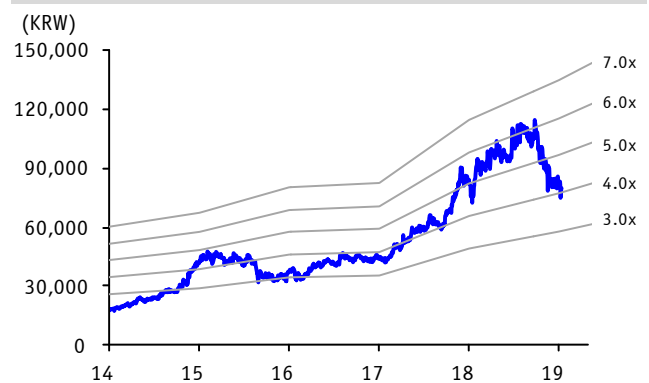
Source: Shinhan Investment Corp.

## 12-month forward PER



Source: QuantiWise, Shinhan Investment Corp.

## 12-month forward PBR



Source: QuantiWise, Shinhan Investment Corp.

## Balance Sheet

Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
<b>Assets</b>	<b>195.1</b>	<b>205.2</b>	<b>275.6</b>	<b>325.1</b>	<b>381.6</b>
Total Current Assets	154.9	161.4	222.6	273.4	331.4
Cash and Cash Equivalents	46.3	46.0	90.5	123.1	153.1
Accounts Receivables	54.3	67.9	79.2	87.2	103.4
Inventories	19.6	22.3	26.0	31.1	36.9
Non-Current Assets	40.2	43.9	53.0	51.7	50.2
Tangible Assets	23.8	25.3	33.0	31.8	30.0
Intangible Assets	6.4	5.0	4.2	2.9	2.0
Investment Assets	3.1	4.9	5.8	6.9	8.2
Other Financial Institutions Assets	0.0	0.0	0.0	0.0	0.0
<b>Liabilities</b>	<b>37.9</b>	<b>43.9</b>	<b>51.2</b>	<b>61.1</b>	<b>72.5</b>
Current Liabilities	27.5	32.3	37.7	45.0	53.4
ST Borrowings	0.0	0.0	0.0	0.0	0.0
Account Payables	13.9	16.2	19.0	22.6	26.8
Current Portion of LT Debt	0.1	0.0	0.0	0.0	0.0
Non-Current Liabilities	10.4	11.6	13.5	16.2	19.2
Bonds	0.0	0.0	0.0	0.0	0.0
LT Borrowings(incl. LT Fin. Liab.)	0.0	0.0	0.0	0.0	0.0
Other Financial Institutions Liab.	0.0	0.0	0.0	0.0	0.0
<b>Shareholders' Equity</b>	<b>157.3</b>	<b>161.3</b>	<b>224.3</b>	<b>263.9</b>	<b>309.1</b>
Capital Stock	6.8	6.8	6.8	6.8	6.8
Capital Surplus	25.7	26.2	40.4	40.4	40.4
Other Reserves	(10.4)	(27.7)	(4.0)	(4.0)	(4.0)
Accu. Other Comp. Income	(0.3)	(0.8)	(0.6)	(0.6)	(0.6)
Retained Earnings	135.0	156.7	181.6	221.2	266.4
Owners of Parent Equity	156.9	161.3	224.3	263.9	309.1
Non-Controlling Interests Equity	0.4	0.0	0.0	0.0	0.0
*Total Debt	0.1	0.0	0.0	0.0	0.0
*Net Debts(Cash)	(77.6)	(67.3)	(112.8)	(149.8)	(184.8)

## Cash Flow

Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
<b>Operating Cash Flow</b>	<b>29.2</b>	<b>19.9</b>	<b>20.6</b>	<b>48.0</b>	<b>49.6</b>
Net Profit	29.7	26.7	44.3	53.1	62.7
Depreciation	1.8	2.1	2.6	2.3	2.1
Amortization	1.7	1.7	1.7	1.3	0.9
Losses(Gains) on F/X Translation	(2.7)	5.6	(2.0)	0.0	0.0
Losses(Gains) on Disp. of Assets	(0.4)	0.3	(2.1)	0.0	0.0
Losses(Gains) in Asso., Subs., JVs	0.0	0.0	0.0	0.0	0.0
Chg. in A/L from Op. Activities	(6.8)	(19.3)	(28.7)	(8.0)	(15.7)
(Payments of Income Taxes)	(5.1)	(8.7)	(10.1)	(11.6)	(13.6)
Others	11.0	11.5	14.9	10.9	13.2
<b>Investing Cash Flow</b>	<b>(7.0)</b>	<b>5.2</b>	<b>(10.8)</b>	<b>(5.8)</b>	<b>(6.0)</b>
Incr. in Tangible Assets(CAPEX)	(5.4)	(2.0)	(16.7)	(1.2)	(0.2)
Decr. in Tangible Assets	0.5	0.0	8.6	0.0	0.0
Decr.(Incr.) in Intangible Assets	(1.6)	(1.1)	(0.8)	0.0	0.0
Decr.(Incr.) in Investment Assets	0.0	0.0	(1.9)	(1.1)	(1.3)
Others	(0.5)	8.3	(0.0)	(3.5)	(4.5)
<b>Free Cash Flow</b>	<b>20.7</b>	<b>25.3</b>	<b>16.1</b>	<b>44.6</b>	<b>47.4</b>
<b>Financing Cash Flow</b>	<b>(3.6)</b>	<b>(22.6)</b>	<b>33.4</b>	<b>(9.5)</b>	<b>(13.5)</b>
Incr.(Decr.) in Borrowing	(0.2)	(0.1)	0.0	0.0	0.0
Decr.(Incr.) of Treasury Stock	0.0	17.0	42.3	0.0	0.0
Dividend	(4.0)	(5.3)	(9.0)	(9.5)	(13.5)
Others	0.6	(34.2)	0.1	0.0	0.0
Other Cash Flows	0.0	0.0	0.0	0.0	0.0
Change of Consolidated Scope	0.0	0.0	0.0	0.0	0.0
Difference by Chg. in F/X Rates	1.1	(2.8)	1.2	0.0	0.0
<b>Incr.(Decr.) in Cash</b>	<b>19.7</b>	<b>(0.3)</b>	<b>44.4</b>	<b>32.7</b>	<b>30.0</b>
Beginning Cash	26.6	46.3	46.0	90.5	123.1
Ending Cash	46.3	46.0	90.5	123.1	153.1

Source: Company data, Shinhan Investment

## Profit and Loss

Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
<b>Sales</b>	<b>171.8</b>	<b>203.4</b>	<b>243.2</b>	<b>283.6</b>	<b>338.7</b>
Growth (%)	17.7	18.4	19.6	16.6	19.4
<b>COGS</b>	<b>63.9</b>	<b>71.9</b>	<b>91.7</b>	<b>106.4</b>	<b>127.0</b>
<b>Gross Profit</b>	<b>107.9</b>	<b>131.5</b>	<b>151.5</b>	<b>177.3</b>	<b>211.7</b>
Gross margin (%)	62.8	64.6	62.3	62.5	62.5
<b>SG&amp;A</b>	<b>74.8</b>	<b>87.7</b>	<b>102.4</b>	<b>117.6</b>	<b>139.1</b>
<b>Operating Income</b>	<b>33.2</b>	<b>43.7</b>	<b>49.0</b>	<b>59.7</b>	<b>72.6</b>
Growth (%)	41.5	31.8	12.0	21.8	21.6
Operating margin (%)	19.3	21.5	20.2	21.1	21.4
<b>Other Net Non-Operating Profits</b>	<b>2.7</b>	<b>(10.9)</b>	<b>6.6</b>	<b>5.0</b>	<b>3.7</b>
Financial Income(Expenses)	0.4	(1.2)	0.9	2.5	2.0
Net Other Non-Operating Profits	2.3	(9.7)	5.7	2.5	1.8
Net Gains in Asso., Subs., and JVs	0.0	0.0	0.0	0.0	0.0
<b>Pre-tax Profit from Cont. Op.</b>	<b>35.9</b>	<b>32.8</b>	<b>55.7</b>	<b>64.7</b>	<b>76.3</b>
Income Taxes	6.2	6.1	11.3	11.6	13.6
Profit from Continuing Op.	29.7	26.7	44.3	53.1	62.7
Profit from Discontinued Op.	0.0	0.0	0.0	0.0	0.0
<b>Net Profit</b>	<b>29.7</b>	<b>26.7</b>	<b>44.3</b>	<b>53.1</b>	<b>62.7</b>
Growth (%)	26.3	(10.1)	65.9	19.8	18.0
Net Profit margin (%)	17.3	13.1	18.2	18.7	18.5
Net Profit of Parent	29.7	26.7	44.3	53.1	62.7
Net Profit to Non-Controlling	0.0	0.1	0.0	0.0	0.0
<b>Total Comprehensive Income</b>	<b>29.2</b>	<b>26.6</b>	<b>43.8</b>	<b>53.1</b>	<b>62.7</b>
Total Comp. Income of Parent	29.1	26.5	43.8	53.1	62.7
Total Comp. Income to Non-Cont.	0.1	0.1	0.0	0.0	0.0
<b>EBITDA</b>	<b>36.8</b>	<b>47.6</b>	<b>53.3</b>	<b>63.3</b>	<b>75.6</b>
Growth (%)	37.0	29.5	12.0	18.8	19.3
EBITDA Margin (%)	21.4	23.4	21.9	22.3	22.3

Note: Operating profit is based on 2012 K-IFRS (gross profit - SG&amp;A costs)

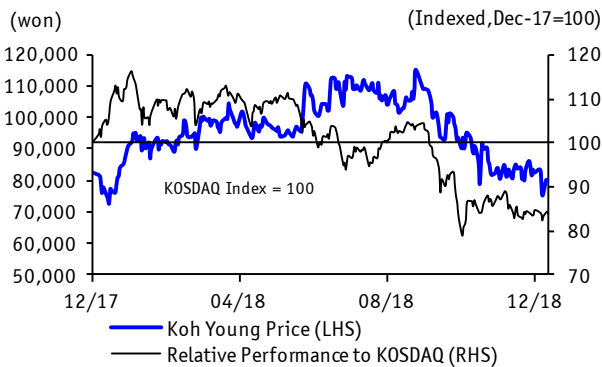
## Key Ratios

Year to Dec.	2016	2017	2018F	2019F	2020F
EPS_C (won)	2,176	1,955	3,239	3,881	4,581
EPS_P (won)	2,173	1,950	3,239	3,881	4,581
BPS_C (won)	11,505	11,787	16,389	19,283	22,580
BPS_P (won)	11,477	11,787	16,389	19,283	22,580
DPS (won)	400	700	700	1,000	1,300
PER_C (x)	20.8	42.2	25.5	20.7	17.5
PER_P (x)	20.8	42.3	25.5	20.7	17.5
PBR_C (x)	3.9	7.0	5.0	4.2	3.6
PBR_P (x)	3.9	7.0	5.0	4.2	3.6
EV/EBITDA (x)	14.7	22.3	19.1	15.0	12.1
Payout Ratio (%)	18.0	34.4	21.3	25.4	28.0
Dividend Yield (%)	0.9	0.8	0.8	1.2	1.6
<b>Profitability</b>					
EBITDA Margin (%)	21.4	23.4	21.9	22.3	22.3
OP Margin (%)	19.3	21.5	20.2	21.1	21.4
NP Margin (%)	17.3	13.1	18.2	18.7	18.5
ROA (%)	16.8	13.4	18.4	17.7	17.7
ROE (%)	20.6	16.8	23.0	21.8	21.9
ROIC (%)	34.3	38.9	36.8	43.4	49.2
<b>Stability</b>					
D/E Ratio (%)	24.1	27.2	22.8	23.2	23.5
Net Debt to Equity (%)	(49.3)	(41.7)	(50.3)	(56.8)	(59.8)
Cash Ratio (%)	168.6	142.5	240.0	273.8	287.0
Interest Coverage (x)	2,002.0	6,141.1	8,267.7	N/A	N/A
<b>Activity (%)</b>					
Working Capital Turnover (t)	3.6	3.6	3.6	3.7	3.9
Inventory Turnover (d)	41.3	37.6	36.3	36.7	36.6
Receivable Turnover (d)	104.5	109.6	110.4	107.1	102.7

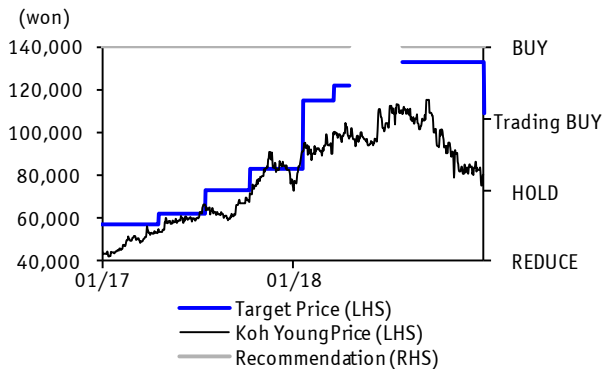
Source: Company data, Shinhan Investment

## Koh Young Technology (098460 KS)

### Share Price Performance



### Target Price



### Compliance Notice

- Analyst Certification: The following analysts hereby certify the information and material presented in this report are accurate expressions of their views, and that they have not received wrongful pressure to express such views: HyunWook Kim, HyungWoo Park.
- As of the date of this report's publication, Shinhan Investment Corp.'s shareholdings in the company mentioned in this report (Koh Young Technology) do not exceed 1% of outstanding shares of the company.
- As of this date, Shinhan Investment Corp. has not participated as the lead underwriter or advisor in issuance of the securities of the company during the past 1 year.
- As of this date, the covering analyst does not possess any financial interest in the securities or debt instruments convertible into such shares of the company, which is required to be disclosed by law, and has not and will not receive any compensation of any kind whatsoever in exchange for expressing specific recommendations.
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Date	Recommendation	Target Price (won)	Target Price Gap (%)	
			Average	Max/Min
2017.04.28	BUY	62,000	(3.5)	7.1
2017.07.26	BUY	73,000	(12.8)	(1.8)
2017.10.19	BUY	83,000	(1.6)	9.8
2018.01.28	BUY	115,000	(19.1)	(13.1)
2018.03.28	BUY	122,000	(18.9)	(14.5)
2018.04.27	No Coverage	-	-	-
2018.08.05	BUY	133,000	(28.4)	(13.5)
2019.01.08	BUY	109,000	-	-

Note: Calculation of target price gap based on the past 6 months

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### SHIC Rating Classifications (As of Apr. 1, 2017)

Stock	Sector
<ul style="list-style-type: none"> <li><b>BUY:</b> Expected return of over +10% in the next 6 months</li> <li><b>Trading BUY:</b> Expected return of -10% ~ +10% in the next 6 months</li> <li><b>HOLD:</b> Expected return of -20% ~ -10% in the next 6 months</li> <li><b>REDUCE:</b> Expected return of below -20% in the next 6 months</li> </ul>	<ul style="list-style-type: none"> <li><b>OVERWEIGHT:</b> Prevalence of BUY rating for stocks in our sector coverage universe based on market cap</li> <li><b>NEUTRAL:</b> Prevalence of HOLD rating for stocks in our sector coverage universe based on market cap</li> <li><b>UNDERWEIGHT:</b> Prevalence of REDUCE rating for stocks in our sector coverage universe based on market cap</li> </ul>

### SHIC Universe Rating Classification Ratio (as of Jan. 7, 2019)

BUY (BUY)	96.35%	Trading BUY (HOLD)	1.83%	HOLD (HOLD)	1.83%	REDUCE (SELL)	0%
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