😵 SHINHAN INVESTMENT

Silicon Works (108320 KS)

Beneficiary of OLED TVs

BUY (MAINTAIN)

Price (Feb. 15)	W39,100
Target Price	W49,000
% variance	25.3%

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KOSPI		2,196.09p
KOSDAQ		738.66p
Market Cap.	W635.9bn/	US557.8mn
Par Value		W500
Outstanding Shares		16.3mn
Free Floating Shares	10.9r	nn (66.7%)
52-Week High/Low	W53,70	0/W31,000
60-Day Avg. Trading Volu	me	68,484shrs
60-Day. Avg. Trading T/0		W2,462mn
Foreign Ownership		37.02%
Major Shareholders		
LG Corp.	and 2 others	33.22%
Templeton Asset	Management and 3 others	5.40%
Absolute Performance	3M	3.0%
	6M	-12.1%
	12M	-26.1%
Relative performance	3M	-5.0%
to KOSDAQ	6M	-9.4%
	12M	-15.1%

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- 4Q18 operating profit meets consensus at W20.9bn (+14.4% YoY)
- 2019 operating profit forecast at W81.7bn (+46.5 YoY)
- Retain BUY for a target price of W49,000

4Q18 operating profit meets consensus at W20.9bn (+14.4% YoY)

Silicon Works recorded 4Q sales of W236bn (+10.3% QoQ, +18.2% YoY) and operating profit of W20.9bn (-1.8% QoQ, +14.4% YoY), meeting the market consensus (sales of W220.4bn, operating profit of W20.3bn). The pricing pressure on LCD TV-use non-memory semiconductors increased due to an 11.2% QoQ drop in the price of 32-inch LCD TV open cell panels. Nevertheless, the company delivered stable earnings thanks to: 1) 13.9% QoQ growth in sales volume of non-memory semiconductors used in high value-added OLED TVs; and 2) 10% QoQ growth in sales volume of driver IC (D-IC) chips for tablet PCs and smartwatches.

2019 operating profit forecast at W81.7bn (+46.5 YoY)

We forecast sales of W192.2bn (-18.6% QoQ, +18.5% YoY) and operating profit of W10.4bn (-50.3% QoQ, +227.5% YoY) for 1Q, a traditional off-season for IT products. Earnings growth is expected from 2Q on increasing orders for OLED-use non-memory semiconductors.

LG Display is set to ramp up a new OLED line in Guangzhou, China in 3Q. We project sales volume of OLED TV panels to grow 30.1% from 3.2mn in 2018 to 4.16mn in 2019. It is also scheduled to start flexible OLED production at its new E6 line in the first half of the year. We therefore expect Silicon Works to deliver sales of W934.2bn (+18% YoY) and operating profit of W81.7bn (+46.5% YoY) for 2019.

Retain BUY for a target price of W49,000

We retain our BUY rating on Silicon Works for a target price of W49,000 in view of: 1) forecasts for 30.1% YoY growth in sales volume of OLED TV-use nonmemory semiconductors; and 2) 2019F operating profit of W81.7bn (+46.5% YoY). The current share price is undervalued at 2019F PER of 9.4x, vs. past seven-year average PER of 11.7x. OLED-use non-memory semiconductors will highly likely be supplied in 1H19 despite concerns over delays. Historically, the share price has been at the bottom level when there were concerns over the supply of new products. We believe now is the time to buy the stock.

Year to Dec.	Sales	OP	Pre-tax	NP	EPS	Growth	BPS	PER	EV/EBITDA	PBR	ROE	Net Debt to
	(W bn)	(W bn)	(W bn)	(W bn)	(Won)	(%)	(Won)	(X)	(X)	(X)	(%)	Equity Ratio (%)
2016	610.0	50.6	58.0	50.7	3,116	4.6	23,406	8.9	3.1	1.2	13.9	(69.1)
2017	692.8	45.5	48.4	47.1	2,894	(7.1)	25,345	18.3	11.5	2.1	11.9	(66.7)
2018F	791.8	55.8	59.2	49.0	3,011	4.1	27,657	11.2	4.0	1.2	11.4	(66.5)
2019F	934.2	81.7	85.5	67.5	4,153	37.9	31,110	9.4	3.2	1.3	14.1	(69.3)
2020F	996.0	88.6	94.2	74.5	4,578	10.2	34,988	8.5	2.2	1.1	13.9	(73.1)

Source: Company data, Shinhan Investment Corp.

Target price calculation

	Value	Remarks
2019F ROE (%)	14.1	
2019F EPS (KRW)	4,153	
Target PER (x)	11.7	7-year average PER of 11.7x
Target price (KRW)	49,000	

Source: Shinhan Investment Corp.

PER, ROE an	id EPS							
(x)	2011	2012	2013	2014	2015	2016	2017	Average
PER (high)	21.1	14.5	13.1	15.1	14.1	12.5	20.6	15.8
PER (low)	7.0	8.3	9.8	10.3	8.3	8.0	9.6	8.8
PER (average)	14.8	11.4	11.4	11.9	11.7	9.8	13.1	11.7
ROE (%)	14.9	17.3	12.1	11.2	15.0	13.9	11.9	13.8
EPS (KRW)	2,021	2,529	1,970	1,979	2,979	3,116	2,894	2,498.1

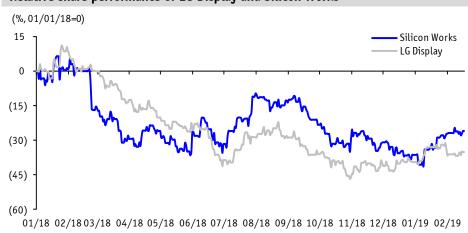
Source: QuantiWise, Shinhan Investment Corp.

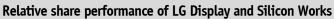
Valuation consensus of display-use non-memory semiconductor companies 2019F (x) Market cap. 2020F (x) PBR EV/EBITDA ROE (%) PBR EV/EBITDA ROE (%) (bn USD) PER PER Renesas 5.7 11.0 13.4 5.6 11.5 1.5 13.7 1.7 14.4 Novatek 9.4 23.8 23.5 3.4 14.3 3.3 13.4 3.1 8.8 Synaptics 2.0 7.1 23.6 9.0 1.7 7.0 23.0 1.4 9.0 Parade Tech 3.8 23.0 24.0 1.4 17.8 13.1 14.7 3.2 11.0 Himax 0.7 25.4 1.4 17.1 7.4 42.0 1.4 16.8 4.8 Silicon Works 0.6 9.7 1.3 5.2 13.8 8.5 4.7 14.1 1.1 MagnaChip Semiconductor 0.2 9.4 32.2 8.6 -5.7 (113.2) Sitronix 2.8 7.0 0.4 13.6 15.4 ---Focal Tech 0.2 18.3 0.6 10.0 2.5 12.0 0.6 5.5 4.1

Source: Bloomberg, Shinhan Investment Corp.



Source: QuantiWise, Shinhan Investment Corp.





Source: QuantiWise, Shinhan Investment Corp.

(bn KRW)	4Q18P	3Q18	QoQ (%)	4Q17	YoY (%)	Consensus	Gap (%)	SHIC	Gap (%)
Sales	236.0	213.9	10.3	199.7	18.2	220.4	7.1	219.0	7.8
OP	20.9	21.3	(1.8)	18.3	14.4	20.3	2.9	22.6	(7.4)
NP	16.4	17.7	(7.3)	24.0	(31.8)	18.4	(10.9)	19.9	(17.5)
OPM (%)	8.9	9.9		9.1		9.2		10.3	
NPM (%)	6.9	8.3		12.0		8.3		9.1	

Source: Company data, Shinhan Investment Corp.

(bn KRW)	1018	2Q18	3Q18	4Q18P	1Q19F	2Q19F	3Q19F	4Q19F	2017	2018F	2019F	2020F
Sales	162.2	179.7	213.9	236.0	192.2	218.0	252.0	272.0	692.8	791.8	934.2	996.0
Large D-IC	113.8	116.8	124.1	134.5	110.3	126.4	151.2	165.9	441.4	489.2	553.9	590.4
Small D-IC	24.9	35.9	51.3	56.6	48.1	48.0	52.9	57.1	143.6	168.8	206.1	221.0
SoC	22.6	21.6	36.4	40.1	31.7	41.4	45.4	46.2	94.0	120.6	164.7	174.6
Others	0.9	5.4	2.1	4.7	2.1	2.2	2.5	2.7	13.7	13.1	9.5	10.0
OP	3.2	10.5	21.2	20.9	10.4	15.3	27.0	29.1	45.5	55.8	81.7	88.6
Pre-tax profit	4.6	10.8	22.7	21.2	11.8	16.7	28.9	28.1	48.4	59.2	85.5	94.2
NP	6.1	8.7	17.7	16.4	9.3	13.7	23.9	20.6	47.1	49.0	67.5	74.5
OPM (%)	2.0	5.8	9.9	8.9	5.4	7.0	10.7	10.7	6.6	7.0	8.7	8.9
Pre-tax margin (%)	2.8	6.0	10.6	9.0	6.2	7.7	11.5	10.3	7.0	7.5	9.2	9.5
NPM (%)	3.8	4.9	8.3	6.9	4.9	6.3	9.5	7.6	6.8	6.2	7.2	7.5
Sales growth (% YoY)	2.4	16.5	18.5	18.2	18.5	21.3	17.8	15.3	13.6	14.3	18.0	6.6
Large D-IC	19.8	11.3	4.5	9.6	(3.1)	8.2	21.9	23.3	12.5	10.8	13.2	6.6
Small D-IC	(31.8)	46.2	43.8	20.8	93.2	33.4	3.1	0.8	88.4	17.5	22.1	7.3
SoC	(10.7)	(4.7)	50.8	82.8	40.5	92.1	24.7	15.3	(25.2)	28.3	36.6	6.0
Others	(44.0)	161.3	5.2	(41.7)	144.6	(59.6)	17.8	(42.4)	(12.5)	(4.5)	(27.3)	4.5
OP growth (% YoY)	(41.7)	61.2	38.4	14.4	227.5	45.3	27.2	39.3	(10.1)	22.5	46.5	8.5
Pre-tax profit growth (% YoY)	(30.5)	78.5	39.8	8.6	158.7	55.2	27.5	32.2	(16.7)	22.5	44.4	10.2
NP growth (% YoY)	(36.0)	56.1	39.1	16.0	175.2	41.5	25.9	37.1	(7.1)	4.1	37.9	10.2

Source: Company data, Shinhan Investment Corp.

Result Comment

Silicon Works

Balance Sheet

Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
Assets	486.0	544.3	584.6	649.0	718.1
Total Current Assets	440.5	497.7	539.0	604.4	675.5
Cash and Cash Equivalents	262.9	74.7	70.2	80.9	128.3
Accounts Receivables	110.9	140.0	145.0	150.0	152.0
Inventories	58.3	61.0	70.0	74.0	76.0
Non-Current Assets	45.5	46.5	45.6	44.6	42.6
Tangible Assets	15.3	15.2	15.6	15.6	15.2
Intangible Assets	17.1	17.7	15.7	13.7	11.7
Investment Assets	3.7	4.8	5.5	6.4	6.9
Other Financial Institutions Assets	0.0	0.0	0.0	0.0	0.0
Liabilities	105.3	132.1	134.8	143.0	149.1
Current Liabilities	100.3	129.4	131.7	139.3	145.2
ST Borrowings	0.0	0.0	0.0	0.0	0.0
Account Payables	70.3	97.2	95.0	96.0	99.0
Current Portion of LT Debt	0.0	0.0	0.0	0.0	0.0
Non-Current Liabilities	5.0	2.7	3.1	3.7	3.9
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
Shareholders' Equity	380.7	412.2	449.8	506.0	569.0
Capital Stock	8.1	8.1	8.1	8.1	8.1
Capital Surplus	76.3	76.3	76.3	76.3	76.3
Other Reserves	0.0	0.0	0.0	0.0	0.0
Accu. Other Comp. Income	1.5	1.6	1.6	1.6	1.6
Retained Earnings	294.7	326.1	363.7	419.9	482.9
Owners of Parent Equity	380.7	412.2	449.8	506.0	569.0
Non-Controlling Interests Equity	0.0	0.0	0.0	0.0	0.0
*Total Debt	0.0	0.0	0.0	0.0	0.0
*Net Debts(Cash)	(263.0)	(274.9)	(299.0)	(350.9)	(416.1)

Cash Flow

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Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
Operating Cash Flow	49.0	32.5	41.1	70.2	84.0
Net Profit	50.7	47.1	49.0	67.5	74.5
Depreciation	2.7	2.9	4.6	6.0	7.4
Amortization	6.9	2.5	2.0	2.0	2.0
Losses(Gains) on F/X Translation	0.3	0.3	0.0	0.0	0.0
Losses(Gains) on Disp. of Assets	0.0	(0.1)	(0.1)	(0.1)	(0.1)
Losses(Gains) in Asso, Subs.,JVs	0.0	0.0	0.0	0.0	0.0
Chg. in A/L from Op. Activities	(17.0)	(14.8)	(14.4)	(5.3)	0.2
(Payments of Income Taxes)	(8.9)	(11.9)	(10.2)	(18.0)	(19.8)
Others	14.3	6.5	10.2	18.1	19.8
Investing Cash Flow	0.6	(205.9)	(34.3)	(48.1)	(25.3)
Incr. in Tangible Assets(CAPEX)	(3.2)	(3.0)	(5.0)	(6.0)	(7.0)
Decr. in Tangible Assets	0.0	0.3	0.0	0.0	0.0
Decr. (Incr.) in Intangible Assets	(0.4)	(1.9)	0.0	0.0	0.0
Decr.(Incr.) in Investment Assets	5.2	0.3	(0.7)	(1.0)	(0.4)
Others	(1.0)	(201.6)	(28.6)	(41.1)	(17.9)
Free Cash Flow	42.8	31.2	32.4	59.8	72.0
Financing Cash Flow	(16.3)	(14.6)	(11.4)	(11.4)	(11.4)
Incr.(Decr.) in Borrowing	0.0	0.0	0.0	0.0	0.0
Decr.(Incr.) of Treasury Stock	0.0	0.0	0.0	0.0	0.0
Dividend	(16.3)	(14.6)	(11.4)	(11.4)	(11.4)
Others	0.0	0.0	0.0	0.0	0.0
Other Cash Flows	0.0	0.0	0.0	0.1	0.0
Change of Consolidated Scope	0.0	0.0	0.0	0.0	0.0
Difference by Chg. in F/X Rates	(0.0)	(0.1)	0.0	0.0	0.0
Incr.(Decr.) in Cash	33.4	(188.2)	(4.5)	10.7	47.3
Beginning Cash	229.5	262.9	74.7	70.2	80.9
Ending Cash	262.9	74.7	70.2	80.9	128.3

Source: Company data, Shinhan Investment Corp.

Profit and Loss

Year to Dec. (W bn)	2016	2017	2018F	2019F	2020F
Sales	610.0	692.8	791.8	934.2	996.0
Growth (%)	13.8	13.6	14.3	18.0	6.6
COGS	479.7	540.4	591.1	693.6	744.1
Gross Profit	130.4	152.4	200.7	240.6	251.9
Gross margin (%)	21.4	22.0	25.3	25.8	25.3
SG&A	79.8	106.9	144.9	158.9	163.3
Operating Income	50.6	45.5	55.8	81.7	88.6
Growth (%)	(9.4)	(10.1)	22.5	46.5	8.5
Operating margin (%)	8.3	6.6	7.0	8.7	8.9
Other Net Non-Operating Profits	7.4	2.8	3.5	3.8	5.6
Financial Income(Expenses)	7.5	3.7	4.0	4.5	5.3
Net Other Non-Operating Profits	(0.0)	(0.8)	(0.5)	(0.7)	0.3
Net Gains in Asso., Subs., and JVs	0.0	0.0	0.0	0.0	0.0
Pre-tax Profit from Cont. Op.	58.0	48.4	59.2	85.5	94.2
Income Taxes	7.3	1.3	10.2	18.0	19.8
Profit from Continuing Op.	50.7	47.1	49.0	67.5	74.5
Profit from Discontinued Op.	0.0	0.0	0.0	0.0	0.0
Net Profit	50.7	47.1	49.0	67.5	74.5
Growth (%)	4.6	(7.1)	4.1	37.9	10.2
Net Profit margin (%)	8.3	6.8	6.2	7.2	7.5
Net Profit of Parent	50.7	47.1	49.0	67.5	74.5
Net Profit to Non-Controlling	0.0	0.0	0.0	0.0	0.0
Total Comprehensive Income	49.4	46.2	49.0	67.5	74.5
Total Comp. Income of Parent	49.4	46.2	49.0	67.5	74.5
Total Comp. Income to Non-Cont.	0.0	0.0	0.0	0.0	0.0
EBITDA	60.2	50.9	62.4	89.7	98.0
Growth (%)	(14.3)	(15.4)	22.5	43.8	9.3
EBITDA Margin (%)	9.9	7.4	7.9	9.6	9.8

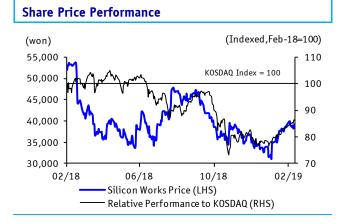
Note: Operating profit is based on 2012 K-IFRS (gross profit - SG&A costs)

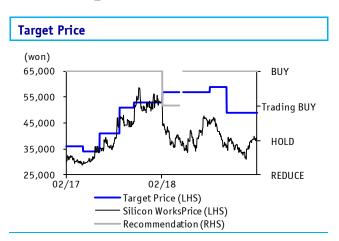
Key Ratios

Year to Dec.	2016	2017	2018F	2019F	2020F
EPS_C (won)	3,116	2,894	3,011	4,153	4,578
EPS_P (won)	3,116	2,894	3,011	4,153	4,578
BPS_C (won)	23,406	25,345	27,657	31,110	34,988
BPS_P (won)	23,406	25,345	27,657	31,110	34,988
DPS (won)	900	700	700	700	700
PER_C (x)	8.9	18.3	11.2	9.4	8.5
PER_P (x)	8.9	18.3	11.2	9.4	8.5
PBR_C (x)	1.2	2.1	1.2	1.3	1.1
PBR_P (x)	1.2	2.1	1.2	1.3	1.1
EV/EBITDA (x)	3.1	11.5	4.0	3.2	2.2
Payout Ratio (%)	28.9	24.2	23.2	16.9	15.3
Dividend Yield (%)	3.2	1.3	2.1	1.8	1.8
Profitability					
EBITDA Margin (%)	9.9	7.4	7.9	9.6	9.8
OP Margin (%)	8.3	6.6	7.0	8.7	8.9
NP Margin (%)	8.3	6.8	6.2	7.2	7.5
ROA (%)	10.7	9.1	8.7	11.0	10.9
ROE (%)	13.9	11.9	11.4	14.1	13.9
ROIC (%)	37.6	36.8	33.6	44.0	47.3
Stability					
D/E Ratio (%)	27.7	32.0	30.0	28.3	26.2
Net Debt to Equity (%)	(69.1)	(66.7)	(66.5)	(69.3)	(73.1)
Cash Ratio (%)	262.1	57.8	53.3	58.1	88.3
Interest Coverage (x)	N/A	N/A	N/A	N/A	N/A
Activity (%)					
Working Capital Turnover (t)	7.8	7.7	7.5	8.0	8.3
Inventory Turnover (d)	35.2	31.4	30.2	28.1	27.5
Receivable Turnover (d)	66.3	66.1	65.7	57.6	55.3

Source: Company data, Shinhan Investment Corp.

Silicon Works (108320 KS)





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- As of the date of this report's publication, Shinhan Investment Corp.'s shareholdings in the company mentioned in this report (Silicon Works) 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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BUY BUY BUY Trading BUY BUY BUY BUY	(won) 34,000 41,000 51,000 53,000 57,000 No Coverage 57,000 59,000 49,000	Target Pric Average (6.3) (8.0) (10.9) (0.6) (30.2) - (29.5) (28.9) -	Max/Min 5.6 14.6 (5.8) 10.9 (21.5) - (16.2) (20.0)
BUY BUY Trading BUY Trading BUY BUY	41,000 51,000 53,000 57,000 No Coverage 57,000 59,000	(8.0) (10.9) (0.6) (30.2) - (29.5)	14.6 (5.8) 10.9 (21.5) - (16.2)
BUY BUY Trading BUY BUY BUY	51,000 53,000 57,000 No Coverage 57,000 59,000	(10.9) (0.6) (30.2) - (29.5)	(5.8) 10.9 (21.5) - (16.2)
BUY Trading BUY BUY BUY	53,000 57,000 No Coverage 57,000 59,000	(0.6) (30.2) - (29.5)	10.9 (21.5) - (16.2)
Trading BUY BUY BUY	57,000 No Coverage 57,000 59,000	(30.2) - (29.5)	(21.5) - (16.2)
BUY BUY	No Coverage 57,000 59,000	- (29.5)	(16.2)
BUY	57,000 59,000		
BUY	59,000		
		(28.9) -	(20.0)
BUY	49,000	-	-
	yet price gap based	yet price gap based on the past 6	yet price gap based on the past 6 months

Distribution

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SHIC Rating Classifications (As of Apr. 1, 2017)						
Stock	Sector					
 BUY: Expected return of over +10% in the next 6 months Trading BUY: Expected return of -10% ~ +10% in the next 6 months HOLD: Expected return of -20% ~ -10% in the next 6 months REDUCE: Expected return of below -20% in the next 6 months 	 OVERWEIGHT: Prevalence of BUY rating for stocks in our sector coverage universe based on market cap NEUTRAL: Prevalence of HOLD rating for stocks in our sector coverage universe based on market cap UNDERWEIGHT: Prevalence of REDUCE rating for stocks in our sector coverage universe based on market cap 					

SHIC Universe Rating Classification Ratio (as of Feb. 15, 2019)									
BUY (BUY)	94.01%	Trading BUY (HOLD)	3.23%	HOLD (HOLD)	2.76%	REDUCE (SELL)	0%		