

## Soulbrain (036830)

**BUY (Reinstate), TP W69,000**

Stock price (Apr 19, KRW)	55,200
Market cap (USD mn)	802
Shares outstanding (mn)	17
52W High/Low (KRW)	67,500/42,650
6M avg. daily turnover (USD mn)	4.8
Free float (%)	51.6
Foreign ownership (%)	29.6
Major shareholders (%)	
Jeong Ji-whan and 9 others	45.8
Hermes Investment Mgmt and 3 others	7.3

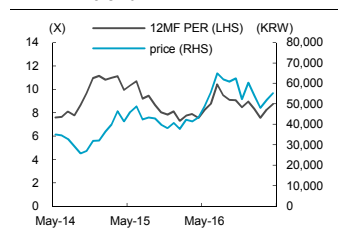
Yr to	Sales	OP	NP	EPS	% chg	EBITDA	PE	EV/EBITDA	PB	ROE	DY
Dec	(W bn)	(W bn)	(W bn)	(KRW)	(YoY)	(W bn)	(x)	(x)	(x)	(%)	(%)
2015A	628	101	81	4,969	110.2	143	8.2	5.1	1.3	17.6	1.2
2016A	723	105	75	4,635	(6.7)	154	13.0	6.5	1.8	14.2	1.0
2017F	791	114	95	5,903	27.4	168	9.4	5.2	1.4	15.9	1.1
2018F	842	124	102	6,341	7.4	180	8.7	4.6	1.2	14.9	1.2
2019F	894	132	108	6,700	5.7	192	8.2	4.0	1.1	13.8	1.3

Note: NP in equity-method accounting

### Performance

	1M	6M	12M
Absolute (%)	15.2	(8.8)	21.9
Rel. to Kospi (%p)	16.4	(13.5)	15.5

### 12MF PE trend



## Growth with semiconductor materials

**Recommend BUY and TP W69,000:** We reinstate coverage of Soulbrain with BUY and a TP of W69,000 (11.5x 12MF EPS; 10-year trailing avg. PE). As a customer is set to conduct trial runs at the 3D NAND plant in Pyeongtaek, Gyeonggi province, in 2Q17, sales of high-purity phosphoric acid etchant, featuring a fatter margin than the existing hydrofluoric acid etchant, are expected to increase. In addition, growing sales of chemical materials from Soulbrain Chongqing Electronics Materials (Soulbrain Chongqing) to the B8 line (8G LCD) of BOE (China) should offset fewer sales stemming from the shrinking vendor share of hydrofluoric acid etchant for semiconductors at another customer.

Soulbrain was founded in 1986 as Techno Trading Co. to manufacture and sell chemical materials related to semiconductors and electronics. It was renamed Techno Semichem in 1999 and went public on the Kosdaq on January 18, 2000. The name Soulbrain was taken in 2011. Soulbrain manufactures 1) chemical materials such as etchant used in wet etching processes for semiconductors and TFT-LCDs and 2) electrolytes for rechargeable batteries while 3) running a thin-glass business that makes smartphone OLED panels thinner. As of 2016, sales break down to chemical materials for semiconductor processing (49.6%), chemical materials for display processing and the thin-glass business (41.4%) and electrolytic solutions and others (9%). Major subsidiaries booked in consolidated earnings include Soulbrain SLD, which cuts panels (after thin-glass processing) to the size of smartphones, Soulbrain Chongqing, which produces chemical materials for displays, and Soulbrain Optos, which produces optical films. Affiliates include Soulbrain Savings Bank and mask pack maker Genic.

### Larger 3D NAND weighting and rising demand for phosphoric acid etchant:

The Pyeongtaek 3D NAND plant of its customer is scheduled to start trial operation in 2Q17. If it goes as hoped, the customer's monthly 3D NAND capacity would increase from 165,000 at end-2016 to 245,000 at end-2017 and 335,000 at end-2018. In the 3D NAND process, high-purity phosphoric acid etchant, for which Soulbrain is an exclusive manufacturer, should be added to the hydrofluoric acid etchant that has been used in the existing NAND process. While the vendor share of hydrofluoric acid etchant at the customer has shrunk due to competitors, it is noteworthy that demand for phosphoric acid etchant is more than twice that for hydrofluoric acid etchant in the 3D NAND process. Consequently, phosphoric acid etchant sales will likely increase from W92.3bn in 2016 to W137.1bn in 2017 and W187.5bn in 2018. The sales weighting among semiconductor etchants should rise from 31.6% in 2016 to 40.2% in 2017 and 49.4% in 2018.

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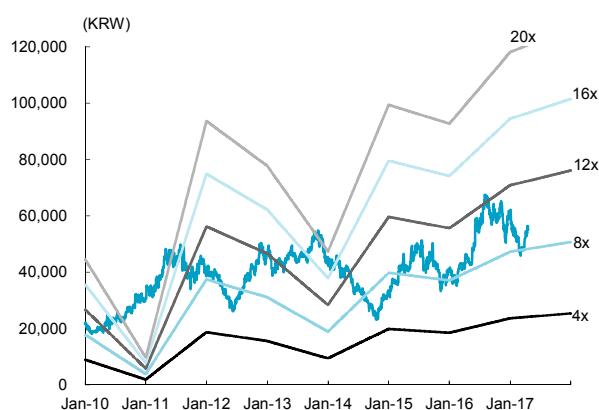
Wholly owned subsidiary Soulbrain Chongqing manufactures etchants for displays. It started operation in 3Q16 and has BOE as a main customer. In 2016, the company made an operating loss and net loss (W7.1bn) due to initial production costs. However, with the BOE-bound sales rising in earnest and utilization picking up, sales at Soulbrain Chongqing should reach W14bn in 2017 and W26.7bn in 2018, up 89.8% YoY. The company will likely reach the break-even point in 3Q17 and turn profitable afterward, contributing to consolidated profit.

**Slower thin-glass sales growth:** As flexible OLED has become popular, there will not be much new investment in small and midsize rigid OLED lines where thin-glass processing is possible. Rigid OLED lines scheduled for operation in 2017 and onward include Tianma's Shanghai AMOLED 2 5.5G lines (two lines, 15,000 each), Visionox's Kunshan 3 5.5G line (44,000), and Samsung Display's A-2E 5.5G (two lines, 32,000 each). Of those, Soulbrain will likely assume the thin-glass process at phase 1 (32,000) of the A-2E line at Samsung Display. As the market outlook is not bright, sales growth would slow if customers constantly demand price cuts.

**Better earnings at semiconductor business to drive growth in 2017:** We estimate 1Q17 sales at W184.7bn, down 1.2% QoQ, and OP at W22.7bn, up 8% QoQ. Typically in 1Q, sales volume shrinks and prices fall due to reduced utilization at display panel makers. But in 1Q17, it appears the price cut at the thin-glass business was limited.

In 2017, sales should increase 9.5% YoY. With 1) growing sales of etchant for semiconductors in line with the customer's 3D NAND plant operation and 2) the start of zirconium-based precursor supplies starting from 2Q17, we peg the semiconductor division's sales to grow 14.4% YoY in 2017. Meanwhile, the display division's sales are forecast to increase only 5.2% YoY in 2017 with no remarkable growth factors other than sales at Soulbrain Chongqing that produces etchant for displays. The 2017F OP should increase 8% YoY. With a larger weighting of phosphoric acid etchant, losses at Soulbrain Chongqing should be offset. Risk factors include a possible delay for the customer's 3D NAND plant operation and impairment losses from its equity stake in subsidiaries such as Genic.

Figure 23. 12MF PE band



Source: Quantwise, Korea Investment &amp; Securities

Figure 24. OPM to improve after 4Q16

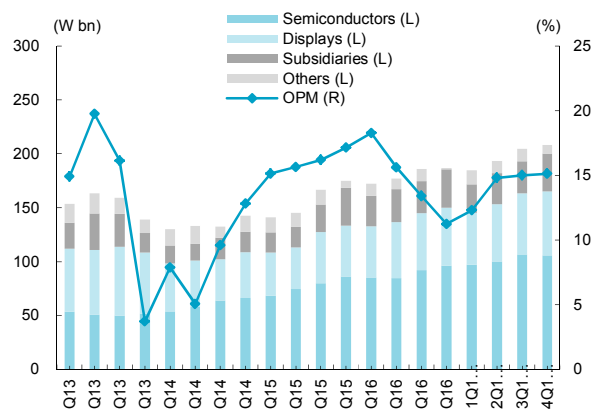
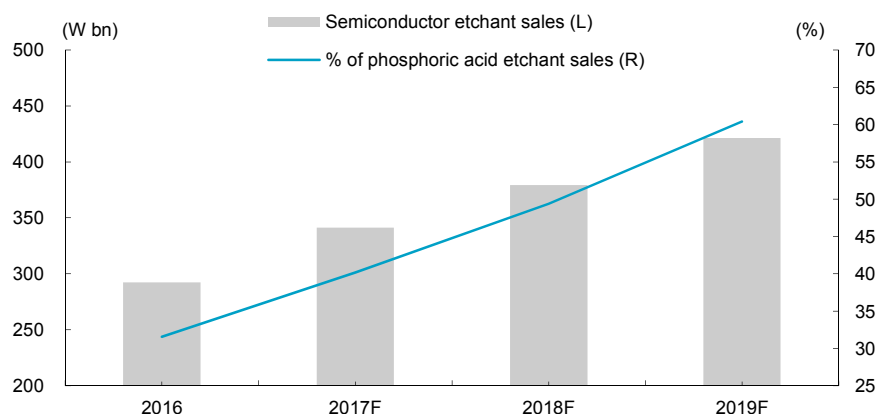
Note: Sales and OPM by division  
Source: Company data, Korea Investment & Securities

Figure 25. Phosphoric acid etchant sales weighting to rise every year



Source: Company data, Korea Investment &amp; Securities

Table 5. Semiconductor division sales should grow 14.4% YoY in 2017

(W bn, %)

	1Q16	2Q16	3Q16	4Q16	1Q17F	2Q17F	3Q17F	4Q17F	2015	2016	2017F	2018F
<b>Sales</b>	<b>172.4</b>	<b>177.0</b>	<b>186.0</b>	<b>187.0</b>	<b>184.7</b>	<b>193.2</b>	<b>204.8</b>	<b>208.1</b>	<b>627.9</b>	<b>722.4</b>	<b>790.9</b>	<b>841.8</b>
<b>Semiconductors</b>	<b>85.5</b>	<b>84.7</b>	<b>92.0</b>	<b>96.0</b>	<b>97.1</b>	<b>100.4</b>	<b>106.7</b>	<b>105.7</b>	<b>309.5</b>	<b>358.2</b>	<b>409.9</b>	<b>452.8</b>
Etchant	68.5	68.6	75.3	80.1	80.8	83.5	88.8	88.0	243.5	292.4	341.2	379.6
Precursor	6.9	7.1	6.9	7.1	7.2	7.4	7.9	7.8	25.9	28.0	30.4	33.8
Slurry	10.0	9.1	9.8	8.9	9.1	9.4	10.0	9.9	40.1	37.8	38.3	39.4
<b>Displays</b>	<b>47.4</b>	<b>52.1</b>	<b>52.8</b>	<b>53.9</b>	<b>48.2</b>	<b>52.9</b>	<b>56.6</b>	<b>59.3</b>	<b>173.0</b>	<b>206.2</b>	<b>217.0</b>	<b>228.1</b>
Etchant	11.8	10.6	10.4	11.3	11.2	12.9	15.1	17.2	46.6	44.1	56.4	67.4
Thin glass	17.1	19.9	21.8	21.4	18.9	19.0	21.4	21.6	48.7	80.2	80.8	81.3
Organic material	18.6	21.6	20.6	21.1	18.1	21.0	20.1	20.6	77.6	81.9	79.8	79.4
<b>Others</b>	<b>11.4</b>	<b>9.8</b>	<b>11.4</b>	<b>1.5</b>	<b>13.0</b>	<b>11.3</b>	<b>11.8</b>	<b>8.2</b>	<b>47.4</b>	<b>34.1</b>	<b>44.3</b>	<b>45.4</b>
<b>Consolidated subsidiaries</b>	<b>28.1</b>	<b>30.3</b>	<b>29.8</b>	<b>35.6</b>	<b>26.4</b>	<b>28.7</b>	<b>29.7</b>	<b>35.0</b>	<b>98.0</b>	<b>123.8</b>	<b>119.7</b>	<b>115.5</b>
<b>OP</b>	<b>31.5</b>	<b>27.6</b>	<b>25.0</b>	<b>21.0</b>	<b>22.7</b>	<b>28.6</b>	<b>30.7</b>	<b>31.5</b>	<b>101.1</b>	<b>105.1</b>	<b>113.5</b>	<b>123.5</b>
OPM	18.3	15.6	13.4	11.3	12.3	14.8	15.0	15.1	16.1	14.6	14.4	14.7
<b>NP</b>	<b>22.9</b>	<b>25.6</b>	<b>33.9</b>	<b>(7.6)</b>	<b>17.3</b>	<b>22.5</b>	<b>32.4</b>	<b>22.7</b>	<b>80.7</b>	<b>74.8</b>	<b>94.9</b>	<b>102.0</b>
NPM	13.3	14.4	18.2	(4.1)	9.4	11.7	15.8	10.9	12.9	10.4	12.0	12.1

Source: Company data, Korea Investment &amp; Securities

### Company overview & Glossary

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**Balance sheet**

FY-ending Dec. (W bn)	2015A	2016A	2017F	2018F	2019F
Current assets	209	292	320	340	362
Cash & cash equivalent	86	138	151	161	171
Accounts & other receivables	70	76	83	88	94
Inventory	32	42	46	49	52
Non-current assets	522	537	568	600	642
Investment assets	171	146	160	170	181
Tangible assets	321	328	339	356	383
Intangible assets	13	13	15	15	16
Total assets	732	829	888	940	1,004
Current liabilities	223	243	221	186	158
Accounts & other payables	51	79	79	84	89
ST debt & bond	147	150	130	95	60
Current portion of LT debt	3	1	1	1	0
Non-current liabilities	16	26	22	19	15
Debentures	0	0	0	0	0
LT debt & financial liabilities	11	18	13	9	5
Total liabilities	239	268	243	205	173
Controlling interest	495	558	643	733	829
Capital stock	8	8	8	8	8
Capital surplus	79	77	77	77	77
Other Reserves	(12)	(12)	(12)	(12)	(12)
Retained earnings	416	483	568	660	757
Minority interest	(2)	3	2	2	2
Shareholders' equity	493	561	645	735	831

**Cash flow**

FY-ending Dec. (W bn)	2015A	2016A	2017F	2018F	2019F
C/F from operating	120	142	122	138	155
Net profit	81	75	95	102	108
Depreciation	41	48	52	55	59
Amortization	1	1	2	2	2
Net incr. in W/C	(21)	19	(15)	(9)	(2)
Others	18	(1)	(12)	(12)	(12)
C/F from investing	(171)	(77)	(75)	(79)	(94)
CAPEX	(61)	(54)	(64)	(73)	(86)
Decr. in fixed assets	2	1	1	1	1
Incr. in investment	(103)	26	(3)	0	(1)
Net incr. in intangible assets	(1)	0	(3)	(3)	(3)
Others	(8)	(50)	(6)	(4)	(5)
C/F from financing	49	(15)	(34)	(49)	(51)
Incr. in equity	3	0	0	0	0
Incr. in debts	58	(7)	(24)	(39)	(40)
Dividends	(7)	(8)	(10)	(10)	(10)
Others	(5)	0	0	0	(1)
C/F from others	2	2	0	0	0
Increase in cash	(0)	52	13	10	10

Note: Based on K-IFRS (consolidated)

**Income statement**

FY-ending Dec. (W bn)	2015A	2016A	2017F	2018F	2019F
Sales	628	723	791	842	894
COGS	472	550	605	642	682
Gross profit	156	173	186	200	213
SG&A expense	55	68	72	76	81
Operating profit	101	105	114	124	132
Financial income	5	7	7	7	7
Interest income	3	2	2	2	2
Financial expense	6	8	8	8	8
Interest expense	4	4	4	4	4
Other non-operating profit	7	(1)	2	2	2
Gains (Losses) in associates, subsidiaries and JV	3	(4)	12	12	11
Earnings before tax	110	100	127	136	144
Income taxes	30	25	32	35	36
Net profit	81	75	95	102	108
Net profit of controlling interest	81	75	95	102	108
Other comprehensive profit	(0)	(1)	(1)	(1)	(1)
Total comprehensive profit	80	73	94	101	107
Total comprehensive profit of controlling interest	80	74	94	101	107
EBITDA	143	154	168	180	192

**Key financial data**

FY-ending Dec.	2015A	2016A	2017F	2018F	2019F
per share data (KRW)					
EPS	4,969	4,635	5,903	6,341	6,700
BPS	30,570	34,416	39,505	44,982	50,760
DPS	500	610	610	650	700
Growth (%)					
Sales growth	16.6	15.1	9.5	6.4	6.3
OP growth	110.4	4.0	8.0	8.8	6.6
NP growth	111.8	(7.4)	27.4	7.4	5.7
EPS growth	110.2	(6.7)	27.4	7.4	5.7
EBITDA growth	64.3	7.6	8.6	7.5	6.7
Profitability (%)					
OP margin	16.1	14.6	14.4	14.7	14.7
NP margin	12.9	10.3	12.0	12.2	12.1
EBITDA margin	22.8	21.4	21.2	21.4	21.5
ROA	12.3	9.5	11.1	11.2	11.1
ROE	17.6	14.2	15.9	14.9	13.8
Dividend yield	1.2	1.0	1.1	1.2	1.3
Dividend payout ratio	10.0	13.2	10.3	10.3	10.4
Stability					
Net debt (W bn)	65	9	(30)	(81)	(132)
Debt/equity ratio (%)	32.7	30.1	22.4	14.3	7.8
Valuation (X)					
PE	8.2	13.0	9.4	8.7	8.2
PB	1.3	1.8	1.4	1.2	1.1
EV/EBITDA	5.1	6.5	5.2	4.6	4.0

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BUY	Hold	Underweight (Sell)
77.4%	21.7%	0.9%

Note: % of companies under coverage with this rating

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