

# The tablet is the TV



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## Prologue

### The tablet is the TV

Over the past two years, we had paid much attention to the macroeconomy on the assumption that sluggishness in TVs and PCs was due to the macro situation, but recently, we have come to realize our assumption was wrong. We now think there has been a paradigm shift in the tech industry that we had overlooked. When cloud computing grew in popularity, we should have considered the subsequent changes to our daily lives, rather than looking at the potential impact on the server market.

The popularity of mobile devices has lengthened the replacement cycle for PCs. PC replacement demand has stagnated because technological development has targeted the mobile device market. The popularity of mobile devices has also changed how media content is being consumed. People are spending more time on tablets to consume media, rather than watching TV on the sofa. In effect, a tablet is not just a PC, but also a TV. We should have kept a comment by Steve Jobs (“a tablet is not just a PC”) in mind.

### A shift in views on tech

Now, irrespective of a macro recovery, we believe TVs and PCs will post weak growth, while smartphones and tablets post strong growth. With mobile devices—a consumer product—leading the growth of the tech industry, this is fueling the “consumerization” of mobile device parts. For DRAM, the focus is shifting from price competition to customer-based competition. As such, DRAM prices are unlikely to show the sharp volatility seen in the past.

Since mobile devices require less memory, we expect total memory demand to remain soft through 2013. However, memory supply-demand dynamics should improve thanks to slowing supply from production cutbacks and industry restructuring. Also, the LCD supply-demand situation is likely to improve on slowing supply, but the LCD industry is unlikely to recover in the long run.

### Top picks: Samsung Electronics, Samsung Electro-Mechanics

With mobile devices taking the lead in the IT market, Korean tech firms have responded the best. Among them, we like the world’s number-one smartphone maker, Samsung Electronics (SEC), and parts supplier to SEC, Samsung Electro-Mechanics (SEMCO). From 2013, the low-end to mid-range smartphone market is expected to swell, and SEC should benefit the most thanks to its diverse product line-up, economies of scale, and strengthened brand. Tablets are also emerging as a new growth driver for SEC, which is expected to strengthen synergies among divisions (handset, semicon, and display).

SEC’s robust smartphone and tablet sales will likely translate into better earnings for SEMCO. As SEMCO has bolstered its growth potential and global competitiveness via its partnership with SEC, we find SEMCO shares promising.

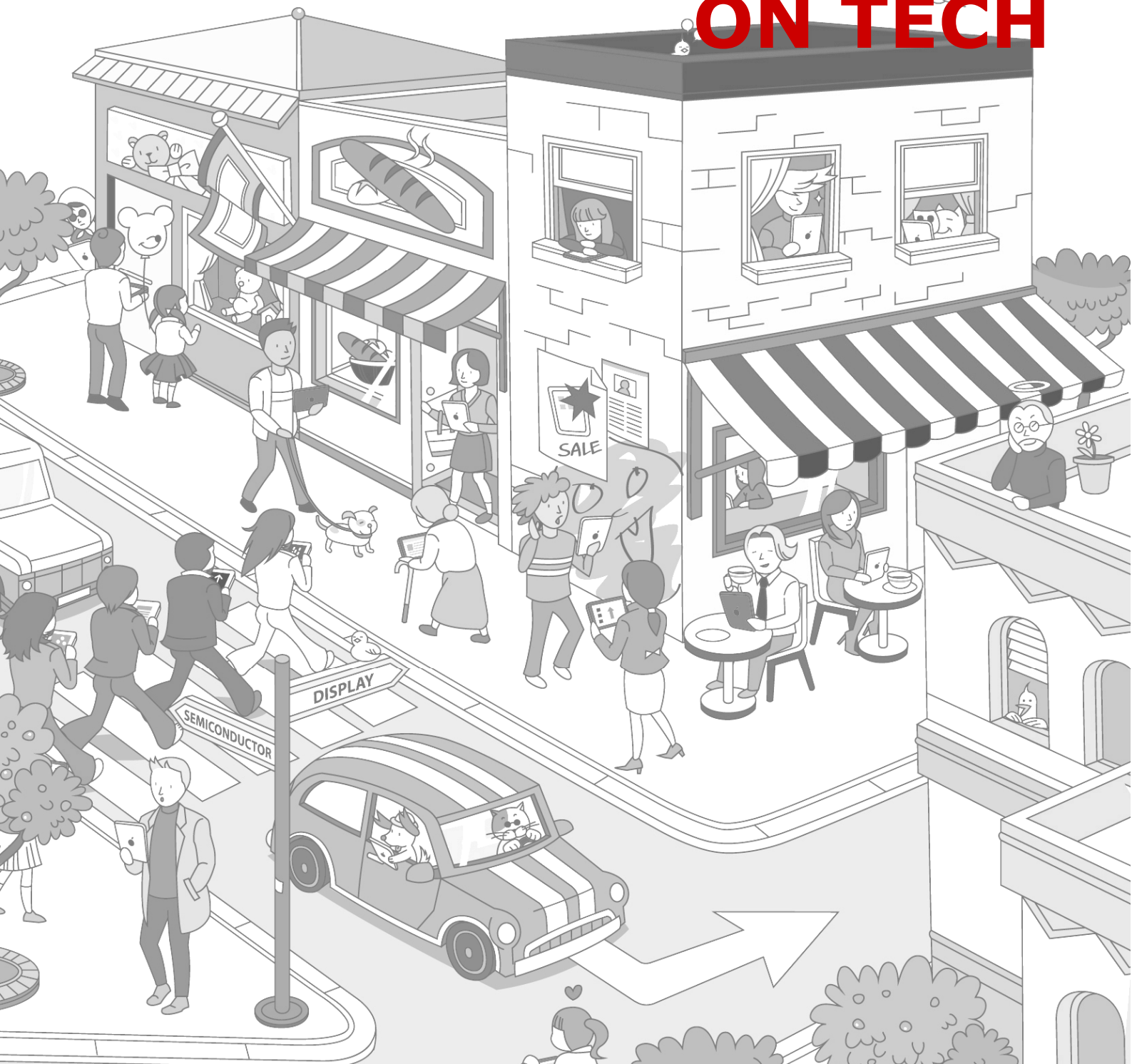
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# Assumptions

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## A SHIFT IN VIEWS ON TECH



## A shift in our views

Previously, we had attributed sluggish demand for TVs and PCs to the unstable macroeconomic situation, and accordingly, we believed that if the macroeconomy revived, TV and PC demand would pick up, too. This was based on our assumption that “a tablet is a PC.” However, we have recently come to realize that our assumption was wrong.

Given that tablets have functionalities similar to PCs and that they eroded PC market share initially, tablets could be seen as a type of PC. However, considering the way tablets are used, they may well be defined as a type of media player. We are shifting to new assumptions: that PC demand has been weak because technological development has tilted towards mobile devices, and that TV demand has been soft because of the popularity of tablets.

### 1. The tablet is the TV

Over the past two years, we attributed weak demand for TVs and PCs to the unstable macroeconomic situation. However, we now believe another underlying reason for soft TV and PC demand was a shift in industry paradigm.

Increased income levels have given birth to personalized consumption, raising the status of a consumer from a “consumer” to a “prosumer.” In addition to better incomes, the evolution of IT technology and increase in single-person households have led to individual-oriented, selective, customized consumption.

These changing consumption patterns can also be seen in the media market. A traditional TV is a device on which the viewer watches content, provided by terrestrial broadcasters, at designated times and places. But the evolution of IT technology has lifted the constraints in time and space. For example, IP-TV (Internet protocol TV) eliminated the constraint of time, while mobile TV got rid of the constraint of space.

Now, media devices that one can enjoy individually, rather than with the whole family, are growing in popularity. When a family watches TV, a large screen is more-or-less a necessity, but for someone watching TV alone, a small screen is just fine. Thanks to cloud computing and DMB technology, people can enjoy not only content stored on a server, but also real-time content from terrestrial broadcasters.

This helps explain why the TV market was sluggish over the past two years. Tablets eroded the growth of the TV market. People increasingly bought tablets, which became cheaper thanks to telcos’ subsidies, instead of buying a big, expensive TV. We assume that people will continue to buy more tablets to enjoy themselves. Consequently, irrespective of future macroeconomic recovery, we expect the TV market to inevitably post slow growth.

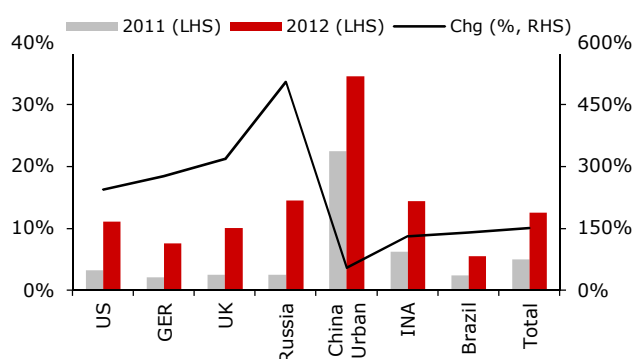
## 2. The era of the consumer

A mobile boom triggered by smartphones has reshaped the IT industry. In response to changing industry dynamics, businesses are focusing on investing not in PCs, but in servers, while individuals are focusing on buying mobile devices. Currently, the directions of CPU and OS development are in line with this trend. In the past, development of CPUs and OSs was aimed at enhancing a PC's speed and processing capacity, which could create PC replacement demand. But now, as CPUs and OSs target the mobile market, PC replacement demand is lacking catalysts for growth.

For mobile devices, platforms differ depending on the manufacturer, and the OS needs to be optimized for each model. Also, consumers' tastes are becoming more of a factor, and features such as the display and the camera are becoming more significant. These days, there are few standardized features of mobile devices that can easily be compared (by looking at numbers, for instance). This suggests that the characteristic of IT-product-as-commodity is weakening, and the view of IT-product-as-consumer-product is strengthening. Now, IT product demand is more affected by seasonality, with customization emerging as a significant competitive factor for the IT industry.

With the popularity of mobile devices, the PC market's growth will inevitably slow. However, given the PC's role as office equipment, the PC market should maintain some level of growth. Of note, we find it encouraging that slim notebooks and smart PCs have recently emerged.

**Chart 1. TV/video viewership using tablet**



Source: NPD

**Table 1. Windows 8 syst requirements, improvements**

Recommended specs	CPU 1GHz or higher DRAM 1GB (32 bit), 2GB (64 bit) Storage 16GB (32 bit), 20GB (64 bit) Graphic card MS DirectX9
Improvements	Power management Touch support App purchase through Windows Store Improved sharing through homegroup Enhanced boot speed

Source: Industry data

### 3. Resistance from LCD

Generally, when a new technology expands in a market, it faces resistance from existing technologies. Existing technologies try to defend themselves based on their edges in quality and cost over the new technology. For example, in the past, the growth of LCD monitors and LCD TVs stagnated as CRT's strengths in terms of color reproduction, viewing angle, response time, and price drew attention.

Recently, AMOLED has emerged as a next-generation display, weakening LCD's image as a high technology. AMOLED has grown rapidly, accounting for 10% of the handset market and attempting to expand into the TV market. However, amid disputes over AMOLED resolution on smartphones and TVs, LCD's higher resolution and lower manufacturing cost are drawing attention.

Currently, AMOLED has HD-level (WXGA, 1,280 x 768) resolution on a 4~5" smartphone. However, since AMOLED uses "PenTile" technology, its resolution is seen as lower than the same resolution for an RGB technology-based LCD. LCD has full-HD (WSXGA, 1,600 x 1,080) resolution on the same-size smartphone and a UD resolution (QUXGA 3,840 x 2,160) on a large-screen TV. AMOLED is unlikely to reach these resolutions in the near term, and thus, we doubt AMOLED will erode LCD's market share for the time being.

However, the direction of display technology development leans towards AMOLED. Taking into account its low power use, its reduced size in terms of width and weight, and little limitation on form-factor changes, we think it is correct to see AMOLED as a next-generation display. However, with resistance from LCD and uncertainties over an AMOLED technical roadmap, we believe that in 2013, AMOLED investment will probably stagnate and investor sentiment on AMOLED is likely to deteriorate.

### 4. Industry restructuring

The DRAM industry is undergoing restructuring, as it has entered a mature growth phase. The DRAM industry already saw a series of exits and M&As. Currently, Micron is negotiating to take over Elpida. M&As have ended up reducing idle production lines, driving down overall capacity. In 2013, DRAM demand should remain soft, but we expect the supply-demand situation to be balanced on slowing supply growth from industry restructuring.

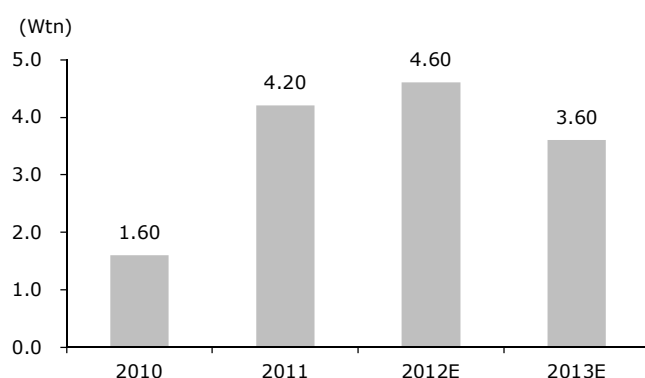
Aside from Micron's acquisition of Elpida, we may see other M&As among Taiwan's DRAM makers. Such deals deserve attention, as they would likely reduce overall capacity further.

On the LCD industry side, in 2013, top-tiers should invest in converting LCD lines into AMOLED lines, with only Chinese players expected to invest in capacity addition. Accordingly, global total LCD capacity should grow just 3% y-y. In 2013, we expect global total LCD TV shipments to inch down y-y. Thus, even with TVs getting bigger or tablets growing robustly, we believe global total shipment area will rise just 5% y-y. Taking into account the current excess capacity, supply-demand dynamics should improve somewhat in 2013, but are unlikely to continue to recover.

However, if the LCD industry does restructure, things will change. Assuming speculative demand from industry restructuring occurs, this could lead to supply shortage. The biggest swing factor for the 2013 LCD industry could be Sharp, which may exit the industry due to continued losses and deteriorating financials. If Sharp, which accounts for 6% of global LCD capacity, closes up shop, this would ease oversupply.

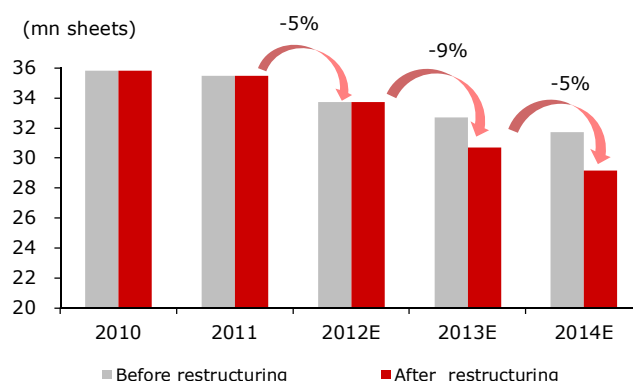
However, Sharp's withdrawal would likely have a spillover effect on HonHai. HonHai aims to bolster its smartphone business and improve the productivity of its subsidiary Innolux through a partnership with Sharp. If Sharp decides to shut down, this would disrupt HonHai's plans.

**Chart 2. SDC's AMOLED investment forecast**



Source: SEC, TONGYANG Securities

**Chart 3. DRAM wafer input forecast**



Note: Assuming Micron takes over Elpida and Inotera  
Source: TONGYANG Securities

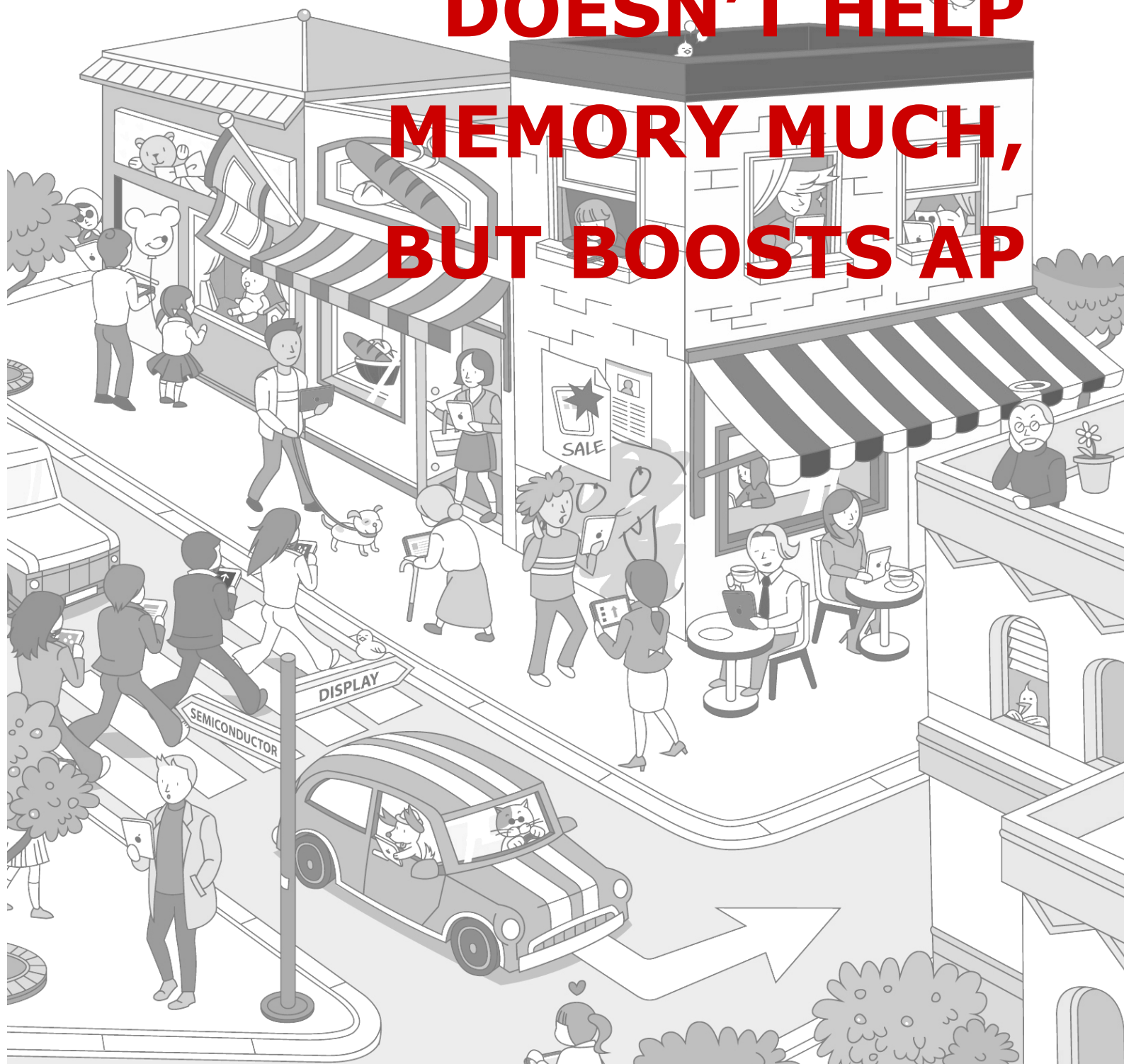
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# Semiconductor 2013

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**MOBILE DEVICE BOOM  
DOESN'T HELP  
MEMORY MUCH,  
BUT BOOSTS AP**



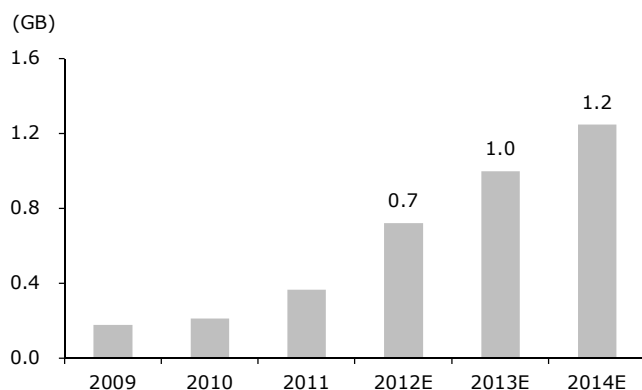
## Memory demand to stay soft

### Robust growth of mobile devices not a big boost for memory

Our view on the memory market is based on the assumption that the PC market will grow little and that the mobile device market will grow dramatically. Amid changing industry dynamics, a PC market slowdown seems inevitable, while smartphones and tablets are settling in as a new trend. However, robust growth of mobile devices is not expected to contribute much to quantitative growth for DRAM and NAND, as mobile devices use relatively small amounts of DRAM and NAND.

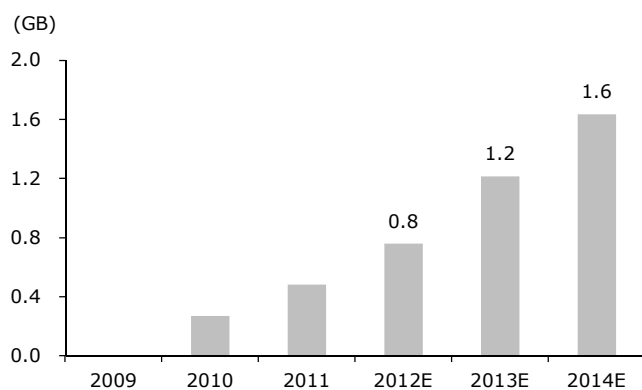
While a PC comes with 4GB or more of DRAM, a smartphone or tablet generally has only 1~2GB. Also, mobile devices' use of NAND is likely to stagnate at around 30GB or less for the coming years. Consequently, we expect overall DRAM and NAND demand to soften through 2013.

**Chart 4. Smartphone DRAM: GB/box forecast**



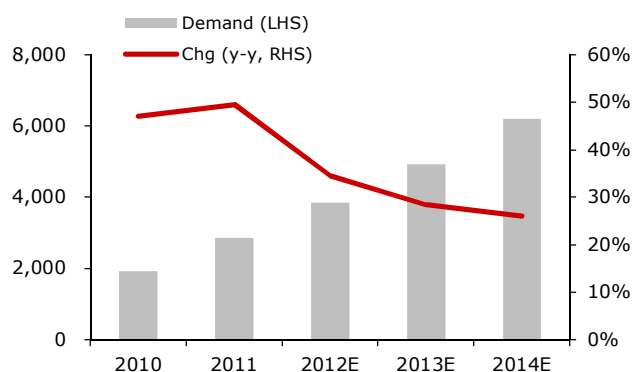
Source: IDC, TONGYANG Securities

**Chart 5. Tablet DRAM: GB/box forecast**



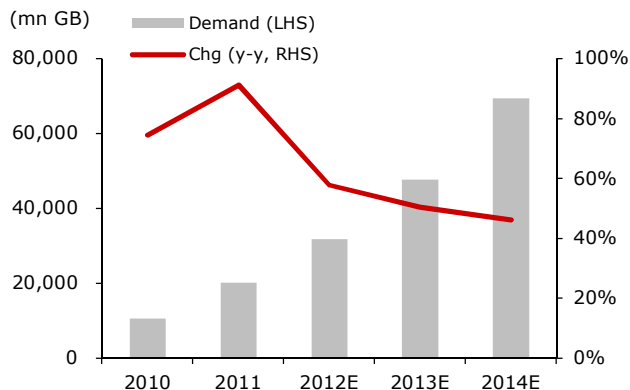
Source: IDC, TONGYANG Securities

**Chart 6. DRAM demand forecast**



Source: TONGYANG Securities

**Chart 7. NAND demand forecast**



Source: TONGYANG Securities

## PC market to slow

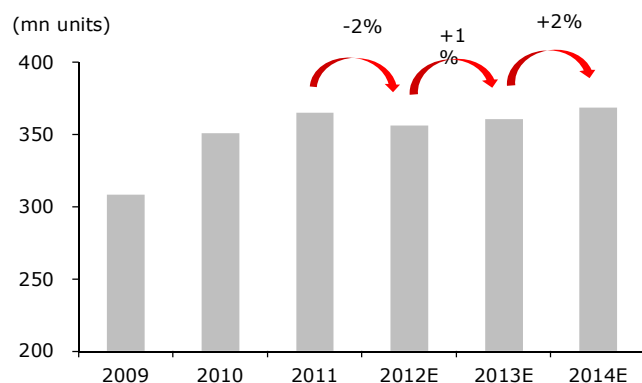
This year, we forecast that global PC shipments will decline 2% y-y. Desktop and netbook shipments continue to fall and notebook shipment growth is slowing markedly due to the sluggish macroeconomy. Also, we note that ultrabooks have failed to become popular, giving no help to the notebook segment. Moreover, we now think PC shipments are also being hurt by the direction of technological development.

Currently, the development of OSs and CPUs is being focused on mobile devices, ie, on low power use and mobility, rather than the traditional focuses of better speed and capacity. As PC use hours have decreased and technical development has failed to create PC replacement demand, the PC replacement cycle is getting longer. We believe this helps explain why PC demand has been soft for years.

We believe the PC market will continue to grow slowly. With the release of Microsoft's "Windows 8," notebooks are widely adopting touch panels, and notebooks in tablet form factors have been launched. For example, SEC launched the "ATIV" in October, which has enhanced mobility and user interface, but still offers the functionality of a notebook. Such external changes should have a positive impact on notebook replacement demand.

However, an increase in notebook replacement demand is unlikely to boost memory usage substantially. We expect DRAM use for PCs to rise just 23% y-y to 4.3GB in 2012 and 13% y-y in 2013. Amid the slowing growth of PC shipments and DRAM per PC, the PC portion of DRAM demand is shrinking sharply. We expect the PC portion of DRAM demand to plunge to 36% in 2013 from 60% in the past.

**Chart 8. PC shipment forecast**



Source: IDC, TONGYANG Securities

**Chart 9. SEC ATIV**



Source: SEC

### Mobile devices to enjoy healthy growth

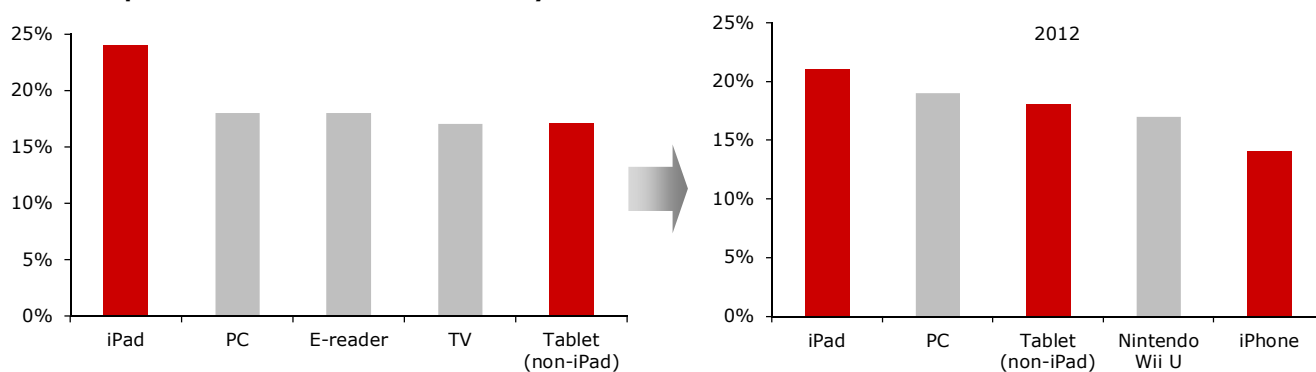
Irrespective of the future macroeconomic situation, we are optimistic about robust growth for smartphones and tablets, as: 1) consumers have an increasing appetite for mobile devices, which are settling in as a new trend; and 2) telcos' handset subsidies and installment-purchase plans have eased cost burden.

After smartphone penetration reached 30% in the new handset market in 2H11, smartphone shipments started to swell. We assume the smartphone market will grow dramatically over 2012~2015, when penetration should reach 30~70%. This year, despite an unstable macroeconomy, we expect global smartphone shipments to surge 47% y-y to 727mn units. In 2013, global total handset shipments should expand just 3% y-y, but global total smartphone shipments should spike 28% y-y.

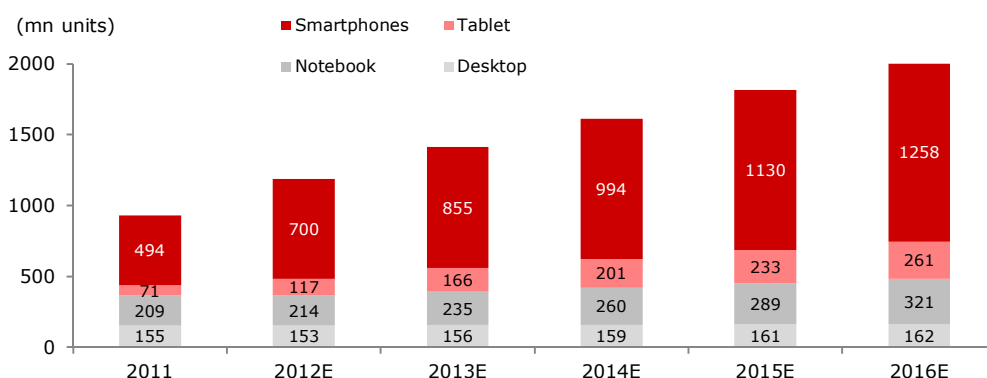
Amid the booming smartphone market, the tablet market is also growing. Tablets are one of the top items on consumers' wish lists. Demand is rising for tablets featuring web browsing, multimedia functionality, and compact design. With media content consumption surging, the tablet market should deliver strong growth. We expect global tablet shipments to jump 49% y-y in 2013 and 32% y-y in 2014.

In 2012, we expect global tablet shipments to soar 68% y-y to 121mn units, with 50% coming from Apple. However, we believe latecomers will make substantial progress. In particular, we think SEC will erode Apple's market share on product competitiveness and strong brand image, and Chinese players should grow fast on competitive prices.

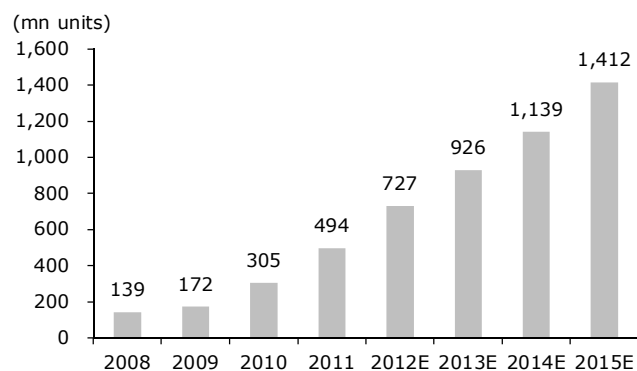
**Chart 10. Top-five items consumers want to buy within six months**



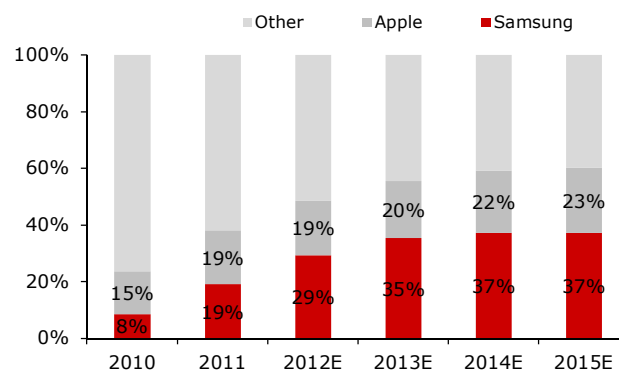
Source: Nielsen

**Chart 11. Global smart connected device forecast**

Source: IDC

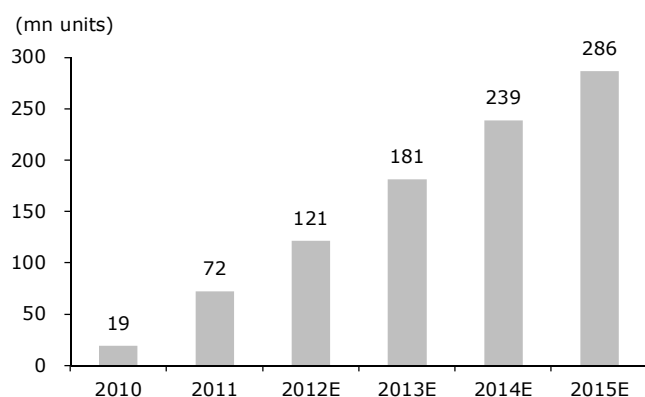
**Chart 12. Smartphone shipment forecast**

Source: IDC, TONGYANG Securities

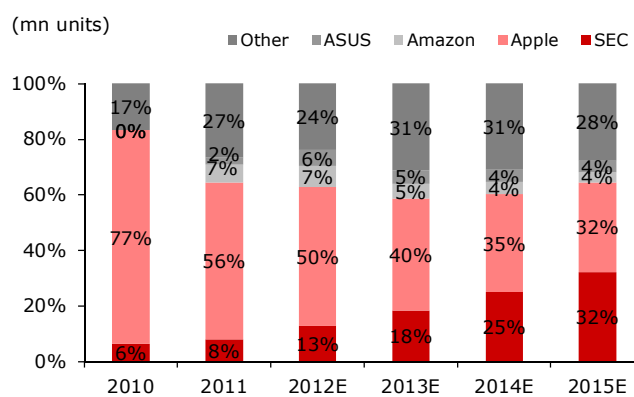
**Chart 13. Smartphone market share, by major player**

Note: Based on shipments

Source: IDC, TONGYANG Securities

**Chart 14. Tablet shipment forecast**

Source: IDC, TONGYANG Securities

**Chart 15. Tablet shipment portion, by major player**

Source: IDC, TONGYANG Securities

## DRAM consumerization under way

The mobile device portion of DRAM demand is rising sharply. Specifically, we expect the smartphone and tablet portion of DRAM demand to increase from 16% in 2012 to 23% in 2013. On the other hand, we expect the PC portion to slip 4%p from 40% in 2012 to 36% in 2013, given the robust growth of mobile devices and slowing growth of PCs. The mobile device DRAM portion will likely exceed PCs' from 2015, and as the mobile portion rises, we expect the DRAM industry to undergo two changes.

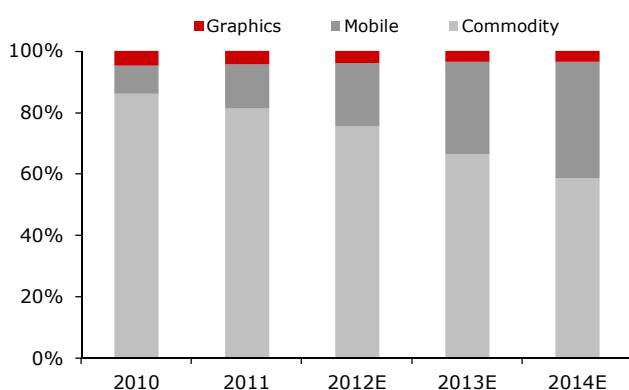
### 1. Consumerization of DRAM

With the portion of mobile DRAM for use on consumer products rising, the DRAM business is becoming more like a consumer product business, rather than a commodity producing business. The quality of mobile DRAM differs substantially by brand, and mobile DRAM needs to be customized for each customer. That is, for mobile DRAM, since cooperation between the mobile DRAM maker and client is significant, mobile DRAM makers will probably compete based on factors besides price. As a result, we expect overall DRAM price volatility to ease, with the gap between money-making and money-losing DRAM makers expected to intensify.

### 2. DRAM demand growth to slow

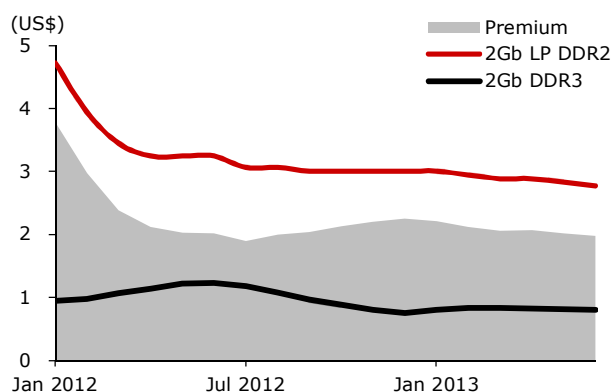
A mobile device uses less DRAM than a PC. We estimate PC DRAM use for 2013 at 4.9GB vs smartphone at 1.0GB and tablet at 1.2GB. This is why we don't expect robust growth of smartphones and tablets to contribute much to demand growth for DRAM. Amid the stagnant growth of the PC market, coupled with a rising portion of low-end to mid-range mobile devices, DRAM demand growth should lose steam, rising just 34% y-y in 2012 and 28% y-y in 2013.

Chart 16. Specialty DRAM portion forecast



Source: IDC, TONGYANG Securities

Chart 17. Mobile DRAM price premium



Source: Inspectrum, TONGYANG Securities



### Quantitative growth of NAND likely to slow

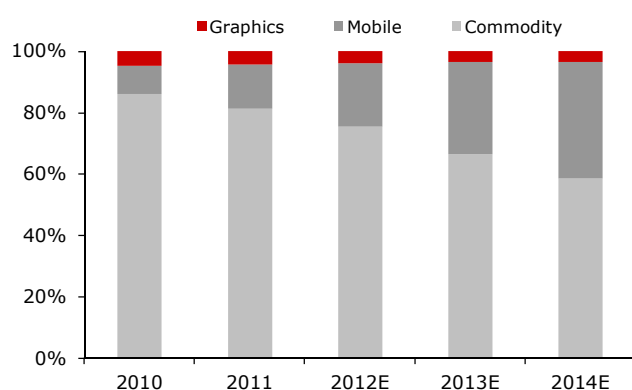
NAND demand comes largely from: 1) smartphones and tablets; 2) memory cards/USBs; and 3) SSDs (solid-state drive). We expect memory card/USB to continue to make up the biggest portion of total NAND demand until 2012 (we estimate 33%). However, the portion of memory card/USB, which are low-end products, is on a steady decline. Meanwhile, SSDs use large amounts of NAND, and thus, contribute substantially to NAND demand growth, but the SSD market's growth is being held back by high prices. Although SEC and Toshiba are seeking to expand TLC-based SSD, uncertainties remain over the SSD market's growth.

Consequently, a key swing factor for NAND demand is mobile devices. Over the past few years, mobile devices have emerged as a major source of NAND demand. Since mobile device sales are affected by seasonality and new product launches, NAND demand has shown similar trends as mobile devices. SEC and Apple are taking the lead in the smartphone market, with SEC launching flagship products in both 1H and 2H, and Apple launching new products in 2H. Thus, generally, NAND demand is likely to be higher in 2H of a given year, and 2Q is likely to be better than the 1Q.

In the past, when commodity products like memory cards/USBs accounted for a significant portion of NAND demand, NAND price volatility hinged largely on supply-demand dynamics. For chipmakers, the best strategy was to cut costs through technology migration, as they competed based on standardized NAND products. But now, with mobile devices becoming so popular, NAND products are being customized to clients' need, and NAND sales are starting to show trends like the consumer products they go in. In other words, the correlation of NAND prices and supply-demand dynamics has decreased. The prices of NAND products needing customization have diverged from the prices of other NAND products.

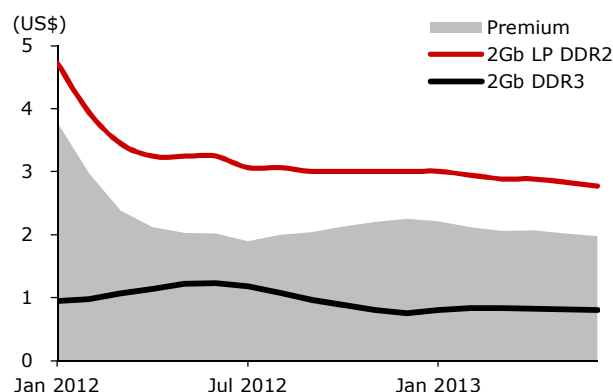
With mobile devices expected to lead NAND demand, NAND price volatility should ease, but quantitative growth in NAND is likely to decelerate. Smartphones and tablets use relatively small amounts of NAND. Moreover, amid a rising portion of low-end to mid-range smartphones and tablets, NAND per box is expected to post a CAGR of 10% or less over the next few years. We forecast that NAND demand growth will slow to 58% y-y in 2012 and 50% y-y in 2013.

**Chart 18. DRAM demand portion, by device**



Source: IDC, TONGYANG Securities

**Chart 19. NAND demand portion, by device**



Source: IDC, TONGYANG Securities

### DRAM, NAND supply growth slows on restructuring, production cuts

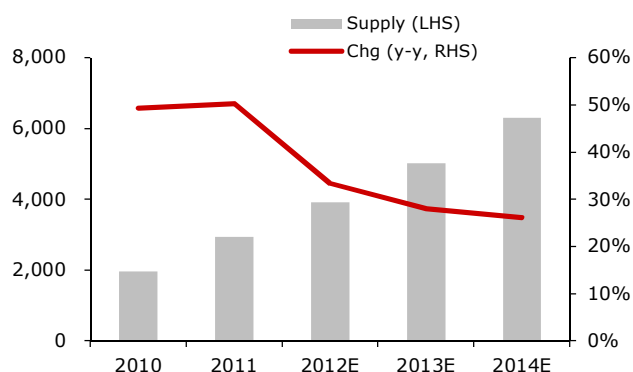
In 2013, we expect demand for both DRAM and NAND to remain soft. However, supply-demand dynamics should improve y-y on slowing supply growth. For DRAM, production cutbacks and industry restructuring are underway. Also, in 2012, top-tiers trimmed NAND production by about 30%.

Elpida and Rexchip announced they would cut DRAM production by 30% in August, but they had actually trimmed DRAM production earlier. Now, their wafer input has dropped 30% vs earlier this year on production cuts from the industry downturn, coupled with reduced production from technical migration. In October, Nanya and Inotera also said they would cut DRAM production by 20%. SEC and SK Hynix have also trimmed production due to technical migration.

Meanwhile, Micron is still in talks with Elpida to take it over. Generally, M&As lead to the shuttering of low-efficiency facilities, driving down supply. Micron's acquisition of Elpida is likely to come at year-end at the earliest or 1H13 at the latest. In addition, we may see other M&As among DRAM makers in Taiwan. If this happens, DRAM supply will decline further.

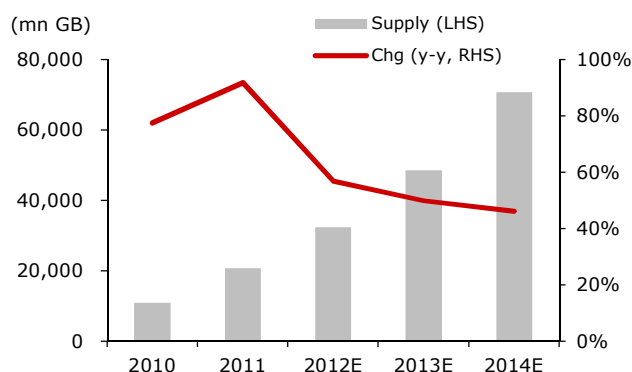
In July, Toshiba announced its plan to cut NAND production by 30%. SEC is also converting Fab14 and Austin2 from NAND to sys-LSI. In 4Q12, SEC's NAND capacity stands at about 70% of the level seen early this year. SK Hynix and Micron's NAND capacity has risen modestly, but not enough to reverse the overall trend. We estimate global DRAM supply growth at 33% y-y for 2012 and 28% y-y for 2013, and global NAND supply growth at 57% and 50% y-y, respectively.

Chart 20. DRAM supply forecast



Source: IDC, TONGYANG Securities

Chart 21. NAND supply forecast



Source: IDC, TONGYANG Securities

## **2013 memory prices to decline modestly**

In 2013, we expect DRAM and NAND prices to decline modestly, as they are unlikely to rise on sluggish demand, and unlikely to fall sharply given shrinking supply. The prices of DRAM, especially PC DRAM, could uptrend if the industry undergoes dramatic restructuring.

### **1. PC DRAM price to rebound after falling to cash cost level in early 2013**

Currently, chipmakers are cutting back on PC DRAM output, but PC DRAM prices continue to fade due to chipmakers' excessive inventories. Some expected PC DRAM module makers to build up DRAM inventories, but we doubt it. For example, Kingston, a leading PC DRAM module maker, already has a heavy DRAM inventory burden and lacks the funds to buy more DRAM due to deteriorating financials.

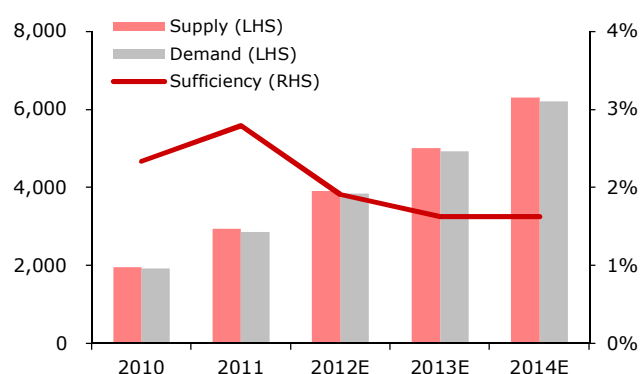
We expect PC DRAM prices to continue to decline until December, and then bounce back modestly in early 2013, after hitting a low of about US\$0.75 (cash cost for 3Xnm 2Gb DDR3).

### **2. Mobile DRAM price to fall slightly from 1Q13**

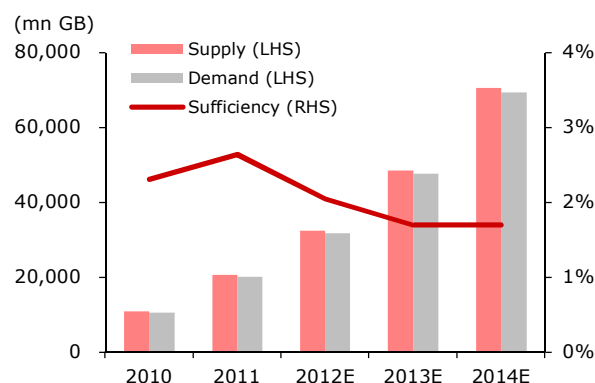
Mobile DRAM prices remain stable, as growing demand is offsetting rising supply from product mix adjustment by chipmakers. After stabilizing from Sep 2012, mobile DRAM prices should stay stable until Jan 2013, when extra demand is expected from the Chinese Lunar New Year holidays. Following the holidays, demand will likely lose steam, and accordingly, mobile DRAM price should fall modestly.

### **3. NAND price to decline modestly from Nov 2012**

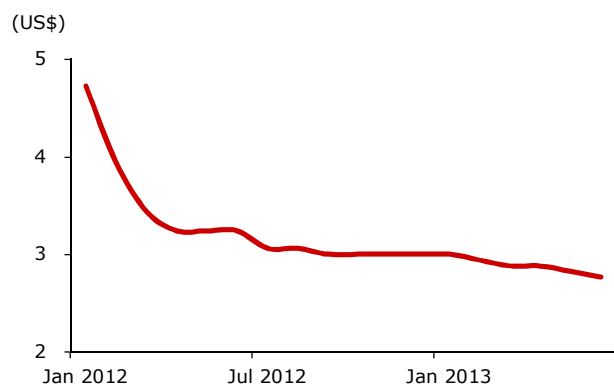
In Nov 2012, NAND contract prices turned downward, which we attribute to increased shipments by SK Hynix and SanDisk. SK Hynix started expanding shipments in 4Q12 on capacity expansion and improved yields for 2Ynm. Also, as SanDisk started doing business with Apple, Toshiba's NAND shipments to SanDisk are on the rise. However, given that SEC and Toshiba's NAND capacities have decreased substantially, overall NAND supply growth is unlikely to be strong enough to cause NAND price to nosedive. Consequently, we forecast that NAND prices will decline only modestly.

**Chart 22. DRAM supply-demand forecast**

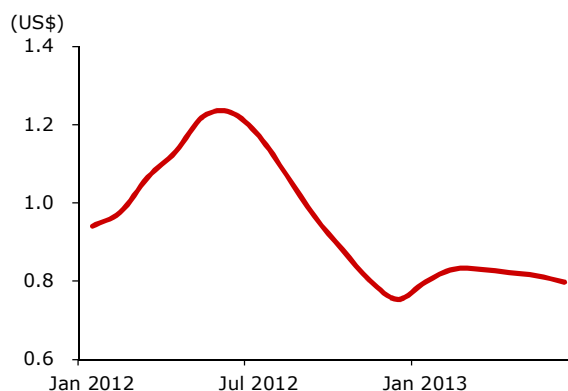
Source: IDC, TONGYANG Securities

**Chart 23. NAND supply-demand forecast**

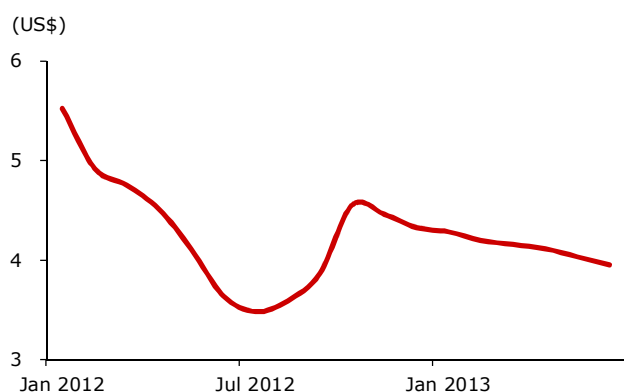
Source: IDC, TONGYANG Securities

**Chart 24. 2Gb LP DDR2 supply-demand forecast**

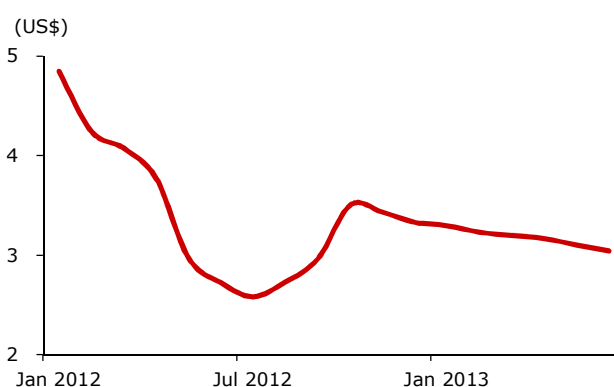
Source: Inspectrum, TONGYANG Securities

**Chart 25. 2Gb DDR3 supply-demand forecast**

Source: Inspectrum, TONGYANG Securities

**Chart 26. 64Gb NAND MLC supply-demand forecast**

Source: Inspectrum, TONGYANG Securities

**Chart 27. 64Gb NAND TLC supply-demand forecast**

Source: Inspectrum, TONGYANG Securities

Table 2. DRAM supply-demand forecast

	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13	2011	2012E	2013E
Supply (mn GB)											
SEC	324	339	365	375	423	461	493	518	1,112	1,403	1,895
Hynix	215	236	236	260	284	316	350	362	665	947	1,313
Micron	100	118	126	133	137	141	151	170	312	478	598
Elpida	148	164	175	178	177	183	198	216	533	665	773
Nanya	46	55	77	82	75	81	85	100	149	259	342
Other	43	30	40	39	22	17	18	19	160	153	76
Total	876	943	1,018	1,068	1,118	1,198	1,295	1,385	2,930	3,905	4,997
Chg (% q-q)	5	8	8	5	5	7	8	7	50	33	28
Demand (mn GB)											
Server	131	130	140	154	152	186	213	234	440	555	784
PC	383	363	384	413	400	407	446	507	1,290	1,543	1,760
Media tablet	17	21	25	31	40	48	59	72	32	93	219
Smartphone	83	112	145	183	196	219	243	264	177	523	922
Other	256	310	295	258	315	325	311	280	912	1,119	1,232
Total	870	936	988	1,039	1,103	1,185	1,272	1,357	2,851	3,832	4,917
Chg (% q-q)	7	8	6	5	6	7	7	7	49	34	28
Excess supply (%)	0.8	0.8	3.0	2.8	1.4	1.1	1.8	2.1	2.8	1.9	1.6
<b>Demand, by product</b>											
Server											
Shipment (mn units)	3.3	3.4	3.4	3.5	3.5	3.6	3.7	3.7	12.8	13.6	14.5
Chg (% q-q)	1	2	2	2	2	2	2	2	9	6	7
GB/box	39.4	38.5	40.8	44.3	42.8	51.6	58.1	62.9	34.4	40.8	54.0
Chg (% q-q)	3	-2	6	9	-3	21	13	8	89	19	32
PC											
Shipment (mn units)	89.2	85.3	88.3	93.5	88.6	85.4	90.3	96.1	365.1	356.4	360.5
Chg (% q-q)	-6	-4	3	6	-5	-4	6	6	4	-2	1
GB/box	4.3	4.3	4.4	4.4	4.5	4.8	5.0	5.3	3.5	4.3	4.9
Chg (% q-q)	11	-1	2	1	3	5	4	7	23	23	13
Media tablet											
Shipment (mn units)	26.7	29.2	31.6	35.0	39.4	42.8	47.2	51.6	67.3	122.5	180.8
Chg (% q-q)	24	9	8	11	12	9	10	9	267	82	48
GB/box	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.4	0.5	0.8	1.2
Chg (% q-q)	10	12	10	12	15	13	11	10	81	57	59
Smartphone											
Shipment (mn units)	157.3	172.6	189.5	207.9	207.6	225.3	238.7	254.0	488.3	727.3	925.6
Chg (% q-q)	9	10	10	10	0	9	6	6	59	49	27
GB/box	0.5	0.6	0.8	0.9	0.9	1.0	1.0	1.0	0.4	0.7	1.0
Chg (% q-q)	27	22	18	15	7	3	5	2	74	99	39

Source: IDC, TONGYANG Securities

Table 3. NAND supply-demand forecast

	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13	2011	2012E	2013E
<b>Supply (mn GB)</b>											
SEC	2,023	2,290	2,601	3,081	3,656	3,908	4,414	4,638	6,735	9,994	16,616
Toshiba	2,823	3,172	3,631	4,013	4,344	4,763	5,037	5,705	8,420	13,639	19,850
Hynix	692	753	793	959	1,110	1,149	1,348	1,542	2,080	3,198	5,149
IMFT	1,109	1,375	1,423	1,506	1,515	1,605	1,715	1,859	3,319	5,412	6,695
Other	12	11	12	12	11	11	11	11	47	47	44
Total	6,659	7,600	8,460	9,571	10,636	11,437	12,525	13,756	20,601	32,290	48,355
Chg (% q-q)	6	14	11	13	11	8	10	10	92	57	50
<b>Demand (mn GB)</b>											
Smartphone	1,213	1,447	1,830	2,085	2,040	2,271	2,419	2,574	4,172	6,574	9,304
Tablet	544	592	789	980	987	1,106	1,254	1,385	1,718	2,905	4,731
Card	1,788	1,866	1,825	1,898	2,342	2,373	2,523	2,639	5,679	7,377	9,877
USB	752	796	812	861	982	1,047	1,098	1,165	2,280	3,222	4,293
SSD	956	1,340	1,713	2,149	2,210	2,302	3,080	3,467	2,656	6,158	11,059
Other	1,247	1,291	1,433	1,436	1,886	2,087	2,029	2,285	3,569	5,408	8,287
Total	6,500	7,332	8,403	9,409	10,446	11,188	12,403	13,515	20,072	31,644	47,551
Chg (% q-q)	7	13	15	12	11	7	11	9	91	58	50
<b>Excess supply (%)</b>	2.5	3.7	0.7	1.7	1.8	2.2	1.0	1.8	2.6	2.0	1.7
<b>Demand by product</b>											
Smartphone											
Shipment (mn units)	157	173	189	208	208	225	239	254	488	727	926
Chg (% q-q)	9	10	10	10	0	9	6	6	59	49	27
GB/box	7.7	8.4	9.7	10.0	9.8	10.1	10.1	10.1	8.5	9.0	10.1
Chg (% q-q)	-14	9	15	4	-2	3	0	0	46	6	11
Tablet											
Shipment (mn units)	27	29	32	35	39	43	47	52	67	122	181
Chg (% q-q)	24	9	8	11	12	9	10	9	267	82	48
GB/box	20.3	20.3	25.0	28.0	25.1	25.9	26.6	26.9	25.5	23.7	26.2
Chg (% q-q)	-18	0	23	12	-10	3	3	1	-9	-7	10
Card											
Shipment (mn units)	234	222	272	257	221	209	256	242	1,038	985	927
Chg (% q-q)	-14	-5	23	-5	-14	-5	23	-5	4	-5	-6
GB/box	7.6	8.4	6.7	7.4	10.6	11.4	9.9	10.9	5.5	7.5	10.7
Chg (% q-q)	39	10	-20	10	44	7	-13	11	43	37	42
USB											
Shipment (mn units)	69	71	87	88	70	73	87	89	306	315	320
Chg (% q-q)	-20	3	23	2	-20	3	20	2	7	3	2
GB/box	11.0	11.2	9.4	9.7	13.9	14.4	12.6	13.1	7.5	10.2	13.4
Chg (% q-q)	52	3	-17	4	43	3	-13	4	36	37	31
SSD											
Shipment (mn units)	9	10	12	15	15	17	19	22	27	46	73
Chg (% q-q)	-7	19	19	19	3	13	14	12	150	72	60
GB/box	110.0	129.5	139.1	146.7	146.5	135.2	158.1	158.9	99.5	133.9	150.7
Chg (% q-q)	-2	18	7	5	0	-8	17	0	37	35	13

Source: IDC, TONGYANG Securities



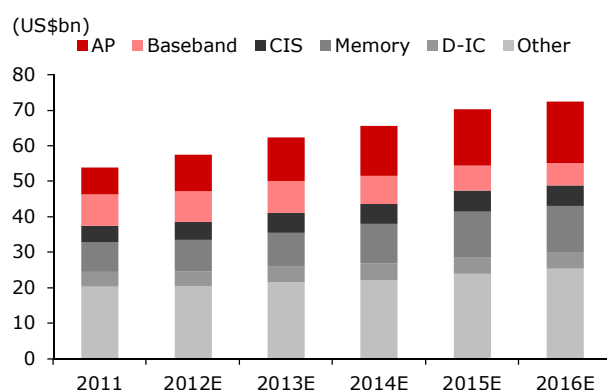
## AP the most promising mobile semicon

### AP to post highest growth among mobile semicon products

The burgeoning smartphone and tablet markets should give a boost to mobile semicon makers. While memory demand growth slows, mobile semicon demand should continue to grow. We expect mobile semicon sales to rise from US\$53.7bn in 2011 to US\$70.2bn in 2015, posting a CAGR of 7%.

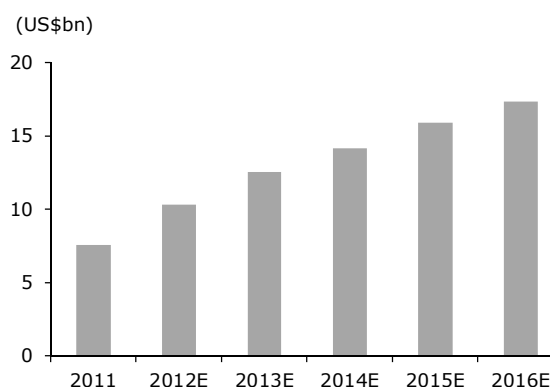
Among mobile semicon products, APs (application processor) are drawing the most attention. Since they are a key part determining the performance of mobile devices, APs are expected to post the highest growth among mobile semicon products. We believe APs also have strong growth potential, as they are likely to improve the degree of integration and speed, and be integrated with a baseband into a single chip. Over 2011~2015, we expect AP sales to post a CAGR of 21%.

**Chart 28. Mobile semicon market forecast**



Source: IDC, TONGYANG Securities

**Chart 29. AP market forecast**



Source: IDC, TONGYANG Securities

### 2013 issue 1. Two players dominate AP market

Amid the growing smartphone market, AP makers are diverging in terms of performance. Qualcomm, which ranks first worldwide in smartphone AP market share, is showing dramatic growth based on its "MSM" series, which combines an AP with an LTE chip, an integration that reduces the size and power consumption of application models. Initially, Qualcomm's MSM8960 saw production setbacks due to yield problems at TSMC, but since then, it has continued to enjoy market share gains, especially for low-end to mid-range application models.

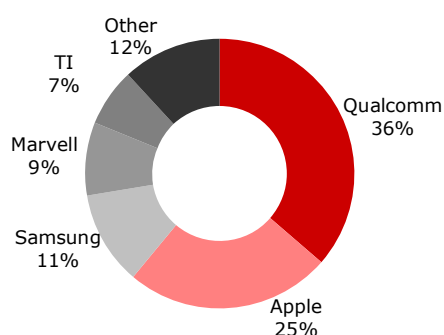
SEC has developed its "Exynos" series based on its advanced process technology, using it for its premium smartphones. Thus far, SEC has jointly designed Apple's AP, "A series" and acted as a foundry, but now that Apple has its own design technology for the A6 and others, it is likely to transfer some of the foundry orders to TSMC. We expect Apple to do so from 2013, but it is unlikely to exclude SEC completely.

In contrast to SEC and Qualcomm, TI and Nvidia are suffering market share erosion and are struggling with the development cost burden. Recently, TI said it would suspend investing in mobile processors. We expect single chips combining an AP and an LTE chip to grow in popularity, suggesting polarization of the market will intensify.

### 2013 issue 2. China AP makers catch up in China's low-end tablets

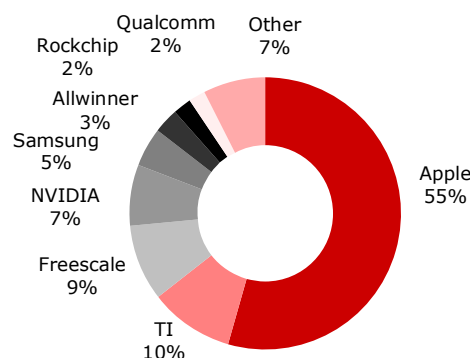
As the low-end tablet market grows in China, we expect Chinese AP makers to benefit. In China's low-end tablet market, where 7" tablets sells the most, Chinese AP makers are growing on price competitiveness. All Winner Technology's tablet AP market share in China came to 3.7% in 2Q12, vs SEC at 4.3%, and Rochchip's tablet AP market share was 1.6%, higher than Qualcomm's 1.4%. With China's low-end tablet market growing dramatically, Chinese AP makers are likely to make strong strides.

**Chart 30. Smartphone AP shipment portion**








Note: As of 1H12  
Source: SA, TONGYANG Securities

**Chart 31. Tablet AP shipment portion**



Note: As of 1H12  
Source: IDC, TONGYANG Securities

Table 4. APs, by major manufacturer

Company		Key product	Key application model	CPU	GPU	Core	Speed	Process
Apple		A5	iPhone 4S, iPad2	ARM Cortex A9	SGX 543MP2	Dual core	1.0GHz	45nm
		A6	iPhone 5	ARM Cortex A15	SGX 543MP3	Dual core	1.0GHz	32nm
		A6X	iPad 4	ARM Cortex A15	SGX 554MP4	Dual core	1.0GHz	28nm
Samsung		Exynos 4210	Galaxy S2	ARM Cortex A9	Mali-400 MP4	Dual core	1.2GHz	45nm
		Exynos 4412	Galaxy S3	ARM Cortex A9	Mali-T604	Quad core	1.8GHz	32nm
		Exynos 5250	-	ARM Cortex A15	Mali-T604	Dual core	2.0GHz	32nm
Qualcomm		MSM 8260	Vega Racer, Sensation	Scorpion	Adreno 220	Dual core	1.2Ghz	45nm
		MSM 8660	Galaxy Note	Scorpion	Adreno 220	Dual core	1.5Ghz	45nm
		MSM 8960	Galaxy R, Optimus LTE 2	Krait	Adreno 225	Dual core	1.5Ghz	28nm
		APQ 8064		Krait	Adreno 320	Dual core	2.5Ghz	28nm
Nvidia		Tegra 2		ARM Cortex A9	GeForce	Dual core	1.0GHz	40m
		Tegra 3	Optimus View	ARM Cortex A9	GeForce++	Quad core	1.3GHz	40nm
TI		OMAP 4430	Optimus 3D, Prada 3.0	ARM Cortex A9	SGX 540	Dual core	1.2GHz	45nm
		OMAP 4460	Galaxy Nexus	ARM Cortex A9	SGX 540	Dual core	1.5Ghz	45nm
		OMAP 4470		ARM Cortex A9	SGX 544	Dual core	1.8Ghz	45nm

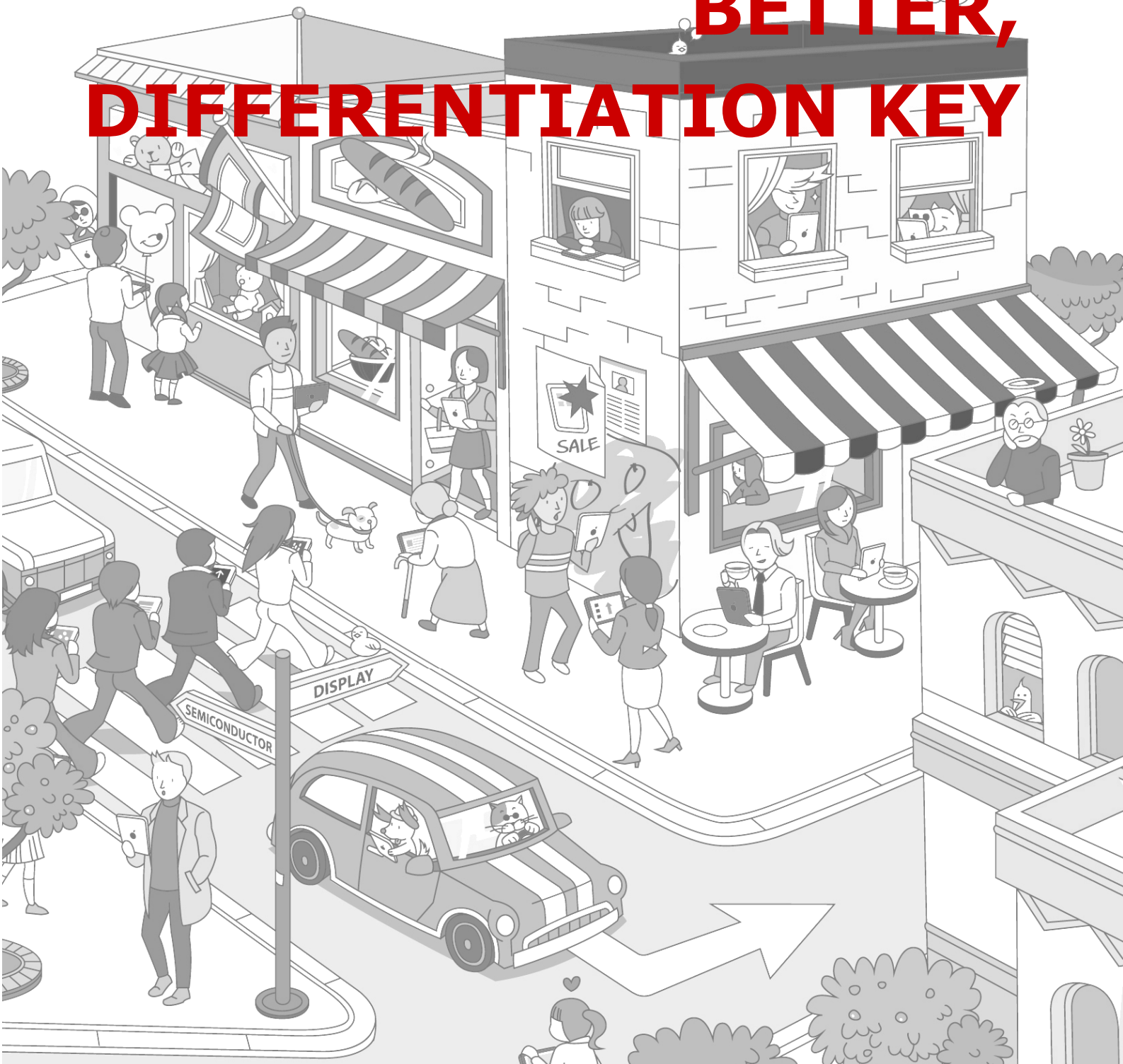
Source: TONGYANG Securities

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# Display 2013

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## FUNDAMENTALS BETTER, DIFFERENTIATION KEY



## LCD fundamentals better, differentiation the key

### The tablet is the TV

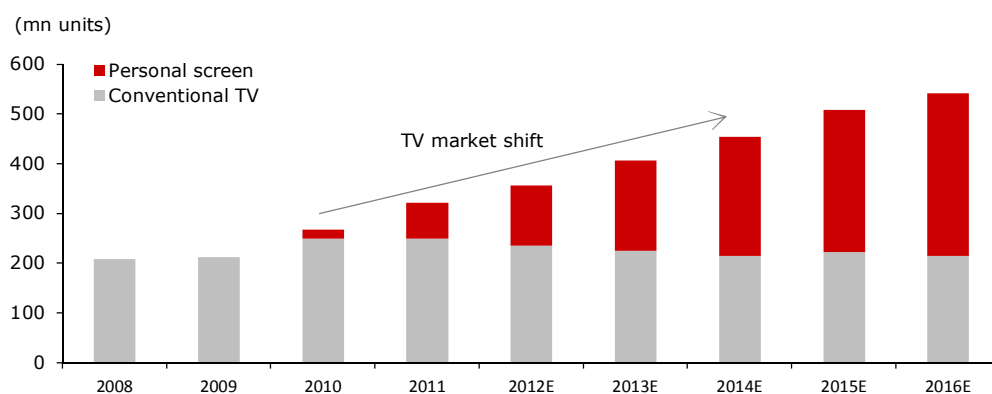
We had been expecting that there would come a time when TV demand would surge greatly, as we thought individuals would want to have their own, personal TV, and that they would satisfy this demand eventually. We imagined a large TV in the living room, and smaller “personal screens” in other rooms. We envision these “personal screens” doing double-duty as computer screens and TVs.

But then, without realizing it, this time has already come. The personal screen that we had imagined being in individual rooms has instead come to life in each consumer’s hands: as a tablet!

As society becomes more modern, individual tastes are playing a larger role in consumption behavior. In particular, the development of IT has completely changed the way consumers approach media content. Nowadays, consumers are not constrained by place or time in watching network TV; they enjoy it anytime, anywhere, because they can download it and watch it on their tablets.

As such, we think of iOS- and Android-run tablets as TVs, and think they qualify as the “personal screens” we talked about. Looking at things from this point of view, including tablets under TV sales, TV demand has indeed been surging since 2010 (see chart). We expect consumers’ appetite for media content in a modern society to only get bigger. At the same time, demand for a “personal screen” and “mobility” should also strengthen. This is why we are so convinced that tablets will enjoy robust growth going forward.

**Chart 32. Personal screens**



Source: TONGYANG Securities

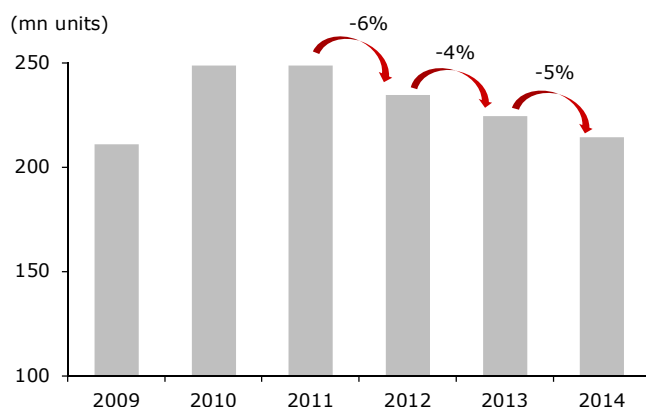


## Meanwhile, demand for TVs likely to decline

As more and more people enjoy TV on a mobile platform, TV viewing hours in the conventional sense are decreasing. People are not buying new TVs as often as they used to, and TV demand has weakened accordingly. We expect TV sales to remain weak even after macro conditions improve.

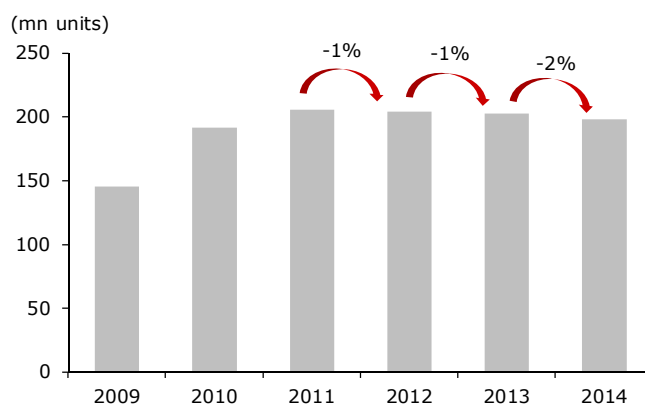
LCD TV shipments have been declining slightly since 2012 and we expect this trend to continue. However, demand for big-screen and premium TVs should only get bigger. The portion of TVs with 40"-plus screens is expected to increase from 30% in 2010 to 45% in 2013. As such, we expect size-based LCD demand (as opposed to volume-based demand) to continue to grow.

**Chart 33. TV shipment outlook**



Source: DisplaySearch, TONGYANG Securities

**Chart 34. LCD TV shipment outlook**



Source: DisplaySearch, TONGYANG Securities

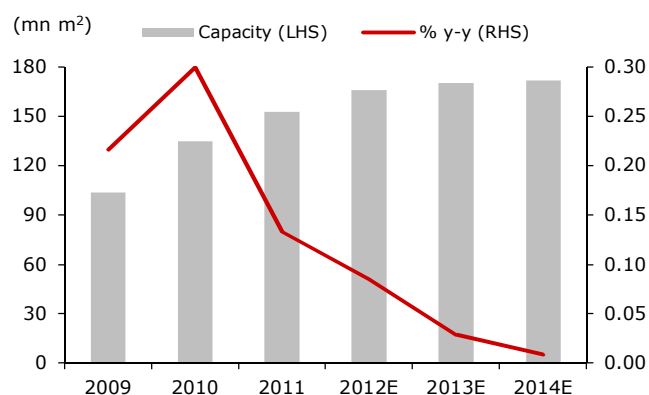
### LCD supply-demand to improve, but structural recovery unlikely

LCD panel demand should be driven mostly by tablets in 2013. We expect shipment of large panels (9"-plus) to grow 8% y-y to 815mn units, with 9~10" tablet panel shipment surging 47% y-y to 182mn units. Given declining sales of LCD TVs, we expect TV panel sales volume to remain flat y-y. However, size-based panel demand should grow 5% y-y in 2013 on brisk demand for large-screen TVs.

LCD panel demand is expected to stall in 2013, but capacity growth should also be limited. Only Chinese panel makers are increasing their LCD capex and the leading names are busy moving onto AMOLED, LTPS (low-temperature polycrystalline silicon), or oxide panels. LG Display, for example, plans to turn part of its eighth-generation lines into white OLED lines and some of its sixth-generation lines into LTPS lines. As for Sharp, more than 50% of its eighth-generation lines have been disabled, to be turned into oxide panel lines. As such, we expect size-based LCD capacity to rise only 3% y-y in 2013 (+4% y-y for LCD supply).

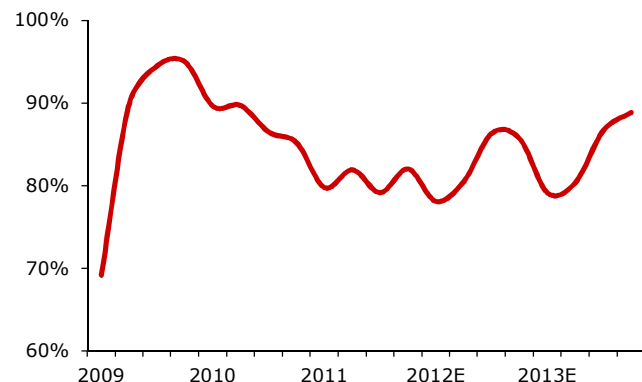
It may be that LCD supply-demand dynamics will improve in 2013, but we don't think it will be a structural recovery. The LCD industry is in chronic oversupply, by more than 15%. Even if about half of this 15% is disabled by ongoing restructuring, that still leaves an oversupply of 7~8%. Meanwhile, we expect panel ASPs to remain mostly unchanged, mainly due to panel makers' efforts to control utilization. ASPs could fall in the beginning and at the end of 2013, but should only fall slightly.

**Chart 35. Area-based LCD shipment outlook**



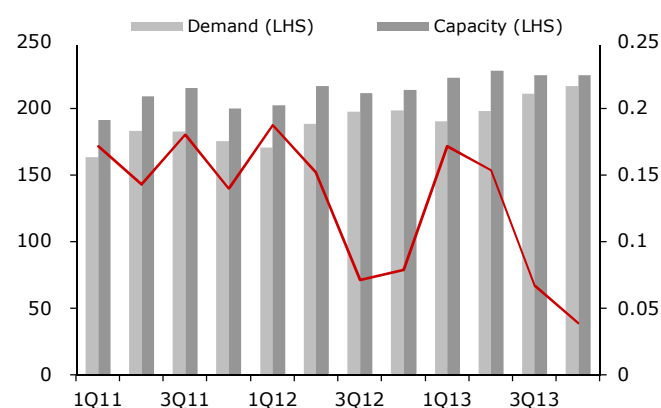
Source: TONGYANG Securities

**Chart 36. LCD utilization outlook**



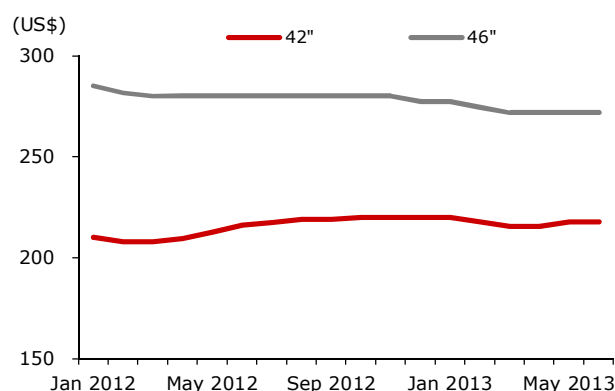
Source: TONGYANG Securities

Chart 37. LCD supply-demand balance outlook



Source: Display Search, TONGYANG Securities

Chart 38. TV panel ASP



Source: Witsview, TONGYANG Securities

LCD panel supply-demand outlook

(mn units)

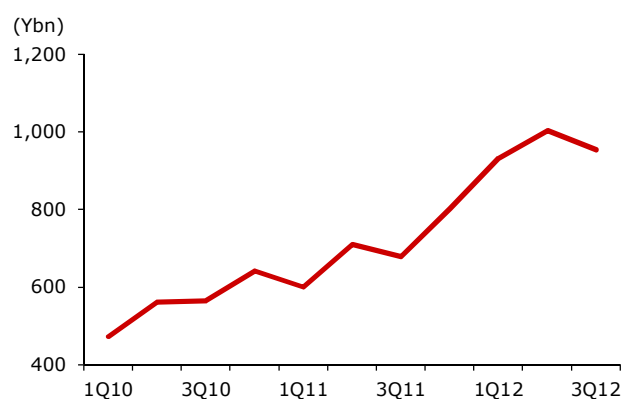
	1Q12	2Q12	3Q12	4Q12	1Q13	2Q13	3Q13	4Q13	2011	2012E	2013E
<b>Set</b>											
Demand	158.55	162.96	182.40	213.69	172.22	181.01	199.34	229.44	685.53	717.60	782.01
Laptop	71.08	75.64	83.85	98.05	84.85	92.35	103.15	116.15	282.88	328.63	396.51
Monitor, other	44.26	43.07	47.45	50.22	43.73	44.21	46.10	48.78	197.37	185.02	182.82
TV	43.21	44.24	51.09	65.41	43.64	44.45	50.08	64.51	205.28	203.95	202.68
<b>Panel</b>											
Demand	170.19	188.18	197.04	198.04	190.07	197.78	210.72	216.41	702.84	753.46	814.97
Laptop	70.73	85.64	88.90	94.51	90.11	97.21	105.26	112.77	282.12	339.77	405.35
Monitor, other	48.40	47.77	47.71	42.40	47.81	46.86	46.54	43.56	210.49	186.28	184.76
TV	51.06	54.77	60.44	61.13	52.15	53.70	58.92	60.09	210.23	227.40	224.86
Capacity	202.04	216.70	211.03	213.63	222.64	228.10	224.83	224.75	814.09	843.40	900.32
Laptop	83.56	102.72	97.80	100.60	104.15	113.72	116.30	119.30	325.43	384.68	453.47
Monitor, other	55.79	55.25	51.19	45.30	54.00	52.33	48.94	44.92	242.29	207.53	200.19
TV	62.69	58.73	62.04	67.73	64.50	62.05	59.58	60.53	246.37	251.19	246.66
Supply	171.42	189.57	197.91	198.83	191.38	199.22	211.69	216.97	706.12	757.73	819.25
Laptop	70.89	89.86	91.72	93.64	89.52	99.32	109.50	115.17	282.27	346.11	413.52
Monitor, other	47.33	48.34	48.01	42.16	46.41	45.71	46.08	43.36	210.18	185.83	181.57
TV	53.19	51.38	58.18	63.04	55.44	54.20	56.10	58.43	213.66	225.79	224.17
Excess capacity (%)	19	15	7	8	17	15	7	4	16	12	10
Excess supply (%)	1	1	0	0	1	1	0	0	0	1	1
Utilization (%)	78	80	86	86	79	80	87	89	81	83	84

Source: Display Search, TONGYANG Securities

### Sharp's fall to help ease LCD oversupply

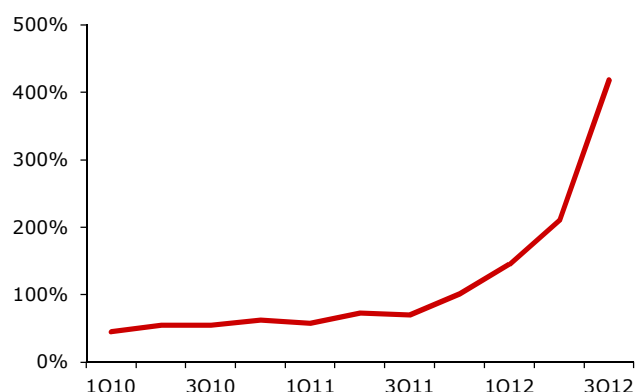
The biggest factor for the LCD industry in 2013 is the potential bankruptcy of Sharp. Sharp's financial status has deteriorated considerably, with net debt at Y953bn as of Sep 2012 (418% net debt ratio). With Y1.25tn in debt maturing over Jun~ Sep 2013, the already cash-strapped company will likely face serious liquidity problems. Sharp represents only 6% of total LCD capacity, but if it closes its doors, the oversupply situation could improve considerably. We should also note that Sharp's potential fall could have a negative impact on Taiwanese panel maker Innolux, a subsidiary of Taiwan-based Hon Hai Group, with which Sharp has a business tie-up.

**Chart 39. Sharp's net debt**



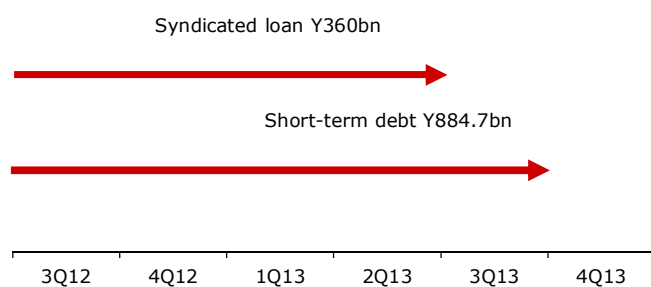
Source: TONGYANG Securities, based on calendar year

**Chart 40. Sharp's net debt ratio**



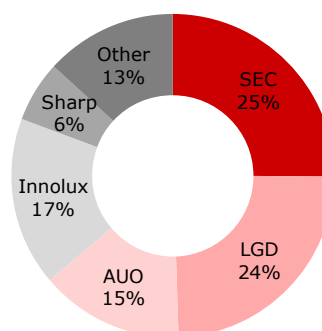
Source: TONGYANG Securities, based on calendar year

**Chart 41. Sharp's maturing debt in the short term**



Source: TONGYANG Securities

**Chart 42. LCD capacity make-up in the industry**

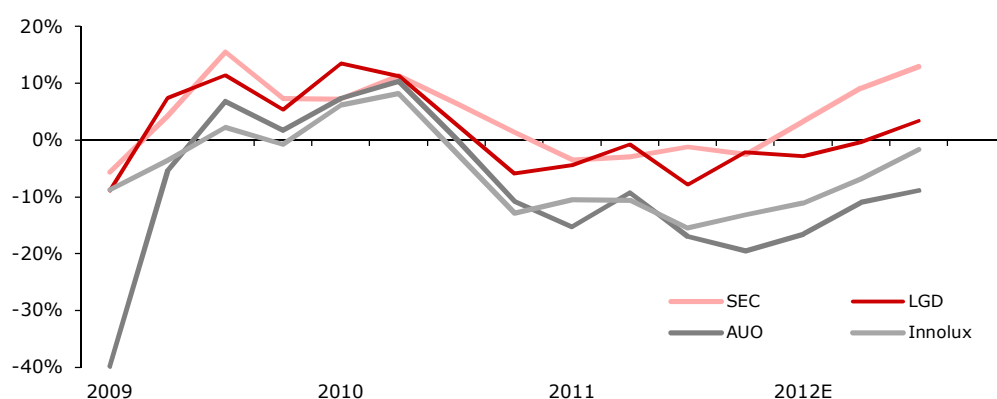


Source: TONGYANG Securities

### Key is differentiation, not recovery in industry fundamentals

The chronic oversupply in LCD is not a problem that can be resolved quickly. Thus, we expect commodity panel ASP to remain just above the cash cost level. This means panel makers' earnings will vary depending on their product mix (eg, the portion of premium panels). The LCD panel industry is not in an upcycle, and thus, not every player is set to grow. Only companies that can make distinguished products are likely prosper and receive investor attention.

**Chart 43. Operating margin, by company**



Source: Companies

## Additional AMOLED capex likely in 2H13

We believe Samsung Display Corp's (SDC) AMOLED production will continue to grow in 2013. However, AMOLED momentum has lost steam due to the delay in SDC's AMOLED capex.

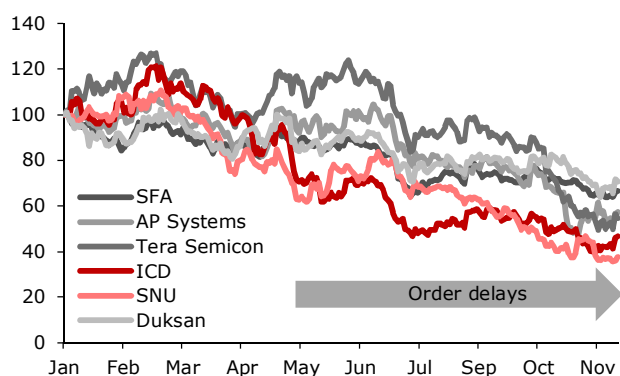
### AMOLED momentum thins out on uncertain capex

Recently, AMOLED shares have experienced high volatility due to concerns over the uncertain AMOLED outlook. The lack of clear technological roadmap has worked to delay the launch of OLED TV and flexible OLED, not to mention capex related to this. Although SDC is expected to place orders for its A2E line before the end of 2012, sentiment is still not too favorable.

The industry has yet to develop technological roadmaps for flexible panels and TV panels. For flexible panels, will the future be FMM or LITI evaporation technology? Will the mother glass be a quarter of a 5.5G glass or a full 5.5G glass? And it is still not certain whether flexible polyimide substrate and thin-film encapsulation will work in mass production. There is also the issue of organic material evaporation in TV panels. Since these technological issues are not yet resolved, there are concerns that capex for the A3 and V1 lines will be delayed even in 2013.

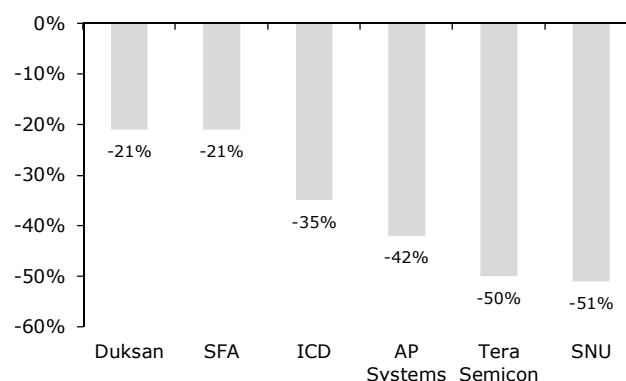
Furthermore, there is doubt about whether AMOLED panels will make money because of renewed focus on the strengths of LCD panels. Flexible AMOLED is obviously better than LCD in terms of thickness and weight, but LCD panels have improved greatly on these fronts. The high price of AMOLED TVs is also a negative for the growth of the AMOLED market.

**Chart 44. Relative price performance of AMOLED plays**



Source: TONGYANG Securities

**Chart 45. Returns of AMOLED plays since Jul 2012**



Source: TONGYANG Securities

### AMOLED sector to continue to grow

Despite the uncertain capex outlook, AMOLED panel demand is sure to increase going forward given SEC's strength in smartphones and its will to adopt AMOLED in its smartphone line-up. AMOLED capex plans could be delayed, but are unlikely to be scrapped. Even factoring in the new AMOLED capacity coming from the A2E line, the industry needs to build more capacity in 2014.

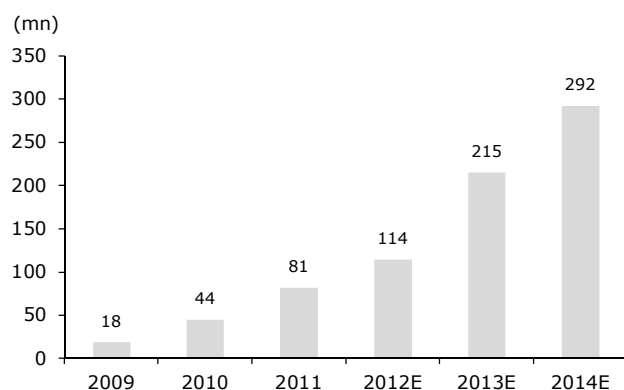
Other panel makers are gearing up to invest in OLED, too. LG Display plans to begin mass-production of OLED from 1H13. Even if competition heats up, it is highly unlikely that SDC will pull back from the AMOLED market. We think SDC will resume its capex sometime in 2H13.

Also, SDC could push ahead with capex even before technological standards are set, if flexible display smartphones and AMOLED TV prove lucrative. Flexible displays have few technological issues under a quarter-5.5G system (eg, mother glass a quarter the size of a 5.5G glass) and 42~57" TV panels can be made under a half-5.5G system.

### Flexible display smartphone to trigger new investment

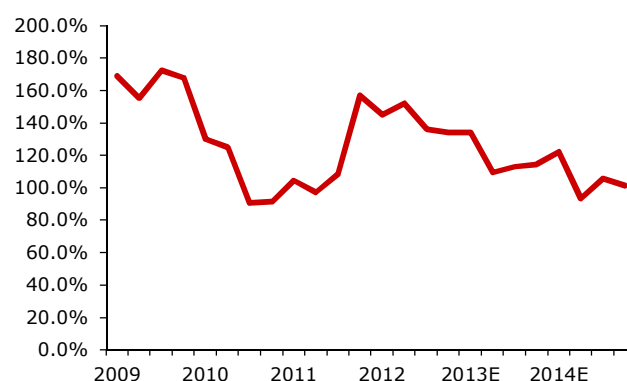
If the industry manages to improve form factors using flexible panels, capex would almost definitely go up, because panel makers would likely push ahead with capex, even using current technologies. Thus, share price momentum should largely depend on SEC's potential launch of flexible display smartphones. If SEC rolls out flexible display smartphones, investor sentiment is expected to improve greatly.

**Chart 46. SDC's AMOLED panel shipment outlook**



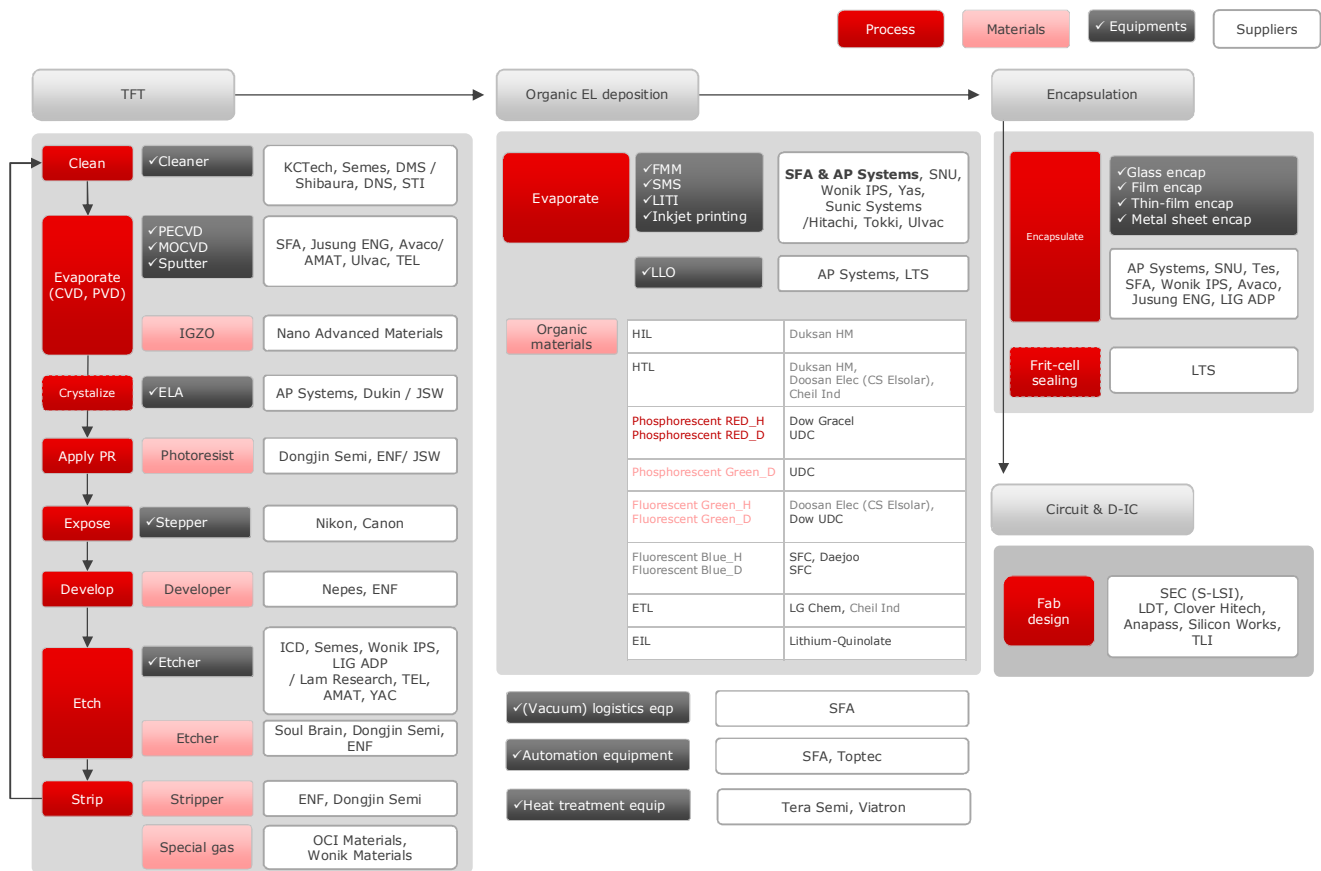
Source: TONGYANG Securities

**Chart 47. SDC's AMOLED excess supply**



Note: Incl expanded capacity of A2, assuming 90% utilization and yield  
Source: TONGYANG Securities

Chart 48. AMOLED supply chain



Source: TONGYANG Securities



# Electrics/electronics 2013

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## **STRONG MOBILE DEVICE GROWTH & HIGHER TV MARKET SHARE**



## Surge in mobile devices, higher TV market share

In 2013, we expect the smartphone and tablet PC markets to continue to grow strongly, and the PC and TV markets to remain weak. Such market conditions will likely offer a growth opportunity for Korean companies with strong brands. From 2013, low-end to mid-range smartphones are expected to grow rapidly, which should benefit SEC the most thanks to its diverse product line-up and strong brand image. Also, we expect LGE, which boosted its brand image through the "Optimus G," to expand its market share in the low-end to mid-range smartphone market.

We expect the TV market to shrink in 2013, killing off companies with low competitiveness. It has been long since Japanese TV makers lost their global competitive edge. They were overtaken by Korean rivals in quality and brand image, and Chinese competitors in price competitiveness. We think SEC and LGE's TV market shares will rise as Japanese peers' market shares fall.

### SEC to benefit most from surge in low-end/mid-range smartphones

We view 2012~2015, when smartphones should account for 30~70% of all new handsets, as a high growth phase for smartphones. During this period, as the smartphone portion exceeds 50% from 2013, low-end to mid-range smartphones will likely show outstanding growth.

SEC has a diverse product line-up and should enjoy economies of scale through standardization of components. In addition, it should continue to enjoy a price premium based on its strong brand image. Thus, we expect SEC to benefit the most from the expansion of low-end to mid-range smartphones. In line with market share growth, operating profit should also increase, although operating margin may decline due to a higher portion of downmarket smartphones.

Based on its success in the smartphone market, SEC aims to dominate the tablet PC market. We expect its profits to continue to rise through sales expansion, given its COGS competitiveness from vertical integration and standardization of key parts.

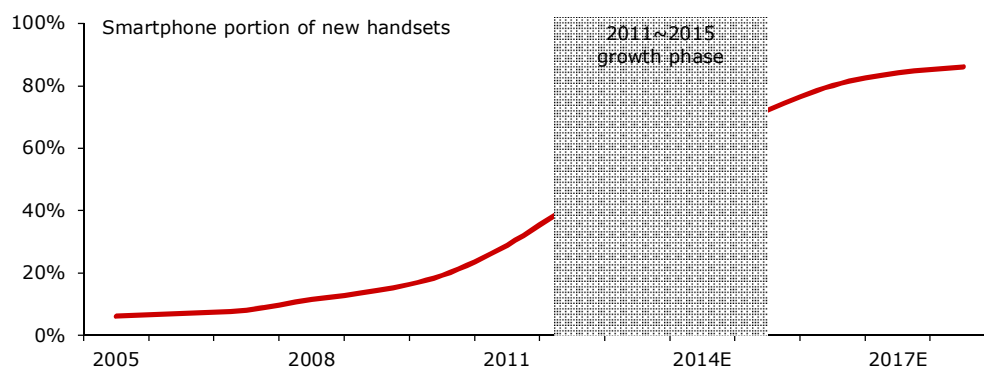
### LGE's smartphone business to revive

LGE failed to grab "first-mover advantage," as it came to the smartphone party late. However, it has grasped its second chance in a timely manner: it was able to boost its brand image dramatically by launching the "Optimus G" right before low-end to mid-range smartphone sales started to surge.

With the new product, LGE has not only boosted its high-end market share but should also gain significant market share in the low-end/mid-range market. Traditionally, LGE has been strong in the mass market. In particular, thanks to its marketing know-how from its long history in home appliances, it will likely appeal to the mass market.

LGE plans to expand its customer base through high-end LTE phones in the US market, where people are seeking alternatives to the “iPhone” and “Galaxy S” series; and through its mid-range “L series” in the European market, where 3G is the norm. As such, LGE’s smartphone business should continue its stable growth going forward, as it has improved its brand image in the early stage of the mass market.

**Chart 49. Smartphone growth curve**



Note: Smartphones' portion in new handset market  
Source: IDC, TONGYANG Securities

**Chart 50. Samsung Galaxy S3, Galaxy Note 2**



Source: TONGYANG Securities

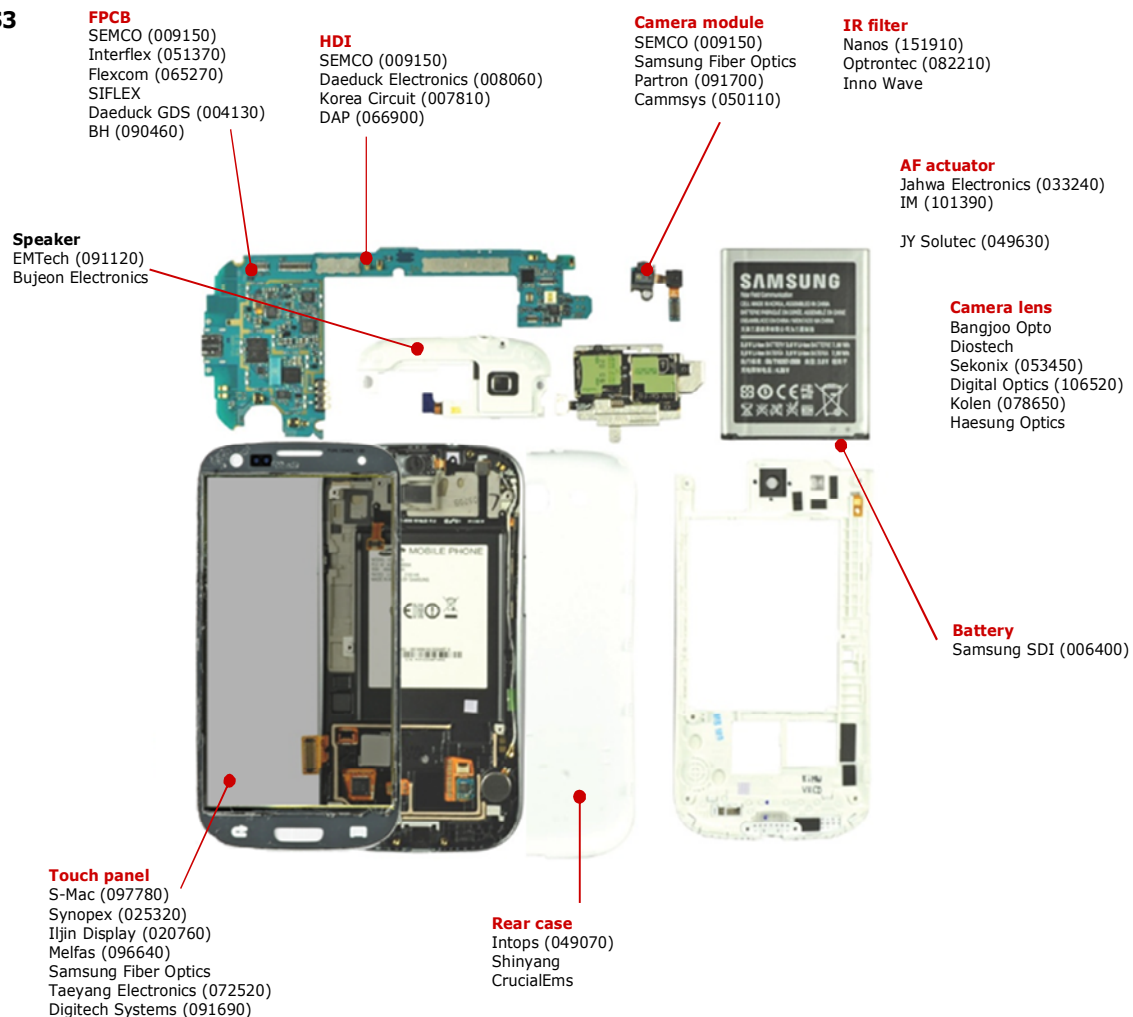
**Chart 51. LG Optimus G, Optimus Vu 2**



Source: TONGYANG Securities

Chart 52. SEC: supply chain for smartphones

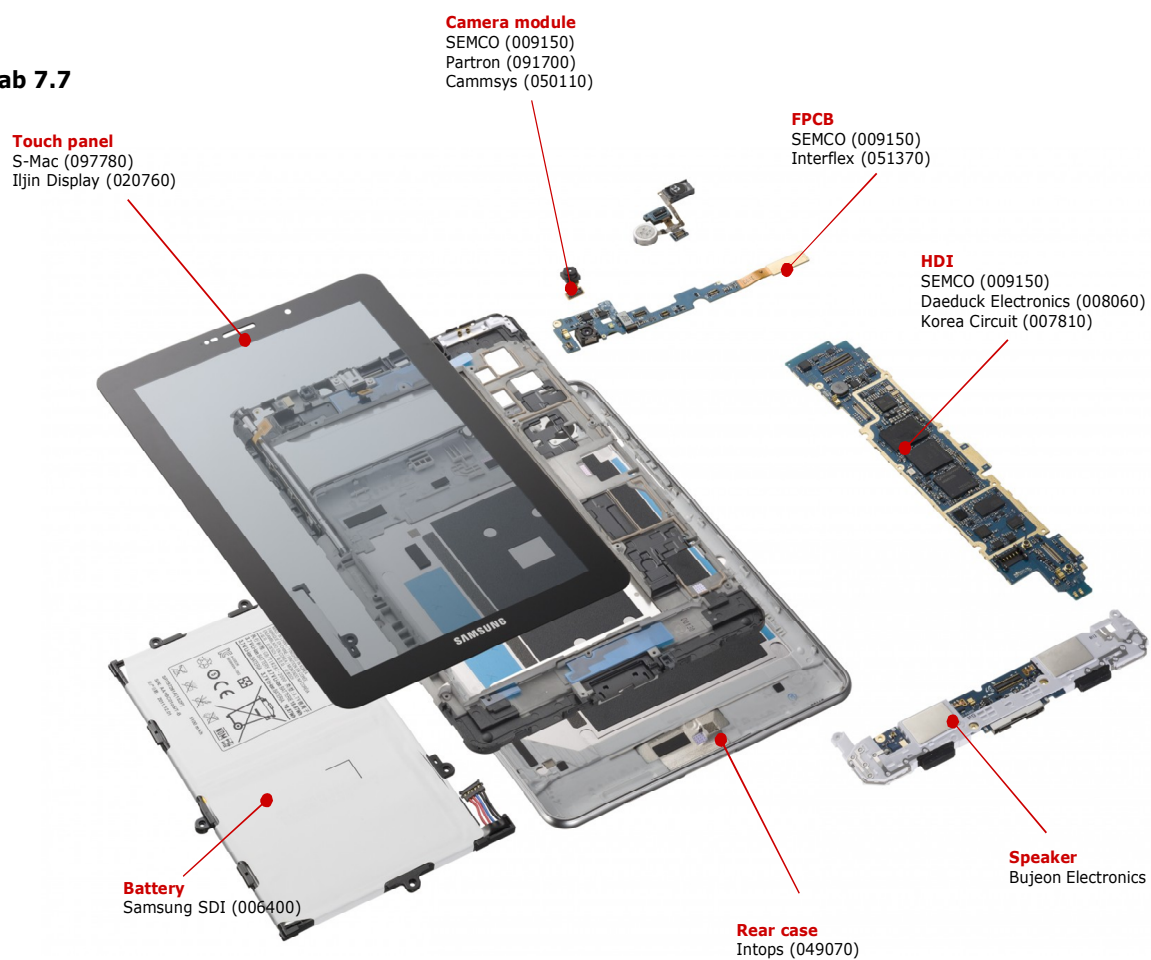
### Galaxy S3



Source: ifixit, TONGYANG Securities

Chart 53. SEC: supply chain for tablet PCs

## Galaxy Tab 7.7



Source: Company data, TONGYANG Securities

### Korean firms to benefit from Japanese TV makers' weakness

We expect the TV market to shrink in 2012 and again in 2013. However, this should provide opportunities for Korean companies, which should increase their share of the global TV market amid the weakness of their Japanese peers.

Generally, when an industry stagnates, weak companies start to exit. From 2012, with tablet PCs eating into TV demand, the entire TV market, including LCD TVs, is expected to shrink. This is likely to hurt Japanese TV makers, which have lost competitiveness both in quality and price. Sony, Panasonic, Sharp, and Toshiba, which have managed to survive, are likely to see their market shares fall further. Although a weak yen should provide them with an opportunity, this is not expected to be enough to reverse the decline.

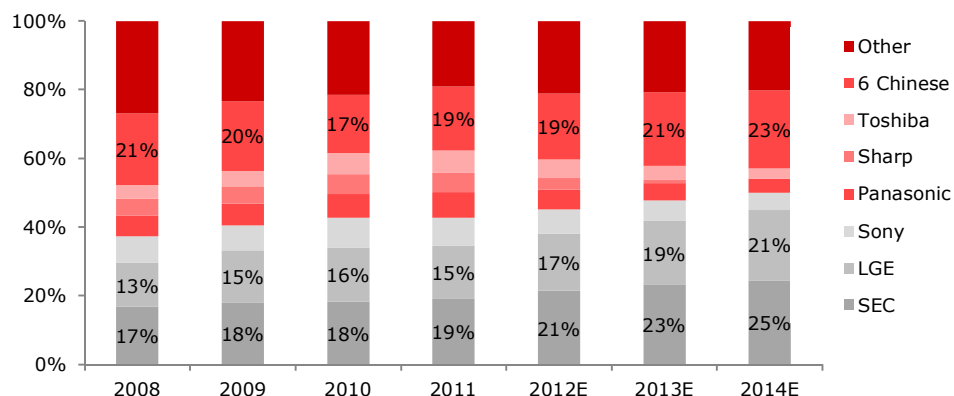
When a market shrinks, demand tends to polarize in terms of price and quality. This should benefit Korean firms with high-end brands and diverse product line-ups.

### SDC, SEMCO, Cheil Ind, LGD, LG Innotek to benefit

Amid a shrinking global TV market, Korean firms' earnings will likely continue to improve thanks to increasing market share and higher portions of premium products. In 2013, the TV portion of total shipments should rise 1.7%p to 23% at SEC and 1.9%p to 19% at LGE.

TV shipment growth and a trend to the high-end should benefit component and material suppliers, specifically, SDC and LG Display (panels), SEMCO and LG Innotek (tuners and power modules), and Cheil Industries (case materials).

**Chart 54. Global TV market share forecast**



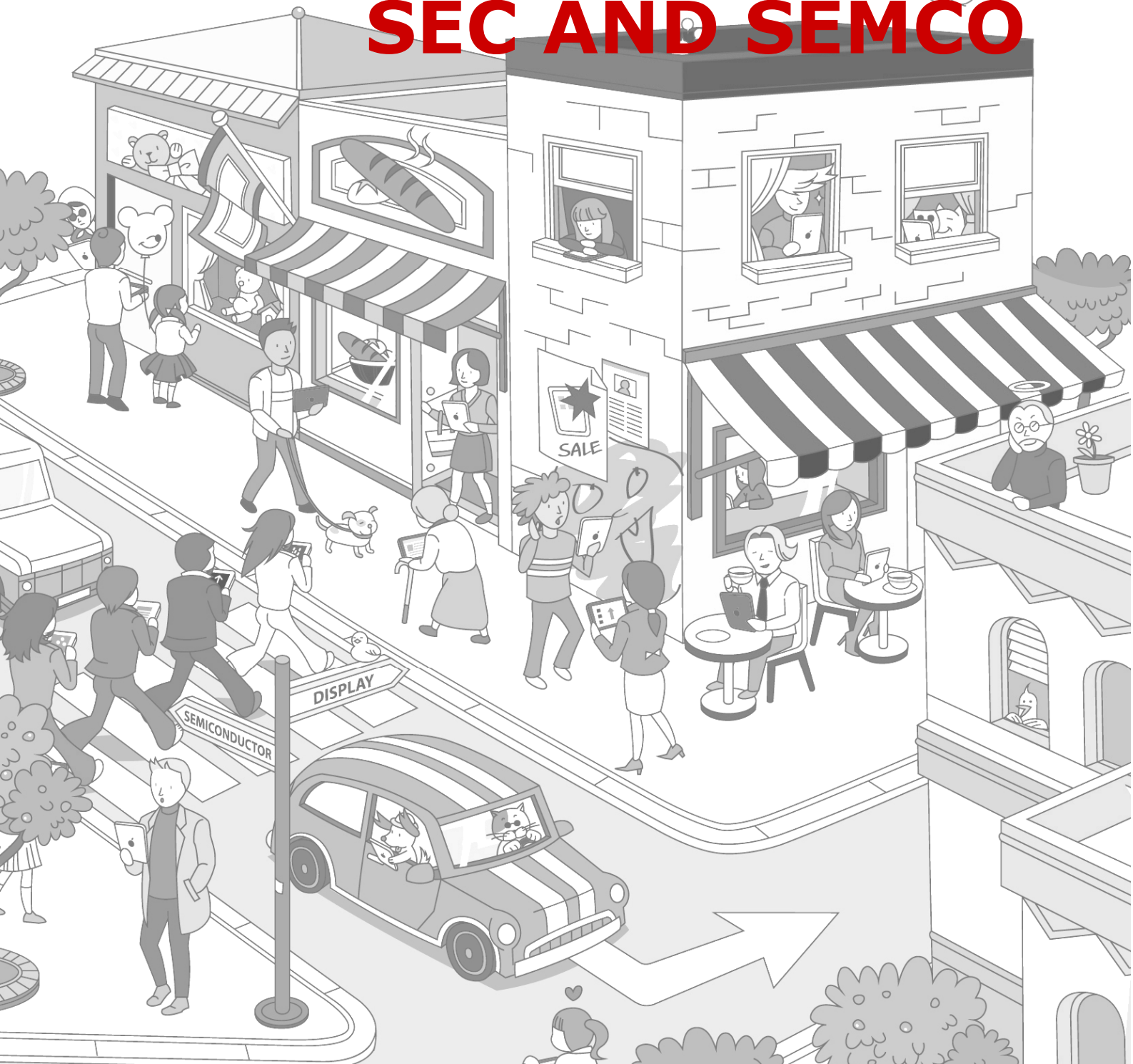
Note: Based on shipments, six Chinese firms are Haier, Hisense, TCL, Chanhong, Konka, and Skyworth  
Source: DisplaySearch, TONGYANG Securities



# Investment strategy

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## TOP PICKS: SEC AND SEMCO



## Suggest SEC and SEMCO as top picks

### Korean IT firms to acquire global competitive edge in 2013

IT firms' performances have diverged in line with the consumerization of IT. This means it is time for Korean IT firms with global-market competitiveness to gain attention. In 2013, we expect Korean firms to enjoy an overwhelming edge in the global smartphone, tablet, and TV markets, based on quality and brand image.

In addition, Korean IT firms source key parts through vertical integration. This means good performance for the parent company (which makes "set" products (handset, TV set, etc) should benefit subsidiaries (who make key parts). Thus, both the global competitiveness and investment merit of Korean IT firms will likely increase in 2013.

From this perspective, we recommend OVERWEIGHT on Korean IT firms, as they hold the strongest competitive edges among global peers. In 2013, we believe the Korean IT sector will be the most promising sector, not only in the Korean stock market, but also the global.

### Recommend SEC and SEMCO as top picks

With the investment merit of the entire Korean IT sector expected to increase, our preference by company is weaker than in the past. However, based on the degree of expected benefit, we suggest SEC and SEMCO as our top picks. In 2013, with smartphones and tablet PCs expected to drive IT demand, we think these two will benefit most.

SEC will likely strengthen its status as top smartphone seller and increase its share of the tablet PC market. The growth of the low-end to mid-range smartphone market should benefit SEC, with diverse product line-ups and brand premium. We expect it to enjoy robust mobile device sales, in addition to its growth in memory, AP, and panel supply. Thus, earnings will likely break records in 2013.

SEMCO's MLCC, substrate, and camera module sales should climb on SEC's mobile device growth. As a key supplier to the world's largest mobile device maker, SEMCO's status and product competitiveness have improved. The investment point is its growth potential as the world's top component supplier.

Meanwhile, SK Hynix's earnings should improve thanks to stabilizing memory prices and reduced costs from tech migration. Although expectations for further production cuts are high as Micron is going through the merger process with Elpida, this has already been priced-in. However, if Micron's Inotera acquisition becomes official (estimated around end-2012~early-2013), this should boost not only DRAM prices, but also the share price of SK Hynix.

LG Display will likely continue to see earnings improvement on continued market share expansion and a higher portion of premium products. We do not expect the LCD market to recover in 2013, as we expect the LCD TV market to shrink. LGD's investment point is higher market share on IT consumerization and a higher portion of premium products.



LGE has clearly boosted its chances of success in the smartphone market through the launch of the Optimus G. We expect earnings to rise sharply y-y in 2013 on higher TV market share and its smartphone business getting back on track. At Cheil Industries, the chemical division should benefit from SEC's higher production of TVs and mobile devices, while the electronic materials division will likely benefit from SEC's increased semicon and display production. Also, the polarizer film division should turn profitable.

Meanwhile, we expect Samsung SDI to continue to post both top- and bottom-line growth as the world's largest battery maker. For LG Innotek, we think it will see across-the-board improvement in operating profit, with LED losses declining on raw material cost reduction and sales expansion, but its 4Q12 earnings improvement will likely be negligible, weighing on the company in the near term

**Table 6. Investment points for 8 key companies**

	Company	Code	Rating	TP (won)	Market conditions	Investment point
1	SEC	005930	BUY	2,000,000	High growth of smartphones and tablet PCs TV and PC sales to remain sluggish Memory and LCD oversupply to ease	Benefits most from low-/mid- smartphone growth Higher tablet production is additional growth driver Semicon boost synergies with display division
2	SEMCO	009150	BUY	140,000	High growth of smartphones and tablet PCs Weak yen disadvantageous in MLCC market share	Benefits from SEC's higher mobile device production Global competitiveness to strengthen
3	SK Hynix	000660	BUY	31,000	Memory supply to decline  DRAM and NAND prices to gradually decline	Earnings to continue to improve on stabilizing memory market and falling costs  DRAM M&A issue a potential boost to momentum
4	LG Display	034220	BUY	42,000	Oversupply to ease on supply decline  Panel price to remain flat	Margin to keep rising on higher premium product portion  Sentiment may improve on white OLED mass-production
5	LGE	066570	BUY	105,000	Low-end/mid-range smartphones to surge TV market to shrink	Smartphone biz to get back on track with Optimus G Earnings to improve in earnest
6	Cheil Ind	001300	BUY	120,000	SEC's TV market share to expand  SEC's semicon/display prod to increase	SEC's higher mobile device and TV production to benefit chemical division SEC's higher semicon and display production to benefit electronic material division
7	Samsung SDI	006400	BUY	165,000	High growth of smartphones and tablet PCs Production at SEC to keep rising	Stable growth and high margin of battery division ESS and solar cell biz to boost long-term growth potential
8	LG Innotek	011070	BUY	90,000	LGE's smartphone prod to increase LGE's TV market share to expand	Loss at LED division to decline Higher smartphone part sales to key client and LGE

Source: TONGYANG Securities

Table 7. Peer group analysis

		SEC	Apple	SEMCO	Murata	Taiyo Yuden	Ibiden
Country		Korea	US	Korea	Japan	Japan	Japan
Currency		won	US\$	won	yen	yen	yen
Share price		1,413,000	584.78	106,000	4,500.00	694.00	1,069.00
Market cap		208,134	550.10	7,918	1,013.69	83.61	161.27
P/E (x)	2011	10.0	12.9	20.8	43.7	N/A	15.1
	2012E	9.0	11.5	16.2	25.6	59.4	29.2
	2013E	6.7	9.7	13.3	18.7	16.2	13.8
EPS (local currency)	2011	89,946	45	4,648	144	-184	74.4
	2012E	159,715	50	6,397	180	12	38.5
	2013E	213,403	59	7,778	246	44	81.3
P/B (x)	2011	1.5	4.5	2.1	1.2	0.8	0.6
	2012E	1.9	3.5	2.0	1.2	0.8	0.6
	2013E	1.6	2.7	1.8	1.2	0.8	0.6
EV/EBITDA (x)	2011	4.6	8.6	8.9	7.7	7.3	2.5
	2012E	4.9	6.2	6.0	7.8	4.8	2.7
	2013E	3.6	5.1	5.1	6.9	4.3	2.6
ROE (%)	2011	14.6	42.8	10.0	2.7	-12.4	4.2
	2012E	21.8	33.1	12.9	4.7	1.4	2.0
	2013E	23.4	30.8	13.9	6.0	4.7	4.2
Sales (bn)	2011	165,002	156.5	6,032	584.7	183.8	300.9
	2012E	202,140	192.9	7,951	665.6	196.1	290.9
	2013E	233,373	222.7	9,397	711.4	205.6	303.6
Operating profit (bn)	2011	16,250	55.2	321	45.0	-8.0	15.5
	2012E	29,744	62.3	660	53.6	5.6	12.9
	2013E	40,131	74.1	800	72.4	9.2	17.8
Net debt (bn)	2011	-12,231	-121.3	1,037	-106.9	32.9	-40.1
	2012E	-21,815	-123.6	90	-113.6	29.5	-31.5
	2013E	-41,297	-157.0	-280	-121.8	25.7	-35.7

Source: TONGYANG Securities

# Tech stocks in our universe

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**Samsung Electronics**

**SEMCO**

**SK Hynix**

**LG Display**

**LG Electronics**

**Cheil Industries**

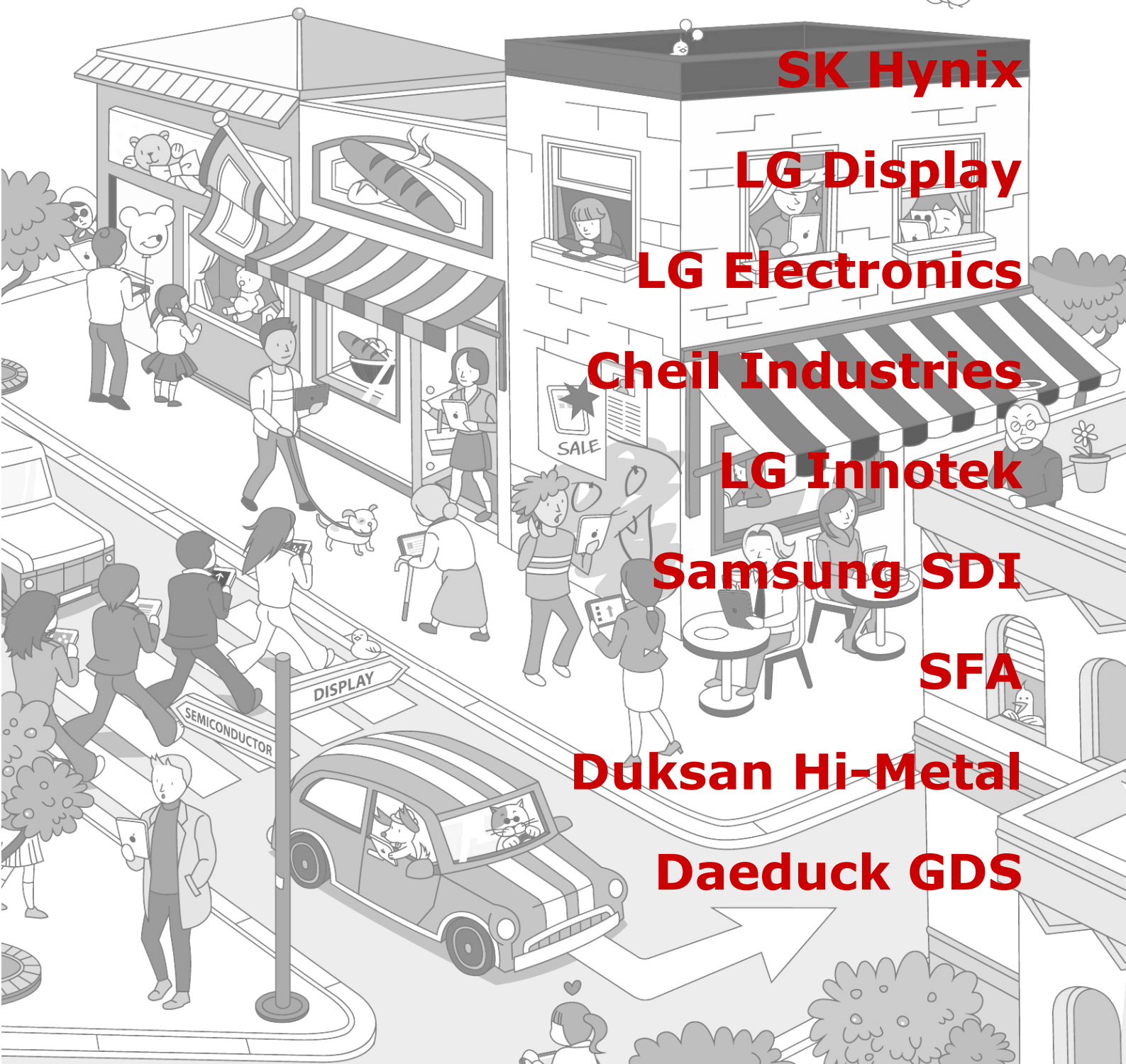
**LG Innotek**

**Samsung SDI**

**SFA**

**Duksan Hi-Metal**

**Daeduck GDS**



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# Samsung Electronics (005930 KS)

**BUY (M) / TP: W2,000,000 (M)**

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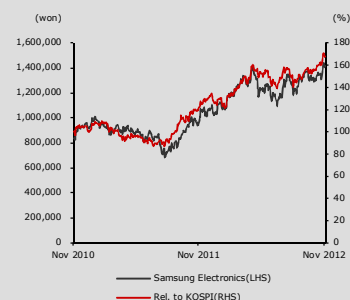
Nov 30, 2012

## KOREA Tech

Share price (won, Nov 28)	1,413,000
Paid-in capital (Wbn)	898
Market cap (Wbn)	226,835
BPS (won)	796,449
Net debt to equity (%)	-18.2
Shares outstanding	170,132,764
Avg daily T/O (2M, Wbn)	354
Avg daily vol (2M, shrs)	267,742
52-week high (won)	1,437,000
52-week low (won)	978,000
Foreign ownership (%)	50.3
Major shareholders (%)	
	Kun-hee Lee & others 17.6

## Stock performance (%)

	1M	3M	12M
Absolute	9.8	18.2	44.5
Relative	1.1	(0.2)	5.4
Abs (US\$)	10.9	23.7	53.5



Source: Datastream

## Poised for re-rating

### To benefit most from growing low-end/mid-range smartphones

- After smartphone penetration reached 30% in the new handset market in 2H11, smartphone shipment growth accelerated. We expect smartphone penetration to surge to 70% by 2015. The portion of low-end to mid-range smartphones should soar from 2013, when smartphone penetration is expected to hit 50%. This should be an opportunity to Samsung Electronics (SEC), which has a diverse smartphone line-up. We expect SEC to benefit most thanks to its competitive brand image.

### Tablets another growth driver

- SEC's tablet shipments should surge from 15mn units in 2012 to 33mn in 2013. Its competitive brand image, built on its success in smartphones, is expected to translate into robust sales of tablets. Economies of scale from top-line growth should lead to stronger profits. In addition to smartphones, we expect tablets to act as another growth driver.

### Likely to maximize synergies among divisions

- The robust growth of smartphones and tablets should give a boost to the semicon and display divisions. DRAM, NAND, AP, and panel sales are expected to rise, and smartphone and tablet product competitiveness will likely improve through joint development by different divisions.

### Re-rating likely

- In 2012, in spite of continued earnings surprises, SEC's shares have been sluggish. However, we see the growing low-end to mid-range smartphone market as a catalyst for SEC's growth. The smartphone market share gap between SEC and Apple should widen, while their margin gap is likely to narrow. To reflect our forecast for better earnings and strengthened market position, we raise our target price by 18% to W2,000,000.

### Forecasts and valuations (K-IFRS)

	(Wbn)				
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	154,630	165,002	202,140	233,373	256,711
Chg (% y-y)	13.4	6.7	22.5	15.5	10.0
Reported OP	17,297	16,250	29,744	40,130	39,407
Adjusted OP*	16,621	15,455	28,930	39,280	38,507
Net profit, CI	15,799	13,359	23,686	31,594	31,902
EPS, CI (won)	105,903	89,946	159,715	213,403	215,496
Chg (% y-y)	65.7	-15.1	77.6	33.6	1.0
P/E (x)	7.6	10.0	8.8	6.6	6.6
P/B (x)	1.5	1.5	1.9	1.5	1.3
EV/EBITDA (x)	4.3	4.6	4.8	3.5	3.1
ROA (%)	12.8	9.2	14.1	16.0	13.9
ROE (%)	20.4	14.6	21.8	23.4	19.3

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest  
Source: TONGYANG Securities

**To benefit most from growing low-end/mid-range smartphones**

Since 2H11, the smartphone market has been growing rapidly. We expect it to continue to grow sharply until 2014, when smartphone penetration is expected to hit 70% in the new handset market. Also, the portion of low-end to mid-range smartphones should soar from 2013, when smartphone penetration is expected to reach 50%. We believe this will provide an opportunity to Samsung Electronics (SEC), which has a diverse smartphone line-up and has established parts standardization. Of note, SEC should benefit most thanks to its competitive brand image.

**Tablets another growth driver**

SEC's tablet shipments should surge from 15mn units in 2012 to 33mn in 2013. Its competitive brand image, built on its success in smartphones, is expected to translate into robust sales of tablets. Rising tablet sales are expected to lead to stronger profits, and thus, SEC will likely buy more semicon and display products from affiliates, which will bolster synergies among affiliates.

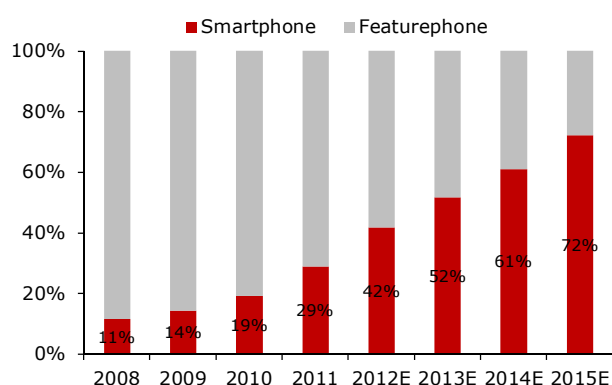
**4Q operating profit estimated at W9.05tn (+11% q-q)**

In 4Q, we expect SEC's operating profit to continue to hit record-highs. SEC's "Galaxy" series is selling more than expected, as Apple's "iPhone" shipments have slowed due to low production yields. In 4Q, we now expect handset shipments to come to 120mn units (revised up 10% from our previous forecast), with smartphones accounting for 65mn. As such, we forecast 4Q operating profit at W9.05tn. We estimate operating profit at W29.74tn for 2012 and W40.13tn for 2013. With conditions in the semicon and display industries likely to improve further in 2013, we will likely have to review our operating profit forecast for 2013.

**Long-term growth promising on mobile semicon competitiveness**

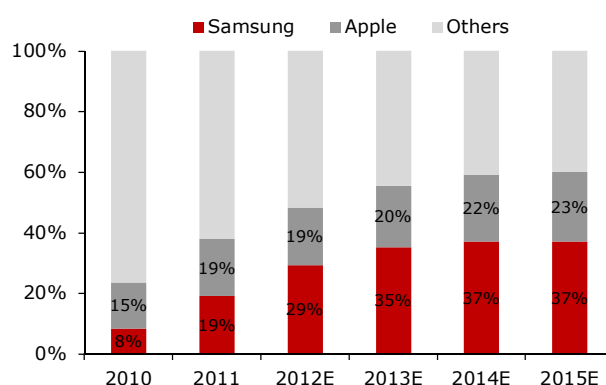
Charts 3~4 show the classification of mobile semicon products. We expect APs (application processor), memory chips, image sensors, and drive ICs to continue to grow. SEC has a competitive edge in all of these products, and in the mobile era, it is growing from a memory chip maker into a total semicon maker. Amid robust smartphone and tablet sales, SEC has strengthened its competitiveness in mobile semicon, and as such, we are optimistic about its long-term growth.

Chart 1. Smartphone penetration in new handset market



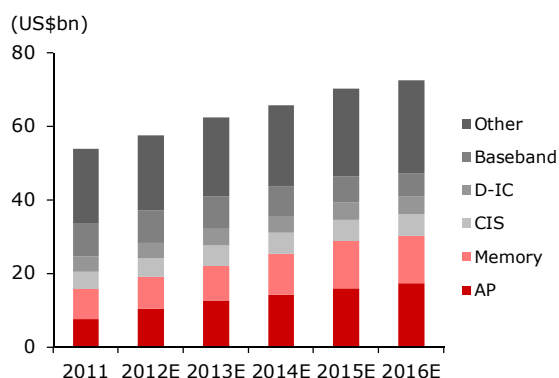
Source: IDC, TONGYANG Securities

Chart 2. Smartphone market share, by major player



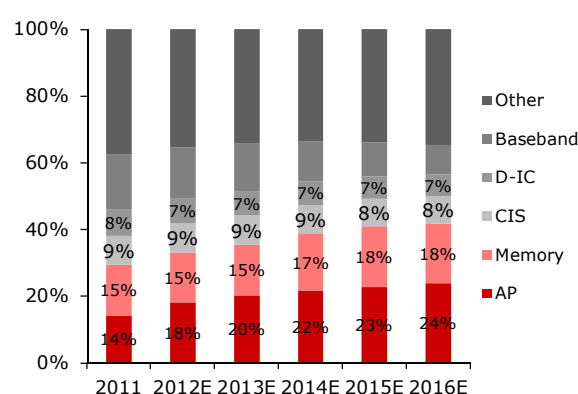
Source: IDC, TONGYANG Securities

Chart 3. Mobile semicon market forecast



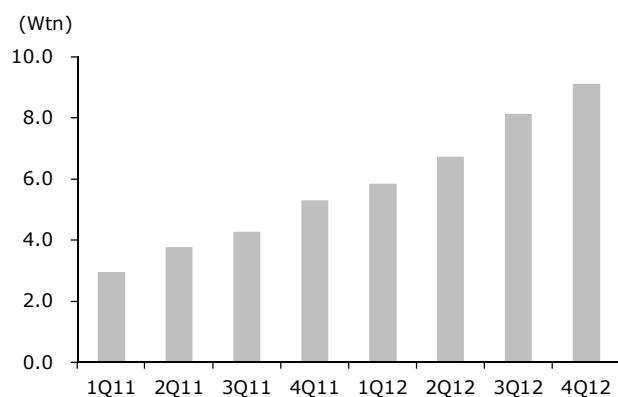
Source: IDC

Chart 4. Mobile semicon portion forecast



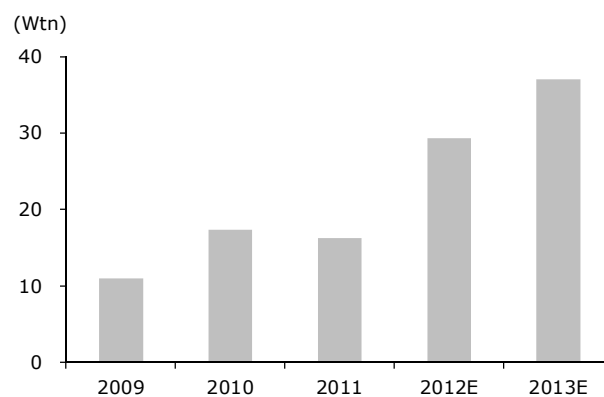
Source: IDC

Chart 5. SEC quarterly operating profit forecast



Source: Company data, TONGYANG Securities

Chart 6. SEC annual operating profit forecast



Source: Company data, TONGYANG Securities

Table 1. Underlying assumptions for earnings forecast

		1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Won/dollar rate		1,120	1,083	1,080	1,150	1,130	1,150	1,130	1,090	1,108	1,125	1,020
	Chg (% q-q)	-1	-3	0	6	-2	2	-2	-4	-4	2	-9
DRAM shipment												
(1G equiv, mn)	Old	1,864	1,941	2,106	2,309	2,340	2,517	2,639	3,045	8,219	10,540	14,707
	New	1,864	1,941	2,106	2,309	2,340	2,517	2,639	3,045	8,219	10,540	14,707
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	14	4	8	10	1	8	5	15	47	28	40
ASP (1G eqv, US\$)	Old	1.50	1.50	1.22	1.05	0.95	0.96	0.88	0.82	1.30	0.90	0.80
	New	1.50	1.50	1.22	1.05	0.95	0.96	0.88	0.82	1.30	0.90	0.80
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	-23	0	-19	-13	-9	0	-8	-7	-46	-31	-11
NAND shipment												
(16G equiv, mn)	Old	622	700	838	845	842	1,129	1,264	1,604	3,004	4,839	8,106
	New	622	700	838	845	842	1,129	1,264	1,604	3,004	4,839	8,106
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	31	13	20	1	0	34	12	27	82	61	67
ASP	Old	3.41	3.14	2.62	2.38	2.13	1.73	1.55	1.67	2.84	1.73	1.40
(16G equiv, US\$)	New	3.41	3.14	2.62	2.38	2.13	1.73	1.55	1.67	2.84	1.73	1.40
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	-9	-8	-16	-9	-10	-19	-10	8	-37	-39	-19
Display shipment												
('000 m <sup>2</sup> )	Old	7,683	8,947	8,646	10,040	9,478	9,562	9,883	10,046	35,317	38,969	42,922
	New	7,683	8,947	8,646	10,040	9,478	9,562	9,883	10,046	35,317	38,969	42,922
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	-10	16	-3	16	-6	1	3	2	7	10	10
ASP	Old	757	732	758	741	797	752	758	774	747	770	784
(US\$/m <sup>2</sup> )	New	757	732	758	741	797	752	758	774	747	770	784
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	2	-3	3	-2	8	-6	1	2	-5	3	2
Handset shipment												
(mn)	Old	70	75	91	97	95	98	110	115	333	418	503
	New	70	75	91	97	95	98	110	120	333	423	531
	Diff (%)	0	0	0	0	0	0	0	4	0	1	6
	Chg (% q-q)	-14	8	22	6	-2	3	12	9	19	27	25
ASP (US\$)	Old	129	143	146	153	176	182	212	210	145	196	207
	New	129	143	146	153	176	182	212	216	145	197	217
	Diff (%)	0	0	0	0	0	0	0	3	0	1	5
	Chg (% q-q)	6	11	2	5	15	3	16	2	22	36	10

Source: TONGYANG Securities



Table 2. Quarterly earnings and forecast

(Wtn, won)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales (Wtn)	36.99	39.45	41.28	47.30	45.27	47.60	52.18	57.09	165.01	202.14	233.37
Operating profit	2.95	3.75	4.25	5.30	5.85	6.72	8.12	9.05	16.25	29.74	40.13
Pre-tax profit	3.39	4.16	4.13	5.47	6.35	6.73	8.30	9.44	17.16	30.82	41.11
Net profit	2.71	3.46	3.30	3.89	4.86	5.05	6.40	7.38	13.36	23.69	31.59
EPS (won)	15,956	20,319	19,398	22,849	28,571	29,677	37,593	43,378	78,522	139,219	185,702
Op margin (%)	8	10	10	11	13	14	16	16	10	15	17
Pre-tax margin (%)	9	11	10	12	14	14	16	17	10	15	18
Net margin (%)	7	9	8	8	11	11	12	13	8	12	14
Sales	36.99	39.45	41.28	47.30	45.27	47.60	52.18	57.09	165.01	202.14	233.37
Semicon	9.18	9.16	9.48	9.17	7.98	8.60	8.72	9.60	37.00	34.90	41.43
Display panel	6.51	7.09	7.08	8.55	8.54	8.25	8.46	8.48	29.23	33.73	34.32
IT & mobile comm	13.69	15.03	17.94	20.78	23.22	24.04	29.92	32.52	67.44	109.70	135.22
Consumer electronics	10.47	11.23	11.32	14.00	10.67	12.15	11.60	13.21	47.02	47.64	49.55
Operating profit	2.95	3.75	4.25	5.30	5.85	6.72	8.12	9.05	16.25	29.74	40.13
Semicon	1.64	1.79	1.59	2.31	0.77	1.11	1.15	1.76	7.34	4.78	9.46
DP	-0.23	-0.21	-0.09	-0.22	0.28	0.75	1.09	1.07	-0.75	3.19	4.01
IM	1.46	1.71	2.42	2.54	4.27	4.19	5.63	5.72	8.14	19.82	24.59
CE	0.08	0.47	0.34	0.66	0.53	0.76	0.43	0.70	1.55	2.42	2.48
Op margin (%)	8	10	10	11	13	14	16	16	10	15	17
Semicon	18	20	17	25	10	13	13	18	20	14	23
DP	-4	-3	-1	-3	3	9	13	13	-3	9	12
IM	11	11	13	12	18	17	19	18	12	18	18
Sales (Wtn)	1	4	3	5	5	6	4	5	3	5	5

Note: IM (IT & mobile communications) includes terminal, network, PC, etc; CE (consumer electronics) imaging devices, home appliances, etc  
Source: Company data, TONGYANG Securities

Table 3. Semiconductor earnings and forecast

(Wtn)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales (Wtn)	9.18	9.16	9.48	9.17	7.98	8.60	8.72	9.60	37.00	34.90	41.43
Memory	5.87	5.89	5.50	5.45	4.89	5.42	5.22	5.92	22.71	21.45	25.00
DRAM	3.13	3.16	2.74	2.75	2.47	2.77	2.60	2.72	11.78	10.56	11.97
Flash	2.66	2.66	2.69	2.64	2.38	2.61	2.58	3.16	10.66	10.72	12.84
System LSI	2.32	2.30	3.18	3.34	3.04	3.13	3.45	3.63	11.14	13.25	16.23
Operating profit	1.64	1.79	1.59	2.31	0.77	1.11	1.15	1.76	7.34	4.78	9.46
Memory	1.22	1.37	1.01	0.77	0.24	0.49	0.38	0.92	4.37	2.03	5.45
DRAM	0.46	0.55	0.30	0.26	0.06	0.31	0.19	0.27	1.58	0.83	2.24
Flash	0.75	0.81	0.70	0.50	0.17	0.18	0.20	0.65	2.75	1.19	3.20
System LSI	0.40	0.40	0.57	0.65	0.53	0.62	0.77	0.84	2.02	2.75	4.00
Operating margin (%)	18	20	17	25	10	13	13	18	20	14	23
Memory	21	23	18	14	5	9	7	16	19	9	22
DRAM	15	18	11	10	3	11	7	10	13	8	19
Flash	28	30	26	19	7	7	8	21	26	11	25
System LSI	17	17	18	19	17	20	22	23	18	21	25

Source: TONGYANG Securities

Table 4. Target price calculation based on sum-of-the-parts (Wbn)			
	Semicon	Display	IT & mobile comm
EBITDA (2013E)	18,731	8,801	27,655
Industry average EV/EBITDA (2013E)	4.7	3.3	5.3
Premium/discount	30%	30%	
Target multiple (x)	6.0	4.3	5.3
EV by division	113,227	37,415	145,465
Total EV (a)			296,107
Net cash (b)			20,632
Asset value (c)			5,951
Sum of operating value and asset value (a+b+c)			322,690
Common shares' portion of market cap (%)			91.8
Fair market cap of common shares			296,087
Outstanding common shares ('000 shares)			147,299
<b>Target price (won)</b>			<b>2,000,000</b>
Current price (won)			1,413,000
Upside (%)			42

Source: TONGYANG Securities

## Samsung Electronics (005930 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>154,630</b>	<b>165,002</b>	<b>202,140</b>	<b>233,373</b>	<b>256,711</b>
Cost of sales	102,667	112,147	128,537	145,084	164,297
Gross profit	51,964	52,857	73,603	88,289	92,416
SG&A	35,342	37,402	44,673	49,008	53,909
Adj operating profit*	16,621	15,455	28,930	39,280	38,507
Other op prof/loss	<b>676</b>	<b>795</b>	<b>814</b>	<b>850</b>	<b>900</b>
Forex gain/loss	0	0	0	0	0
Net interest income	0	0	0	0	0
Other	676	795	814	850	900
Operating profit	17,297	16,250	29,744	40,130	39,407
EBITDA	28,690	29,842	43,622	55,187	55,651
Non-op profit/loss	<b>2,032</b>	<b>909</b>	<b>1,079</b>	<b>984</b>	<b>2,109</b>
Forex gain/loss	<b>-180</b>	<b>-665</b>	<b>-200</b>	<b>-330</b>	<b>-310</b>
Net interest inc	-23	62	246	746	1,356
Equity-meth gain/loss	2,267	1,399	1,500	1,610	1,700
Other	<b>-32</b>	<b>113</b>	<b>-467</b>	<b>-1,042</b>	<b>-637</b>
Net prof before income tax	19,329	17,159	30,823	41,115	41,516
Income tax	3,182	3,425	6,473	8,634	8,718
Net profit from cont op	16,147	13,734	24,350	32,481	32,797
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>16,147</b>	<b>13,734</b>	<b>24,350</b>	<b>32,481</b>	<b>32,797</b>
NP for controlling int	15,799	13,359	23,686	31,594	31,902
Total comprehensive inc	17,288	13,232	23,848	31,978	32,295
TCI for controlling int	16,901	12,802	23,073	30,938	31,245

Note: 1. Adjusted op profit = gross profit - SG&A  
 2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>23,827</b>	<b>22,918</b>	<b>35,045</b>	<b>43,665</b>	<b>46,289</b>
Net profit	16,147	13,734	24,350	32,481	32,797
Depreciation & amort	10,847	12,934	13,250	14,411	15,574
Forex gain/loss	0	0	200	330	310
Affiliate invest gain/loss	-2,267	-1,399	-1,500	-1,610	-1,700
Inc(dec) net working cap	-5,668	-4,057	-3,221	-3,930	-2,700
Other	4,768	1,706	1,966	1,984	2,008
<b>Investing cash flow</b>	<b>-23,985</b>	<b>-21,113</b>	<b>-20,950</b>	<b>-19,962</b>	<b>-18,262</b>
Investment	-128	-101	-97	-97	-97
Inc in tangible assets	-21,619	-21,966	-22,018	-20,500	-18,300
Dec in tangible assets	1,228	380	0	0	0
Other	-3,466	575	1,164	634	134
<b>Financing cash flow</b>	<b>-152</b>	<b>3,110</b>	<b>-1,312</b>	<b>-1,820</b>	<b>-2,290</b>
Inc(dec) in ST fin liab	<b>868</b>	<b>977</b>	<b>-500</b>	<b>-500</b>	<b>-500</b>
Inc(dec) in LT fin liab	834	2,780	0	-130	-600
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-1,918	-875	-878	-1,256	-1,256
Other	64	227	66	66	66
Other cash flow	-48	-15	-2,669	-2,630	-3,316
Inc (dec) in cash & eq	-359	4,900	10,114	19,252	22,421
Beginning cash & equiv	10,150	9,791	14,692	24,806	44,058
Ending cash & equiv	9,791	14,692	24,806	44,058	66,479
NOPLAT	1,730	1,625	2,974	4,013	3,941
FCF	-1,444	575	12,137	22,330	26,375

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>61,403</b>	<b>71,502</b>	<b>86,948</b>	<b>112,528</b>	<b>140,037</b>
Cash & cash equiv	9,791	14,692	24,806	44,058	66,479
Accts rec & other	21,309	24,153	27,943	31,909	34,873
Inventory	13,365	15,717	18,395	21,237	23,361
Non-current assets	<b>72,886</b>	<b>84,129</b>	<b>93,825</b>	<b>100,746</b>	<b>105,098</b>
Tangible assets	52,965	62,044	70,812	76,901	79,627
Investment in affiliate	8,335	9,204	10,801	12,508	14,304
Other non-current	<b>3,040</b>	<b>3,224</b>	<b>3,224</b>	<b>3,224</b>	<b>3,224</b>
Total assets	134,289	155,631	180,773	213,274	245,135
<b>Current liabilities</b>	<b>39,945</b>	<b>44,319</b>	<b>46,232</b>	<b>48,147</b>	<b>49,101</b>
Accts payable & other	24,205	28,048	30,361	32,307	33,760
ST financial liabilities	8,430	9,654	9,154	8,654	8,154
Liquid LT liabilities	1,124	30	130	600	600
Non-current liabilities	4,995	9,467	9,367	8,767	8,167
LT financial liabilities	537	3,560	3,560	3,060	2,560
Debentures	<b>587</b>	<b>1,280</b>	<b>1,180</b>	<b>1,080</b>	<b>980</b>
Total liabilities	44,940	53,786	55,599	56,914	57,267
Equity, controlling int	<b>85,590</b>	<b>97,600</b>	<b>119,956</b>	<b>149,842</b>	<b>180,036</b>
Paid-in capital	898	898	898	898	898
Capital surplus	4,404	4,404	4,404	4,404	4,404
Retained earnings	85,015	97,543	120,401	150,789	181,485
Equity, non-control int	3,760	4,246	5,218	6,518	7,831
Total equity	89,349	101,845	125,174	156,360	187,867
Net debt	-11,705	-12,231	-21,815	-41,297	-64,818
Total debt	10,775	14,647	14,147	13,516	12,416

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	105,903	89,946	159,715	213,403	215,496
BPS (won)	548,698	617,984	749,389	925,050	1,102,524
EBITDA/shr (won)	168,636	175,403	256,399	324,376	327,102
SPS (won)	908,880	969,841	1,188,131	1,371,713	1,508,884
DPS (won)	5,000	5,000	7,500	7,500	7,500
P/E (x)	7.6	10.0	8.8	6.6	6.6
P/B (x)	1.5	1.5	1.9	1.5	1.3
EV/EBITDA (x)	4.3	4.6	4.8	3.5	3.1
PSR (x)	0.9	0.9	1.2	1.0	0.9

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	13.4	6.7	22.5	15.5	10.0
Operating profit (% y-y)	58.3	-6.1	83.0	34.9	-1.8
Adjusted OP (% y-y)	51.4	-7.0	87.2	35.8	-2.0
NP, CI (% y-y)	65.1	-15.4	77.3	33.4	1.0
Gross margin (%)	33.6	32.0	36.4	37.8	36.0
Operating margin (%)	11.2	9.8	14.7	17.2	15.4
Adj OP margin (%)	10.7	9.4	14.3	16.8	15.0
NP, CI margin (%)	10.2	8.1	11.7	13.5	12.4
EBITDA margin (%)	18.6	18.1	21.6	23.6	21.7
ROIC (%)	24.9	18.6	28.7	33.9	30.6
ROA (%)	12.8	9.2	14.1	16.0	13.9
ROE (%)	20.4	14.6	21.8	23.4	19.3
Debt-to-equity (%)	50.3	52.8	44.4	36.4	30.5
Net debt-to-equity (%)	-13.7	-12.5	-18.2	-27.6	-36.0
OP/financing cost (x)	29.8	25.2	46.7	66.0	70.5

Note: EPS, BPS, P/E and P/B are based on controlling interest

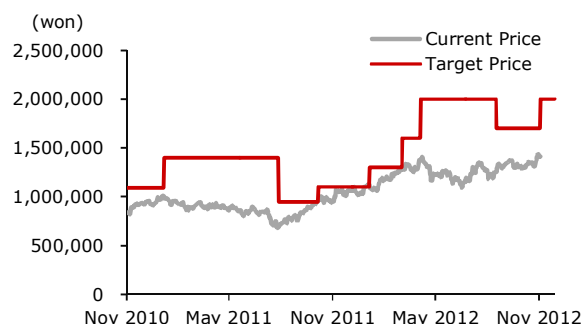
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

## Samsung Electronics (005930 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	2,000,000
2012-11-28	BUY	2,000,000
2012-10-29	BUY	1,700,000
2012-10-22	BUY	1,700,000
2012-10-08	BUY	1,700,000
2012-09-13	BUY	1,700,000
2012-09-11	BUY	1,700,000
2012-08-26	BUY	2,000,000
2012-07-30	BUY	2,000,000
2012-07-19	BUY	2,000,000

Source: TONGYANG Securities

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I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

## Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

# SEMCO (009150 KS)

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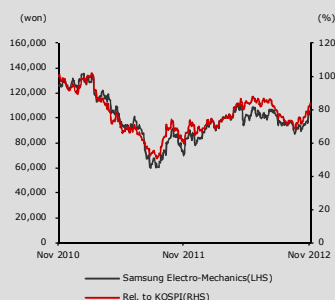
Nov 30, 2012

**KOREA  
IT component**

Share price (won, Nov 28)	106,000
Paid-in capital (Wbn)	388
Market cap (Wbn)	8,010
BPS (won)	50,973
Net debt to equity (%)	2.3
Shares outstanding	77,600,680
Avg daily T/O (2M, Wbn)	59
Avg daily vol (2M, shrs)	616,263
52-week high (won)	111,000
52-week low (won)	71,700
Foreign ownership (%)	20.0
Major shareholders (%)	
	SEC & others 23.7

**Stock performance (%)**

	1M	3M	12M
Absolute	12.8	10.5	47.8
Relative	1.1	(0.2)	5.4
Abs (US\$)	13.9	15.6	57.1



Source: Datastream

## To benefit most from SEC's mobile devices

### Revise up 4Q operating profit on SEC's strong smartphone sales

- We expect Samsung Electronics' (SEC) smartphone sales to remain robust through 4Q, thanks to SEC cementing its dominant market position, rather than poor performance by Apple. We revise up our forecast for SEC's 4Q smartphone shipments, and expect SEMCO to benefit accordingly. We estimate SEMCO's 4Q operating profit at W197.2bn (-2% q-q), which is solid given seasonal weakness in 4Q.

### Should benefit from SEC's growing tablet shipments

- We initially assumed SEC would ship 298mn smartphones and 26mn tablets in 2013, but now, based on a recent survey, we revise up SEC's 2013 smartphone shipments to 326mn units and tablet shipments to 33mn. Of note, tablet shipment growth should contribute to additional sales growth for SEMCO. We revise up SEMCO's 2013 sales by 4% to W9.4tn, and operating profit 6% to W799.9bn.

### Growth potential noteworthy

- Since SEC relies strongly on SEMCO for key parts, such as MLCC, substrate, and camera modules, SEC's robust mobile device sales should push up SEMCO's earnings. We are optimistic about SEMCO's long-term growth, as its global competitiveness should improve on joint product development with SEC.

Forecasts and valuations (K-IFRS)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	5,651	6,032	7,951	9,397	10,337
Chg (% y-y)	1.8	6.7	31.8	18.2	10.0
Reported OP	498	321	660	800	833
Adjusted OP*	466	278	609	744	775
Net profit, CI	555	349	480	583	605
EPS, CI (won)	7,386	4,648	6,397	7,778	8,053
Chg (% y-y)	99.7	-37.1	37.6	21.6	3.5
P/E (x)	16.8	20.8	16.6	13.6	13.2
P/B (x)	2.8	2.1	2.1	1.8	1.7
EV/EBITDA (x)	10.4	8.9	6.2	5.2	4.9
ROA (%)	8.9	4.9	6.7	8.1	7.8
ROE (%)	18.3	10.0	12.9	13.9	12.9

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

Table 1. Quarterly earnings and forecast

(Wbn, won)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales	1,398	1,399	1,571	1,664	1,748	1,908	2,183	2,113	6,032	7,951	9,397
Operating profit	73	69	81	99	107	156	200	197	321	660	800
Pre-tax profit	90	73	51	149	99	145	191	188	364	623	802
Net profit	86	54	65	145	70	135	139	136	349	480	583
EPS (won)	1,146	725	869	1,909	931	1,810	1,862	1,795	4,648	6,397	7,778
Operating margin (%)	5	5	5	6	6	8	9	9	5	8	9
Pre-tax margin (%)	6	5	3	9	6	8	9	9	6	8	9
Net margin (%)	6	4	4	9	4	7	6	6	6	6	6
Sales	1,398	1,399	1,571	1,664	1,748	1,908	2,183	2,113	6,032	7,951	9,397
MLCC	430	433	428	399	441	473	512	479	1,689	1,905	2,290
ACI	351	377	415	459	501	555	530	520	1,602	2,106	2,412
CDS	440	382	392	426	382	394	478	482	1,640	1,736	1,851
OMS	177	208	337	379	424	486	663	631	1,101	2,204	2,844
Operating profit	73	69	81	99	107	156	200	197	321	660	800
MLCC	55	45	34	20	26	44	52	49	153	171	225
ACI	12	16	28	47	53	74	77	80	102	284	324
CDS	6	6	7	13	8	15	32	32	33	87	94
OMS	0	2	11	19	20	23	39	36	33	118	157
Operating margin (%)	5	5	5	6	6	8	9	9	5	8	9
MLCC	13	10	8	5	6	9	10	10	9	9	10
ACI	3	4	7	10	11	13	15	15	6	14	13
CDS	1	2	2	3	2	4	7	7	2	5	5
OMS	0	1	3	5	5	5	6	6	3	5	6

Source: TONGYANG Securities

Table 2. Target price calculation based on sum-of-the-parts

(Wbn)

<b>Value of operations (1)</b>	<b>9,113</b>	
2013E EBITDA	1,571	
Target multiple	5.0	2013E peer group EV/EBITDA
Premium	20%	
Controlling interest	96%	
<b>Value of investments (2)</b>	<b>1,034</b>	
Listed investment securities	482	Market value
Unlisted investment securities	811	2011 book value
Premium	-20%	Reflects share price volatility
<b>Net cash (3)</b>	<b>-83</b>	
Net cash	-90	2013E
Controlling interest	92%	
Shareholder value (1) + (2) + (3)	10,064	
Common shares' portion of market cap	98.8%	
Common share shareholder value	9,948	
Common share, shares outstanding ('000 shrs)	74,694	
<b>Target price (won)</b>	<b>140,000</b>	
Current price (won)	94,300	
Upside (%)	48%	

Source: TONGYANG Securities

## SEMCO (009150 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>5,651</b>	<b>6,032</b>	<b>7,951</b>	<b>9,397</b>	<b>10,337</b>
Cost of sales	4,482	5,050	6,491	7,695	8,528
Gross profit	1,169	981	1,460	1,702	1,809
SG&A	704	704	851	958	1,034
Adj operating profit*	466	278	609	744	775
Other op prof/loss	<b>32</b>	<b>43</b>	<b>51</b>	<b>56</b>	<b>58</b>
Forex gain/loss	-3	19	4	3	3
Net interest income	0	0	0	0	0
Other	36	24	47	53	55
Operating profit	498	321	660	800	833
EBITDA	1,017	984	1,384	1,571	1,610
Non-op profit/loss	<b>71</b>	<b>43</b>	<b>-38</b>	<b>3</b>	<b>9</b>
Forex gain/loss	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net interest inc	-31	-35	-16	-7	1
Equity-meth gain/loss	0	0	0	0	0
Other	<b>102</b>	<b>78</b>	<b>-22</b>	<b>10</b>	<b>8</b>
Net prof before income tax	569	364	623	802	842
Income tax	133	56	156	169	185
Net profit from cont op	436	308	467	634	657
Net profit from discount op	<b>230</b>	<b>84</b>	<b>27</b>	<b>0</b>	<b>0</b>
Net profit	<b>667</b>	<b>392</b>	<b>494</b>	<b>634</b>	<b>657</b>
NP for controlling int	555	349	480	583	605
Total comprehensive inc	1,056	155	516	601	624
TCI for controlling int	940	108	502	553	574

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>965</b>	<b>489</b>	<b>890</b>	<b>1,068</b>	<b>1,150</b>
Net profit	667	392	494	634	657
Depreciation & amort	508	648	705	750	757
Forex gain/loss	-2	-2	-4	-3	-3
Affiliate invest gain/loss	-3	1	0	0	0
Inc(dec) net working cap	-322	-675	-381	-422	-369
Other	117	125	77	109	108
<b>Investing cash flow</b>	<b>-1,200</b>	<b>-976</b>	<b>-760</b>	<b>-764</b>	<b>-814</b>
Investment	-115	95	-40	-40	-40
Inc in tangible assets	-1,136	-1,240	-707	-710	-760
Dec in tangible assets	48	170	0	0	0
Other	3	-1	-13	-14	-14
<b>Financing cash flow</b>	<b>-80</b>	<b>301</b>	<b>-441</b>	<b>-241</b>	<b>-251</b>
Inc(dec) in ST fin liab	<b>148</b>	<b>153</b>	<b>-100</b>	<b>-70</b>	<b>-80</b>
Inc(dec) in LT fin liab	-86	305	-200	-30	-30
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-68	-88	-69	-69	-69
Other	-74	-69	-72	-72	-72
Other cash flow	-78	16	961	206	176
Inc (dec) in cash & eq	-393	-169	650	269	261
Beginning cash & equiv	1,089	695	526	1,176	1,446
Ending cash & equiv	695	526	1,176	1,446	1,707
NOPLAT	50	32	66	80	83
FCF	-557	-980	130	271	298

Note: EPS, BPS, P/E and P/B are based on controlling interest

For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>2,476</b>	<b>3,697</b>	<b>3,202</b>	<b>3,757</b>	<b>4,239</b>
Cash & cash equiv	695	526	1,176	1,446	1,707
Accts rec & other	841	882	1,044	1,186	1,301
Inventory	752	760	906	1,052	1,158
Non-current assets	<b>4,360</b>	<b>3,632</b>	<b>3,702</b>	<b>3,696</b>	<b>3,735</b>
Tangible assets	2,619	2,278	2,280	2,240	2,242
Investment in affiliate	61	41	81	121	161
Other non-current	<b>1,531</b>	<b>1,233</b>	<b>1,263</b>	<b>1,263</b>	<b>1,263</b>
Total assets	6,836	7,329	6,904	7,454	7,974
<b>Current liabilities</b>	<b>1,819</b>	<b>2,711</b>	<b>1,719</b>	<b>1,753</b>	<b>1,726</b>
Accts payable & other	975	763	969	1,073	1,136
ST financial liabilities	756	796	696	626	546
Liquid LT liabilities	0	300	30	30	20
Non-current liabilities	1,215	742	819	791	771
LT financial liabilities	654	495	565	535	515
Debentures	<b>299</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total liabilities	3,033	3,453	2,538	2,544	2,497
Equity, controlling int	<b>3,475</b>	<b>3,507</b>	<b>3,951</b>	<b>4,443</b>	<b>4,957</b>
Paid-in capital	388	388	388	388	388
Capital surplus	1,046	1,046	1,046	1,046	1,046
Retained earnings	1,276	1,529	1,951	2,476	3,022
Equity, non-control int	328	368	415	467	521
Total equity	3,803	3,876	4,366	4,910	5,477
Net debt	874	1,037	90	-280	-651
Total debt	1,710	1,590	1,290	1,190	1,080

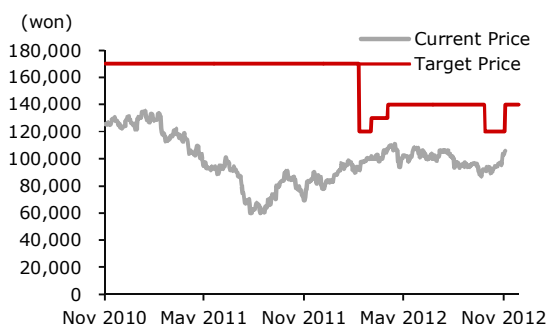
### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	7,386	4,648	6,397	7,778	8,053
BPS (won)	44,941	45,295	51,015	57,355	63,969
EBITDA/shr (won)	13,111	12,687	17,835	20,239	20,746
SPS (won)	72,823	77,729	102,464	121,094	133,204
DPS (won)	1,000	750	750	750	1,000
P/E (x)	16.8	20.8	16.6	13.6	13.2
P/B (x)	2.8	2.1	2.1	1.8	1.7
EV/EBITDA (x)	10.4	8.9	6.2	5.2	4.9
PSR (x)	1.7	1.2	1.0	0.9	0.8

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	1.8	6.7	31.8	18.2	10.0
Operating profit (% y-y)	7.1	-35.6	105.8	21.1	4.2
Adjusted OP (% y-y)	0.2	-40.3	119.3	22.1	4.2
NP, CI (% y-y)	99.2	-37.0	37.4	21.5	3.7
Gross margin (%)	20.7	16.3	18.4	18.1	17.5
Operating margin (%)	8.8	5.3	8.3	8.5	8.1
Adj OP margin (%)	8.2	4.6	7.7	7.9	7.5
NP, CI margin (%)	9.8	5.8	6.0	6.2	5.8
EBITDA margin (%)	18.0	16.3	17.4	16.7	15.6
ROIC (%)	13.2	7.6	13.7	18.5	18.3
ROA (%)	8.9	4.9	6.7	8.1	7.8
ROE (%)	18.3	10.0	12.9	13.9	12.9
Debt-to-equity (%)	79.8	89.1	58.1	51.8	45.6
Net debt-to-equity (%)	25.2	29.6	2.3	-6.3	-13.1
OP/financing cost (x)	11.0	7.0	16.5	21.7	24.9

## SEMCO (009150 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	140,000
2012-11-28	BUY	140,000
2012-11-02	BUY	120,000
2012-10-26	BUY	120,000
2012-10-22	BUY	120,000
2012-09-18	BUY	140,000
2012-07-27	BUY	140,000
2012-07-19	BUY	140,000
2012-07-02	BUY	140,000
2012-06-11	BUY	140,000

Source: TONGYANG Securities

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I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

## Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting



# SK Hynix (000660 KS)

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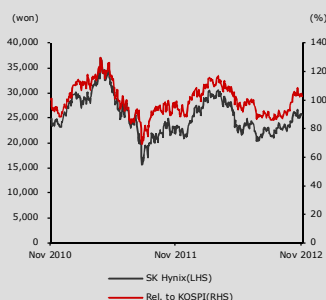
Nov 30, 2012

**KOREA  
Semiconductor**

Share price (won, Nov 28)	25,350
Paid-in capital (Wbn)	3,488
Market cap (Wbn)	17,597
BPS (won)	14,506
Net debt to equity (%)	36.0
Shares outstanding	694,152,751
Avg daily T/O (2M, Wbn)	118
Avg daily vol (2M, shrs)	4,943,112
52-week high (won)	30,550
52-week low (won)	20,250
Foreign ownership (%)	24.8
Major shareholders (%)	
SK Telecom & others	21.1

**Stock performance (%)**

	1M	3M	12M
Absolute	5.2	19.0	8.8
Relative	1.1	(0.2)	5.4
Abs (US\$)	6.2	24.5	15.6



Source: Datastream

## Raise target on visibility on earnings growth

### Revise up 4Q operating profit to W142.0bn

- In 4Q, SK Hynix should continue to improve its product mix, which also helped boost 3Q earnings growth. In 4Q, shipments should rise on increasing demand from mobile devices. Also, ASP is likely to beat consensus on a higher portion of premium products—mobile DRAM and embedded NAND. With NAND ASP expected to be higher than our previous forecast and cost reductions for DRAM 29nm and NAND 20nm to be bigger than expected, we revise up 4Q operating profit by 66% to W142.0bn.

### Memory market likely to revive modestly in 2013

- With mobile devices leading memory demand, total memory demand is unlikely to grow sharply in 2013. In particular, mobile memory has a small GB/box, meaning rising mobile memory demand should have a limited impact on total memory demand growth. However, as chipmakers are cutting back on DRAM and NAND output, this should improve supply-demand dynamics. Thus, we expect PC DRAM to bounce back modestly, after fading through December. Mobile DRAM price should remain stable until end-2012, and decline modestly from 1Q13. Also, NAND prices should turn downward from Dec 2012.

### Raise target price on improved visibility on earnings growth

- Currently, Micron is in talks to take over Elpida. As Micron's attempt has been underway for almost a year and Elpida has cut back on capacity by 30%, we doubt Micron will succeed. Meanwhile, Taiwan's chipmakers may adjust DRAM supply, which could allow the memory market to rebound strongly. Barring an unforeseen reshaping of the industry landscape, we expect SK Hynix's quarterly operating profit to continue to grow, allowing 2013 operating profit to reach W1.15tn. Amid heightened visibility on earnings growth, we maintain BUY and revise up our target price by 15% to W31,000.

**Forecasts and valuations (K-IFRS)**

	(Wbn)				
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	12,106	10,396	10,085	11,250	12,319
Chg (% y-y)	53.1	-14.1	-3.0	11.6	9.5
Reported OP	2,975	325	-110	1,147	1,820
Adjusted OP*	3,001	105	-183	1,052	1,725
Net profit, CI	2,621	-57	-202	1,004	1,616
EPS, CI (won)	4,441	-96	-296	1,446	2,328
Chg (% y-y)	-816.3	-102.2	208.3	-588.5	61.0
P/E (x)	5.4	-269.4	-85.6	17.5	10.9
P/B (x)	1.8	1.9	1.7	1.6	1.4
EV/EBITDA (x)	3.0	5.3	6.8	4.6	3.4
ROA (%)	15.5	-0.3	-1.1	5.2	7.8
ROE (%)	39.2	-0.7	-2.2	9.5	13.5

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest  
 Source: TONGYANG Securities

**Table 1. Underlying assumptions for earnings forecast**

		1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Won/US\$ rate	Old	1,120	1,083	1,080	1,150	1,140	1,150	1,130	1,090	1,108	1,128	1,020
	New	1,120	1,083	1,080	1,150	1,140	1,150	1,130	1,090	1,108	1,128	1,020
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	-1	-3	0	6	-1	1	-2	-4	-4	2	-10
DRAM shipment (1G equiv, mn)	Old	1,112	1,106	1,201	1,560	1,702	1,826	1,737	2,043	4,979	7,307	10,060
	New	1,112	1,106	1,201	1,560	1,702	1,826	1,737	2,053	4,979	7,317	10,060
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	15	0	9	30	9	7	-5	18	50	47	37
ASP (1G equiv, US\$)	Old	1.71	1.68	1.19	0.96	0.87	0.93	0.86	0.79	1.34	0.86	0.76
	New	1.71	1.68	1.19	0.96	0.87	0.93	0.86	0.79	1.34	0.86	0.76
	Diff (%)	0	0	0	0	0	0	0	0	0	0	0
	Chg (% q-q)	-13	-1	-29	-19	-10	7	-8	-8	-49	-36	-11
NAND shipments (16G equiv, mn)	Old	170	231	268	331	337	369	388	460	1,001	1,554	2,506
	New	170	231	268	331	337	369	388	465	1,001	1,559	2,511
	Diff (%)	0	0	0	0	0	0	0	1	0	0	0
	Chg (% q-q)	15	36	16	24	2	9	5	20	147	56	61
ASP (16G equiv, US\$)	Old	4.72	3.82	3.27	2.71	2.27	1.83	1.90	2.01	3.46	2.00	1.60
	New	4.72	3.82	3.27	2.71	2.27	1.83	1.90	2.05	3.46	2.01	1.63
	Diff (%)	0	0	0	0	0	0	0	2	0	1	2
	Chg (% q-q)	0	-19	-14	-17	-16	-19	4	8	-40	-42	-19

Source: TONGYANG Securities

**Table 2. Quarterly earnings and forecast**

(Wtn)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales	2.79	2.76	2.29	2.55	2.39	2.63	2.42	2.64	10.39	10.08	11.25
Operating profit	0.32	0.45	-0.28	-0.17	-0.26	0.02	-0.02	0.14	0.33	-0.11	1.15
Pre-tax profit	0.28	0.47	-0.55	-0.16	-0.27	-0.04	0.01	0.12	0.05	-0.19	1.03
Net profit	0.27	0.47	-0.56	-0.24	-0.27	-0.05	0.00	0.12	-0.06	-0.20	1.00
EPS (won)	463	796	-948	-405	-420	-77	3	173	-96	-296	1,446
Operating margin (%)	12	16	-12	-7	-11	1	-1	5	3	-1	10
Pre-tax margin (%)	10	17	-24	-6	-11	-2	0	5	0	-2	9
Net margin (%)	10	17	-24	-9	-11	-2	0	5	-1	-2	9
Sales	2.79	2.76	2.29	2.55	2.39	2.63	2.42	2.64	10.39	10.08	11.25
DRAM	2.12	2.01	1.54	1.73	1.69	1.96	1.69	1.77	7.41	7.12	7.83
NAND & other	0.67	0.75	0.75	0.82	0.70	0.67	0.73	0.87	2.99	2.97	3.42
Operating profit	0.32	0.45	-0.28	-0.17	-0.26	0.02	-0.02	0.14	0.33	-0.11	1.15
DRAM	0.23	0.39	-0.33	-0.25	-0.30	0.06	-0.04	0.02	-0.17	-0.19	0.64
NAND & other	0.09	0.06	0.06	0.08	0.04	-0.04	0.03	0.12	0.49	0.08	0.51
Operating margin (%)	12	16	-12	-7	-11	1	-1	5	3	-1	10
DRAM	11	19	-22	-14	-18	3	-2	1	-2	-3	8
NAND & other	14	8	8	10	6	-6	4	14	16	3	15

Source: Company data, TONGYANG Securities

Table 3. Earnings forecast revision

(Wtn)

		4Q12E			2012E			2013E		
		Old	New	Diff (%)	Old	New	Diff (%)	Old	New	Diff (%)
Sales		2.50	2.64	6	9.96	10.08	1	11.18	11.25	1
	DRAM	1.81	1.77	-2	7.29	7.12	-2	8.27	7.83	-5%
	NAND	0.69	0.87	26	2.68	2.97	11	2.92	3.42	17%
Operating profit		0.07	0.14	99	-0.23	-0.11	LD	1.06	1.15	8
	DRAM	0.04	0.02	TTR	-0.16	-0.19	LI	0.88	0.64	-27%
	NAND	0.03	0.12	290	-0.06	0.08	TTB	0.19	0.51	174%
Pre-tax profit		0.05	0.12	119	-0.34	-0.19	LD	0.93	1.03	10
Net profit		0.08	0.12	54	-0.29	-0.20	LD	0.91	1.00	10

Note: LD = loss decrease, LI = loss increase, TTB = turn to black, TTR = turn to red

Source: TONGYANG Securities

Table 4. RIM-based target price calculation

(Wbn)

	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
NI	-202	1,004	1,616	2,559	2,996	3,491	4,067	4,738	5,519	6,430
Stockholders' equity	10,069	11,142	12,826	15,455	18,520	21,298	24,492	28,166	32,391	37,250
RI	-1,372	-291	125	763	844	1,016	1,221	1,465	1,756	2,102
PV of forecast RI	-1,229	-234	90	492	487	525	565	608	653	700
Sum of PV of forecast RI										2,658
Re										11.6
Beta										1.16
Rm - Rf										7.0
Rf										3.5
Sum of PV of forecast RI										2,658
Present value of continuing value										11,104
Stockholders' equity (beginning)										7,876
Equity Value										21,638
Common stock equity value										21,638
Number of shares										694,122,430
Fair value (won)										31,000
Current price (won)										25,350
Premium (%)										22

Source: TONGYANG Securities

**SK Hynix (000660 KS) pro forma financial statements (K-IFRS, consolidated)****Statement of comprehensive income**

<b>FY ends Dec (Wbn)</b>	<b>2010A</b>	<b>2011A</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>
<b>Sales</b>	<b>12,106</b>	<b>10,396</b>	<b>10,085</b>	<b>11,250</b>	<b>12,319</b>
Cost of sales	7,644	8,721	8,412	8,342	8,623
Gross profit	4,463	1,675	1,673	2,908	3,696
SG&A	1,461	1,569	1,856	1,856	1,971
Adj operating profit*	3,001	105	-183	1,052	1,725
Other op prof/loss	<b>-26</b>	<b>220</b>	<b>72</b>	<b>95</b>	<b>95</b>
Forex gain/loss	0	0	0	0	0
Net interest income	0	0	0	0	0
Other	-26	220	72	95	95
Operating profit	2,975	325	-110	1,147	1,820
EBITDA	6,124	3,792	3,131	4,561	5,399
Non-op profit/loss	<b>-309</b>	<b>-280</b>	<b>-79</b>	<b>-117</b>	<b>-110</b>
Forex gain/loss	<b>63</b>	<b>-19</b>	<b>68</b>	<b>42</b>	<b>-7</b>
Net interest inc	-279	-254	-223	-206	-139
Equity-meth gain/loss	2	11	21	21	21
Other	<b>-95</b>	<b>-18</b>	<b>56</b>	<b>26</b>	<b>16</b>
Net prof before income tax	2,666	45	-190	1,029	1,709
Income tax	69	101	13	21	85
Net profit from cont op	2,598	-56	-203	1,009	1,624
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>2,598</b>	<b>-56</b>	<b>-203</b>	<b>1,009</b>	<b>1,624</b>
NP for controlling int	2,621	-57	-202	1,004	1,616
Total comprehensive inc	2,494	13	-134	1,077	1,693
TCI for controlling int	2,525	13	-133	1,072	1,684

Note: 1. Adjusted op profit = gross profit - SG&amp;A

2. EBITDA is based on adjusted operating profit

**Cash flow statement**

<b>FY ends Dec (Wbn)</b>	<b>2010A</b>	<b>2011A</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>
<b>Operating cash flow</b>	<b>5,884</b>	<b>2,856</b>	<b>2,568</b>	<b>3,448</b>	<b>4,294</b>
Net profit	2,598	-56	-203	1,009	1,624
Depreciation & amort	3,128	3,401	3,173	3,339	3,499
Forex gain/loss	-77	29	-68	-42	7
Affiliate invest gain/loss	0	0	-21	-21	-21
Inc(dec) net working cap	-30	-813	-488	-1,018	-1,002
Other	265	294	174	181	186
<b>Investing cash flow</b>	<b>-4,683</b>	<b>-3,389</b>	<b>-4,300</b>	<b>-3,823</b>	<b>-2,708</b>
Investment	-1,227	305	-12	-12	-12
Inc in tangible assets	-3,392	-3,568	-4,204	-3,740	-2,580
Dec in tangible assets	128	14	0	0	0
Other	-192	-141	-84	-71	-116
<b>Financing cash flow</b>	<b>-1,140</b>	<b>519</b>	<b>1,847</b>	<b>-270</b>	<b>-120</b>
Inc(dec) in ST fin liab	<b>0</b>	<b>0</b>	<b>-15</b>	<b>-20</b>	<b>-20</b>
Inc(dec) in LT fin liab	-1,140	608	-464	-250	-100
Inc(dec) in equity	0	0	2,327	0	0
Cash dividend	0	-89	0	0	0
Other	0	0	0	0	0
Other cash flow	-19	5	722	882	774
Inc (dec) in cash & eq	41	-9	837	237	2,240
Beginning cash & equiv	1,212	1,253	1,244	2,081	2,318
Ending cash & equiv	1,253	1,244	2,081	2,318	4,558
NOPLAT	298	33	-12	115	182
FCF	2,626	-1,318	-1,569	-220	1,727

**Statement of financial position**

<b>FY ends Dec (Wbn)</b>	<b>2010A</b>	<b>2011A</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>
<b>Current assets</b>	<b>5,416</b>	<b>4,937</b>	<b>5,585</b>	<b>6,042</b>	<b>8,539</b>
Cash & cash equiv	1,253	1,244	2,081	2,318	4,558
Accts rec & other	1,773	1,754	1,721	1,864	2,008
Inventory	1,282	1,184	1,059	1,181	1,294
<b>Non-current assets</b>	<b>11,996</b>	<b>12,301</b>	<b>13,395</b>	<b>13,822</b>	<b>12,965</b>
Tangible assets	10,591	10,899	11,930	12,331	11,412
Investment in affiliate	98	104	126	148	170
Other non-current	<b>72</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>
<b>Total assets</b>	<b>17,412</b>	<b>17,238</b>	<b>18,980</b>	<b>19,864</b>	<b>21,503</b>
<b>Current liabilities</b>	<b>5,350</b>	<b>4,817</b>	<b>4,466</b>	<b>4,427</b>	<b>4,532</b>
Accts payable & other	2,049	1,565	1,592	1,674	1,749
ST financial liabilities	511	1,416	1,401	1,381	1,361
Liquid LT liabilities	2,066	1,414	1,050	950	1,000
<b>Non-current liabilities</b>	<b>4,155</b>	<b>4,546</b>	<b>4,446</b>	<b>4,296</b>	<b>4,146</b>
LT financial liabilities	1,772	1,483	1,483	1,433	1,383
Debentures	<b>1,705</b>	<b>2,463</b>	<b>2,363</b>	<b>2,263</b>	<b>2,163</b>
<b>Total liabilities</b>	<b>9,505</b>	<b>9,363</b>	<b>8,911</b>	<b>8,723</b>	<b>8,678</b>
Equity, controlling int	<b>7,906</b>	<b>7,876</b>	<b>10,069</b>	<b>11,142</b>	<b>12,826</b>
Paid-in capital	2,969	2,978	3,488	3,488	3,488
Capital surplus	1,193	1,229	3,046	3,046	3,046
Retained earnings	3,761	3,555	3,353	4,357	5,973
Equity, non-control int	2	0	-1	-1	-1
<b>Total equity</b>	<b>7,908</b>	<b>7,875</b>	<b>10,069</b>	<b>11,141</b>	<b>12,826</b>
<b>Net debt</b>	<b>3,908</b>	<b>4,908</b>	<b>3,624</b>	<b>3,162</b>	<b>802</b>
<b>Total debt</b>	<b>6,110</b>	<b>6,784</b>	<b>6,305</b>	<b>6,035</b>	<b>5,915</b>

**Valuation**

<b>FY ends Dec</b>	<b>2010A</b>	<b>2011A</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>
EPS (won)	4,441	-96	-296	1,446	2,328
BPS (won)	13,394	13,300	14,506	16,051	18,478
EBITDA/shr (won)	10,379	6,410	4,592	6,570	7,778
SPS (won)	20,515	17,572	14,790	16,207	17,747
DPS (won)	150	0	0	0	0
P/E (x)	5.4	-269.4	-85.6	17.5	10.9
P/B (x)	1.8	1.9	1.7	1.6	1.4
EV/EBITDA (x)	3.0	5.3	6.8	4.6	3.4
PSR (x)	1.2	1.5	1.7	1.6	1.4

**Key financial data**

<b>FY ends Dec</b>	<b>2010A</b>	<b>2011A</b>	<b>2012F</b>	<b>2013F</b>	<b>2014F</b>
Sales (% y-y)	53.1	-14.1	-3.0	11.6	9.5
Operating profit (% y-y)	1,449.9	-89.1	-133.9	-1,139.8	58.7
Adjusted OP (% y-y)	1,463.5	-96.5	-273.7	-675.5	64.0
NP, CI (% y-y)	-853.6	-102.2	256.4	-597.2	61.0
Gross margin (%)	36.9	16.1	16.6	25.8	30.0
Operating margin (%)	24.6	3.1	-1.1	10.2	14.8
Adj OP margin (%)	24.8	1.0	-1.8	9.3	14.0
NP, CI margin (%)	21.6	-0.5	-2.0	8.9	13.1
EBITDA margin (%)	50.6	36.5	31.0	40.5	43.8
ROIC (%)	25.3	-3.3	-0.9	8.1	12.4
ROA (%)	15.5	-0.3	-1.1	5.2	7.8
ROE (%)	39.2	-0.7	-2.2	9.5	13.5
Debt-to-equity (%)	120.2	118.9	88.5	78.3	67.7
Net debt-to-equity (%)	49.4	62.3	36.0	28.4	6.3
OP/financing cost (x)	8.6	1.0	-0.4	4.0	6.6

Note: EPS, BPS, P/E and P/B are based on controlling interest

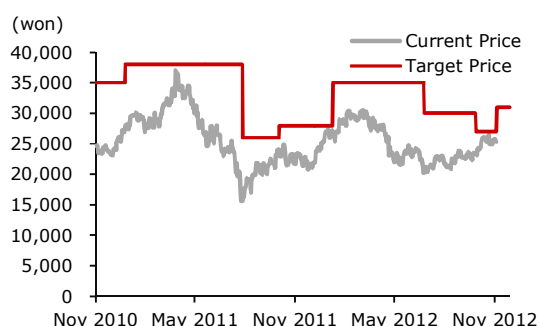
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

## SK Hynix (000660 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	31,000
2012-10-25	BUY	27,000
2012-10-22	BUY	27,000
2012-09-05	BUY	30,000
2012-07-27	BUY	30,000
2012-07-19	BUY	30,000
2012-07-02	BUY	35,000
2012-06-21	BUY	35,000
2012-05-15	BUY	35,000
2012-05-05	BUY	35,000

Source: TONGYANG Securities

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## Analyst certification

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

## Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

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# LG Display (034220 KS)

**BUY (M) / TP: W42,000 (U)**

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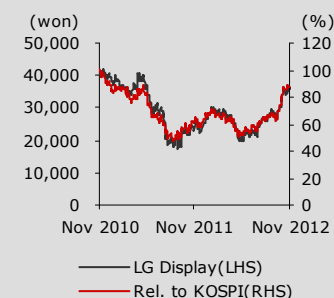
Nov 30, 2012

## KOREA Display

Share price (won, Nov 28)	35,750
Paid-in capital (Wbn)	1,789
Market cap (Wbn)	12,792
BPS (won)	29,116
Net debt to equity (%)	23.0
Shares outstanding	357,815,700
Avg daily T/O (2M, Wbn)	75
Avg daily vol (2M, shrs)	2,415,817
52-week high (won)	36,200
52-week low (won)	20,050
Foreign ownership (%)	31.4
Major shareholders (%)	
	LGE & others 37.9

## Stock performance (%)

	1M	3M	12M
Absolute	18.6	33.4	46.2
Relative	1.1	(0.2)	5.4
Abs (US\$)	19.7	39.6	55.3



Source: Datastream

## Better product mix = stable earnings growth

### Sector fundamentals to improve, but no structural recovery yet

- We expect TV sales to fall in 2013 as demand continues to be dampened by tablets. Even if limited capex and lower utilization limit further capacity growth, we are unlikely to see a structural recovery in the TV industry due to weak demand and chronic overcapacity.

### Earnings to grow on product differentiation

- Individual consumer tastes are having a bigger impact on the tech industry than before, and thus, it has become increasingly important for tech firms to roll out differentiated products. LGD, for its part, has moved its product portfolio upmarket by increasing the portions of premium mobile panels, IT panels, and TV panels. Thus, even as overall market ASP stalls, LGD's ASP continues to rise. Combined with cost reductions, we believe its earnings visibility has now greatly improved.

### Revise up forecasts for 4Q12 onwards

- Shipments for LGD's key client are lower than expected due to yield problems, but LGD's panel shipment has been stronger than we expected thanks to its superiority over rivals. We think it will continue to outdo rivals going forward, and as such, we revise up our forecasts for 4Q12 on. We estimate 4Q12 OP at W452.2bn (+79% % q-q) and 2013 OP at W1.64tn (+226% y-y).

### Earnings stable, regardless of unfavorable external conditions

- The robust growth of smartphones and tablets should continue into 2013, and LGD's earnings growth should accelerate on increased orders from a key client and LGE. Long term, white OLED TV and flexible OLED are expected to become major growth drivers. LG Display's LCD leadership, combined with its diverse product portfolio (eg, OLED), should help it to achieve steady earnings growth, regardless of sector fundamentals. We raise our target price 17% to W42,000.

## Forecasts and valuations (K-IFRS)

	(Wbn)				
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	25,512	24,291	29,213	32,128	35,341
Chg (% y-y)	27.3	-4.8	20.3	10.0	10.0
Reported OP	1,310	-924	502	1,637	1,930
Adjusted OP*	1,689	-764	612	1,757	2,050
Net profit, CI	1,156	-771	271	1,321	1,611
EPS, CI (won)	3,232	-2,155	758	3,693	4,502
Chg (% y-y)	3.5	-166.7	-135.2	387.2	21.9
P/E (x)	12.2	-13.8	47.2	9.7	7.9
P/B (x)	1.3	1.1	1.2	1.1	1.0
EV/EBITDA (x)	3.7	4.7	3.4	2.3	2.0
ROA (%)	5.3	-3.1	1.0	4.8	5.6
ROE (%)	11.0	-7.3	2.6	11.9	12.8

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

**Earnings and earnings assumptions: previous vs revised**
**(Wbn)**

			1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Key assumptions													
Assumptions	Won/US\$	Old	1,131	1,094	1,099	1,150	1,142	1,150	1,130	1,090	1,119	1,128	1,020
		New	1,131	1,094	1,099	1,150	1,142	1,150	1,130	1,090	1,119	1,128	1,020
		Chg (%)	0	0	0	0	0	0	0	0	0	0	0
		Chg (% q-q)	-2	-3	1	5	-1	1	-2	-4	-4	1	-10
	Shipment ('000m <sup>2</sup> )	Old	6,755	7,442	8,099	8,414	8,089	8,553	9,173	9,834	30,710	35,649	39,923
		New	6,755	7,442	8,099	8,414	8,089	8,553	9,173	9,845	30,710	35,661	39,934
		Chg (%)	0	0	0	0	0	0	0	0	0	0	0
		Chg (% q-q)	-15	10	9	4	-4	6	7	7	11	16	12
	ASP (US\$/m <sup>2</sup> )	Old	702	743	704	683	669	701	733	775	707	721	771
		New	702	743	704	683	669	701	733	794	707	726	789
		Chg (%)	0	0	0	0	0	0	0	2	0	1	2
		Chg (% q-q)	-1	6	-5	-3	-2	5	5	8	-11	3	9
	Cost (US\$/m <sup>2</sup> )	Old	733	749	759	698	689	704	709	736	734	709	737
		New	733	749	759	698	689	704	709	752	734	714	749
		Chg (%)	0	0	0	0	0	0	0	2	0	1	2
		Chg (% q-q)	1	2	1	-8	-1	2	1	6	-2	-3	5
Earnings	Earnings Sales	Old	5,366	6,047	6,269	6,610	6,184	6,910	7,593	8,310	24,291	28,998	31,389
		New	5,366	6,047	6,269	6,610	6,184	6,910	7,593	8,525	24,291	29,213	32,128
		Chg (%)	0	0	0	0	0	0	0	3	0	1	2
		Chg (% q-q)	-17	13	4	5	-6	12	10	12	-5	20	10
	Operating profit	Old	-239	-48	-492	-145	-178	-25	253	417	-924	467	1,394
		New	-239	-48	-492	-145	-178	-25	253	452	-924	502	1,637
		Chg (%)	0	0	0	0	0	0	0	8	0	7	17
		Chg (% q-q)	RR	RR	RR	RR	RR	RR	TTB	79	TTR	TTB	226
	Net profit	Old	-115	25	-686	5	-128	-111	155	332	-771	247	1,116
		New	-115	25	-686	5	-128	-111	155	356	-771	271	1,321
		Chg (%)	0	0	0	0	0	0	0	7	0	10	18
		Chg (% q-q)	RR	TTB	TTR	TTB	TTR	RR	TTB	130	TTR	TTB	387

Note: TTR=turn to red; TTB=turn to black; RR=remain in red

Source: TONGYANG Securities

**Quarterly earnings forecast**
**(Wbn)**

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Forex (won/US\$)	1,131	1,094	1,099	1,150	1,142	1,150	1,130	1,090	1,119	1,128	1,020
Sales	5,366	6,047	6,269	6,610	6,184	6,910	7,593	8,525	24,291	29,213	32,128
Operating profit	-239	-48	-492	-145	-178	-25	253	452	-924	502	1,637
Pre-tax profit	-202	-51	-695	-133	-197	-78	230	440	-1,081	396	1,561
Net profit	-115	25	-686	5	-128	-111	155	356	-771	271	1,321
EPS (won)	-322	70	-1,917	14	-359	-311	433	995	-2,155	758	3,693
Operating margin (%)	-4	-1	-8	-2	-2.9	0	3	5	-4	2	5
Pre-tax margin (%)	-4	-1	-11	-2	-3	-1	3	5	-4	1	5
Net margin (%)	-2	0	-11	0	-2	-2	2	4	-3	1	4

Source: TONGYANG Securities



## Target price revision

	Old	New	
Rf (%)	3.5	3.5	
Rm (%)	10.0	10.0	
Beta (x)	1.1	1.2	1 year
Ce (%)	10.7	11.3	$Ce = Rf + \beta \times (Rm - Rf)$
ROE (%)	10.2	11.8	2013E
g (%)	4.0	4.0	
Fair P/B (x)	0.9	1.1	$P/B = (ROE - g) / (Ce - g)$
Estimated BPS (won)	32,255	32,896	2013E
Premium/discount (%)	20	20	
<b>Target price (won)</b>	<b>36,000</b>	<b>42,000</b>	
Close (won, Nov 28)		35,750	
Upside (%)		17	

Source: TONGYANG Securities

## LG Display (034220 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>25,512</b>	<b>24,291</b>	<b>29,213</b>	<b>32,128</b>	<b>35,341</b>
Cost of sales	21,781	23,081	26,264	27,801	30,640
Gross profit	3,731	1,210	2,949	4,327	4,700
SG&A	2,042	1,974	2,337	2,570	2,651
Adj operating profit*	1,689	-764	612	1,757	2,050
Other op prof/loss	<b>-378</b>	<b>-160</b>	<b>-110</b>	<b>-120</b>	<b>-120</b>
Forex gain/loss	-85	-29	0	0	0
Net interest income	0	0	0	0	0
Other	-293	-131	-110	-120	-120
Operating profit	1,310	-924	502	1,637	1,930
EBITDA	4,236	2,727	4,479	5,833	5,729
Non-op profit/loss	<b>-45</b>	<b>-157</b>	<b>-106</b>	<b>-76</b>	<b>-60</b>
Forex gain/loss	<b>-24</b>	<b>-32</b>	<b>40</b>	<b>20</b>	<b>-40</b>
Net interest inc	-8	-86	-98	-54	3
Equity-meth gain/loss	18	16	7	18	16
Other	<b>-31</b>	<b>-54</b>	<b>-55</b>	<b>-60</b>	<b>-38</b>
Net profit before income tax	1,266	-1,081	396	1,561	1,870
Income tax	106	-293	119	211	224
Net profit from cont op	1,159	-788	277	1,350	1,646
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>1,159</b>	<b>-788</b>	<b>277</b>	<b>1,350</b>	<b>1,646</b>
NP for controlling int	1,156	-771	271	1,321	1,611
Total comprehensive inc	1,178	-757	308	1,381	1,677
TCI for controlling int	1,175	-741	302	1,353	1,643

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>8,840</b>	<b>7,858</b>	<b>9,054</b>	<b>11,072</b>	<b>13,111</b>
Cash & cash equiv	1,631	1,518	1,802	2,770	4,375
Accts rec & other	3,271	2,956	3,503	3,960	4,265
Inventory	2,215	2,317	2,629	3,052	3,181
Non-current assets	<b>15,017</b>	<b>17,305</b>	<b>17,612</b>	<b>16,945</b>	<b>16,613</b>
Tangible assets	12,815	14,697	14,966	14,326	14,055
Investment in affiliate	326	385	443	513	580
Other non-current	<b>83</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>
Total assets	23,858	25,163	26,666	28,017	29,724
<b>Current liabilities</b>	<b>8,882</b>	<b>9,911</b>	<b>10,512</b>	<b>10,908</b>	<b>11,221</b>
Accts payable & other	5,947	8,058	8,824	9,255	9,753
ST financial liabilities	1,213	22	322	287	252
Liquid LT liabilities	887	866	400	400	250
Non-current liabilities	3,915	5,120	5,720	5,320	5,070
LT financial liabilities	830	1,378	2,378	2,178	2,028
Debentures	<b>1,628</b>	<b>2,344</b>	<b>1,944</b>	<b>1,744</b>	<b>1,644</b>
Total liabilities	12,797	15,032	16,232	16,228	16,291
Equity, controlling int	<b>11,036</b>	<b>10,116</b>	<b>10,418</b>	<b>11,771</b>	<b>13,413</b>
Paid-in capital	1,789	1,789	1,789	1,789	1,789
Capital surplus	2,251	2,251	2,251	2,251	2,251
Retained earnings	7,031	6,063	6,335	7,656	9,267
Equity, non-control int	25	15	16	18	20
Total equity	11,061	10,131	10,434	11,789	13,433
Net debt	1,500	2,277	2,393	820	-1,221
Total debt	4,643	4,610	5,045	4,610	4,175

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>4,884</b>	<b>3,666</b>	<b>4,419</b>	<b>5,376</b>	<b>5,851</b>
Net profit	1,159	-788	277	1,350	1,646
Depreciation & amort	2,757	3,413	3,730	3,940	3,572
Forex gain/loss	-35	46	-40	-20	40
Affiliate invest gain/loss	-18	-16	-7	-18	-16
Inc(dec) net working cap	303	819	-282	-625	-111
Other	718	191	740	750	720
<b>Investing cash flow</b>	<b>-4,515</b>	<b>-3,494</b>	<b>-3,617</b>	<b>-3,022</b>	<b>-2,882</b>
Investment	-93	64	-51	-51	-51
Inc in tangible assets	-4,942	-4,063	-4,000	-3,300	-3,300
Dec in tangible assets	2	1	0	0	0
Other	518	504	435	330	470
<b>Financing cash flow</b>	<b>408</b>	<b>-278</b>	<b>440</b>	<b>-429</b>	<b>-429</b>
Inc(dec) in ST fin liab	<b>415</b>	<b>-1,191</b>	<b>300</b>	<b>-35</b>	<b>-35</b>
Inc(dec) in LT fin liab	150	1,086	134	-400	-400
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-179	-179	0	0	0
Other	22	6	6	6	6
Other cash flow	37	-6	-959	-957	-934
Inc (dec) in cash & eq	813	-113	284	968	1,606
Beginning cash & equiv	818	1,631	1,518	1,802	2,770
Ending cash & equiv	1,631	1,518	1,802	2,770	4,375
NOPLAT	131	-92	50	164	193
FCF	-514	-267	47	1,687	2,086

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	3,232	-2,155	758	3,693	4,502
BPS (won)	30,843	28,271	29,116	32,896	37,485
EBITDA/shr (won)	11,838	7,622	12,518	16,302	16,011
SPS (won)	71,298	67,888	81,641	89,789	98,768
DPS (won)	500	0	0	0	0
P/E (x)	12.2	-13.8	47.2	9.7	7.9
P/B (x)	1.3	1.1	1.2	1.1	1.0
EV/EBITDA (x)	3.7	4.7	3.4	2.3	2.0
PSR (x)	0.6	0.4	0.4	0.4	0.4

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	27.3	-4.8	20.3	10.0	10.0
Operating profit (% y-y)	29.7	-170.5	-154.3	226.2	17.9
Adjusted OP (% y-y)	51.4	-145.2	-180.1	187.2	16.7
NP, CI (% y-y)	3.5	-166.7	-135.2	387.2	21.9
Gross margin (%)	14.6	5.0	10.1	13.5	13.3
Operating margin (%)	5.1	-3.8	1.7	5.1	5.5
Adj OP margin (%)	6.6	-3.1	2.1	5.5	5.8
NP, CI margin (%)	4.5	-3.2	0.9	4.1	4.6
EBITDA margin (%)	16.6	11.2	15.3	18.2	16.2
ROIC (%)	10.6	-5.6	2.9	11.8	14.5
ROA (%)	5.3	-3.1	1.0	4.8	5.6
ROE (%)	11.0	-7.3	2.6	11.9	12.8
Debt-to-equity (%)	115.7	148.4	155.6	137.7	121.3
Net debt-to-equity (%)	13.6	22.5	23.0	7.0	-9.1
OP/financing cost (x)	13.1	-6.4	3.0	10.8	14.0

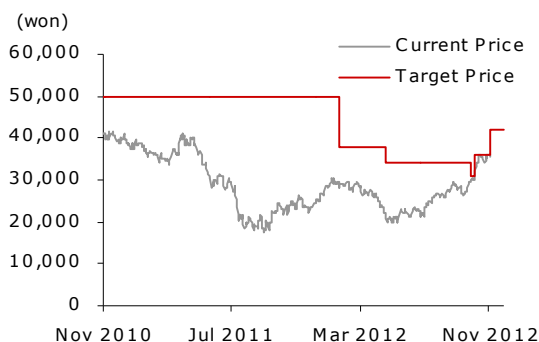
Note: EPS, BPS, P/E and P/B are based on controlling interest

For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

**LG Display (034220 KS) ratings and target price history**


Date	Rating	TP (won)
2012-11-29	BUY	42,000
2012-10-29	BUY	36,000
2012-10-22	BUY	31,000
2012-07-27	BUY	34,000
2012-07-19	BUY	34,000
2012-07-02	BUY	34,000
2012-05-15	BUY	34,000
2012-04-25	BUY	38,000
2012-04-16	BUY	38,000
2012-03-30	BUY	38,000

Source: TONGYANG Securities

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**Analyst certification**

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

**Stock and sector ratings**

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

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# LG Electronics (066570 KS)

**BUY (M) / TP: W105,000 (U)**

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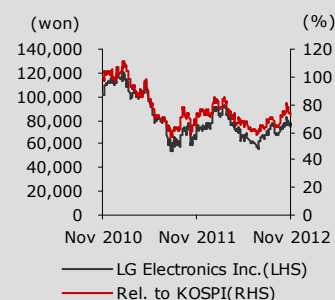
Nov 30, 2012

## KOREA Tech

Share price (won, Nov 28)	74,900
Paid-in capital (Wbn)	904
Market cap (Wbn)	12,611
BPS (won)	74,303
Net debt to equity (%)	38.2
Shares outstanding	180,833,806
Avg daily T/O (2M, Wbn)	114
Avg daily vol (2M, shrs)	1,542,898
52-week high (won)	93,300
52-week low (won)	56,100
Foreign ownership (%)	15.8
Major shareholders (%)	
	LG Corp 33.7

## Stock performance (%)

	1M	3M	12M
Absolute	2.6	9.2	8.1
Relative	1.1	(0.2)	5.4
Abs (US\$)	3.6	14.2	14.8



Source: Datastream

## Smartphone biz to turn into cash cow in 2013

### LGE a respectable third in smartphones

- Among third-tier smartphone makers, only LGE and Huawei have had stable earnings growth since 1Q12. While Huawei grew on China's rapid growth, LGE was driven by its greatly improved product quality. Going forward, LGE's growth should be driven by: 1) superb product quality (strong supply chain, including LG affiliates); and 2) mobile carriers' growing confidence in LGE smartphones.

### Smartphones sales vol 43.06mn units in 2013, MC OP W252.4bn

- The "Optimus G," available in Korea, Japan, and the US, became the third-bestselling smartphone in Japan. In the US, it is offered via AT&T for US\$199 under a two-year contract. Only the "iPhone 5" (16G), "Galaxy S3," "HTC One X+," and "Blackberry Bold" sell for US\$199 in the US. LGE also launched the "Optimus LTE2" and "Optimus VU2" via Verizon. These new models were launched in November, and thus, should boost sales in both 4Q12 and 1Q13. LGE's smartphone sales could rise further on the 1Q13 launch of 3G "Optimus G" in Europe and South America. Is smartphone sales volume should break 10mn in 2Q13 and hit 43.06mn in 2013, and the MC division (handsets) should report 2013 operating profit of W252.4bn.

### 3Q was bottom; earnings set to grow going forward

- We forecast LGE's operating profit at W1.17tn in 2012 and W1.44tn in 2013. While 2012 OP growth was driven by home appliances and TV sets, in 2013, it should be driven by handsets. Any doubts about its smartphones should fade as its sales break 10mn units/quarter and operating margin nears 3%. This should shift investors' net-sell positions on LGE to net buys.

### Revise up target price to W105,000

- Raise target to W105,000, based on P/B of 1.3x (five-year bottom level).

### Forecasts and valuations (K-IFRS)

	2010A	2011A	2012F	2013F	2014F
<b>FY ends Dec</b>					
Sales	55,754	54,257	50,318	51,304	52,655
Chg (% y-y)	-23.6	-2.7	-7.3	2.0	2.6
Reported OP	176	280	1,175	1,450	1,712
Adjusted OP*	88	343	1,248	1,450	1,712
Net profit, CI	1,227	-470	641	987	1,178
EPS, CI (won)	8,453	-3,190	3,893	6,005	7,172
Chg (% y-y)	-39.7	-137.7	-222.0	54.3	19.4
P/E (x)	12.6	-27.6	19.2	12.5	10.4
P/B (x)	1.4	1.2	1.0	0.9	0.9
EV/EBITDA (x)	14.6	12.4	7.3	6.5	5.7
ROA (%)	3.2	-1.4	2.0	3.0	3.4
ROE (%)	10.8	-3.7	4.9	7.1	7.9

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

LGE now occupies a respectable third place in the smartphone space. The competitive environment has been changing very favorably for LGE in recent months. First, none of its rivals are doing well except Samsung and Apple. Strategic Analytics reported that smartphone third-tiers sold about the same numbers of smartphones in 3Q, with Huawei selling 7.6mn units, RIM 7.5mn, HTC 7.1mn, and LGE 7mn; Nokia fell behind, selling only 6.3mn. Among these, only Huawei and LGE have shown stable earnings growth since 1Q12. In our view, LGE is exceptionally well-positioned to take the lead over these firms going forward, on: 1) expected improvement in its smartphone competitiveness, backed by its strong supply chain, including LG affiliates (Optimus G is a good example); 2) and mobile carriers' increasing confidence in LGE smartphones as the only substitute for Samsung and Apple products.

Optimus G was launched in Korea in Sep 2012 through three mobile carriers. In Japan, it was offered via NTT Docomo and KDDI, and reported the largest sales next to the iPhone and Galaxy models. In the US, it is sold for US\$199 under a two-year contract and carried by AT&T and Sprint; the only competitors in the US at this price point are the iPhone 5 (16G), Galaxy S3, HTC One X+ and Blackberry Bold. Of note, Samsung's Galaxy Note 2 is being sold for US\$299. LGE also launched the "Optimus LTE2" and "Optimus VU2" via Verizon. These new models were launched in November, so they should boost sales in both 4Q12 and 1Q13. LGE's smartphone sales could surge further in 1Q13 and beyond given the 1Q13 launch of the 3G Optimus G in Europe and South America.

LGE expects to sell about 8mn~8.5mn units in 4Q, including 2.5mn LTE-enabled phones and 1mn units of Optimus G. Our estimates point to 8.56mn units for 4Q12, 9.41mn for 1Q13, and 43.06mn for 2013 (vs 26.22mn in 2012). We believe LGE's smartphone sales will break 10mn units in 2Q13.

We expect LGE's mobile communication (MC) division to reach breakeven when it sells 7.5mn units of smartphones per quarter, 1~2% operating margin on 8mn~9mn, and 3~5% operating margin on 10mn. As such, we believe the MC division will stay profitable in 4Q12, with margins expanding q-q. We estimate its operating margin at 2.2% in 2013 (assuming operating profit of W252.4bn) and 3.7% in 2014 (assuming operating profit of W465.3bn). If actual sales turn out higher than we expect, the MC division's operating margin should come to 3.5% in 2013 (about W450bn in operating profit) and 5% in 2014 (W650bn).

Meanwhile, TV set sales are unlikely to yield higher profit at this point given poor macro conditions. Unlike handsets, there is no such thing as a TV subsidy; and TV sales are largely affected by the economy. We expect LCD sales to come in at 8.39mn units in 4Q (vs 6.49mn in 3Q) on seasonality and marketing. For 2013, we expect to see 27.84mn unit sales for LCD (vs 26.69mn units in 2012). We forecast TV operating margin for 2013 at 3% on a slightly improved operating profit of W657.4bn.

Home appliance (HA) sales are also affected by a bad economy. LGE plans to increase marketing in 4Q12 to boost sales, which will likely squeeze margins somewhat. We estimate the HA division's operating margin at 1.5% in 4Q12. For 2013, we estimate HA operating margin at 4.3% on operating profit of W496.8bn.

Total operating profit should come to W1.17tn in 2012 and W1.44tn in 2013. While 2012 operating profit growth has been driven by home appliances and TV sets, 2013's should be driven by handsets. The handset business, once a risk factor, will likely evolve into LGE's cash cow. Investors will be assured of LGE's strength in smartphones when they see surging smartphone sales figures in 1Q~2Q13.

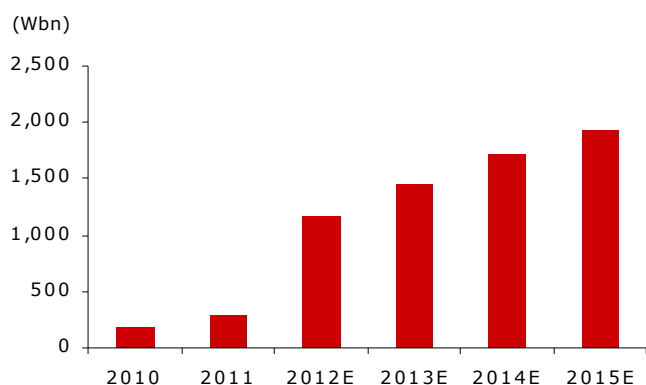
We revise up our target price to W105,000, based on P/B of 1.3x, the bottom level of LGE's P/Bs in the past five years.

Peer valuation						
	P/E		P/B		EV/EBITDA	
	FY01 (2012E)	FY02 (2013E)	FY01 (2012E)	FY02 (2013E)	FY01 (2012E)	FY02 (2013E)
SEC	8.6	6.9	1.8	1.5	4.2	3.2
LGE	21.1	13.7	1.1	1.0	7.6	6.8
Apple	10.8	9.1	3.5	2.7	5.7	4.7
RIM	16.3	14.0	3.0	3.0	9.4	8.0
Nokia	N/A	N/A	0.5	0.5	4.8	2.2
HTC	N/A	N/A	1.0	1.0	N/A	5.5
ZTE	9.7	12.6	2.3	2.3	7.6	9.3

Note: Based on Nov 15, 2012

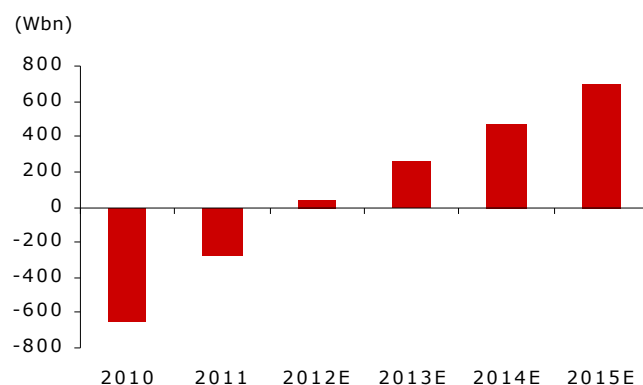
Source: TONGYANG Securities

### LGE: Operating profit forecast (2010~2015E)



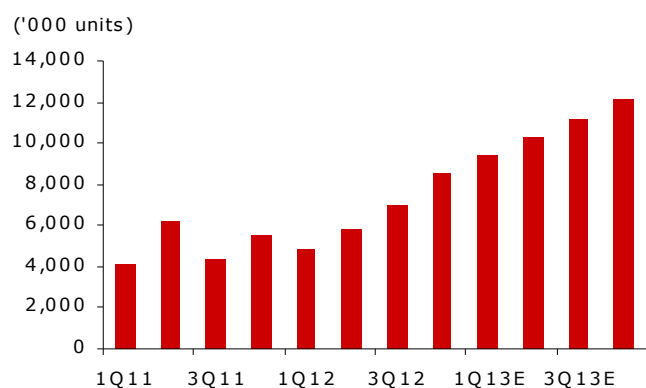
Source: Company data, TONGYANG Securities

### MC division: operating profit forecast (2010~2015E)



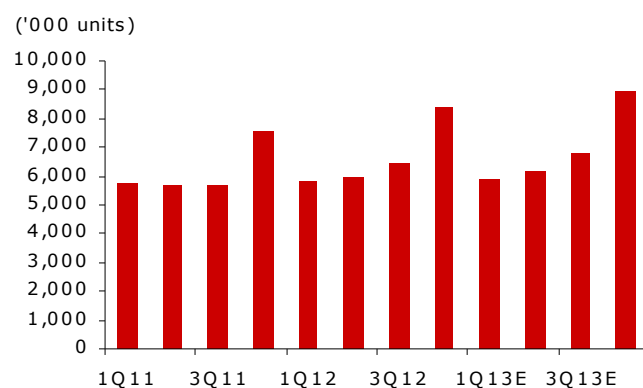
Source: Company data, TONGYANG Securities

### LGE: Smartphone sales forecast (2010~2015E)



Source: Company data, TONGYANG Securities

### LGE: LCD sales forecast (2010~2015E)



Source: Company data, TONGYANG Securities



## LGE: earnings trend and forecast

(Wbn, '000 units)

		2012E					2013E				
		1Q	2Q	3Q	4QE	Full-year	1QE	2QE	3QE	4QE	Full-year
MC (mobile communications)	Sales	2,497.2	2,321.2	2,447.5	2,606.5	9,872.4	2,744.3	2,859.4	2,955.4	3,053.0	11,612.2
	OP	38.9	-56.7	21.5	36.2	39.9	41.1	57.1	73.0	81.8	253.0
	OPM (%)	1.6	-2.4	0.9	1.4	0.4	1.5	2.0	2.5	2.7	2.2
	Handset	Sales	2,452.1	2,286.3	2,423.1	2,581.3	2,718.5	2,835.7	2,929.6	3,026.5	11,510.4
		OP	35.2	-58.9	20.5	36.1	40.8	56.7	73.2	81.7	252.4
		OPM (%)	1.4	-2.6	0.8	1.4	1.5	2.0	2.5	2.7	2.2
	Handset sales vol		13,722.0	13,134.0	14,361.0	15,222.7	15,983.8	16,623.1	17,121.8	17,635.5	67,364.3
	Smartphone		4,900.0	5,800.0	6,960.0	8,560.8	9,416.9	10,264.4	11,188.2	12,195.1	43,064.6
	ASP		178.7	174.1	168.7	169.6	170.1	170.6	171.1	171.6	
	MC other	Sales	45.1	34.9	24.4	25.1	25.8	23.7	25.8	26.5	101.8
		OP	3.7	2.2	1.0	0.1	0.3	0.4	-0.3	0.1	0.5
		OPM (%)	8.2	6.3	4.1	0.2	1.1	1.8	-1.0	0.2	0.5
HE (home entertainment)	Sales	5,330.2	5,478.4	5,486.4	6,035.0	22,330.0	5,310.8	5,390.5	5,433.6	5,977.0	22,111.9
	OP	217.1	216.3	88.6	108.6	630.6	216.3	212.8	108.7	119.5	657.4
	OPM (%)	4.1	3.9	1.6	1.8	2.8	4.1	3.9	2.0	2.0	3.0
HA (home appliance)	Sales	2,535.7	2,875.3	2,867.5	2,896.2	11,174.7	2,809.3	2,871.1	2,934.3	2,984.1	11,598.8
	OP	151.6	165.3	128.5	43.4	488.8	140.5	143.6	123.2	89.5	496.8
	OPM (%)	6.0	5.7	4.5	1.5	4.4	5.0	5.0	4.2	3.0	4.3
	TV sales volume		8,375	8,409	8,649	10,886	8,243	8,413	8,822	11,312	36,790
	LCD		5,819	5,990	6,493	8,394	5,877	6,170	6,818	8,981	27,846
	PDP		818	822	801	1,095	802	806	785	1,073	3,466
	CRT		1,738	1,597	1,355	1,397	1,564	1,437	1,220	1,258	5,479
AE (air con, energy solution)	Sales	1,217.9	1,474.9	974.3	682.0	4,349.1	886.6	1,063.9	904.3	813.9	3,668.8
	OP	81.1	70.1	11.8	-27.3	135.7	44.3	37.2	1.8	-40.7	42.7
	OPM (%)	6.7	4.8	1.2	-4.0	3.1	5.0	3.5	0.2	-5.0	1.2
Independent divisions, affiliates, and others	Sales	646.9	709.2	600.1	636.1	2,592.3	553.4	608.8	547.9	602.7	2,312.7
	OP	-40.5	-46.0	-29.9	-3.2	-119.6	-2.8	-3.0	2.7	3.0	-0.1
	OPM (%)	-6.3	-6.5	-5.0	-0.5	-4.6	-0.5	-0.5	0.5	0.5	0.0
Total	Sales	12,227.9	12,859.0	12,375.8	12,855.8	50,318.5	12,304.4	12,793.7	12,775.5	13,430.7	51,304.4
	OP	448.2	349.0	220.5	157.8	1,175.5	439.4	447.7	309.4	253.2	1,449.7
	OPM (%)	3.7	2.7	1.8	1.2	2.3	3.6	3.5	2.4	1.9	2.8

Source: TONGYANG Securities

## LG Electronics (066570 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>55,754</b>	<b>54,257</b>	<b>50,318</b>	<b>51,304</b>	<b>52,655</b>
Cost of sales	43,453	42,058	38,516	39,472	40,570
Gross profit	12,301	12,199	11,803	11,832	12,085
SG&A	12,213	11,856	10,555	10,382	10,373
Adj operating profit*	88	343	1,248	1,450	1,712
Other op prof/loss	<b>88</b>	<b>-63</b>	<b>-73</b>	<b>0</b>	<b>0</b>
Forex gain/loss	30	-140	-35	0	0
Net interest income	0	0	0	0	0
Other	58	77	-38	0	0
Operating profit	176	280	1,175	1,450	1,712
EBITDA	1,466	1,483	2,460	2,766	3,080
Non-op profit/loss	<b>258</b>	<b>-680</b>	<b>-178</b>	<b>-102</b>	<b>-104</b>
Forex gain/loss	<b>-42</b>	<b>-66</b>	<b>9</b>	<b>66</b>	<b>66</b>
Net interest inc	-154	-228	-246	-247	-249
Equity-meth gain/loss	477	-331	152	226	226
Other	<b>-23</b>	<b>-54</b>	<b>-93</b>	<b>-148</b>	<b>-148</b>
Net prof before income tax	435	-399	997	1,348	1,609
Income tax	0	33	339	337	402
Net profit from cont op	434	-433	658	1,011	1,206
Net profit from discount op	<b>848</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>1,282</b>	<b>-433</b>	<b>658</b>	<b>1,011</b>	<b>1,206</b>
NP for controlling int	1,227	-470	641	987	1,178
Total comprehensive inc	1,178	-642	538	1,011	1,207
TCI for controlling int	1,124	-692	522	987	1,178

Note: 1. Adjusted op profit = gross profit - SG&amp;A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>9</b>	<b>1,730</b>	<b>1,434</b>	<b>1,677</b>	<b>2,372</b>
Net profit	1,282	-433	658	1,011	1,206
Depreciation & amort	1,007	896	939	994	1,057
Forex gain/loss	-72	95	13	-66	-66
Affiliate invest gain/loss	0	0	-113	-226	-226
Inc(dec) net working cap	-2,640	-1,060	-2,337	-2,219	-1,781
Other	431	2,232	2,274	2,184	2,182
<b>Investing cash flow</b>	<b>-1,670</b>	<b>-2,452</b>	<b>-1,458</b>	<b>-1,736</b>	<b>-1,746</b>
Investment	35	-54	178	0	0
Inc in tangible assets	-1,745	-1,830	-1,545	-1,545	-1,545
Dec in tangible assets	322	78	63	0	0
Other	-281	-646	-153	-191	-201
<b>Financing cash flow</b>	<b>1,221</b>	<b>1,161</b>	<b>-568</b>	<b>14</b>	<b>14</b>
Inc(dec) in ST fin liab	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Inc(dec) in LT fin liab	1,528	228	-511	80	80
Inc(dec) in equity	1	975	9	0	0
Cash dividend	-308	-43	-66	-66	-66
Other	0	0	0	0	0
Other cash flow	-39	-37	-22	41	44
Inc (dec) in cash & eq	-480	401	-614	-3	685
Beginning cash & equiv	2,424	1,944	2,345	1,732	1,729
Ending cash & equiv	1,944	2,345	1,732	1,729	2,413
NOPLAT	18	30	118	145	171
FCF	-2,919	-1,384	-1,822	-1,360	-674

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>16,515</b>	<b>15,783</b>	<b>15,347</b>	<b>15,904</b>	<b>16,379</b>
Cash & cash equiv	1,944	2,345	1,732	1,729	2,413
Accts rec & other	7,507	7,223	7,142	7,420	7,283
Inventory	5,872	4,947	4,894	5,164	5,079
<b>Non-current assets</b>	<b>15,804</b>	<b>16,875</b>	<b>17,246</b>	<b>18,004</b>	<b>18,711</b>
Tangible assets	6,500	7,290	7,794	8,346	8,834
Investment in affiliate	6,008	5,603	5,596	5,822	6,048
Other non-current	<b>343</b>	<b>431</b>	<b>243</b>	<b>245</b>	<b>247</b>
<b>Total assets</b>	<b>32,318</b>	<b>32,658</b>	<b>32,593</b>	<b>33,908</b>	<b>35,090</b>
<b>Current liabilities</b>	<b>15,317</b>	<b>14,215</b>	<b>13,813</b>	<b>14,070</b>	<b>14,000</b>
Accts payable & other	9,949	9,681	5,650	5,866	5,753
ST financial liabilities	3,327	1,673	2,118	2,118	2,118
Liquid LT liabilities	682	1,505	756	756	756
<b>Non-current liabilities</b>	<b>4,142</b>	<b>5,296</b>	<b>5,140</b>	<b>5,229</b>	<b>5,318</b>
LT financial liabilities	1,479	2,243	2,386	2,466	2,546
Debentures	<b>1,705</b>	<b>2,014</b>	<b>1,636</b>	<b>1,636</b>	<b>1,636</b>
<b>Total liabilities</b>	<b>19,459</b>	<b>19,510</b>	<b>18,952</b>	<b>19,299</b>	<b>19,318</b>
<b>Equity, controlling int</b>	<b>12,644</b>	<b>12,894</b>	<b>13,379</b>	<b>14,330</b>	<b>15,471</b>
Paid-in capital	809	904	904	904	904
Capital surplus	1,982	2,862	3,100	3,100	3,100
Retained earnings	10,108	9,500	10,058	11,008	12,149
Equity, non-control int	215	254	261	279	302
<b>Total equity</b>	<b>12,860</b>	<b>13,148</b>	<b>13,640</b>	<b>14,609</b>	<b>15,772</b>
<b>Net debt</b>	<b>5,180</b>	<b>4,915</b>	<b>5,114</b>	<b>5,197</b>	<b>4,592</b>
<b>Total debt</b>	<b>7,230</b>	<b>7,436</b>	<b>6,897</b>	<b>6,977</b>	<b>7,057</b>

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	8,453	-3,190	3,893	6,005	7,172
BPS (won)	78,408	71,551	74,235	79,490	85,801
EBITDA/shr (won)	9,060	8,944	13,605	15,296	17,033
SPS (won)	344,513	327,328	278,258	283,710	291,180
DPS (won)	200	200	200	200	200
P/E (x)	12.6	-27.6	19.2	12.5	10.4
P/B (x)	1.4	1.2	1.0	0.9	0.9
EV/EBITDA (x)	14.6	12.4	7.3	6.5	5.7
PSR (x)	0.3	0.3	0.3	0.3	0.3

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	-23.6	-2.7	-7.3	2.0	2.6
Operating profit (% y-y)	-95.8	58.8	319.4	23.3	18.1
Adjusted OP (% y-y)	-97.9	289.3	263.7	16.1	18.1
NP, CI (% y-y)	-40.4	-138.3	-236.6	53.9	19.3
Gross margin (%)	22.1	22.5	23.5	23.1	23.0
Operating margin (%)	0.3	0.5	2.3	2.8	3.3
Adj OP margin (%)	0.2	0.6	2.5	2.8	3.3
NP, CI margin (%)	2.2	-0.9	1.3	1.9	2.2
EBITDA margin (%)	2.6	2.7	4.9	5.4	5.8
ROIC (%)	1.2	2.9	7.1	9.2	10.4
ROA (%)	3.2	-1.4	2.0	3.0	3.4
ROE (%)	10.8	-3.7	4.9	7.1	7.9
Debt-to-equity (%)	151.3	148.4	138.9	132.1	122.5
Net debt-to-equity (%)	41.0	38.1	38.2	36.3	29.7
OP/financing cost (x)	0.8	0.9	3.5	4.2	5.0

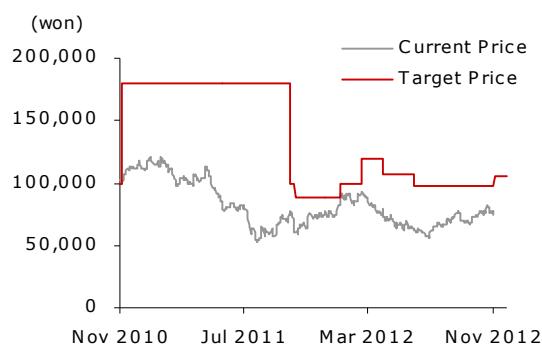
Note: EPS, BPS, P/E and P/B are based on controlling interest

For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

**LG Electronics (066570 KS) ratings and target price history**


Date	Rating	TP (won)
2012-11-29	BUY	105,000
2012-10-25	BUY	97,500
2012-10-22	BUY	97,500
2012-09-13	BUY	97,500
2012-09-12	BUY	97,500
2012-07-26	BUY	97,500
2012-07-19	BUY	97,500
2012-06-25	BUY	97,500
2012-05-15	BUY	107,000
2012-04-26	BUY	107,000

Source: TONGYANG Securities

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**Analyst certification**

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

**Stock and sector ratings**

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

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# Cheil Industries (001300 KS)

**BUY (M) / TP: W120,000 (M)**

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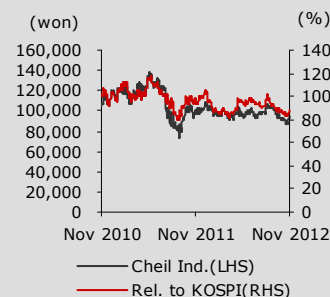
Nov 29, 2012

## KOREA Display

Share price (won, Nov 28)	94,400
Paid-in capital (Wbn)	262
Market cap (Wbn)	4,950
BPS (won)	67,521
Net debt to equity (%)	18.1
Shares outstanding	52,437,651
Avg daily T/O (2M, Wbn)	31
Avg daily vol (2M, shrs)	318,639
52-week high (won)	109,000
52-week low (won)	86,200
Foreign ownership (%)	25.8
Major shareholders (%)	NPS 8.7

## Stock performance (%)

	1M	3M	12M
Absolute	4.9	(4.1)	(3.7)
Relative	1.1	(0.2)	5.4
Abs (US\$)	5.9	0.4	2.3



Source: Datastream

## To ride SEC's coattails in 2013

### 4Q operating profit to grow 19% q-q to W97.1bn

- In 4Q, we believe Cheil's margins have improved in all divisions. Weak seasonality affected the chemical division less than usual thanks to higher PC utilization and better product mix. Losses at the electronic materials division continued to narrow as it likely supplied more materials used in TV sets. The fashion division's operating profit likely surged q-q on strong seasonality. Overall, we believe 4Q operating profit will grow 19% q-q to W97.1bn.

### To benefit from strong sales trend at SEC in 2013

- Samsung Electronics' (SEC) smartphone sales should continue to be robust in 2013. We expect its smartphone shipment to grow 51% y-y to 326,000 units and tablet sales to increase from 15mn units in 2012 to 33mn in 2013. Its TV market share should also expand as Japanese peers continue to lose ground. Higher TV set sales for SEC are very good news for Cheil's chemical division, as increased semiconductor and display production should crank up orders for Cheil's electronic materials. We estimate Cheil's 2013 operating profit to grow 22% y-y to W459.4bn.

### Short- and long-term growth catalysts intact; risks low

- Orders for AMOLED materials are unlikely to materialize in the short term, but this is not a big problem for Cheil, especially given the recent improvement in earnings across all its divisions, backed by strong order flows from SEC. In the near term, we are very optimistic about Cheil's 4Q earnings outlook, and in the mid-term, we expect it to benefit from SEC's strong sales. Long term, AMOLED momentum drive Cheil's growth. Overall, risks look low. We maintain BUY with a target price of W120,000.

Forecasts and valuations (K-IFRS)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	5,113	5,581	6,016	7,231	8,135
Chg (% y-y)	16.1	9.2	7.8	20.2	12.5
Reported OP	330	287	377	459	531
Adjusted OP*	343	222	349	430	504
Net profit, CI	279	259	247	365	420
EPS, CI (won)	5,573	5,079	4,701	6,960	8,011
Chg (% y-y)	132.5	-8.9	-7.4	48.1	15.1
P/E (x)	15.3	21.8	20.1	13.6	11.8
P/B (x)	1.5	1.8	1.4	1.3	1.2
EV/EBITDA (x)	9.8	14.2	9.7	8.2	7.1
ROA (%)	7.7	5.8	4.7	6.4	6.9
ROE (%)	11.8	8.7	7.4	10.2	10.7

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest  
Source: TONGYANG Securities

Quarterly earnings forecast									(Wbn, won)		
	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales	1,400	1,481	1,317	1,384	1,429	1,513	1,488	1,587	5,581	6,016	7,231
Operating profit	103	63	73	49	95	103	82	97	287	377	459
Pre-tax profit	110	56	80	31	84	86	66	81	276	316	442
Net profit	92	54	72	41	64	68	40	70	259	243	358
EPS (won)	1,833	1,089	1,405	773	1,226	1,303	770	1,343	5,079	4,641	6,826
Operating margin (%)	7	4	6	4	7	7	5	6	5	6	6
Pre-tax margin (%)	8	4	6	2	6	6	4	5	5	5	6
Net margin (%)	7	4	6	3	4	5	3	4	5	4	5
Sales	1,400	1,481	1,317	1,384	1,429	1,513	1,488	1,587	5,581	6,016	7,231
Chemical	621	650	599	551	613	676	732	720	2,421	2,740	3,330
Elec mat	384	407	403	362	376	407	385	399	1,554	1,567	2,004
Fashion	395	424	316	471	440	430	371	468	1,606	1,708	1,896
Operating profit	103	63	73	49	95	103	82	97	287	377	459
Chemical	36	23	2	10	26	36	38	33	70	132	138
Elec mat	36	27	68	18	44	55	41	44	149	184	258
Fashion	31	13	2	22	26	12	3	20	68	61	63
Operating margin (%)	7	4	6	4	7	7	5	6	5	6	6
Chemical	6	4	0	2	4	5	5	5	3	5	4
Elec mat	9	7	17	5	12	14	11	11	10	12	13
Fashion	8	3	1	5	6	3	1	4	4	4	3

Source: TONGYANG Securities

## Cheil Industries (001300 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>5,113</b>	<b>5,581</b>	<b>6,016</b>	<b>7,231</b>	<b>8,135</b>
Cost of sales	3,575	3,997	4,271	5,282	6,036
Gross profit	1,538	1,584	1,745	1,949	2,099
SG&A	1,195	1,361	1,396	1,518	1,594
Adj operating profit*	343	222	349	430	504
Other op prof/loss	-13	65	28	29	27
Forex gain/loss	0	0	0	0	0
Net interest income	0	0	0	0	0
Other	-13	65	28	29	27
Operating profit	330	287	377	459	531
EBITDA	466	449	575	671	750
Non-op profit/loss	15	-12	-57	-8	-6
Forex gain/loss	0	3	3	2	2
Net interest inc	-23	-24	-19	-18	-10
Equity-meth gain/loss	40	12	22	30	34
Other	-2	-3	-63	-23	-32
Net prof before income tax	345	276	320	451	526
Income tax	49	17	74	86	105
Net profit from cont op	297	259	247	365	421
Net profit from discount op	-24	0	0	0	0
Net profit	273	259	247	365	421
NP for controlling int	279	259	247	365	420
Total comprehensive inc	839	191	238	356	412
TCI for controlling int	845	191	238	356	411

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>426</b>	<b>195</b>	<b>577</b>	<b>368</b>	<b>466</b>
Net profit	273	259	247	365	421
Depreciation & amort	128	156	192	206	212
Forex gain/loss	0	0	-3	-2	-2
Affiliate invest gain/loss	0	0	-22	-30	-34
Inc(dec) net working cap	-45	-155	172	-162	-123
Other	69	-65	-8	-8	-7
<b>Investing cash flow</b>	<b>-256</b>	<b>-333</b>	<b>-435</b>	<b>-315</b>	<b>-261</b>
Investment	2	19	0	0	0
Inc in tangible assets	-256	-327	-420	-298	-243
Dec in tangible assets	2	2	0	0	0
Other	-4	-27	-15	-17	-18
<b>Financing cash flow</b>	<b>-229</b>	<b>202</b>	<b>111</b>	<b>-94</b>	<b>-79</b>
Inc(dec) in ST fin liab	0	0	50	-20	-20
Inc(dec) in LT fin liab	-194	226	87	-38	-33
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-36	-36	-38	-38	-38
Other	1	12	12	2	12
Other cash flow	0	0	20	19	19
Inc (dec) in cash & eq	-59	63	274	-21	146
Beginning cash & equiv	92	33	96	370	349
Ending cash & equiv	33	96	370	349	495
NOPLAT	33	29	38	46	53
FCF	119	-51	240	123	278

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>1,234</b>	<b>1,435</b>	<b>1,778</b>	<b>2,019</b>	<b>2,360</b>
Cash & cash equiv	33	96	370	349	495
Accts rec & other	527	542	555	658	735
Inventory	613	743	788	947	1,066
<b>Non-current assets</b>	<b>2,805</b>	<b>3,496</b>	<b>3,740</b>	<b>3,856</b>	<b>3,914</b>
Tangible assets	1,121	1,491	1,719	1,811	1,842
Investment in affiliate	151	116	126	144	166
Other non-current	1,400	1,366	1,366	1,366	1,366
<b>Total assets</b>	<b>4,039</b>	<b>4,931</b>	<b>5,517</b>	<b>5,875</b>	<b>6,274</b>
<b>Current liabilities</b>	<b>874</b>	<b>864</b>	<b>1,089</b>	<b>1,161</b>	<b>1,289</b>
Accts payable & other	577	548	798	905	984
ST financial liabilities	32	149	199	179	159
Liquid LT liabilities	191	113	38	33	102
<b>Non-current liabilities</b>	<b>398</b>	<b>850</b>	<b>1,012</b>	<b>979</b>	<b>877</b>
LT financial liabilities	4	23	15	12	10
Debentures	100	558	728	698	598
<b>Total liabilities</b>	<b>1,272</b>	<b>1,714</b>	<b>2,101</b>	<b>2,140</b>	<b>2,166</b>
<b>Equity, controlling int</b>	<b>2,766</b>	<b>3,216</b>	<b>3,416</b>	<b>3,734</b>	<b>4,107</b>
Paid-in capital	250	262	262	262	262
Capital surplus	421	702	702	702	702
Retained earnings	1,174	1,386	1,595	1,922	2,304
Equity, non-control int	1	1	1	1	1
<b>Total equity</b>	<b>2,766</b>	<b>3,217</b>	<b>3,416</b>	<b>3,735</b>	<b>4,108</b>
<b>Net debt</b>	<b>281</b>	<b>754</b>	<b>619</b>	<b>572</b>	<b>373</b>
<b>Total debt</b>	<b>327</b>	<b>853</b>	<b>990</b>	<b>922</b>	<b>869</b>

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	5,573	5,079	4,701	6,960	8,011
BPS (won)	56,357	62,270	66,078	72,145	79,263
EBITDA/shr (won)	9,323	8,799	10,960	12,797	14,300
SPS (won)	102,261	109,399	114,728	137,892	155,129
DPS (won)	750	750	750	750	750
P/E (x)	15.3	21.8	20.1	13.6	11.8
P/B (x)	1.5	1.8	1.4	1.3	1.2
EV/EBITDA (x)	9.8	14.2	9.7	8.2	7.1
PSR (x)	0.8	1.0	0.8	0.7	0.6

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	16.1	9.2	7.8	20.2	12.5
Operating profit (% y-y)	30.4	-12.9	31.4	21.7	15.7
Adjusted OP (% y-y)	35.7	-35.2	57.0	23.2	17.2
NP, CI (% y-y)	132.5	-7.0	-4.9	48.1	15.1
Gross margin (%)	30.1	28.4	29.0	27.0	25.8
Operating margin (%)	6.5	5.1	6.3	6.4	6.5
Adj OP margin (%)	6.7	4.0	5.8	6.0	6.2
NP, CI margin (%)	5.4	4.6	4.1	5.0	5.2
EBITDA margin (%)	9.1	8.0	9.6	9.3	9.2
ROIC (%)	16.8	12.4	10.8	13.1	13.9
ROA (%)	7.7	5.8	4.7	6.4	6.9
ROE (%)	11.8	8.7	7.4	10.2	10.7
Debt-to-equity (%)	46.0	53.3	61.5	57.3	52.7
Net debt-to-equity (%)	10.1	23.4	18.1	15.3	9.1
OP/financing cost (x)	12.4	10.1	10.6	13.8	17.0

Note: EPS, BPS, P/E and P/B are based on controlling interest

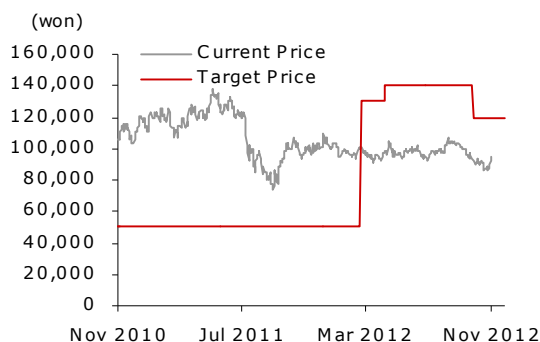
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

## Cheil Industries (001300 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	120,000
2012-11-16	BUY	120,000
2012-10-31	BUY	120,000
2012-10-22	BUY	120,000
2012-09-17	BUY	140,000
2012-08-01	BUY	140,000
2012-07-19	BUY	140,000
2012-07-02	BUY	140,000
2012-06-11	BUY	140,000
2012-05-15	BUY	140,000

Source: TONGYANG Securities

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## Analyst certification

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

## Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting



# LG Innotek (011070 KS)

**BUY (M) / TP: W90,000 (M)**

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Nov 30, 2012

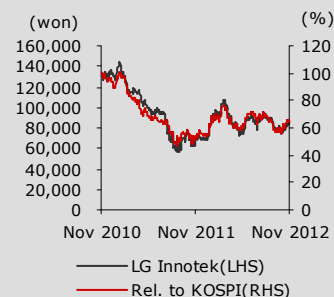
## KOREA IT component

Share price (won, Nov 28)	84,300
Paid-in capital (Wbn)	101
Market cap (Wbn)	1,700
BPS (won)	65,808
Net debt to equity (%)	111.6
Shares outstanding	20,170,754
Avg daily T/O (2M, Wbn)	10
Avg daily vol (2M, shrs)	124,748
52-week high (won)	107,000
52-week low (won)	64,600
Foreign ownership (%)	12.7
Major shareholders (%)	

LG Electronics & other 47.9

## Stock performance (%)

	1M	3M	12M
Absolute	10.6	(9.0)	30.5
Relative	1.1	(0.2)	5.4
Abs (US\$)	11.7	(4.8)	38.6



Source: Datastream

## Profits to rise on lower divisional losses

### 4Q operating profit estimated at just W26.8bn, similar to 3Q's

- In 4Q, we believe LG Innotek's operating profit will miss our previous forecast, as LED, package substrate, and touchscreen should post higher-than-expected losses. We expect losses from LED on inventory adjustment, and from package substrate and touchscreen on delayed improvement in production yield. On the upside, we note that the factors hurting 4Q operating profit are should be one-offs. We forecast 4Q operating profit at just W26.8bn, similar to 3Q.

### 2013 OP to surge on reduced losses at loss-making divisions

- We expect 2013 operating profit to jump 116% y-y to W206.9bn, as the camera module division should do well, but more importantly, the loss-making divisions should post smaller losses. We expect the LED division to gradually trim losses on higher sales and lower material costs. The package substrate and touch screen divisions should turn to profit in 1H13, as their losses have largely been caused by one-offs.

### Should continue to benefit from robust growth of smartphones

- In 2013, with the smartphone market likely to continue to grow, LG Electronics' (LGE) smartphone shipments should be on the rise. Also, as Japanese players are not doing well, LGE is expected to expand its share of the TV market. This should give a boost to LG Innotek. With operating profit rising after hitting a bottom in 2011, we recommend accumulating shares from a mid- to long-term perspective. However, we also note that soft 4Q operating profit will likely be a short-term drag on shares. We maintain BUY with a target price of W90,000.

Forecasts and valuations (K-IFRS)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	4,103	4,553	5,128	6,381	7,051
Chg (% y-y)	66.9	11.0	12.6	24.4	10.5
Reported OP	156	-67	96	207	304
Adjusted OP*	153	-43	88	201	296
Net profit, CI	196	-145	-2	147	238
EPS, CI (won)	10,292	-7,213	-80	7,303	11,790
Chg (% y-y)	112.0	-170.1	-98.9	-9,228.8	61.4
P/E (x)	13.1	-13.1	-1,049.7	11.5	7.2
P/B (x)	1.9	1.4	1.3	1.2	1.0
EV/EBITDA (x)	8.9	10.5	5.7	4.4	3.5
ROA (%)	5.6	-3.4	0.0	3.2	5.0
ROE (%)	16.5	-10.4	-0.1	10.5	15.0

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

**Table 1. Quarterly earnings and forecast**

(Wbn)

	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Sales	1,099	1,173	1,067	1,214	1,234	1,236	1,220	1,438	4,553	5,128	6,381
Operating profit	-7	6	-5	-60	24	19	26	27	-67	96	207
Pre-tax profit	-27	-15	-43	-89	0	-8	4	3	-174	-1	132
Net profit	-10	-7	-36	-93	-2	4	4	-7	-145	-2	147
EPS (won)	-473	-346	-1,764	-4,628	-121	221	178	-359	-7,213	-80	7,303
Operating margin (%)	-1	1	-1	-5	2	2	2	2	-1	2	3
Pre-tax margin (%)	-2	-1	-4	-7	0	-1	0	0	-4	0	2
Net margin (%)	-1	-1	-3	-8	0	0	0	-1	-3	0	2
Sales	1,099	1,173	1,067	1,214	1,234	1,236	1,220	1,438	4,553	5,128	6,381
LED	203	273	249	181	190	235	296	286	906	1,007	1,287
Display & network	257	254	250	263	271	236	210	199	1,024	916	928
Optical solution	316	289	228	382	385	328	269	506	1,216	1,488	2,184
Substrate & material	268	299	274	311	312	341	365	371	1,152	1,389	1,622
Auto & motor	70	78	80	85	87	96	80	76	312	338	360
Operating profit	-7	6	-5	-60	24	19	26	27	-67	96	207
LED	-33	-20	-30	-76	-32	-26	-21	-28	-160	-107	-41
Display & network	3	5	9	-3	9	9	8	2	14	28	17
Optical solution	18	9	7	6	22	11	2	28	39	63	98
Substrate & material	6	12	9	14	23	29	35	25	41	112	129
Auto & motor	-1	1	0	0	2	-5	2	0	-1	-1	3
Operating margin (%)	-1	1	-1	-5	2	2	2	2	-1	2	3
LED	-16	-8	-12	-42	-17	-11	-7	-10	-18	-11	-3
Display & network	1	2	4	-1	3	4	4	1	1	3	2
PKG substrate	6	3	3	2	6	3	1	6	3	4	4
Material	2	4	3	4	7	9	10	7	4	8	8
Camera module	-2	1	0	0	3	-6	2	0	0	0	1

Source: company data, TONGYANG Securities

**Table 2. Earnings forecast revision**

(Wbn)

	4Q12E			2012E			2013E		
	Old	New	Diff (%)	Old	New	Diff (%)	Old	New	Diff (%)
Sales	1,436	1,438	0	5,126	5,128	0	6,400	6,381	0
LED	277	286	3	999	1,007	1	1,284	1,287	0
Display & network	204	199	-3	922	916	-1	939	928	-1
Optical solution	506	506	0	1,488	1,488	0	2,184	2,184	0
Substrate & material	372	371	0	1,390	1,389	0	1,634	1,622	-1
Auto & motor	76	76	0	338	338	0	360	360	0
Operating profit	39	27	-31	108	96	-11	242	207	-14
LED	-24	-28	LI	-103	-107	LI	-23	-41	LI
Display & network	5	2	-57	31	28	-9	20	17	-15
Optical solution	28	28	0	63	63	0	100	98	-3
Substrate & material	30	25	-18	118	112	-5	140	129	-8
Auto & motor	0	0	0	-1	-1	0	3	3	0
Pre-tax profit	12	3	-72	8	-1	-110	166	132	-21
Net profit	11	-7	-167	16	-2	-110	185	147	-21

Note: LI = loss increase

Source: TONGYANG Securities

## LG Innotek (011070 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>4,103</b>	<b>4,553</b>	<b>5,128</b>	<b>6,381</b>	<b>7,051</b>
Cost of sales	3,588	4,164	4,614	5,727	6,276
Gross profit	515	389	514	654	776
SG&A	362	432	426	453	479
Adj operating profit*	153	-43	88	201	296
Other op prof/loss	<b>3</b>	<b>-24</b>	<b>8</b>	<b>6</b>	<b>8</b>
Forex gain/loss	-7	6	0	0	0
Net interest income	0	0	0	0	0
Other	10	-30	8	6	8
Operating profit	156	-67	96	207	304
EBITDA	440	352	562	703	844
Non-op profit/loss	<b>-48</b>	<b>-108</b>	<b>-97</b>	<b>-75</b>	<b>-62</b>
Forex gain/loss	<b>4</b>	<b>-12</b>	<b>1</b>	<b>1</b>	<b>1</b>
Net interest inc	-52	-90	-77	-72	-66
Equity-meth gain/loss	0	0	0	0	0
Other	<b>-1</b>	<b>-6</b>	<b>-21</b>	<b>-4</b>	<b>3</b>
Net prof before income tax	109	-174	-1	132	242
Income tax	-17	-29	1	-16	4
Net profit from cont op	126	-145	-2	147	238
Net profit from discount op	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>196</b>	<b>-145</b>	<b>-2</b>	<b>147</b>	<b>238</b>
NP for controlling int	196	-145	-2	147	238
Total comprehensive inc	186	-141	2	151	242
TCI for controlling int	186	-141	2	151	242

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>46</b>	<b>291</b>	<b>485</b>	<b>484</b>	<b>709</b>
Net profit	196	-145	-2	147	238
Depreciation & amort	271	398	444	472	514
Forex gain/loss	1	2	-1	-1	-1
Affiliate invest gain/loss	0	0	0	0	0
Inc(dec) net working cap	-373	-45	-71	-251	-160
Other	-49	82	115	117	117
<b>Investing cash flow</b>	<b>-1,132</b>	<b>-680</b>	<b>-421</b>	<b>-395</b>	<b>-575</b>
Investment	-3	-3	0	0	0
Inc in tangible assets	-1,329	-692	-392	-371	-541
Dec in tangible assets	61	59	0	0	0
Other	139	-44	-29	-24	-34
<b>Financing cash flow</b>	<b>1,026</b>	<b>579</b>	<b>-247</b>	<b>-137</b>	<b>-137</b>
Inc(dec) in ST fin liab	<b>0</b>	<b>0</b>	<b>0</b>	<b>-30</b>	<b>-30</b>
Inc(dec) in LT fin liab	705	585	-247	-100	-100
Inc(dec) in equity	334	0	0	0	0
Cash dividend	-6	-7	0	-7	-7
Other	-7	0	0	0	0
Other cash flow	-4	-2	233	18	-11
Inc (dec) in cash & eq	-64	188	50	-31	-15
Beginning cash & equiv	312	247	436	485	454
Ending cash & equiv	247	436	485	454	439
NOPLAT	18	-7	20	23	30
FCF	-1,237	-374	200	106	138

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>1,503</b>	<b>1,736</b>	<b>1,876</b>	<b>2,153</b>	<b>2,307</b>
Cash & cash equiv	247	436	485	454	439
Accts rec & other	827	871	924	1,138	1,253
Inventory	365	376	410	510	564
Non-current assets	<b>2,631</b>	<b>2,674</b>	<b>2,600</b>	<b>2,490</b>	<b>2,517</b>
Tangible assets	2,338	2,305	2,254	2,154	2,180
Investment in affiliate	0	0	0	0	0
Other non-current	<b>11</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>
Total assets	4,134	4,410	4,476	4,644	4,824
<b>Current liabilities</b>	<b>1,222</b>	<b>1,474</b>	<b>1,637</b>	<b>1,761</b>	<b>1,807</b>
Accts payable & other	954	745	1,044	1,195	1,271
ST financial liabilities	126	447	447	417	387
Liquid LT liabilities	102	247	100	100	100
Non-current liabilities	1,442	1,611	1,511	1,411	1,311
LT financial liabilities	562	635	585	535	485
Debentures	<b>859</b>	<b>916</b>	<b>866</b>	<b>816</b>	<b>766</b>
Total liabilities	2,664	3,085	3,149	3,172	3,118
Equity, controlling int	<b>1,470</b>	<b>1,325</b>	<b>1,327</b>	<b>1,471</b>	<b>1,706</b>
Paid-in capital	101	101	101	101	101
Capital surplus	846	848	848	848	848
Retained earnings	533	372	371	511	742
Equity, non-control int	0	0	0	0	0
Total equity	1,470	1,325	1,327	1,472	1,706
Net debt	1,360	1,778	1,482	1,388	1,273
Total debt	1,649	2,245	1,998	1,868	1,738

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	10,292	-7,213	-80	7,303	11,790
BPS (won)	73,048	65,733	65,815	72,966	84,604
EBITDA/shr (won)	23,149	17,466	27,873	34,860	41,824
SPS (won)	215,917	225,940	254,279	316,358	349,576
DPS (won)	350	0	350	350	350
P/E (x)	13.1	-13.1	-1,049.7	11.5	7.2
P/B (x)	1.9	1.4	1.3	1.2	1.0
EV/EBITDA (x)	8.9	10.5	5.7	4.4	3.5
PSR (x)	0.6	0.4	0.3	0.3	0.2

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	67.0	11.0	12.6	24.4	10.5
Operating profit (% y-y)	205.1	-142.7	-243.5	115.7	47.0
Adjusted OP (% y-y)	95.0	-128.0	-305.9	127.5	47.4
NP, CI (% y-y)	176.7	-174.3	-98.9	-9,194.9	61.4
Gross margin (%)	12.6	8.5	10.0	10.2	11.0
Operating margin (%)	3.8	-1.5	1.9	3.2	4.3
Adj OP margin (%)	3.7	-0.9	1.7	3.1	4.2
NP, CI margin (%)	4.8	-3.2	0.0	2.3	3.4
EBITDA margin (%)	10.7	7.7	11.0	11.0	12.0
ROIC (%)	8.6	-2.0	7.0	8.6	10.7
ROA (%)	5.6	-3.4	0.0	3.2	5.0
ROE (%)	16.5	-10.4	-0.1	10.5	15.0
Debt-to-equity (%)	181.2	232.9	237.2	215.6	182.7
Net debt-to-equity (%)	92.5	134.2	111.6	94.3	74.6
OP/financing cost (x)	2.6	-0.7	1.1	2.5	3.9

Note: EPS, BPS, P/E and P/B are based on controlling interest

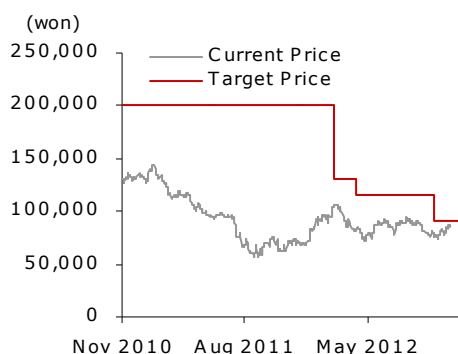
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

### LG Innotek (011070 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	90,000
2012-10-26	BUY	90,000
2012-10-22	BUY	90,000
2012-09-21	BUY	115,000
2012-07-27	BUY	115,000
2012-07-19	BUY	115,000
2012-07-02	BUY	115,000
2012-06-11	BUY	115,000
2012-05-15	BUY	115,000
2012-05-02	BUY	115,000

Source: TONGYANG Securities

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#### Analyst certification

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

#### Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

# Samsung SDI (006400 KS)

**BUY (M) / TP: W165,000 (M)**

## Brian Park

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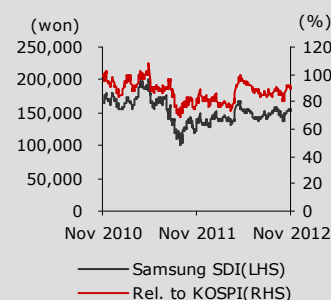
Nov 30, 2012

## KOREA Tech

Share price (won, Nov 28)	155,500
Paid-in capital (Wbn)	241
Market cap (Wbn)	7,170
BPS (won)	170,983
Net debt to equity (%)	-4.2
Shares outstanding	47,176,237
Avg daily T/O (2M, Wbn)	36
Avg daily vol (2M, shrs)	239,233
52-week high (won)	168,000
52-week low (won)	127,000
Foreign ownership (%)	20.7
Major shareholders (%)	
SEC & others	20.6

## Stock performance (%)

	1M	3M	12M
Absolute	8.0	9.5	22.4
Relative	1.1	(0.2)	5.4
Abs (US\$)	9.0	14.6	30.1



Source: Datastream

## Earnings stability stellar

### Operating profit decrease in 4Q not a great concern

- Battery shipments typically fall in 4Q due to inventory control by handset makers. However, as the delayed launch of the "iPhone 5" helped boost sales of Samsung Electronics' (SEC) "Galaxy" models (which use SDI's prismatic batteries), we believe SDI's operating profit from small batteries will grow 5% q-q in 4Q. Total 4Q operating profit is expected to fall 29% q-q to W60.8bn, as losses from auto batteries are now booked as operating loss, vs being booked as affiliate loss previously. The decrease in operating profit is similar to the level of seasonality-driven decrease seen in the past.

### Growth of mobile devices driving small battery sales

- In 2013, we expect smartphone sales to grow 27% y-y to 926mn units and tablet sales to surge 49% y-y to 181mn. This is a very good growth opportunity for the world's number-one battery maker, Samsung SDI. Tablets in particular should raise demand as they use high-capacity polymer batteries. Given rising demand for prismatic batteries (for SEC) and polymer batteries (for tablets), we expect 2013 small battery operating profit to grow 23% y-y to W441.4bn.

### Earnings continue to grow steadily

- We expect earnings from small-size batteries to continue to grow, and losses from auto batteries, ESS, and solar cells are gradually narrowing. Thus, we expect total operating profit to stay on a solid growth track. We estimate 2013 operating profit at W285.6bn (or W399.9bn (+22% y-y) if we exclude auto batteries). Small battery margins should also continue to expand on growing demand for tablets, which use polymer batteries. We are optimistic about SDI's long-term outlook given stable earnings and future growth catalysts. We maintain BUY with a target price of W165,000.

Forecasts and valuations (K-IFRS)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	5,124	5,444	5,844	5,859	6,065
Chg (% y-y)	3.5	6.2	7.3	0.3	3.5
Reported OP	287	204	1,732	286	349
Adjusted OP*	234	110	542	195	255
Net profit, CI	356	320	1,548	541	595
EPS, CI (won)	7,762	6,975	33,938	11,827	13,013
Chg (% y-y)	63.7	-10.1	386.6	-65.2	10.0
P/E (x)	20.3	22.3	4.6	13.1	11.9
P/B (x)	1.2	1.2	0.9	0.9	0.8
EV/EBITDA (x)	10.1	11.4	3.3	9.3	8.4
ROA (%)	4.7	3.9	16.2	5.0	5.2
ROE (%)	6.5	5.3	22.5	6.8	7.0

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

Quarterly earnings forecast									(Wbn)		
	1Q11	2Q11	3Q11	4Q11	1Q12	2Q12	3Q12	4Q12	2011	2012E	2013E
Revenue	1,209	1,349	1,448	1,438	1,377	1,477	1,507	1,483	5,444	5,844	5,859
Operating profit	60	89	43	11	67	84	1,520	61	204	1,732	286
Recurring profit	112	131	136	100.0	165	166	1,642	197	478	2,170	817
Net profit	79	87	100	55	112	105	1,198	133	320	1,548	541
EPS (won)	1,668	1,834	2,119	1,164	2,374	2,233	25,404	2,812	6,785	32,823	11,471
Operating margin (%)	5	7	3	1	5	6	101	4	4	30	5
Recurring margin (%)	9	10	9	7	12	11	109	13	9	37	14
Net margin (%)	7	6	7	4	8	7	80	9	6	26	9
Revenue	1,209	1,349	1,448	1,438	1,377	1,477	1,507	1,483	5,444	5,844	5,859
IT battery	568	715	764	697	743	873	904	919	2,745	3,439	3,968
Car battery											67
PDP	520	526	539	622	520	494	499	467	2,207	1,980	1,507
CRT	105	94	98	83	90	89	76	57	380	312	209
Others	16	13	46	36	24	22	28	40	112	113	109
Operating profit	60	89	43	11	67	84	1,520	61	204	1,732	286
IT battery	43	81	77	45	66	89	100	105	245	359	441
Car battery											-114
PDP	-4	8	1	7	1	9	5	3	13	18	9
CRT	5	1	0	0	1	1	0	0	6	2	0
Others	17	-1	-35	-41	-1	-15	1,415	-47	-61	1,352	-51
Operating margin (%)	5	7	3	1	5	6	101	4	4	30	5
IT battery	8	11	10	6	9	10	11	11	9	10	11
Car battery											-170
PDP	-1	2	0	1	0	2	1	1	1	1	1
CRT	5	2	0	0	1	1	0	0	2	1	0
Others	103	-11	-75	-113	-3	-70	5109	-118	-54	1201	-47

Source: TONGYANG Securities

## Samsung SDI (006400 KS) pro forma financial statements (K-IFRS, consolidated)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>5,124</b>	<b>5,444</b>	<b>5,844</b>	<b>5,859</b>	<b>6,065</b>
Cost of sales	4,334	4,761	4,671	5,032	5,155
Gross profit	790	683	1,173	827	910
SG&A	556	573	631	633	655
Adj operating profit*	234	110	542	195	255
Other op prof/loss	<b>53</b>	<b>94</b>	<b>1,190</b>	<b>91</b>	<b>94</b>
Forex gain/loss	0	0	0	0	0
Net interest income	0	0	0	0	0
Other	53	94	1,190	91	94
Operating profit	287	204	1,732	286	349
EBITDA	662	642	2,175	751	821
Non-op profit/loss	<b>136</b>	<b>274</b>	<b>438</b>	<b>531</b>	<b>550</b>
Forex gain/loss	<b>-36</b>	<b>0</b>	<b>-16</b>	<b>-17</b>	<b>-18</b>
Net interest inc	14	2	9	12	16
Equity-meth gain/loss	151	285	363	492	510
Other	<b>7</b>	<b>-13</b>	<b>82</b>	<b>44</b>	<b>42</b>
Net prof before income tax	423	478	2,170	817	899
Income tax	37	127	585	229	252
Net profit from cont op	385	351	1,585	588	647
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>385</b>	<b>351</b>	<b>1,585</b>	<b>588</b>	<b>647</b>
NP for controlling int	356	320	1,548	541	595
Total comprehensive inc	1,106	157	1,658	661	720
TCI for controlling int	1,070	125	1,620	608	662

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>489</b>	<b>300</b>	<b>654</b>	<b>630</b>	<b>635</b>
Net profit	385	351	1,585	588	647
Depreciation & amort	359	417	421	445	457
Forex gain/loss	-2	-7	16	17	18
Affiliate invest gain/loss	-151	-411	-363	-492	-510
Inc(dec) net working cap	-135	-275	-71	-59	-103
Other	34	225	-934	132	126
<b>Investing cash flow</b>	<b>-252</b>	<b>-879</b>	<b>-650</b>	<b>-506</b>	<b>-493</b>
Investment	12	-346	-65	0	0
Inc in tangible assets	-399	-436	-503	-426	-411
Dec in tangible assets	52	29	0	0	0
Other	83	-126	-82	-80	-82
<b>Financing cash flow</b>	<b>-623</b>	<b>269</b>	<b>-361</b>	<b>-112</b>	<b>-112</b>
Inc(dec) in ST fin liab	<b>-550</b>	<b>355</b>	<b>-50</b>	<b>-30</b>	<b>-30</b>
Inc(dec) in LT fin liab	-36	0	-229	0	0
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-60	-77	-73	-73	-73
Other	24	-9	-9	-9	-9
Other cash flow	19	2	369	72	70
Inc (dec) in cash & eq	-367	-309	13	85	100
Beginning cash & equiv	1,434	1,066	758	770	855
Ending cash & equiv	1,066	758	770	855	955
NOPLAT	29	20	173	29	35
FCF	103	-122	1,134	187	210

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>2,451</b>	<b>2,364</b>	<b>2,400</b>	<b>2,467</b>	<b>2,617</b>
Cash & cash equiv	1,066	758	770	855	955
Accts rec & other	747	865	868	863	891
Inventory	484	584	596	592	613
Non-current assets	<b>5,482</b>	<b>6,163</b>	<b>8,147</b>	<b>8,596</b>	<b>9,051</b>
Tangible assets	1,727	1,827	1,909	1,890	1,844
Investment in affiliate	1,149	1,899	2,327	2,819	3,329
Other non-current	<b>2,308</b>	<b>2,100</b>	<b>3,601</b>	<b>3,601</b>	<b>3,601</b>
Total assets	7,934	8,527	10,547	11,063	11,668
<b>Current liabilities</b>	<b>1,098</b>	<b>1,750</b>	<b>1,512</b>	<b>1,484</b>	<b>1,468</b>
Accts payable & other	755	830	871	872	887
ST financial liabilities	32	533	483	453	423
Liquid LT liabilities	99	229	0	0	0
Non-current liabilities	604	463	1,116	1,096	1,096
LT financial liabilities	28	0	0	0	0
Debentures	<b>200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total liabilities	1,703	2,213	2,628	2,580	2,564
Equity, controlling int	<b>6,051</b>	<b>6,118</b>	<b>7,672</b>	<b>8,219</b>	<b>8,820</b>
Paid-in capital	241	241	241	241	241
Capital surplus	1,256	1,258	1,258	1,258	1,258
Retained earnings	3,391	3,611	5,092	5,566	6,094
Equity, non-control int	180	196	246	264	283
Total equity	6,231	6,315	7,919	8,483	9,103
Net debt	-780	-25	-319	-434	-564
Total debt	358	761	483	453	423

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	7,762	6,975	33,938	11,827	13,013
BPS (won)	132,039	133,305	166,250	177,841	190,579
EBITDA/shr (won)	14,039	13,616	46,105	15,927	17,413
SPS (won)	108,620	115,395	123,878	124,204	128,551
DPS (won)	1,600	1,500	1,500	1,500	1,500
P/E (x)	20.3	22.3	4.6	13.1	11.9
P/B (x)	1.2	1.2	0.9	0.9	0.8
EV/EBITDA (x)	10.1	11.4	3.3	9.3	8.4
PSR (x)	1.4	1.3	1.3	1.3	1.2

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	3.5	6.2	7.4	0.3	3.5
Operating profit (% y-y)	6.9	-29.0	750.4	-83.5	22.1
Adjusted OP (% y-y)	23.0	-53.1	393.0	-64.1	30.9
NP, CI (% y-y)	63.6	-10.1	383.7	-65.1	10.0
Gross margin (%)	15.4	12.6	20.1	14.1	15.0
Operating margin (%)	5.6	3.7	29.6	4.9	5.7
Adj OP margin (%)	4.6	2.0	9.3	3.3	4.2
NP, CI margin (%)	6.9	5.9	26.5	9.2	9.8
EBITDA margin (%)	12.9	11.8	37.2	12.8	13.5
ROIC (%)	12.6	6.4	49.1	8.0	9.9
ROA (%)	4.7	3.9	16.2	5.0	5.2
ROE (%)	6.5	5.3	22.5	6.8	7.0
Debt-to-equity (%)	27.3	35.0	33.2	30.4	28.2
Net debt-to-equity (%)	-12.9	-0.4	-4.2	-5.3	-6.4
OP/financing cost (x)	10.6	10.2	132.9	23.4	30.6

Note: EPS, BPS, P/E and P/B are based on controlling interest

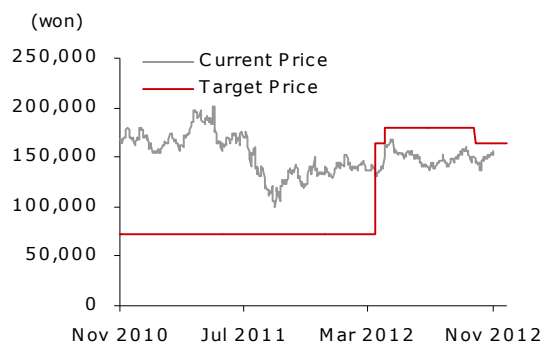
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

## Samsung SDI (006400 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	165,000
2012-10-31	BUY	165,000
2012-10-22	BUY	165,000
2012-07-30	BUY	180,000
2012-07-19	BUY	180,000
2012-07-02	BUY	180,000
2012-05-15	BUY	180,000
2012-04-30	BUY	180,000
2012-04-16	BUY	165,000
2012-04-09	BUY	165,000

Source: TONGYANG Securities

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## Analyst certification

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

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  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting



# SFA (056190 KS)

**BUY (M) / TP: W53,000 (M)**
**Sung-ho Jo**

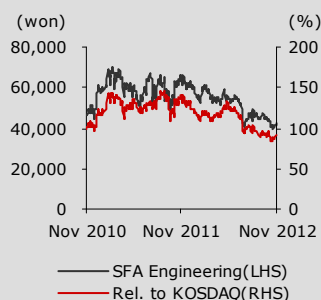
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**Nov 30, 2012**
**KOREA  
Display**

Share price (won, Nov 28)	42,550
Paid-in capital (Wbn)	9
Market cap (Wbn)	764
BPS (won)	22,451
Net debt to equity (%)	-58.5
Shares outstanding	17,954,380
Avg daily T/O (2M, Wbn)	3
Avg daily vol (2M, shrs)	69,105
52-week high (won)	66,000
52-week low (won)	40,000
Foreign ownership (%)	7.2
Major shareholders (%)	
	DY Asset & others 36.82

**Stock performance (%)**

	1M	3M	12M
Absolute	(3.5)	(10.3)	(32.4)
Relative	(2.2)	(1.0)	1.7
Abs (US\$)	(2.6)	(6.2)	(28.1)



Source: Datastream

## Take long-term view

### Uncertainties linger over SDC's 2013 AMOLED capex

- It is difficult to predict when Samsung Display (SDC) will be able to resolve technical issues related to AMOLED TV and flexible displays. Thus, uncertainties about SDC's AMOLED capex is likely to weigh on investor sentiment. In particular, the key questions will be: how much will SDC invest in AMOLED in 2013, will it launch flexible AMOLED, and will the AMOLED TV market grow.

### SDC likely to invest further in 2H13

- We find it encouraging that SFA will likely win orders related to SDC's A2 extension within 2012. As these orders have been delayed, they should mostly be priced into 2013 results. In addition, China's LCD investment is expected to accelerate from 2013, which we believe will boost SFA's earnings. SDC needs to invest further in 2H13 to brace for 2014, after the A2 extension. All in all, we are optimistic about SFA's prospects in 2013.

### Shares to rise on start of flexible AMOLED line additions

- SFA shares should rise in the long run if SDC invests further in AMOLED investment. SDC is expected to ramp up flexible AMOLED lines after resolving related technical issues and evaluating the marketability of flexible AMOLED. Initially, users may expect products from flexible pilot lines.

Forecasts and valuations (K-IFRS, parent)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	423	753	529	729	802
Chg (% y-y)	37.8	78.0	-29.7	37.8	10.0
Reported OP	38	92	70	86	100
Adjusted OP*	38	95	52	86	100
Net profit, CI	39	76	63	76	89
EPS, CI (won)	2,192	4,212	3,535	4,259	4,939
Chg (% y-y)	10.8	92.2	-16.1	20.5	16.0
P/E (x)	22.5	14.3	12.0	10.0	8.6
P/B (x)	3.1	3.0	1.9	1.7	1.5
EV/EBITDA (x)	9.0	8.5	6.9	5.2	4.1
ROA (%)	8.4	12.7	11.2	12.6	13.0
ROE (%)	16.0	24.8	17.4	18.7	18.9

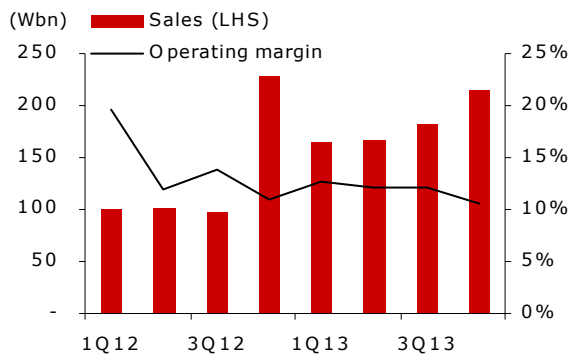
Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest  
 Source: TONGYANG Securities

**Table 1. Earnings and forecast**

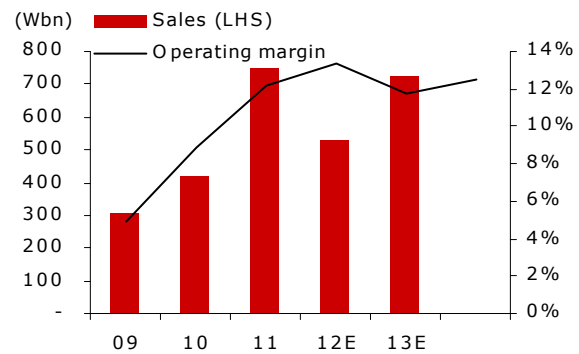
(Wbn)

	1Q12	2Q12	3Q12	4Q12E	1Q13E	2Q13E	3Q13E	4Q13E	2011	2012E	2013E
Won/dollar rate	1,140	1,150	1,130	1,090	1,060	1,030	1,010	980	1,110	1,128	1,020
New orders	113	120	42	298	144	128	210	254	773	573	735
Order backlog	288	305	247	316	295	256	283	322	275	316	322
Sales	100	101	98	230	164	167	183	215	753	529	729
Logistic systems	83	79	76	156	120	116	115	174	619	395	525
Display equipment	17	22	22	73	44	51	68	41	135	134	204
Operating profit	20	12	14	25	21	20	22	23	92	70	86
Pre-tax profit	22	15	16	29	23	23	25	26	96	81	98
Net-profit	17	12	12	23	19	19	20	18	76	63	76
EPS (won)	956	658	648	1,273	1,081	1,051	1,100	1,027	4,221	3,535	4,259
Operating margin (%)	20	12	14	11	13	12	12	11	12	13	12
Pre-tax margin (%)	22	15	17	13	14	14	14	12	13	15	13
Net margin (%)	17	12	12	10	12	11	11	9	10	12	10

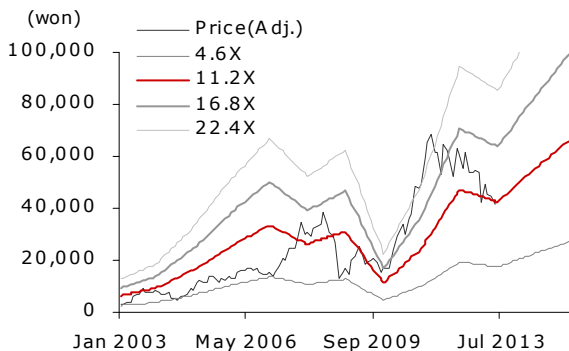
Source: Company data, TONGYANG Securities

**Chart 1. Quarterly earnings and forecast**

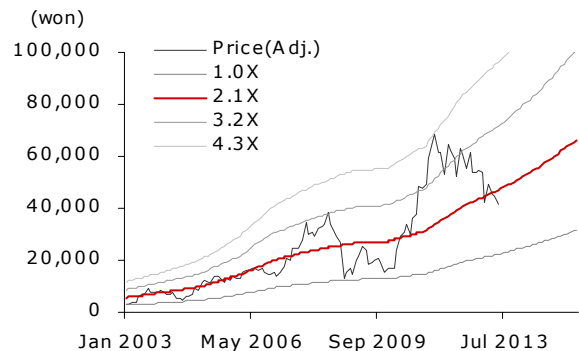
Source: SFA, TONGYANG Securities

**Chart 2. Annual earnings and forecast**

Source: SFA, TONGYANG Securities

**Chart 3. P/E band**

Source: TONGYANG Securities

**Chart 4. P/B band**

Source: TONGYANG Securities

## SFA (056190 KS) pro forma financial statements (K-IFRS, parent)

### Statement of comprehensive income

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>423</b>	<b>753</b>	<b>529</b>	<b>729</b>	<b>802</b>
Cost of sales	353	610	423	587	646
Gross profit	70	143	106	142	156
SG&A	32	48	54	56	56
Adj operating profit*	38	95	52	86	100
Other op prof/loss	<b>0</b>	<b>-3</b>	<b>18</b>	<b>0</b>	<b>0</b>
Forex gain/loss	0	1	0	0	0
Net interest income	0	0	0	0	0
Other	0	-3	18	0	0
Operating profit	38	92	70	86	100
EBITDA	43	99	78	95	110
Non-op profit/loss	<b>12</b>	<b>4</b>	<b>11</b>	<b>12</b>	<b>14</b>
Forex gain/loss	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net interest inc	5	4	10	12	14
Equity-meth gain/loss	2	0	0	0	0
Other	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
Net prof before income tax	50	96	81	98	114
Income tax	11	20	18	22	25
Net profit from cont op	39	76	63	76	89
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>39</b>	<b>76</b>	<b>63</b>	<b>76</b>	<b>89</b>
NP for controlling int	39	76	63	76	89
Total comprehensive inc	39	74	61	74	87
TCI for controlling int	39	74	61	74	87

Note: 1. Adjusted op profit = gross profit - SG&A

2. EBITDA is based on adjusted operating profit

### Cash flow statement

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>85</b>	<b>112</b>	<b>-1</b>	<b>72</b>	<b>62</b>
Net profit	39	76	63	76	89
Depreciation & amort	5	6	7	8	9
Forex gain/loss	-1	-1	0	0	0
Affiliate invest gain/loss	-2	0	0	0	0
Inc(dec) net working cap	33	-1	-94	-36	-58
Other	10	33	22	23	23
<b>Investing cash flow</b>	<b>-46</b>	<b>-96</b>	<b>76</b>	<b>-8</b>	<b>-24</b>
Investment	-4	0	0	0	0
Inc in tangible assets	-8	-24	-11	-10	-8
Dec in tangible assets	0	0	0	0	0
Other	-33	-73	88	2	-16
<b>Financing cash flow</b>	<b>1</b>	<b>-9</b>	<b>-23</b>	<b>-22</b>	<b>-22</b>
Inc(dec) in ST fin liab	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Inc(dec) in LT fin liab	0	0	0	0	0
Inc(dec) in equity	0	0	0	0	0
Cash dividend	-4	-9	-23	-22	-22
Other	4	0	0	0	0
Other cash flow	0	0	16	16	16
Inc (dec) in cash & eq	40	7	69	58	32
Beginning cash & equiv	28	68	75	144	202
Ending cash & equiv	68	75	144	202	234
NOPLAT	4	9	7	9	10
FCF	59	54	-42	30	22

### Statement of financial position

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>494</b>	<b>400</b>	<b>407</b>	<b>477</b>	<b>550</b>
Cash & cash equiv	66	75	144	202	234
Accts rec & other	90	135	120	137	153
Inventory	216	7	53	58	72
Non-current assets	<b>136</b>	<b>158</b>	<b>164</b>	<b>169</b>	<b>170</b>
Tangible assets	94	107	111	113	111
Investment in affiliate	25	22	22	22	22
Other non-current	<b>8</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>
Total assets	630	559	572	647	720
<b>Current liabilities</b>	<b>357</b>	<b>194</b>	<b>168</b>	<b>191</b>	<b>199</b>
Accts payable & other	118	120	94	117	125
ST financial liabilities	0	0	0	0	0
Liquid LT liabilities	0	0	0	0	0
Non-current liabilities	9	20	20	20	20
LT financial liabilities	0	0	0	0	0
Debentures	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total liabilities	366	214	188	211	219
Equity, controlling int	<b>264</b>	<b>345</b>	<b>383</b>	<b>436</b>	<b>501</b>
Paid-in capital	9	9	9	9	9
Capital surplus	20	20	20	20	20
Retained earnings	252	332	373	428	495
Equity, non-control int	0	0	0	0	0
Total equity	264	345	383	436	501
Net debt	-179	-249	-224	-272	-315
Total debt	0	0	0	0	0

### Valuation

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	2,192	4,212	3,535	4,259	4,939
BPS (won)	15,646	20,138	22,301	25,230	28,840
EBITDA/shr (won)	2,368	5,486	4,364	5,288	6,105
SPS (won)	23,559	41,960	29,466	40,591	44,650
DPS (won)	500	1,280	1,280	1,280	1,280
P/E (x)	22.5	14.3	12.0	10.0	8.6
P/B (x)	3.1	3.0	1.9	1.7	1.5
EV/EBITDA (x)	9.0	8.5	6.9	5.2	4.1
PSR (x)	2.1	1.4	1.4	1.0	1.0

### Key financial data

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	37.7	78.1	-29.8	37.8	10.0
Operating profit (% y-y)	148.6	144.0	-23.6	21.9	16.4
Adjusted OP (% y-y)	148.6	150.8	-45.0	64.9	16.5
NP, CI (% y-y)	118.3	92.2	-16.1	20.5	16.0
Gross margin (%)	16.6	19.0	20.0	19.5	19.5
Operating margin (%)	8.9	12.2	13.3	11.8	12.5
Adj OP margin (%)	8.9	12.6	9.8	11.8	12.5
NP, CI margin (%)	9.3	10.0	12.0	10.5	11.1
EBITDA margin (%)	10.1	13.1	14.8	13.0	13.7
ROIC (%)	39.9	112.9	50.7	47.0	50.0
ROA (%)	8.4	12.7	11.2	12.6	13.0
ROE (%)	16.0	24.8	17.4	18.7	18.9
Debt-to-equity (%)	138.5	62.1	49.0	48.3	43.7
Net debt-to-equity (%)	-68.0	-72.2	-58.5	-62.4	-62.8
OP/financing cost (x)	0.0	4,561.0	0.0	0.0	0.0

Note: EPS, BPS, P/E and P/B are based on controlling interest

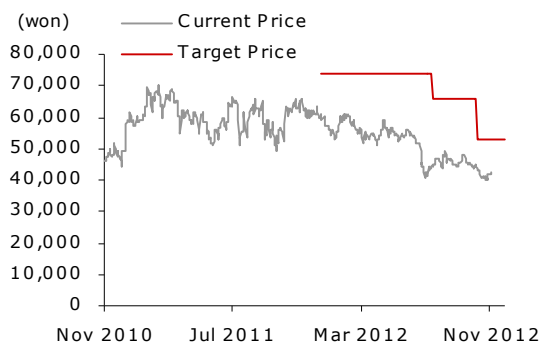
For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities

## SFA (056190 KS) ratings and target price history



Date	Rating	TP (won)
2012-11-29	BUY	53,000
2012-11-14	BUY	53,000
2012-11-01	BUY	53,000
2012-09-24	BUY	66,000
2012-08-28	BUY	66,000
2012-08-23	BUY	66,000
2012-08-13	BUY	66,000
2012-08-08	BUY	66,000
2012-07-02	BUY	74,000
2012-06-05	BUY	74,000

Source: TONGYANG Securities

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## Analyst certification

I/We, as the research analyst/analysts who prepared this research report, do hereby certify that the views expressed in this report accurately reflect my/our personal views about the subject securities discussed in this report.

## Stock and sector ratings

- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
  - Buy: Low Risk if a stock is expected to return 10% or more; High Risk if a stock is expected to return 20% or more
  - Hold: Low Risk if a stock is expected to return between -10 and +10%; High Risk if a stock is expected to return between -20 and +20%
  - Sell: Low Risk if a stock is expected to decline by 10% or more; High Risk if a stock is expected to fall by 20% or more
- **Sector ratings** suggest 6 to 12 - month forward investment weighting of a given sector compared to its market capitalization weighting.
  - Overweight: Investment weighting is higher than the market capitalization weighting
  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

# Duksan Hi-Metal (077360 KS)

**BUY (M) / TP: W25,000 (M)**

## Sung-ho Jo

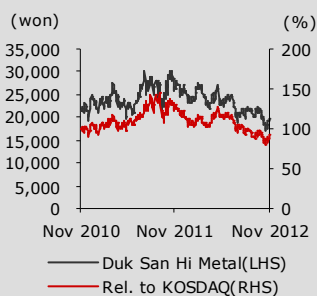
sungho.jo@tongyang.co.kr  
+822-3770-3478

## KOREA IT component

Share price (won, Nov 28)	19,700
Paid-in capital (Wbn)	6
Market cap (Wbn)	579
BPS (won)	7,154
Net debt to equity (%)	-29.5
Shares outstanding	29,392,370
Avg daily T/O (2M, Wbn)	7
Avg daily vol (2M, shrs)	317,288
52-week high (won)	28,150
52-week low (won)	17,200
Foreign ownership (%)	9.0
Major shareholders (%)	
Jun-Ho Lee & others	41.8

## Stock performance (%)

	1M	3M	12M
Absolute	(5.3)	(7.7)	(25.1)
Relative	(2.2)	(1.0)	1.7
Abs (US\$)	(4.4)	(3.5)	(20.4)



Source: Datastream

## Growth looks assured for 2013

### Organic material demand to rise in 2013 on A2 line expansion

- With Samsung Display Corp's (SDC) A2 line expected to start operating from 2Q13 and Samsung Electronics (SEC) to sell more than 200mn AMOLED smartphones next year, Duksan's sales of organic materials should soar 47% y-y in 2013. Green phosphate sales are also likely to materialize from 2013.

### Higher margin on improving product mix

- We expect tech's key growth drivers in 2013 to be smartphones and tablets. As smartphone screens become bigger and smart devices lighter and smaller, demand for fine solder balls should continue to grow. Since they have a higher margin than normal solder balls, their rising sales portion should lead to fatter margins. We expect Duksan's operating margin to reach the high-20% range in 2013, helping to offset declining HTL ASP.

### AMOLED to be long-term growth catalyst

- We expect AMOLED panels to be used in TVs and tablets from 2014. There are several technological issues concerning the size of AMOLED panels, but in the long term, they should be a strong growth catalyst for Duksan. Meanwhile, we expect competition from CS Elsolar and Cheil Ind to be limited given Duksan's organic material capacity and competitive ASP. We maintain BUY with a target price of W25,000.

Forecasts and valuations (K-IFRS, Individual)					(Wbn)
FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales	72	129	142	185	221
Chg (% y-y)	125.0	79.2	10.1	30.3	19.5
Reported OP	13	35	41	52	59
Adjusted OP*	13	39	41	52	60
Net profit, CI	10	35	41	52	61
EPS, CI (won)	409	1,181	1,412	1,768	2,060
Chg (% y-y)	82.6	188.8	19.6	25.2	16.5
P/E (x)	44.8	21.1	14.0	11.1	9.6
P/B (x)	4.6	4.6	2.9	2.3	1.8
EV/EBITDA (x)	21.2	18.4	11.3	8.4	6.5
ROA (%)	10.0	26.2	24.0	23.5	21.7
ROE (%)	12.4	29.8	26.0	25.2	23.1

Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest

Source: TONGYANG Securities

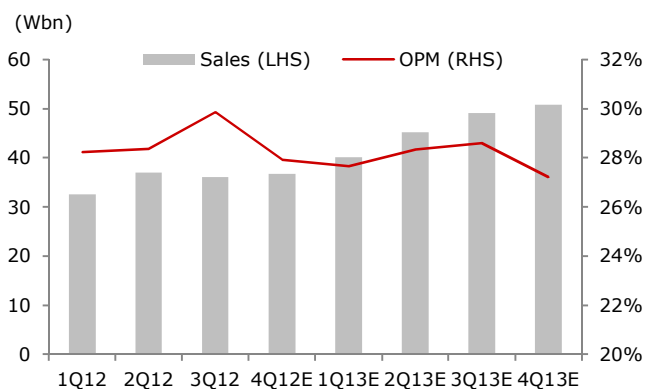
Earnings revision (Wbn)									
	4Q12E			2012E			2013E		
	Old	New	Diff (%)	Old	New	Diff (%)	Old	New	Diff (%)
Sales	40	37	-8.3	148	142	-3.7	196	185	-5.7
Semicon	16	17	7.7	62	64	4.0	69	71	1.8
AMOLED	24	20	-18.7	86	78	-9.3	127	115	-9.9
Operating profit	9	10	11.3	40	41	2.9	52	52	-0.7
Pre-tax profit	10	11	11.9	41	42	2.9	54	54	-0.6
Net profit	10	10	8.1	40	41	2.9	52	52	-0.6

Note: Previous estimates do not reflect 3Q results; our revisions reflect lower demand for V1 pilot line, higher margin from better product mix

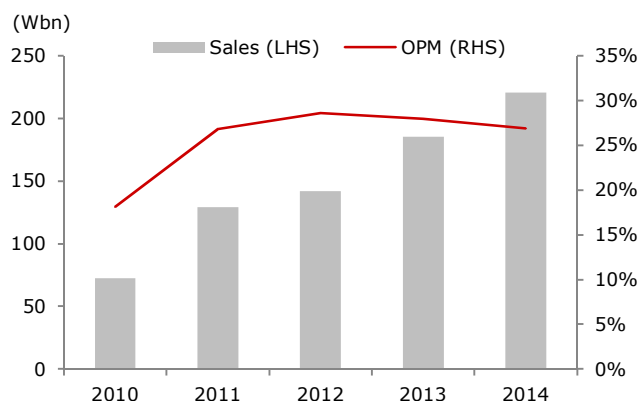
Source: TONGYANG Securities

Earnings forecast (Wbn)											
	1Q12	2Q12	3Q12	4Q12E	1Q13E	2Q13E	3Q13E	4Q13E	2011	2012E	2013E
Won/US\$	1,140	1,150	1,130	1,090	1,060	1,030	1,010	980	1,108	1,128	1,020
Sales	32.5	37.0	36.0	36.8	40.1	45.2	49.2	50.7	129.4	142.2	185.2
Semicon	14.8	15.3	17.4	17.0	17.0	17.5	18.1	18.1	59.4	64.4	70.7
AMOLED	17.7	21.7	18.7	19.8	23.1	27.7	31.1	32.6	70.1	77.9	114.5
Operating profit	9.2	10.5	10.8	10.3	11.1	12.8	14.1	13.8	34.7	40.7	51.8
Pre-tax profit	9.5	10.8	11.0	10.9	11.4	13.1	14.2	15.5	35.1	42.3	54.1
Net profit	9.3	10.9	10.9	10.4	10.9	12.6	13.6	14.9	34.6	41.5	52.0
EPS (won)	317	370	371	354	370	428	464	506	1,180	1,412	1,768
Operating margin (%)	28.2	28.4	29.9	27.9	27.7	28.3	28.6	27.2	26.8	28.6	27.9
Pre-tax margin (%)	29.4	29.3	30.6	29.8	28.4	28.9	29.0	30.5	27.1	29.8	29.2
Net margin (%)	28.7	29.4	30.3	28.3	27.2	27.8	27.7	29.3	26.7	29.2	28.1

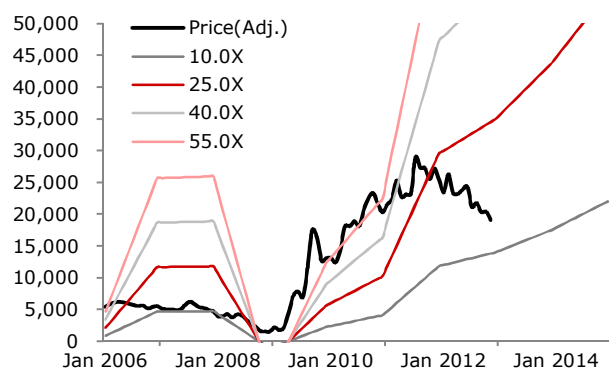
Source: Duksan Hi-Metal, TONGYANG Securities

**Duksan Hi-Metal: quarterly earnings forecast**

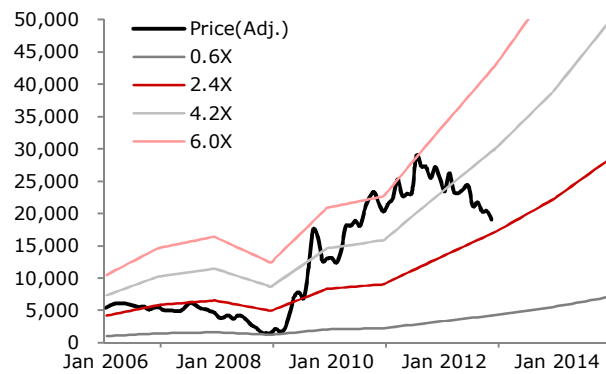
Source: Duksan Hi-Metal, TONGYANG Securities

**Duksan Hi-Metal: yearly earnings forecast**

Source: Duksan Hi-Metal, TONGYANG Securities

**Duksan Hi-Metal: P/E band**

Source: TONGYANG Securities

**Duksan Hi-Metal: P/B band**

Source: TONGYANG Securities

**Duksan Hi-Metal (077360 KS) pro forma financial statements (K-IFRS, Individual)****Statement of comprehensive income**

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Sales</b>	<b>72</b>	<b>129</b>	<b>142</b>	<b>185</b>	<b>221</b>
Cost of sales	43	76	86	114	137
Gross profit	30	53	56	71	84
SG&A	17	14	15	19	24
Adj operating profit*	13	39	41	52	60
Other op prof/loss	<b>0</b>	<b>-5</b>	<b>0</b>	<b>0</b>	<b>0</b>
Forex gain/loss	0	0	0	0	0
Net interest income	0	0	0	0	0
Other	0	-5	0	0	0
Operating profit	13	35	41	52	59
EBITDA	22	38	46	59	67
Non-op profit/loss	<b>-1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>4</b>
Forex gain/loss	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net interest inc	0	0	1	2	3
Equity-meth gain/loss	0	0	0	0	0
Other	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net prof before income tax	13	35	42	54	63
Income tax	2	0	1	2	3
Net profit from cont op	10	35	41	52	61
Net profit from discount op	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Net profit	<b>10</b>	<b>35</b>	<b>41</b>	<b>52</b>	<b>61</b>
NP for controlling int	10	35	41	52	61
Total comprehensive inc	10	35	42	52	61
TCI for controlling int	10	35	42	52	61

Note: 1. Adjusted op profit = gross profit - SG&amp;A

2. EBITDA is based on adjusted operating profit

**Cash flow statement**

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Operating cash flow</b>	<b>10</b>	<b>36</b>	<b>51</b>	<b>60</b>	<b>69</b>
Net profit	10	35	41	52	61
Depreciation & amort	2	3	4	5	6
Forex gain/loss	0	0	0	0	0
Affiliate invest gain/loss	0	0	0	0	0
Inc(dec) net working cap	-12	-7	-3	-6	-7
Other	10	6	9	9	9
<b>Investing cash flow</b>	<b>-28</b>	<b>-15</b>	<b>-37</b>	<b>-9</b>	<b>-20</b>
Investment	3	8	0	0	0
Inc in tangible assets	-28	-22	-6	-16	-12
Dec in tangible assets	0	0	0	0	2
Other	-3	-1	-31	6	-10
<b>Financing cash flow</b>	<b>9</b>	<b>-6</b>	<b>2</b>	<b>2</b>	<b>2</b>
Inc(dec) in ST fin liab	<b>-4</b>	<b>-2</b>	<b>0</b>	<b>0</b>	<b>0</b>
Inc(dec) in LT fin liab	7	-6	0	0	0
Inc(dec) in equity	6	0	0	0	0
Cash dividend	0	0	0	0	0
Other	0	2	2	2	2
Other cash flow	0	0	-9	-9	-9
Inc (dec) in cash & eq	-9	15	7	43	41
Beginning cash & equiv	15	5	21	28	71
Ending cash & equiv	5	21	28	71	112
NOPLAT	1	3	4	5	6
FCF	-21	9	37	35	46

**Statement of financial position**

FY ends Dec (Wbn)	2010A	2011A	2012F	2013F	2014F
<b>Current assets</b>	<b>22</b>	<b>46</b>	<b>83</b>	<b>125</b>	<b>182</b>
Cash & cash equiv	5	21	28	71	112
Accts rec & other	8	10	11	14	16
Inventory	7	13	14	18	22
<b>Non-current assets</b>	<b>90</b>	<b>106</b>	<b>111</b>	<b>123</b>	<b>128</b>
Tangible assets	44	65	66	77	81
Investment in affiliate	0	0	0	0	0
Other non-current	<b>16</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Total assets</b>	<b>112</b>	<b>152</b>	<b>194</b>	<b>248</b>	<b>310</b>
<b>Current liabilities</b>	<b>11</b>	<b>11</b>	<b>12</b>	<b>14</b>	<b>15</b>
Accts payable & other	5	5	5	7	8
ST financial liabilities	2	0	0	0	0
Liquid LT liabilities	3	2	2	2	2
<b>Non-current liabilities</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
LT financial liabilities	6	0	0	0	0
Debentures	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total liabilities</b>	<b>18</b>	<b>13</b>	<b>14</b>	<b>16</b>	<b>17</b>
Equity, controlling int	<b>93</b>	<b>139</b>	<b>180</b>	<b>232</b>	<b>293</b>
Paid-in capital	6	6	6	6	6
Capital surplus	76	82	82	82	82
Retained earnings	31	72	113	165	226
Equity, non-control int	0	0	0	0	0
<b>Total equity</b>	<b>93</b>	<b>139</b>	<b>180</b>	<b>232</b>	<b>293</b>
<b>Net debt</b>	<b>6</b>	<b>-18</b>	<b>-53</b>	<b>-88</b>	<b>-138</b>
<b>Total debt</b>					

**Valuation**

FY ends Dec	2010A	2011A	2012F	2013F	2014F
EPS (won)	409	1,181	1,412	1,768	2,060
BPS (won)	3,985	5,457	6,871	8,641	10,703
EBITDA/shr (won)	875	1,306	1,579	1,993	2,290
SPS (won)	2,924	4,424	4,840	6,300	7,506
DPS (won)	0	0	0	0	0
P/E (x)	44.8	21.1	14.0	11.1	9.6
P/B (x)	4.6	4.6	2.9	2.3	1.8
EV/EBITDA (x)	21.2	18.4	11.3	8.4	6.5
PSR (x)	6.3	5.6	4.1	3.1	2.6

**Key financial data**

FY ends Dec	2010A	2011A	2012F	2013F	2014F
Sales (% y-y)	125.5	78.6	9.9	30.2	19.1
Operating profit (% y-y)	179.2	164.6	17.1	27.2	14.7
Adjusted OP (% y-y)	179.2	199.8	4.2	26.5	15.3
NP, CI (% y-y)	114.0	240.8	20.0	25.2	16.5
Gross margin (%)	41.0	41.1	39.3	38.4	38.1
Operating margin (%)	18.1	26.8	28.6	27.9	26.9
Adj OP margin (%)	18.1	30.4	28.8	28.0	27.1
NP, CI margin (%)	14.0	26.7	29.2	28.1	27.4
EBITDA margin (%)	29.9	29.5	32.6	31.6	30.5
ROIC (%)	16.7	34.0	32.2	36.7	38.2
ROA (%)	10.0	26.2	24.0	23.5	21.7
ROE (%)	12.4	29.8	26.0	25.2	23.1
Debt-to-equity (%)	19.7	9.6	7.7	6.7	5.8
Net debt-to-equity (%)	6.0	-13.1	-29.5	-37.9	-47.2
OP/financing cost (x)	19.1	132.1	0.0	0.0	0.0

Note: EPS, BPS, P/E and P/B are based on controlling interest

For valuation metrics such as P/E, historical figures are based on annual averages, estimates on current price

For ROA or ROE, assets and equity are averages of end-of-year figures for given year and year prior

Data to 2010 based on K-GAAP and from 2011, K-IFRS

Source: TONGYANG Securities



**Duksan Hi-Metal (077360 KS) ratings and target price history**

Date	Rating	TP (won)
2012-11-29	BUY	25,000
2012-11-01	BUY	25,000

Source: TONGYANG Securities

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- **Stock ratings** include an Investment Rating (Buy, Hold, Sell) as well as a Volatility Risk Rating (High, Low) that are based on the expected absolute return of a stock over the next 6 -12 months.
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  - Neutral: Investment weighting is equal to the market capitalization weighting
  - Underweight: Investment weighting is lower than the market capitalization weighting

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# Daeduck GDS (004130 KS)

**BUY (M) / TP: W22,000 (M)**

## Hyun-jae Choi

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+822-3770-3541

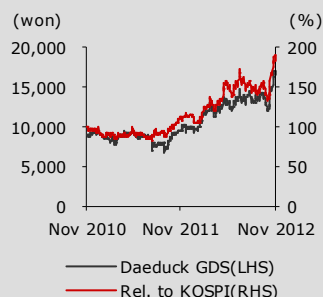
Nov 30, 2012

## KOREA Electronics/parts

Share price (won, Nov 28)	17,000
Paid-in capital (Wbn)	11
Market cap (Wbn)	362
BPS (won)	16,197
Net debt to equity (%)	-25.5
Shares outstanding	22,735,613
Avg daily T/O (2M, Wbn)	3
Avg daily vol (2M, shrs)	195,355
52-week high (won)	17,000
52-week low (won)	9,360
Foreign ownership (%)	23.5
Major shareholders (%)	
	Jeong-sik Kim & others 19.8

## Stock performance (%)

	1M	3M	12M
Absolute	41.1	28.8	78.8
Relative	1.1	(0.2)	5.4
Abs (US\$)	42.4	34.7	89.9



Source: Datastream

## Reinvented as mobile PCB maker

### Mobile PCB accounts for more than 50% of sales

- Daeduck GDS' 3Q sales rose 9% q-q to W123.9bn and operating profit 11% q-q to W12.7bn, beating market consensus.
- Daeduck's flexible printed circuit board (FPCB) sales have continued to rise in line with robust smartphone sales at Samsung Electronics (SEC), and should grow from W140bn in 2011 to W180bn in 2012. In particular, as camera module pixels for flagship smartphones have surged from 3megapixels to 5, to 8, to 13, profits should also improve as ASP rises.
- In addition, the rising sales portion of high-density interconnect (HDI) at the MLB division has helped earnings improve. At present, Daeduck makes HDI not only for feature phones but also tablet PCs. From 2013, it will likely produce products requiring higher-end technology.
- With its mobile device product portion (eg, FPC, HDI) above 50% of total sales, Daeduck has shed its image of being solely a PCB maker for home appliances.

### To shine in 2013 on capacity adds, client pref for domestic PCB

- Daeduck needs to expand FPC capacity, as utilization on FPC lines is at 100%. It is reviewing various options and should complete its new plant by end-2013. We expect FPC capacity to more than double from the current W200bn.
- In the past, clients diversified PCB suppliers to Chinese and Taiwanese players, but have recently returned to Korean firms, as high-end smartphones require high-end PCB. For example, SEC increased its primary domestic HDI suppliers from three to five. Moreover, the changing landscape of the FPC industry and Daeduck's aggressive capex should help it stand out in 2013.

### Target price of W22,000

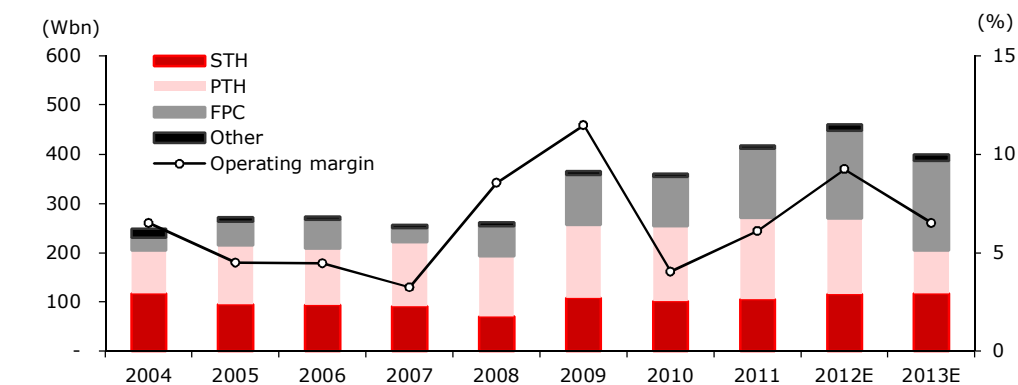
- We forecast 2013 sales at W510.1bn and operating profit at W44.4bn. If we reflect capacity additions, 2013 sales could hit about W550bn. It is undervalued vs other PCB makers at a 2013 P/E of 6.9x. Our target price is W22,000.

### Forecasts and valuations (K-IFRS, individual)

	(Wbn)				
FY ends Dec	2009	2010	2011	2012E	2013E*
Sales	365.4	360.3	417.3	459.8	510.1
Reported OP	41.8	14.5	25.4	42.4	44.4
Net profit, CI	32.5	38.5	23.7	40.8	44.3
P/E (x)	1,564	1,695	1,044	1,983	2,152
P/B (x)	5.4	5.5	9.4	7.4	6.9

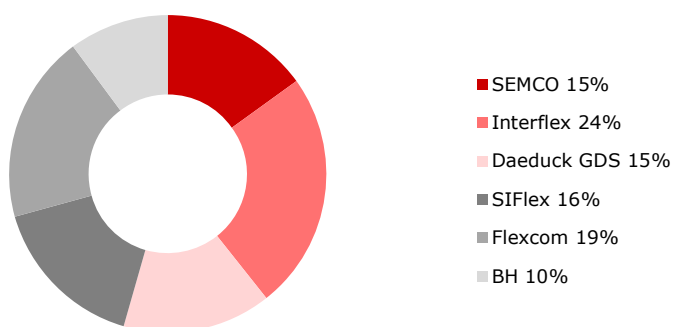
Note: \* Adjusted OP = reported OP (K-IFRS) - other operating profit/loss. CI = controlling interest  
Source: TONGYANG Securities

**Chart 1. Daeduck GDS: Sales breakdown by product and operating margin**

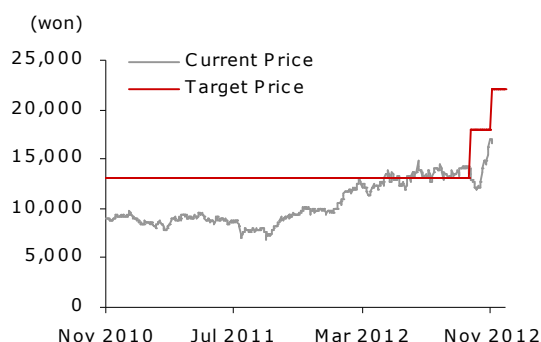


Source: TONGYANG Securities

**Chart 2. Samsung Electronics FPC supplier breakdown (as of 2011)**



Source: TONGYANG Securities

**Daeduck GDS (004130 KS) ratings and target price history**

Date	Rating	TP (won)
2012-11-29	BUY	22,000
2012-11-26	BUY	22,000
2012-11-20	BUY	18,000
2012-10-17	BUY	18,000

Source: TONGYANG Securities

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