

**AUGUST 20, 2012**

## Apple the Driving Force Behind Samsung's Foundry Sales Surge—Again!

*The two fierce competitors in electronic systems endure "marriage of convenience" for ICs.*

A ranking of the forecasted 2012 top 12 IC foundries (pure-play and IDM) was included as part of IC Insights' *August Update to The McClean Report* and is shown in Figure 1. TSMC, by far, is expected to remain the leading foundry. In fact, TSMC's 2012 sales are forecast to be almost 4x that of second-ranked GlobalFoundries, which in turn is expected to have more than 2x the sales of the fifth-ranked foundry SMIC. Samsung is expected to be the largest of only three IDM foundries in the 2012 ranking with almost 8x the sales of IBM, the second-largest IDM foundry.

### MORE INFORMATION CONTACT

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### Top 12 2012 IC Foundries

2012F Rank	2011 Rank	Company	Foundry Type	Location	2010 Sales (\$M)	2011 Sales (\$M)	2011/2010 Change (%)	2012F Sales (\$M)	2012/2011 Change (%)
1	1	TSMC	Pure-Play	Taiwan	13,307	14,600	10%	16,720	15%
2	3	GlobalFoundries	Pure-Play	U.S.	3,510	3,480	-1%	4,285	23%
3	2	UMC	Pure-Play	Taiwan	3,965	3,760	-5%	3,775	0%
4	4	Samsung	IDM	South Korea	1,205	2,190	82%	3,375	54%
5	5	SMIC	Pure-Play	China	1,555	1,320	-15%	1,625	23%
6	6	TowerJazz	Pure-Play	Israel	510	611	20%	655	7%
7	7	Grace/HHNEC*	Pure-Play	China	630	565	-10%	605	7%
8	8	Vanguard	Pure-Play	Taiwan	508	519	2%	590	14%
9	9	Dongbu	Pure-Play	South Korea	475	500	5%	540	8%
10	10	IBM	IDM	U.S.	430	420	-2%	435	4%
11	13	WIN**	Pure-Play	Taiwan	221	298	35%	425	43%
12	11	MagnaChip	IDM	South Korea	405	350	-14%	375	7%

\*Merged in 2012.

\*\*GaAs foundry

Source: IC Insights, company reports

**Figure 1**

In total, the top 12 foundries in Figure 1 are expected to represent 89% of the total foundry sales (IDM and pure-play) in 2012. This share is eight points higher than the 81% figure the top 12 represented in 2009 (before Samsung dramatically ramped up production for Apple). With the barriers to entry (e.g., fab

costs, access to leading edge technology, etc.) into the foundry business being so high and rising, IC Insights expects this “top 12” marketshare figure to steadily rise in the future.

For the second year in a row, Samsung is expected to be ranked as the fourth largest IC foundry. However, IC Insights believes that the company will challenge UMC for the number three spot in the ranking in 2013. Samsung has the ability (i.e., leading-edge capacity and a huge capital spending budget) and desire to become a major force in the IC foundry business. It is estimated that the company’s capacity dedicated to its IC foundry business reached 130K 300mm wafers per month in mid-2012. Using an average revenue per wafer figure of \$2,500, Samsung currently has the potential to produce annual IC foundry sales of about \$3.9 billion.

In 2Q12, Samsung was by far the largest supplier of smartphones in the world, shipping an estimated 54 million handsets with Apple coming in second after selling about 26 million iPhones. Thus, in total, Samsung and Apple represented almost half of the total worldwide smartphone shipments (168 million) in 2Q12. As a result, Samsung is enjoying a tremendous amount of synergy by supplying application processors to the largest (i.e., itself) and second-largest (i.e., Apple) suppliers in the world of one of the hottest electronic system products in the world—smartphones.

As was shown in Figure 1, after surging by 82% in 2011, Samsung’s IC foundry sales are forecast to jump by another 54% in 2012, which would make it the fastest growing top-12 IC foundry last year and this year. Moreover, Apple’s 2012 share of Samsung’s total foundry sales is expected to be 85%. However, as Apple begins to engage other foundries (e.g., TSMC) to produce its custom processors, Samsung will need to make up for these lost sales by signing up additional large-scale customers.

While Apple and Samsung are currently embroiled in a dramatic courtroom battle concerning various lawsuits and counter-lawsuits regarding system level patents, Apple is still very reliant on Samsung for advanced IC processor production for its iPad tablets, iPhone handsets, and iPod portable media players. It should be noted that TSMC was working at over 100% utilization in mid-2012 and essentially had no ability to allocate large amounts of leading-edge IC production capacity to Apple.

One important factor that is oftentimes overlooked with regards to the Samsung/Apple IC supply relationship is the large amount of memory, both DRAM and flash, that Apple buys from Samsung, the largest IC memory manufacturer in the world. Since Apple is such a big memory customer, Samsung is able to “bundle” its IC offerings to Apple and deliver a cost-effective high-volume supply of leading-edge flash memory, DRAM, and processors to the company. It should be noted that, as of mid-2012, no other foundry in the world could come close to matching Samsung’s total IC supply capabilities. Thus, while Apple and Samsung battle it out in the courtroom over system level issues, at the chip level, Apple must continue to endure its “marriage of convenience” with Samsung.

There is no doubt that Apple is looking to diversify away from being so reliant on its major system level competitor (Samsung) for the production of its advanced ICs. However, IC Insights believes this transition is likely destined to happen over a few years rather than a few quarters.

Overall, IC Insights believes that the leading-edge IC foundry business is going to be very competitive between the four major advanced technology suppliers—TSMC, GlobalFoundries, Samsung, and UMC. With the continued success of the fabless companies as well as the strong movement by many IDMs (Integrated Device Manufacturers like TI, Renesas, ST, etc.) to the fab-lite business model, IC Insights expects the IC foundries to witness very strong demand for their services over the next few years.

## **Report and Seminar Details:**

### ***The McClean Report 2012***

IC Insights recently released the 200+ page *Mid-Year Update* and 30-page *August Update* to the 2012 edition of *The McClean Report*. A subscription to the 2012 *McClean Report* comes with free monthly updates for the year (March-November) as well as three subscriber-only webcasts. An individual-user subscription to the 2012 edition of *The McClean Report* is priced at \$3,290 and includes an Internet access password. The subscription is also available under a multi-user corporate license for \$6,290.

### **September 13, 2012 Fall Forecast Seminar Presented by IC Insights President, Bill McClean**

**WHAT:** Discussion about the mid-year status of and future outlook for the IC market.

**WHY:** To bring existing and prospective clients up-to-date on IC market conditions.

**WHEN:** Thursday, September 13, 2012. 9:00 AM - 12:00 PM.

**WHERE:** Sheraton Sunnyvale Hotel, Sunnyvale, California.

**Special pricing for current IC Insights' clients: \$295, others only \$395.** Please click on this link (<http://www.icinsights.com/events/fall-forecast-seminar/>) for more information about the *Fall Forecast Seminar* and to download a registration form. To review additional information about IC Insights' new and existing market research products and services please visit our web site: [www.icinsights.com](http://www.icinsights.com)

#### **About IC Insights**

IC Insights, Inc., based in Scottsdale, Arizona USA, is dedicated to providing high-quality, cost-effective market research for the semiconductor industry. Founded in 1997, IC Insights offers coverage of global economic trends, the semiconductor market forecast, capital spending and fab capacity trends, product market details, and technology trends, as well as complete IC company profiles and evaluations of end-use applications driving demand for ICs.

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