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Five IC Suppliers to Hold One-Third of 300mm Wafer Capacity in 2013

Samsung tops list; IC foundries expected to show biggest capacity gains through 2017.

It is a fact that semiconductor industry capital spending is becoming more concentrated with a greater percentage of spending coming from a shrinking number of companies. As a result, IC industry capacity is also becoming more concentrated and this trend is especially prevalent in 300mm wafer technology. Figure 1 lists the 300mm installed capacity leaders for 2012 and IC Insights' forecast for 2013. The list was compiled and included in IC Insights' updated report titled, *Global Wafer Capacity 2013—Detailed Analysis and Forecast of the IC Industry's Wafer Fab Capacity*. As shown, Samsung was by far the leader in 2012 having about 61% more 300mm capacity than second-place SK Hynix. Intel was the only other company that held a double-digit share of 300mm capacity at the end of 2012. Assuming Micron is successful in acquiring Elpida in 1H13, the combined 300mm wafer capacity of the two companies will make the merged company the second-largest holder of 300mm capacity in the world behind Samsung.

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Of the top 10 companies on the list, half are primarily memory suppliers, two are pure-play foundries, and one company, Intel, is focused on MPUs. Samsung is expected to maintain its lead in installed capacity through 2017, with aggressive capital spending plans seen over the past few years continuing over the next five years. However, in terms of growth rate, IC Insights expects the largest increase in 300mm capacity to come from the pure-play foundries—TSMC, GlobalFoundries, UMC, and SMIC. In total, IC Insights expects these four companies to more than double their collective 300mm wafer starts per month by 2017.

IC Insights believes that the companies listed in Figure 1 will represent essentially all the advanced 300mm IC production and capacity in the future. IC Insights believes that the top seven or eight companies—Samsung, "Micron-Elpida," TSMC, SK Hynix, Intel, Toshiba/SanDisk, and GlobalFoundries—can be considered an "elite" group that is just about guaranteed to be a driving force in 300mm capacity additions. The remaining companies are likely to participate in future 300mm capacity expansion, but all have varying degrees of risk associated with fully realizing their long-term 300mm IC production capacity goals.

300mm Wafer Capacity Leaders Forecast (Installed Monthly Capacity in 300mm Wafers x1000)

2013F Rank	Company	2012 Installed Capacity (K w/m)	2012 % of WW Total	2013F Installed Capacity (K w/m)	2013F % of WW Total
1	Samsung	675	18.8%	717	18.4%
2	Micron-Elpida*	512	14.3%	536	13.8%
3	SK Hynix	420	11.7%	450	11.6%
4	Intel	388	10.8%	441	11.3%
5	TSMC	356	9.9%	414	10.7%
6	Toshiba/SanDisk	320	8.9%	320	8.2%
7	GlobalFoundries	125	3.5%	150	3.9%
8	Nanya	125	3.5%	127	3.3%
9	UMC	97	2.7%	115	3.0%
10	Powerchip**	125	3.5%	90	2.3%
11	TI	51	1.4%	60	1.5%
12	SMIC	51	1.4%	57	1.5%
—	Top 12	3,245	90.4%	3,477	89.5%
—	Others	346	9.6%	410	10.5%
—	TOTAL	3,591	100%	3,887	100%

*Assumes Micron completes acquisition of Elpida in 1H13.

**Assumes Powerchip either sells or tears down its P3 fab as it plans to do.

Source: Companies, IC Insights

Figure 1

Meanwhile, there is still much uncertainty as to when the industry will make the next wafer-size transition—from 300mm to 450mm—and how much it will cost to do so, but momentum continues to build and the transition can now be considered certain to happen. IC manufacturers have yet to fully optimize the high-volume manufacturing cost structure for the 300mm wafer size. However, the potential per-die cost savings that the larger wafer can provide is enough of a motivating factor to make the transition happen.

Report Details: *Global Wafer Capacity 2013*

Additional details and a forecast of the IC industry's wafer fab capacity through 2017 are provided in the 2013 edition of IC Insights' report, *Global Wafer Capacity 2013—Detailed Analysis and Forecast of the IC Industry's Wafer Fab Capacity*. Released in January 2013, the *Global Wafer Capacity* report assesses the

IC industry's capacity by wafer size, minimum process geometry, technology type, geographic region, and by device type through 2017. The report also includes detailed profiles of the companies most likely to build 450mm wafer fabs and gives detailed specifications on existing wafer fab facilities. Coupled with IC Insights' *Strategic Reviews Online Database* of more than 220 company profiles, the two reports provide a tremendous resource for researching, evaluating, and comparing wafer fab facilities and industry capacity. *Global Wafer Capacity 2013* is priced at \$4,290 for an individual user password. A multi-user worldwide corporate license is available for \$6,990.

To review additional information about IC Insights' new and existing market research products and services please visit our website: 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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