

RESEARCH BULLETIN

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Samsung, TSMC Remain Tops in Available Wafer Fab Capacity

GlobalFoundries, TSMC, SK Hynix show greatest gains in wafer capacity in 2015.

IC Insights has released its *Global Wafer Capacity 2016-2020* report that provides in-depth detail and analysis of IC industry capacity by wafer size, by process geometry, by region, and by product type. The new report provides a ranking of the industry's 25 largest IC manufacturers in terms of installed capacity as of December 2015. The top 10 capacity leaders are shown in Figure 1. Among the world's top 10 capacity leaders in 2015 were four companies headquartered in North America, two companies based in South Korea and in Taiwan, and one company each from Europe and Japan. The list includes the world's four largest memory suppliers, three largest foundries, the largest microprocessor supplier, and Texas Instruments and ST—the two biggest suppliers of analog ICs.

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Wafer Capacity Leaders at Dec-2015
 (Monthly Installed Capacity in 200mm-equivalents)

2015 Rank	2014 Rank	Company	Headquarters Region	Dec-2014 Capacity (K w/m)	Dec-2015 Capacity (K w/m)	Yr/Yr Change	Share of Worldwide Total	Inclusion or Exclusion of Capacity Shares from Joint Venture Fabs
1	1	Samsung	S. Korea	2,345	2,534	8%	15.5%	
2	2	TSMC	Taiwan	1,657	1,891	14%	11.6%	+SSMC, +Vanguard
3	3	Micron	N. America	1,539	1,601	4%	9.8%	+IM Flash, +Inotera
4	4	Toshiba/SanDisk	Japan	1,276	1,344	5%	8.2%	
5	5	SK Hynix	S. Korea	1,170	1,316	13%	8.1%	
6	7	GlobalFoundries	N. America	646	762	18%	4.7%	+SMP
7	6	Intel	N. America	719	714	-1%	4.4%	+IM Flash
8	8	UMC	Taiwan	526	564	7%	3.4%	
9	9	Texas Instruments	N. America	520	553	6%	3.4%	
10	10	STMicroelectronics	Europe	487	458	-6%	2.8%	
WW TOTAL				15,412	16,350	6%	72%	

Source: Companies, IC Insights

Figure 1

Collectively, the top 10 leaders had installed capacity of 11,737K wafers/month at the end of the year, which equates to 72% of global capacity and up slightly from 10,885K wafers/month or 71% in 2014.

- As of December 2015, Samsung had the most installed wafer capacity with 2.5 million 200mm-equivalent wafers per month, which represented 15.5% of the world's total capacity with most of it used for the fabrication of DRAM and flash memory devices.
- Second in line was the largest pure-play foundry in the world TSMC with about 1.9 million wafers per month capacity, or 11.6% of total worldwide capacity.
- Micron substantially increased its available capacity in recent years primarily through acquiring existing capacity from others. With the addition of the Elpida and Rexchip fabs as well as the extra Inotera capacity, Micron first became the third-largest wafer capacity holder in the world in 2013. Micron had the sixth-largest amount of wafer capacity in 2012, and in the beginning of that year the company acquired Intel's stake in two IM Flash Technologies fabs, giving Micron access to all the capacity from those fabs.
- The fourth-largest capacity holder at the end of 2015 was Toshiba with about 1.3 million in monthly wafer capacity (8.2% of total worldwide capacity), including a substantial amount of flash memory capacity for joint-investor/partner SanDisk.
- Rounding out the top 5 companies was another memory IC supplier SK Hynix with 1.3 million wafers/month (8.1% of total worldwide capacity).
- Intel's capacity declined slightly in 2015 because of the company's Fab 68 in China being taken off-line while it is converted from the production of logic chipsets to next-generation flash memory (3D-NAND and XPoint).

Given the skyrocketing cost of new wafer fabs and manufacturing equipment and as more IC companies transition to a fab-lite or fabless business model, IC Insights expects that an even greater percentage of fab capacity will be in the hands of fewer suppliers through the end of the decade.

Report Details: *Global Wafer Capacity 2016-2020*

IC Insights' *Global Wafer Capacity 2016-2020—Detailed Analysis and Forecast of the IC Industry's Wafer Fab Capacity* report assesses the IC industry's capacity by wafer size, minimum process geometry, technology type, geographic region, and by device type through 2020. The report includes detailed profiles of the companies with the greatest fab capacity and gives comprehensive specifications on existing wafer fab facilities. *Global Wafer Capacity 2016-2020* is priced at \$4,290 for an individual user license. A multi-user worldwide corporate license is available for \$6,990.

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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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