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TowerJazz and SMIC's Sales Forecast to Surge in 2016

Total pure-play foundry market expected to jump 9% this year, up from 6% growth in 2015.

IC Insights released its August *Update* to the 2016 *McClean Report* earlier this month. This *Update* included an update of the semiconductor industry capital spending forecast, a look at the top-25 semiconductor suppliers for 1H16, including a forecast for the full year ranking, and Part 1 of an extensive analysis of the IC foundry industry (the ranking of the top-10 pure-play foundries is covered in this research bulletin).

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In 2014, the pure-play IC foundry market registered a strong 17% increase, the largest increase since 2010 and eight points greater than the 9% increase in the worldwide IC market. In 2015, the pure-play foundry market showed a 6% increase, about one-third the rate of growth in the previous year, but seven points higher than the total IC market growth rate of -1%. For 2016, the pure-play foundry market is expected to increase by 9% and greatly outperform the growth rate of total IC market, which is forecast to drop by 2% this year.

Figure 1 shows that the top 10 pure-play foundries are expected to hold 95% of the total pure-play foundry market this year. This year, the "Big 4" pure-play foundries (i.e., TSMC, GlobalFoundries, UMC, and SMIC) are forecast to hold an imposing 84% share of the total worldwide pure-play IC foundry market. As shown, TSMC is expected to hold a 58% marketshare in 2016, down one point from 2015, as its sales are forecast to increase by \$2.1 billion this year, up from a \$1.5 billion increase in 2015. GlobalFoundries, UMC, and SMIC's combined share is expected to be 26% this year, the same as in 2015.

The two top-10 pure-play foundry companies that are forecast to display the highest growth rates this year are Israel-based TowerJazz, which is expected to edge-out Powerchip for the 5th spot in the pure-play foundry ranking in 2016, and China-based SMIC, with 30% and 27% sales increases, respectively. TowerJazz and SMIC have been on a very strong growth curve over the past few years. TowerJazz is expected to grow from \$505 million in sales in 2013 to \$1,245 million in 2016 (a 35% CAGR) while SMIC is forecast to more than double its revenue from 2011 (\$1,220 million) to 2016 (\$2,850 million) and register a 19% CAGR over this five-year timeperiod.

Top 10 Pure-Play Foundry Companies

2016F Rank	2015 Rank	Company (Headquarters)	2014 Sales (\$M)	14/13 % Change	2014 Share of Total	2015 Sales (\$M)	15/14 % Change	2015 Share of Total	2016F Sales (\$M)	16/15 % Change	2016 Share of Total
1	1	TSMC (Taiwan)	24,975	25%	59%	26,439	6%	59%	28,570	8%	58%
2	2	GlobalFoundries (U.S.) ¹	4,355	6%	10%	5,019	15%	11%	5,645	12%	11%
3	3	UMC Group (Taiwan)	4,331	9%	10%	4,464	3%	10%	4,490	1%	9%
4	4	SMIC (China)	1,970	0%	5%	2,236	14%	5%	2,850	27%	6%
5	6	TowerJazz (Israel)	828	64%	2%	961	16%	2%	1,245	30%	3%
6	5	Powerchip (Taiwan)	1,291	9%	3%	1,268	-2%	3%	1,240	-2%	3%
7	7	Vanguard (Taiwan)	790	11%	2%	736	-7%	2%	780	6%	2%
8	8	Hua Hong Semi (China)	665	14%	2%	650	-2%	1%	700	8%	1%
9	9	Dongbu HiTek (S. Korea)	541	20%	1%	593	10%	1%	640	8%	1%
10	10	SSMC (Singapore)	480	-3%	1%	474	-1%	1%	470	-1%	1%
—	—	Others	2,130	3%	5%	2,262	3%	5%	2,485	3%	5%
—	—	Total	42,356	17%	100%	45,102	6%	100%	49,115	9%	100%

1. Includes \$740 million in 2H15 sales from IBM purchase.

Source: IC Insights, company reports

Figure 1

Eight of the top-10 pure-play foundries listed in Figure 1 are based in the Asia-Pacific region. Israel-based TowerJazz, and U.S.-headquartered GlobalFoundries are the only non-Asia-Pacific companies in the top-10 group. While LFoundry is currently headquartered in Avezzano, Italy, China-based SMIC agreed in 2Q16 to purchase 70% of the company for approximately \$55 million. Since LFoundry has an installed capacity of 40K 200mm wafers/month, the acquisition of a controlling interest in the company essentially serves to immediately expand SMIC's capacity by 13% this year.

Although SMIC is forecast to register strong sales growth of 27% this year, Chinese foundries, in total, are expected to hold only 8.2% of the pure-play foundry market in 2016, down 5.1 points from the peak share of 13.3% reached in 2006 and 2007. IC Insights believes that the total Chinese company share of the pure-play foundry market will increase through 2020, as the China-based foundries take advantage of the huge amount of government and private investment that will be flowing into the Chinese semiconductor market infrastructure over the next five years.

Report Details: *The 2016 McClean Report*

Additional details on semiconductor foundry sales rankings are included in the 2016 edition of IC Insights' flagship report, *The McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry*. A subscription to *The McClean Report* includes **free** monthly updates from March through November (including a 250+ page *Mid-Year Report*), and **free** access to subscriber-only webinars throughout the

year. An individual-user license to the 2016 edition of *The McClean Report* is priced at \$3,890 and includes an Internet access password. A multi-user worldwide corporate license is available for \$6,890.

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