

NOVEMBER 15, 2016

Five Top-20 Semiconductor Suppliers to Show Double-Digit Gains in 2016

Nvidia and MediaTek forecast to register the fastest 2016 growth rates of 35% and 29%, respectively.

IC Insights will release its November *Update* to the 2016 *McClean Report* later this month and **will release its 20th anniversary edition of *The McClean Report* in January of next year.** The November *Update* includes the latest semiconductor industry capital spending forecast, a detailed forecast of the IC industry by product type through 2020, and a look at the top-25 semiconductor suppliers expected for 2016. The top-20 2016 semiconductor suppliers are covered in this research bulletin.

MORE INFORMATION CONTACT

Bill McClean
President
Phone: +1-480-348-1133
Email: bill@icinsights.com

The forecasted top-20 worldwide semiconductor (IC and O-S-D—optoelectronic, sensor, and discrete) sales ranking for 2016 is shown in Figure 1. It includes eight suppliers headquartered in the U.S., three in Japan, three in Taiwan, three in Europe, two in South Korea, and one in Singapore, a relatively broad representation of geographic regions.

The top-20 ranking includes three pure-play foundries (TSMC, GlobalFoundries, and UMC) and five fabless companies. If the three pure-play foundries were excluded from the top-20 ranking, U.S.-based fabless supplier AMD (\$4,238 million), China-based fabless supplier HiSilicon (\$3,762 million), and Japan-based IDM Sharp (\$3,706 million), would have been ranked in the 18th, 19th, and 20th positions, respectively. In August 2016, China-based contract assembler Foxconn bought a controlling interest (66%) in Sharp for \$3.8 billion.

In total, the 17 non-foundry companies in the forecasted top 20-ranking are expected to represent 68% of the total \$357.1 billion worldwide semiconductor market this year, up 10 points from the 58% share the top 17 companies held in 2006.

IC Insights includes foundries in the top-20 semiconductor supplier ranking since it has always viewed the ranking as a top supplier list, not a marketshare ranking, and realizes that in some cases the semiconductor sales are double counted. With many of our clients being vendors to the semiconductor industry (supplying equipment, chemicals, gases, etc.), excluding large IC manufacturers like the

foundries would leave significant “holes” in the list of top semiconductor suppliers. As shown in the listing, the foundries and fabless companies are identified. In the April *Update to The McClean Report*, marketshare rankings of IC suppliers by product type were presented and foundries were excluded from these listings.

Overall, the top-20 list shown in Figure 1 is provided as a guideline to identify which companies are the leading semiconductor suppliers, whether they are IDMs, fabless companies, or foundries.

2016F Top 20 Semiconductor Sales Leaders (\$M, Including Foundries)

2016F Rank	2015 Rank	Company	Headquarters	2015 Sales*	2016F Sales*	2016/2015 Forecast
1	1	Intel*	U.S.	52,144	56,313	8%
2	2	Samsung	South Korea	42,043	43,535	4%
3	3	TSMC (1)	Taiwan	26,439	29,324	11%
4	5	Qualcomm (2)	U.S.	16,008	15,436	-4%
5	6	Broadcom Ltd.* (2)	Singapore	15,183	15,332	1%
6	4	SK Hynix	South Korea	16,649	14,234	-15%
7	7	Micron	U.S.	14,483	12,842	-11%
8	8	TI	U.S.	12,112	12,349	2%
9	10	Toshiba	Japan	9,429	10,922	16%
10	9	NXP*	Europe	10,563	9,498	-10%
11	13	MediaTek (2)	Taiwan	6,699	8,610	29%
12	11	Infineon	Europe	6,916	7,343	6%
13	12	ST	Europe	6,873	6,944	1%
14	17	Apple (2,3)	U.S.	5,531	6,493	17%
15	14	Sony	Japan	6,263	6,466	3%
16	18	Nvidia (2)	U.S.	4,696	6,340	35%
17	16	Renesas	Japan	5,682	5,751	1%
18	15	GlobalFoundries* (1)	U.S.	5,729	5,085	-11%
19	19	ON Semi*	U.S.	4,866	4,858	0%
20	20	UMC (1)	Taiwan	4,464	4,455	0%
Total Including Foundries			—	272,772	282,130	3%
Total Without Foundries			—	236,140	243,266	3%

(1) Pure-play foundry

(2) Fabless supplier

(3) Custom processors for internal use made by TSMC and Samsung foundry services.

*2016 and 2015 sales include Intel/Altera, Broadcom/Avago, NXP/Freescale, GlobalFoundries/IBM, and ON/Fairchild sales for all of 2015 and 2016.

Source: Companies, IC Insights' Strategic Reviews Database

Figure 1

Nine of the top-20 companies are forecast to have sales of at least \$10.0 billion this year. As shown, it is expected to take about \$4.5 billion in sales just to make it into the 2016 top-20 semiconductor supplier

list. Moreover, if Qualcomm's purchase of NXP is completed, as is expected in late 2017, the combined annual semiconductor sales of these two companies will likely be over \$25 billion going forward. Overall, no new entrants are expected to make it into the top-20 ranking in 2016 as compared to the 2015 ranking.

Intel is forecast to remain firmly in control of the number one spot in the top-20 ranking in 2016. In fact, it is expected to increase its lead over Samsung's semiconductor sales from only 24% in 2015 to 29% in 2016. The biggest upward move in the ranking is forecast to be made by Apple, which is expected to jump up three positions in the 2016 ranking as compared to 2015. Other companies that are forecast to make noticeable moves up the ranking include MediaTek and Nvidia, with each company expected to improve by two positions.

Apple is an anomaly in the top-20 ranking with regards to major semiconductor suppliers. The company designs and uses its processors only in its own products—there are no sales of the company's MPUs to other system makers. IC Insights estimates that Apple's custom ARM-based SoC processors will have a "sales value" of \$6.5 billion in 2016, which will place them in the 14th position in the forecasted top-20 ranking.

In total, the top-20 semiconductor companies' sales are forecast to increase by 3% this year, which would be two points higher than IC Insights' current worldwide semiconductor market forecast for 2016. Although, in total, the top-20 2016 semiconductor companies are expected to register a 3% increase, there are five companies that are forecast to display a double-digit 2016 jump in sales (Nvidia, MediaTek, Apple, Toshiba, and TSMC) and four that are expected to register a double-digit decline (SK Hynix, Micron, GlobalFoundries, and NXP).

The fastest growing top-20 company this year is forecast to be U.S.-based Nvidia, which is expected to post a huge 35% year-over-year increase in sales. The company is riding a surge of demand for its graphics processor devices (GPUs) and Tegra processors with its year-over-year sales in its latest quarter (ended October 30, 2016) up 63% for gaming, 193% for data center, and 61% for automotive applications.

The second-fastest growing top-20 company in 2016 is expected to be Taiwan-based MediaTek, which is forecast to post a strong 29% increase in sales this year. Although worldwide smartphone unit volume sales are expected to increase by only 4% this year, MediaTek's application processor shipments to the fast-growing China-based smartphone suppliers (e.g., Oppo and Vivo), are forecast to help drive its stellar 2016 increase.

As expected, given the possible acquisitions and mergers that could/will occur over the next few years (e.g., Qualcomm and NXP), the top-20 ranking is likely to undergo a significant amount of upheaval as the semiconductor industry continues along its path to maturity.

New Report Details: *The 20th Anniversary 2017 McClean Report (to be released in January 2017)*

Additional details and forecasts for the worldwide semiconductor through 2021 will be included in the new 20th anniversary 2017 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 2017 edition of *The McClean Report* is priced at \$4,090 and includes an Internet access password. A multi-user worldwide corporate license is available for \$7,090.

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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.

Web Site: www.icinsights.com • **Phone:** +1-480-348-1133 • **E-mail:** info@icinsights.com