RESEARCH BULLETIN

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Seven Top-20 1Q16 Semiconductor Suppliers Show Double-Digit Declines

Qualcomm, Micron, and SK Hynix registered ≥25% drops, with total top-20 sales off by 6%.

IC Insights will release its May *Update* to the 2016 *McClean Report* later this month. This *Update* includes a discussion of the 1Q16 semiconductor industry market results, an update of the capital spending forecast by company, a review of the IC market by electronic system type, and a look at the top-25 1Q16 semiconductor suppliers (the top 20 1Q16 semiconductor suppliers are covered in this research bulletin).

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The top-20 worldwide semiconductor (IC and O-S-D—optoelectronic, sensor, and discrete) sales ranking for 1Q16 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 six fabless companies. If the three pure-play foundries were excluded from the top-20 ranking, U.S.-based IDM ON Semiconductor ($817 million), China-based fabless supplier HiSilicon ($810 million), and Japan-based IDM Sharp ($800 million) would have been ranked in the 18th, 19th, and 20th positions, respectively.

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.

1Q16 Top 20 Semiconductor Sales Leaders
($M, Including Foundries)

1Q16 Rank	1Q15 Rank	Company	Headquarters	1Q15 Tot Semi	1Q16 Tot Semi	1Q16/1Q15 % Change
1	1	Intel*	U.S.	12,067	13,115	9%
2	2	Samsung	South Korea	9,336	9,340	0%
3	3	TSMC (1)	Taiwan	6,995	6,122	-12%
4	7	Broadcom Ltd. (2)*	Singapore	3,679	3,550	-4%
5	4	Qualcomm (2)	U.S.	4,434	3,337	-25%
6	5	SK Hynix	South Korea	4,380	3,063	-30%
7	6	Micron	U.S.	4,061	2,930	-28%
8	8	TI	U.S.	2,940	2,804	-5%
9	10	Toshiba	Japan	2,619	2,446	-7%
10	9	NXP*	Europe	2,636	2,224	-16%
11	12	Infineon	Europe	1,666	1,776	7%
12	13	MediaTek (2)	Taiwan	1,506	1,691	12%
13	11	ST	Europe	1,700	1,601	-6%
14	14	Renesas	Japan	1,470	1,415	-4%
15	17	Apple (2)**	U.S.	1,260	1,390	10%
16	15	GlobalFoundries (1)*	U.S.	1,436	1,360	-5%
17	20	Nvidia (2)	U.S.	1,118	1,285	15%
18	16	Sony	Japan	1,272	1,125	-12%
19	18	UMC (1)	Taiwan	1,140	1,034	-9%
20	21	AMD (2)	U.S.	1,030	832	-19%
—	—	Top 20 Total	—	66,745	62,440	-6%

(1) Pure-play foundry (2) Fabless supplier

* Includes Intel/Altera, Avago/Broadcom, NXP/Freescale, and GlobalFoundries/IBM sales for 1Q15 and 1Q16.

**Custom processors for internal use made by TSMC and Samsung foundry services.

Source: Companies, IC Insights' Strategic Reviews Database

Figure 1

In total, the top-20 semiconductor companies' sales declined by 6% in 1Q16/1Q15, one point less than the total worldwide semiconductor industry decline of 7%. Although, in total, the top-20 1Q16 semiconductor companies registered a moderate 6% drop, there were seven companies that displayed a double-digit 1Q16/1Q15 decline and three that registered a ≥25% fall (with memory giants Micron and SK Hynix posting the worst results). Half of the top-20 companies had sales of at least $2.0 billion in 1Q16. As shown, it took $832 million in quarterly sales just to make it into the 1Q16 top-20 semiconductor supplier list.

There was one new entrant into the top-20 ranking in 1Q16—U.S.-based fabless supplier AMD. AMD had a particularly rough 1Q16 and saw its sales drop 19% year-over-year to $832 million, which was about half the $1,589 million in sales the company logged just over two years ago in 4Q13. Although AMD did not have a good 1Q16, Japan-based Sharp, the only company that fell from the top-20 ranking, faired even worse with its 1Q16/1Q15 sales plunging by 30%!

In order to allow for more useful year-over-year comparisons, acquired/merged semiconductor company sales results were combined for both 1Q15 and 1Q16, regardless of when the acquisition or merger occurred. For example, although Intel's acquisition of Altera did not close until late December of 2015, Altera's 1Q15 sales ($435 million) were added to Intel's 1Q15 sales ($11,632 million) to come up with the $12,067 million shown in Figure 1 for Intel's 1Q15 sales. The same method was used to calculate the 1Q15 sales for Broadcom Ltd. (Avago/Broadcom), NXP (NXP/Freescale), and GlobalFoundries (GlobalFoundries/IBM).

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. Apple's custom ARM-based SoC processors had a "sales value" of $1,390 million in 1Q16, up 10% from $1,260 million in 1Q15. Apple's MPUs have been used in 13 iPhone handset designs since 2007 and a dozen iPad tablet models since 2010 as well as in iPod portable media players, smartwatches, and Apple TV units. Apple's custom processors—such as the 64-bit A9 used in iPhone 6s and 6s Plus handsets introduced in September 2015 and the new iPhone 6SE launched in March 2016—are made by pure-play foundry TSMC and IDM foundry Samsung.

Intel remained firmly in control of the number one spot in 1Q16. In fact, it increased its lead over Samsung's semiconductor sales from 29% in 1Q15 to 40% in 1Q16. The biggest moves in the ranking were made by the new Broadcom Ltd. (Avago/Broadcom) and Nvidia, each of which jumped up three positions in 1Q16 as compared to 1Q15.

As would be expected, given the possible acquisitions and mergers that could/will occur this year (e.g., Microchip/Atmel), as well as any new ones that may develop, the top-20 semiconductor ranking is likely to undergo a significant amount of upheaval over the next few years as the semiconductor industry continues along its path to maturity.

Report Details: *The 2016 McClean Report*

Additional details on semiconductor sales rankings by company 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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