

RESEARCH BULLETIN

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Most of 2017 Capital Spending Will Go to Foundry and Flash Memory *Spending for DRAM expected to show biggest percentage gain in 2017.*

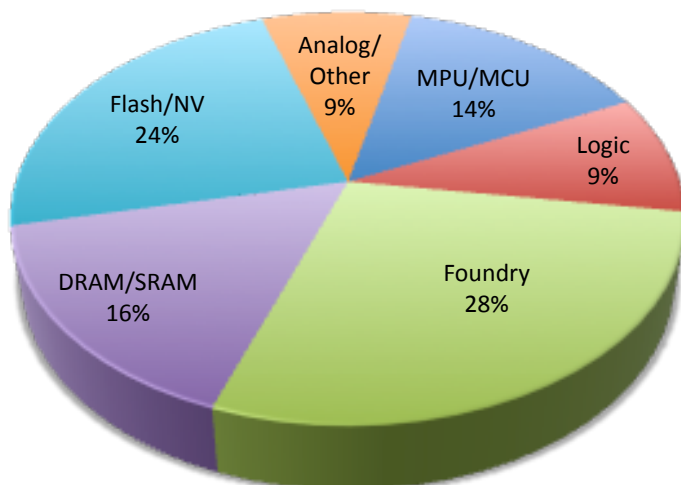
Following a substantial increase in semiconductor capital expenditures during the first half of this year, IC Insights raised its annual semiconductor capex forecast to a record high of \$80.9 billion for 2017, a 20% increase from \$67.3 billion in 2016. Previously, 2017 semiconductor capex was expected to grow 12% in 2017 to \$75.6 billion.

A little over half of 2017 capex spending is forecast for wafer foundries (28%) and upgrades for NAND flash memory (24%), as shown in Figure 1. With a projected 53% increase in 2017, the DRAM/SRAM segment is expected to display the largest percentage growth in capital expenditures of the major product types this year. With DRAM prices surging since the third quarter of 2016, DRAM manufacturers are once again stepping up spending in this segment. Although the majority of this spending is going towards technology advancement, DRAM producer SK Hynix recently admitted that it can no longer keep up with demand by technology advancements alone and needs to begin adding wafer start capacity.

MORE INFORMATION CONTACT

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2017F Semiconductor Capex by Product Type



Product	2017F (\$B)	17/16 % Chg	% of Total
MPU/MCU	\$11.6	16%	14%
Logic	\$7.6	11%	9%
Foundry	\$22.8	4%	28%
DRAM/SRAM	\$13.0	53%	16%
Flash/NV	\$19.0	33%	24%
Analog/Other	\$6.9	21%	9%
Total	\$80.9	20%	

Source: IC Insights

Figure 1

Even with a DRAM spending surge this year, capital spending for flash memory in 2017 (\$19.0 billion) is still expected to be significantly higher than spending allocated to the DRAM/SRAM category (\$13.0 billion). Overall, IC Insights believes that essentially all of the spending for flash memory in 2017 will be dedicated to 3D NAND process technology, including production of 3D NAND at Samsung's giant new fab in Pyeongtaek, South Korea.

Overall, capital spending for the flash memory segment is forecast to register a 33% surge in 2017 after a strong 23% increase in 2016. However, historical precedent in the memory market shows that too much spending usually leads to overcapacity and subsequent pricing weakness. *With Samsung, SK Hynix, Micron, Intel, Toshiba/Western Digital/SanDisk, and XMC/Yangtze River Storage Technology all planning to significantly ramp up 3D NAND flash capacity over the next couple of years (and new Chinese producers possibly entering the market), IC Insights believes that the future risk for overshooting 3D NAND flash market demand is high and growing.*

Report Details: *The 2017 McClean Report*

Details on capital spending and other trends within the IC industry are provided in *The McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry* (released in January 2017). A subscription to *The McClean Report* includes **free** monthly updates from March through November (including the *Mid-Year Update*), 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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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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