

**DECEMBER 14, 2021**

## Semi Capex on Pace for 34% Growth in 2021 to Record \$152.0 Billion

*Foundries forecast to account for over one-third of semi capex spending this year. New factories and equipment for 7/5/3nm processes highlight growing dependence on foundry business model.*

IC Insights is updating its comprehensive forecasts and analyses of the IC industry for its 25th edition of *The McClean Report*, which will be released in January 2022.

Included in the report is a historical review of capital spending and forecasted spending levels for several major IC product categories.

Worldwide semi capex is on track to surge 34% in 2021, its strongest percentage gain since a 41% increase in 2017. The \$152.0 billion in outlays this year would represent a new record high annual amount of spending, surpassing the previous high mark of \$113.1 billion set just last year. Figure 1 shows a split of semiconductor capital spending by leading product segment for 2019 through 2021.

### MORE INFORMATION CONTACT

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### Worldwide Capital Spending by Product Type

Product	19 (\$B)	19/18 % Change	20 (\$B)	20/19 % Change	21F (\$B)	21/20 % Change
MPU/MCU	\$16.9	12%	\$16.5	-2%	\$23.5	42%
% of Total	17%	-	15%	-	15%	-
Logic	\$8.5	6%	\$8.8	4%	\$12.4	40%
% of Total	8%	-	8%	-	8%	-
Foundry	\$26.2	18%	\$37.3	42%	\$53.0	42%
% of Total	26%	-	33%	-	35%	-
DRAM/SRAM	\$19.1	-17%	\$17.9	-6%	\$24.0	34%
% of Total	19%	-	16%	-	16%	-
Flash/Non-Volatile	\$22.6	-19%	\$24.6	9%	\$27.9	13%
% of Total	22%	-	22%	-	18%	-
Analog/Other	\$9.0	-7%	\$7.9	-12%	\$11.2	41%
% of Total	9%	-	7%	-	7%	-
<b>Total</b>	<b>\$102.5</b>	<b>-3%</b>	<b>\$113.1</b>	<b>10%</b>	<b>\$152.0</b>	<b>34%</b>

Source: IC Insights

**Figure 1**

As shown, the foundry segment is forecast to represent 35% of all semiconductor capital spending in 2021, easily the largest portion of capex spending among the major product/segment categories. Foundry has accounted for the largest share of semiconductor capex each year since 2014 with two exceptions—2017 and 2018 when capex spending for DRAM and flash memory surged. Spending by foundries has become very important (and necessary) as industry demand continues to rise for ICs fabricated using advanced process technology nodes.

TSMC, the world's largest foundry, is forecast to account for 57% of the \$53.0 billion in foundry spending this year. Samsung is also making significant investments in its foundry operations. Samsung has been able to match the technology roadmap of TSMC and continues its effort to lure more leading-edge fabless logic suppliers away from its pure-play foundry rival.

On the other hand, SMIC was being counted on by the Chinese government to supply a much greater portion of semiconductors to the China market. But SMIC's inclusion on the U.S. blacklist has severely curtailed its ability to carry out those plans. SMIC's capex spending is forecast to drop 25% this year to \$4.3 billion, accounting for only 8% of total foundry outlays in 2021.

For 2021, all of the product segments are forecast to register strong double-digit increases in capital outlays with the foundry and MPU/MCU segments expected to log the largest year-over-year spending increases at 42% followed by analog/other (41%) and logic (40%).

### **Report Details: *The 2022 McClean Report***

The 2022 edition of *The McClean Report—A Complete Analysis and Forecast of the Semiconductor Industry*, will be released in January 2022. A subscription to *The McClean Report* service includes the January *Semiconductor Industry Flash Report*, which provides clients with IC Insights' initial overview and annual forecast of the semiconductor industry for the upcoming year and through 2026. In addition to the January *Semiconductor Industry Flash Report*, *Quarterly Updates* to the report will be released in February, May, August, and November of next year. An individual user license to the 2022 edition of *The McClean Report* is available for \$5,390 and a multi-user worldwide corporate license is available for \$8,590. The Internet access password and the information accessible to download will be available through November 2022.

<https://www.icinsights.com/services/mcclean-report/pricing-order-forms/>

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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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