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Record Amount of IC Capacity Forecast to be Added in 2021

Ten new 300mm wafer fabs expected to open in 2020, two of them in China.

IC Insights recently released its *Global Wafer Capacity 2020-2024* report that provides in-depth analyses and forecasts of IC industry capacity by wafer size, by process geometry, by region, and by product type through 2024.

Typically, the IC industry meets most of its IC unit demand by increasing wafer starts, not by dramatically increasing the number of dice per wafer. The number of good ICs shipped per wafer increased by an average of only 0.9% annually from 2000 through 2019. As a result, about 86% of the average annual IC unit volume growth over the 2000-2019 timeperiod (6.5%) was met by increasing wafer starts with 14% attributable to an increase in the number of good dice per wafer.

Capacity utilization rates were high in the few years leading up to 2019, resulting in climbing IC average selling prices, especially in the DRAM and NAND flash segments. Many new projects to expand fab capacities were started during 2017-2018 in response to the supply shortage but there was concern that too much capacity was being added. In 2019, the market downturn and all that additional capacity resulted in the overall utilization rate dropping to 86% from 2018's rate of 94%.

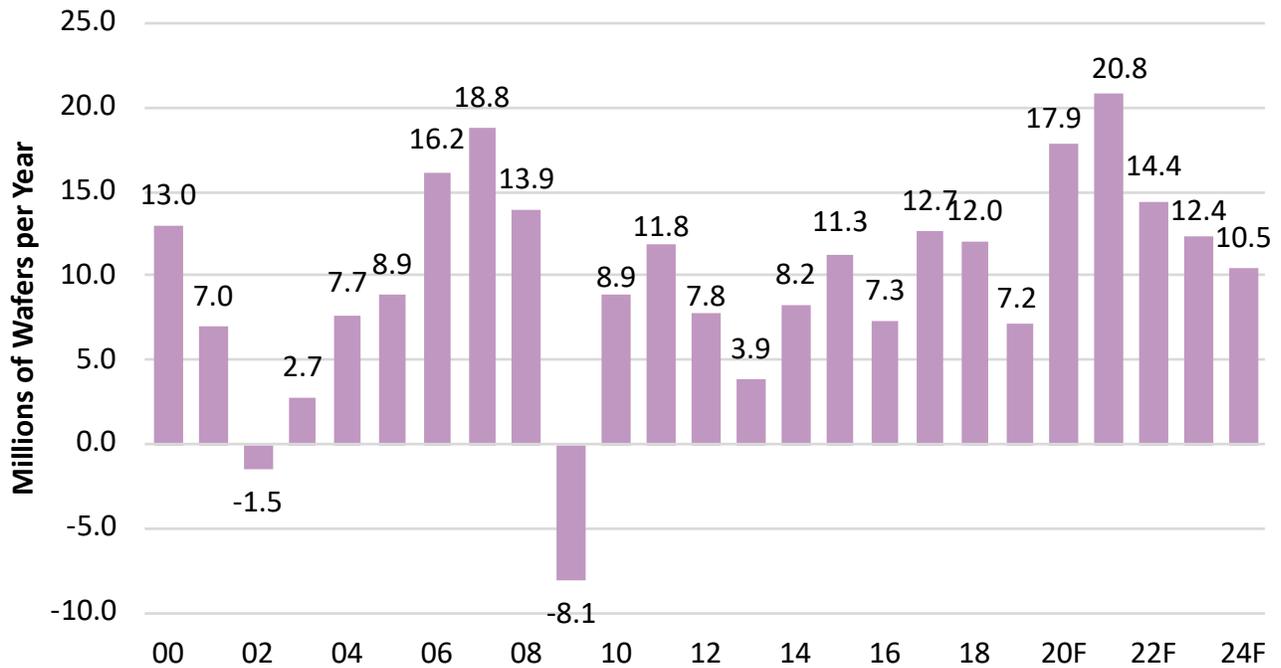
Faced with sharp declines in the ASPs of DRAM and NAND flash chips in 2019 many memory manufacturers delayed a portion of their near-term capacity expansion plans. With the plans only delayed and not canceled, there is still a significant amount of IC capacity that is expected to be brought online in 2020 and 2021.

The forecast depicted in Figure 1 shows that as much as 17.9 million wafers (200mm-equivalents) per year of new IC capacity could be added in 2020 followed by another 20.8 million wafers of new IC capacity in 2021, which would be an all time record amount in a single year. A large part of this new capacity is expected to be added by both foreign (e.g., Samsung, SK Hynix, etc.) and indigenous Chinese companies (e.g., YMTC/XMC, Huahong Grace, etc.) in China.

MORE INFORMATION CONTACT

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Volume Changes in Worldwide Annual Wafer Capacity (200mm-equivalents)



Source: IC Insights

Figure 1

The average annual capacity increase during the past five-year (2014-2019) timeperiod came in at only 5.1%. For 2019-2024, annual growth in IC industry capacity is forecast to be slightly higher at 5.9%.

Report Details: *Global Wafer Capacity 2020-2024*

IC Insights' *Global Wafer Capacity 2020-2024—Detailed Analysis and Forecast of the IC Industry's Wafer Fab Capacity* report assesses the IC industry's capacity by wafer size, minimum process geometry, technology type, geographic region, and device type through 2024. The report includes detailed profiles of the companies with the greatest fab capacity and gives comprehensive specifications on existing wafer fab facilities. *Global Wafer Capacity 2020-2024* is priced at \$4,890 for an individual user license. A multi-user worldwide corporate license is available for \$7,590.

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