

RESEARCH BULLETIN

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Taiwan Maintains Edge as Largest Base for IC Wafer Capacity

As a percent of worldwide total, China achieves largest increase in fab capacity at expense of all other regions, but still trails Taiwan, South Korea, and Japan in installed capacity.

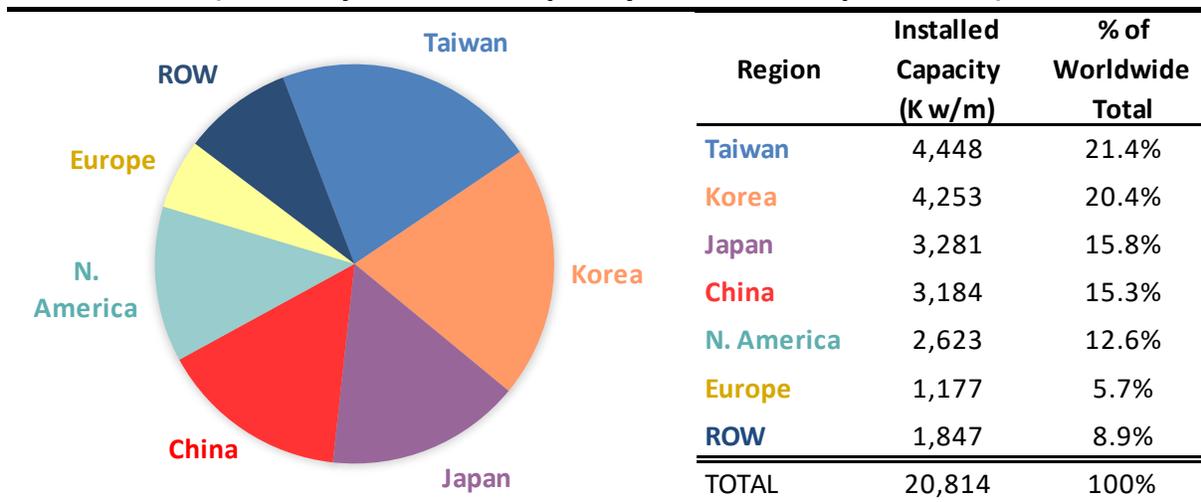
IC Insights' *Global Wafer Capacity 2021-2025* report breaks out the world's installed monthly wafer capacity by geographic region (or country). Figure 1 shows the installed capacity by region as of December of 2020.

To clarify what the data represents, each regional number is the total installed monthly capacity of fabs located in that region regardless of the headquarters location for the companies that own the fabs. For example, the wafer capacity that South Korea-based Samsung has installed in the U.S. is counted in the North America capacity total, not in the South Korea capacity total. The ROW "region" consists primarily of Singapore, Israel, and Malaysia, but also includes countries/regions such as Russia, Belarus, and Australia.

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Wafer Capacity at Dec-2020 – by Geographic Region
 (Monthly Installed Capacity in 200mm-equivalents)



Source: IC Insights

Figure 1

Some observations contained in the *Global Wafer Capacity Report 2021-2025* regarding IC capacity trends by region include:

- As of December 2020, Taiwan led the world with 21.4% of global wafer capacity installed in that country. In second place was South Korea, which accounted for 20.4% of global wafer capacity. Taiwan was the capacity leader at 200mm wafers. For 300mm wafers, South Korea was at the forefront followed closely by Taiwan. Samsung and SK Hynix continue to aggressively expand their fabs in South Korea to support their high-volume DRAM and NAND flash businesses.
- Taiwan surpassed South Korea in 2015 to become the largest capacity holder after having passed Japan in 2011. Taiwan is expected to remain the largest region for wafer capacity through 2025. The country is forecast to add nearly 1.4 million wafers (200mm-equivalent) in monthly fab capacity between 2020 and 2025.
- At the end of 2020, China held 15.3% of the world's capacity, which was nearly the same as Japan. It is expected that China will surpass Japan in 2021 in terms of the amount of installed capacity. China accounted for more wafer capacity than Europe for the first time in 2010, it exceeded the capacity of the ROW region for the first time in 2016, and then it surpassed North America capacity for the first time in 2019.
- China is forecast to be the only region that gains percentage points of capacity share from 2020 to 2025 (3.7 percentage points). While expectations have been tempered for the roll out of the large new Chinese-led DRAM and NAND fabs, there is also a substantial amount of wafer capacity coming to China over the next few years from memory manufacturers headquartered in other countries and from local IC manufacturers.
- The share of capacity in North America is projected to decline over the forecast period as the region's large fabless supplier industry continues to rely on foundries, primarily those based in Taiwan. Europe's share of capacity is also expected to continue slowly shrinking.

Report Details: *Global Wafer Capacity 2021-2025*

IC Insights' *Global Wafer Capacity 2021-2025—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 2025. 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 2021-2025* is priced at \$4,890 for an individual user license. A multi-user

worldwide corporate license is available for \$7,590. The Internet access password and the information accessible to download will be available through November 2021.

<https://www.icinsights.com/services/global-wafer-capacity/pricing-order-forms/>

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