



## ***TTR Report***

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# **Manufacture of Semiconductors (Years 2019)**

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**台灣趨勢研究**

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# Trends in Semiconductor Manufacturing Industry

According to *Standard Industrial Classification* which is promulgated by National Statistics, R.O.C., the semiconductor manufacturing industry includes companies that manufacture integrated circuits, discrete devices, and operate packaging and testing of semiconductors. (Figure 1.)

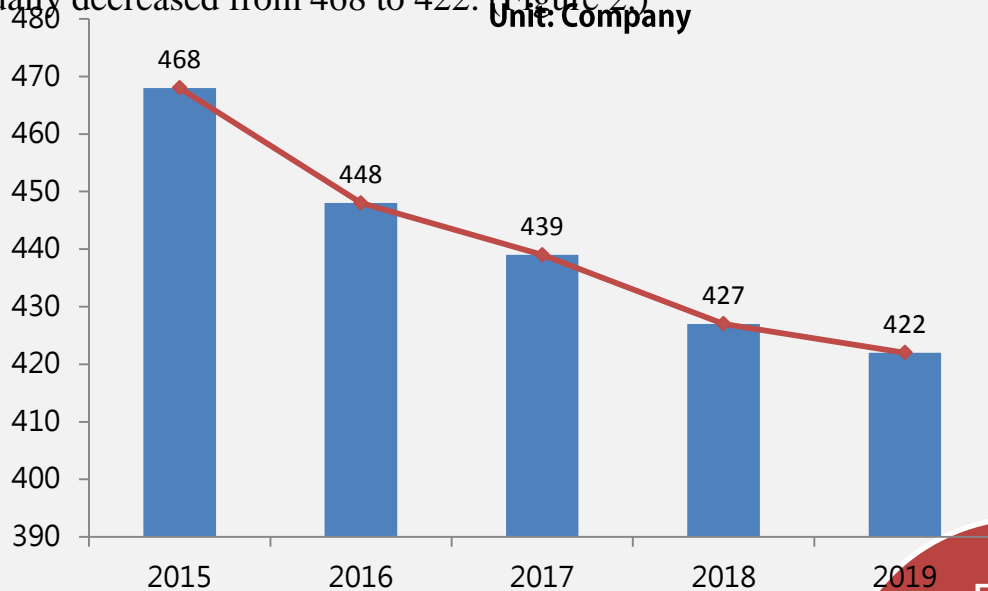
Figure 1  
Classification and categories of the semiconductor manufacturing industry

Manufacture of Integrated Circuits	Manufacture of Discrete Devices	Packaging and Testing of Semiconductors
<ul style="list-style-type: none"><li>•Photomask, Reclaim wafer, Epitaxial Wafer, Integrated Circuits, Semiconductor Memory</li></ul>	<ul style="list-style-type: none"><li>•Diode, Discrete/ Transistor Lead Frame, IC lead Frame, Thyristor, Transistor</li></ul>	<ul style="list-style-type: none"><li>•IC Packaging and Testing, Wafer Packaging, Circuit Probing</li></ul>

Source: Standard Industrial Classification by National Statistics R.O.C., Rearranged by TTR.



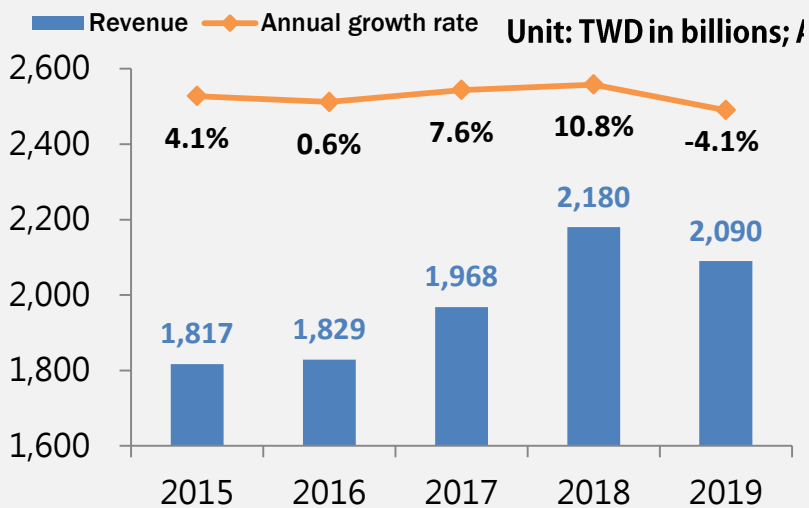
Taiwan saw a 5-year decline in the number of domestic operating corporations of the semiconductor manufacturing industry from 2015 to 2019; the number has gradually decreased from 468 to 422. (Figure 2.)



**Figure 2**  
The number of companies in the semiconductor manufacturing industry from 2015 to 2019

Source: Ministry of Finance, R.O.C., Rearranged by TTR.

The revenue generated by the semiconductor manufacturing industry rises and falls, growth from 2015 to 2017 has been less impressive, but 2018 witnessed a booming semiconductor revenue. Although global economies were suffering from the impacts of the US-China trade war and Japan–South Korea trade dispute in 2019, Taiwan’s semiconductor manufacturing industry revenue still reached 2,000 billion TWD (about 68 billion USD). With the development of diverse applications of internet of things (IoT), intelligent manufacturing, 5G, true wireless stereo (TWS), server data centers and automotive electronics, etc., demand for electronics will underpin the long-term growth. (Figure 3.)



Source: Ministry of Finance, R.O.C., Rearranged by TTR.

**Figure 3**  
The revenue generated by the semiconductor manufacturing industry from 2015 to 2019

5G technique was considered a way to boost mobile phone replacements. However, the novel coronavirus (COVID-19) pandemic caused uncountable corporations and factories to shut down, governments around the world implementing lockdown measures to reduce the spread of virus, therefore market demand this year will not as strong as expected.

To sum up, the Taiwan semiconductor manufacturing industry is closely related to the global market. At this point in time, given the uncertainty regarding the worldwide impact of supply chain disruption and the associated economic fallout on demand caused by COVID-19, the effect of Taiwan Semiconductor Manufacturing revenue in 2020 cannot be assessed.