Entegris Kaohsiung Manufacturing Facility to Start Mass Production in 2024 Competing for TSMC's Orders of 28nm and Below Products

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With an investment of USD 500 million, Entegris' new manufacturing facility in Kaohsiung opens and is expected to start mass production in 2024. (Provided by Entegris)

Entegris, an American semiconductor advanced materials and manufacturing process solutions supplier officially announced on May 10 the opening of its manufacturing facility in Southern Taiwan Science Park, which has a total investment of up to USD 500 million and an area of 54,000 square meters, making it Entegris' largest and most advanced manufacturing facility. The manufacturing facility will significantly expand the production capacity of advanced liquid filters, high purity chemical drums, advanced deposition materials, and CMP pads and slurries, and is expected to kick off mass production in 2024 after passing customer validations in the second half of this year and generate USD 500 million in revenue by the end of 2025 in full production.

It is known that Entegris' expansion in Taiwan is mainly to serve its major customer TSMC, and then compete for the market of 28nm and below (including the latest 3nm and 2nm) advanced manufacturing processes. Entegris' biggest competitor in chemical materials is Shin-Etsu Chemical, and its only rival in FOUP and EUV POD (which only account for a small portion of the company's revenue) is Taiwan's Gudeng Precision.

It is noteworthy that EUV POD is one of the few products of Entegris that has not been included in TSMC's supply chain, mainly because the largest customer of this product is Samsung Electronics.

Entegris President, CEO and Chair of the Board of Directors, Bertrand Loy said that over the past 30 years of presence in Taiwan, Entegris has constantly benefited from the strong network of local material and equipment suppliers, and its expansion will provide greater supply security and shorter lead time to customers across Asia.

Alvin Hsieh, Taiwan Country President of Entegris, said that relying on the automation and advanced manufacturing capacity of the new Kaohsiung manufacturing facility, Entegris will be able to provide customers with high-quality solutions while reducing waste generation. Together with the original Kaohsiung plant, four main divisions of Entegris will have a presence near Southern Taiwan Science Park.

In recent years, Taiwan has faced serious geopolitical challenges. Why Entegris chooses to expand its investment in Taiwan and build the world's largest manufacturing center in Kaohsiung? Bertrand Loy emphasizes that Entegris has considerable confidence in the prospects of Taiwan's semiconductor industry and supply chains. In regards to the market supply and demand conditions of semiconductors, the turnaround has not arrived yet, and he is watching the second quarter, Loy said. In regards to the industry outlook, it is expected to bottom out and recover gradually, although it is hard to estimate the subsequent strength and pace of recovery. "In fact, the semiconductor industry has experienced many ups and downs over the past decade, and there are cycles. Whenever there are heavy headwinds or recessions, the rebound will be even stronger. In the long run, we need to be committed to investing in our operations. In the face of industry headwinds, Entegris will continue to invest in R&D and will not reduce capital expenditures, because we are optimistic about the long-term development of the global semiconductor industry."

Currently, Entegris has around 720 full time employees in Taiwan, and the number is expected to increase by 200 along with the full production of the new Kaohsiung manufacturing facility over the next few years. The Hsinchu plant mainly produces nano melt-blown filters for chemical and mechanical grinding processes, and provides pump maintenance services and E-chuck refurbishment services; the Yangmei plant produces drums that meet chemical purity requirements; the Hsinchu Taiwan Technology Center for Research and Development uses chemical and particle analysis and defect inspection technologies to achieve process optimization, uses equipment and processes that can verify product performance to speed up the R&D process, and carries out rapid, low-volume chemical trial production to accelerate the certification of new chemical processes.

Entegris has four main divisions: Advanced Materials Handling, Microcontamination Control, Specialty Chemicals and Engineering Materials, and Advanced Planarization Solutions covering the four key elements in the advanced semiconductor manufacturing ecosystem. Their shares of the gross revenue are 22%, 28%, 22% and 29%, respectively.