

Entegris Announces 2018 China Strategy To Enable Local Semiconductor Manufacturers to Build and Run New Fabs, Optimize Yields, and Move to Advanced Nodes

Company is well-positioned as a true business partner to customers in China with strengthened localization of material manufacturing, laboratory and application support, and talent development

SHANGHAI, CHINA – March 15, 2018 – Entegris, Inc., a leader in specialty chemicals and advanced materials solutions for the industry, announced today its 2018 strategy for China. The plan is focused on bringing high-performance materials solutions, used by today's premier global manufacturers, to market in China. Selecting first-rate solutions during the development and life-cycle of the fab will be mission-critical to the success of Chinese manufacturers if they wish to compete with well-established market leaders. To be a supplier of choice, Entegris is increasing the company's footprint and technical capabilities in China to better serve the rapidly growing surge in semiconductor manufacturing. Entegris' strategic priorities for China include supporting new fabs construction, offering deeper and broader material localization, and enhancing its local infrastructure from laboratory support to talent development.

"Being customer-centric has always been the centerpiece of our China strategy," said Ben Lee, Vice President, Global Sales Asia Pacific & China General Manager, Entegris. "Entegris is uniquely positioned to help customers optimize yield, reduce total ownership cost, and reach their technology goals thanks to our technical expertise, insight into local customer needs, and our industry-leading materials solutions. In fact, Entegris achieved great success in 2017 worldwide, and China was a key contributor with year-on-year sales growth almost doubling that of the company's overall results. This validates our localization strategy and customer collaborative development approach. Entegris is ready to grow together with our customers and outpace the overall market in 2018 with our strategic focus in China on new fabs support, increased material localization, and enhanced infrastructure."

Collaborative development to support new fabs line readiness, faster and at lower cost

The global trends of IoT, autonomous driving, etc. as well as the booming "internet economy" in China are driving the demand for increased volume and more technically advanced electronics, including memory and other semiconductors In 2016, the nation consumed \$112 billion, or 38% of the world's ICs, according to IC Insights. But chipmakers in China produced only \$13 billion worth of chips within China, according to the firm. That represents only 11.6% share of the China market in 2016, up from a mere 9.8% in 2011, the firm said.

"The semiconductor growth dynamic has changed dramatically in 2017," said Wenge Yang, Vice President, Market Strategy, Entegris. "Key growth drivers are more innovative and diversified today, ranging from artificial intelligence, crypto currency, autonomous driving, IoT, robotics, 5G, to data centers, and more. Materials are increasingly critical for semiconductor manufacturers to achieve innovation, since the traditional approach of relying on equipment is reaching its limits. Even for mainstream applications, as more electronic components are built into everyday applications, contamination control is increasingly critical for device reliability, making it key for such industries to grow. Advanced materials are the answer to such challenges in both leading edge and mainstream applications."

To bridge the gap between manufacturing and consumption, the Chinese government has been driving a local manufacturing agenda by establishing the China Integrated Circuit Industry Investment Fund. Besides, the "Made in China 2025" policy aims to upgrade Chinese industry across multiple sectors, including integrated circuits and new materials, with a focus on technical development, quality improvement and helping local companies achieve a greater role in the global supply chain.

As a result of these factors, a historic number of fabs started construction in China in 2017, and the trend is expected to continue in 2018 and 2019. Additionally, existing fabs are working to rapidly enhance their capabilities to manufacture the latest generation advanced node products, targeting both leading-edge and mainstream applications.

Entegris customers benefit from over 50 years of materials and contamination control expertise that supports new fab construction and helps customers optimize manufacturing line readiness, at faster speeds and lower costs. The company's ever-expanding local team of experienced engineers, technologists, and scientists are well equipped to manage technology roadmap discussions with customers to reach their technology goals and collaboratively develop solutions that are customized to address unique needs.

Enhance local infrastructure to support China's growth

Major challenges for Chinese semiconductor manufacturers lie with their inexperience, especially for advanced nodes like 7nm and 3nm, as well as an industry-wide shortage of local talent, e.g. engineers and scientists. To help customers tackle such challenges, Entegris has planned a pipeline of infrastructure enhancements, including:

<u>Local laboratory support</u>: To enable faster response to customers' analytical and application needs and reduce turnaround time, Entegris is building up laboratory support capabilities in China. This will complement its technology centers in Taiwan, Korea and Japan to provide timely local support to local customers.

<u>Local expansion</u>: On top of actively hiring additional seasoned sales and technologists in its four existing offices in Shanghai, Beijing, Xiamen and Xi'an and sales presence in Dalian, Shenzhen and Wuhan, Entegris will establish a new office in Wuhan.

<u>Talent development</u>: To help the Chinese industry address its shortage of talent, Entegris is exploring opportunities to join forces with top universities and industrial partners to collaborate with academic and training programs for tomorrow's engineers and scientists. Further, Entegris will continue to work closely with customers on technology roadmap discussions and advanced node enablement, as well as provide training and technical seminars tailored to meet the specific needs of different customers.

Continuous material localization to reduce time-to-market for customers

In 2017, Entegris entered into agreements with local partners Spectrum Materials (Fujian) Co., Ltd. and Hubei Jingxing Science & Technology, Incorporated, Co., Ltd, in response to the Chinese government's call to source and supply locally manufactured materials. Under these agreements, Entegris is able to locally manufacturer specialty gas products and high-purity deposition products, respectively. This made Entegris the first international materials company to locally produce specialty gas products to support the growing semiconductor market in China.

To date, these two partnerships have made sound progress. The Spectrum facility has been qualified by leading Chinese manufacturers, and qualification by all major domestic manufacturers is expected to be completed by Q2 2018.

Entegris is continually seeking new, high-quality domestic partners for material localization in order to respond to customers' product needs faster and reduce their time-to-market.

About Entegris

Entegris is a leader in specialty chemicals and advanced materials solutions for the microelectronics industry and other high-tech industries. Entegris is ISO 9001 certified and has manufacturing, customer service and/or research facilities in the United States, China, France, Germany, Israel, Japan, Malaysia, Singapore, South Korea and Taiwan.

Additional information can be found at www.entegris.com.

FORWARD LOOKING STATEMENTS

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The words "believe," "expect," "anticipate," "intends," "estimate," "forecast," "project," "should," "may," "will," "would" or the negative thereof and similar expressions are intended to identify such forward-looking statements. These forward-looking statements include statements related to the impact of

the acquisition, including the Company's expectation that the acquisition will be accretive to earnings; market trends in the semiconductor industry; and other matters. These statements involve risks and uncertainties, and actual results may differ. These risks and uncertainties include, but are not limited to, our ability to effectively integrate the acquired company; market conditions relating to the acquired company's products; and other risk factors and additional information described in our filings with the Securities and Exchange Commission, including under the heading "Risks Factors" in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed on February 17, 2017, and in our other periodic filings. The Company assumes no obligation to update any forward-looking statements or information, which speak as of their respective dates.

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