



Photronics Celebrates Grand Opening of China High-End Manufacturing Facilities

April 22, 2019

- Grand Opening Celebration for IC facility in Xiamen, China and FPD facility in Hefei, China
- Major milestones of \$320 million total China investments to establish market and technology leadership in local photomask industry
- Becomes first merchant photomask producer to have China manufacturing presence for both IC and FPD photomasks
- Local source of photomasks for growing number of China customers, including many with long-term purchase agreements
- First local producer of Generation 10.5+ photomasks for ultra-large screen TV panels
- IC joint venture with DNP combines technical resources of both organizations to more effectively compete together to meet customers' photomask needs
- Positions Photronics as the global leader in merchant photomasks, with leading technology and growing market share

BROOKFIELD, Conn., April 22, 2019 (GLOBE NEWSWIRE) -- [Photronics, Inc.](#) (NASDAQ:PLAB), a worldwide leader in photomask technologies and solutions, celebrates the grand opening of two new manufacturing facilities in China to engage in research and development, manufacture and sale of photomasks, becoming a critical local supplier to the China integrated circuit (IC) and flat panel display (FPD) industries. Formal grand opening ceremonies will be held on April 23 in Xiamen, China and April 25 in Hefei, China.

"I am extremely pleased to celebrate this milestone, opening two new state-of-the-art facilities in China to support our customers' operations with locally sourced photomasks," said Peter Kirilin, chief executive officer. "A tremendous amount of hard work and dedication have contributed to this achievement. The teams in Xiamen and Hefei have gone above and beyond, ensuring that we reach this goal. In addition, the support we have received from local authorities and investment agreement partners has been remarkable. We are proud to play a part in the development of these industries in China, and look forward to future growth opportunities. With the opening of these facilities, which are among the most advanced sites in our global network, we are well on our way to extending our leadership position in the merchant mask market."

IC Facility in Xiamen

The new manufacturing facility in Xiamen, China is the result of a \$160 million investment agreement with The Administrative Committee of Xiamen Torch Hi-Tech Industrial Development Zone (Xiamen Torch), a national-level hi-tech zone in China, announced in August 2016. The facility will support semiconductor manufacturing for a wide range of technologies and nodes in both logic and memory. Plans are for initial production to ramp quickly at 40nm and 28nm nodes, with process introduction leading to 14nm and beyond nodes shortly thereafter. The facility, Photronics DNP Mask Corporation Xiamen (PDMCX), is part of a joint venture between Photronics and Dai Nippon Printing Co., Ltd. (DNP) (Tokyo Stock Exchange:7912). This JV is modeled after the successful relationship between the same partners that was formed in Taiwan in 2014. Through this partnership, customers benefit from the combined experience and resources that each parent company brings to the entity.

The location in Xiamen was selected due to the established technology park, close proximity to a large customer, and the existing supply chain infrastructure. A commitment by this large customer will enable the Xiamen facility to run at revenue levels that will produce at least break even profitability. Additional business, including other long-term purchase agreements, will push the factory further into profitability. When fully ramped, the facility will employ approximately 170 people, including a combination of manufacturing, engineering, sales, facilities, finance, and other support functions.

The China IC industry is expected to grow, spurred on by a growing economy and the "Made in China 2025" initiative. According to this state-led industrial policy, China is targeting 40% self-sufficiency in semiconductor manufacturing by the year 2020. Investments needed to achieve these targets should increase the local demand for photomasks. PDMCX, with its advanced manufacturing capability, is well positioned to satisfy this demand. Limited production is scheduled to begin in its fiscal third quarter on certain hybrid processes, with full production commencing when customer qualifications are complete.

FPD Facility in Hefei

The facility in Hefei is wholly owned and focused on the FPD industry. Created under a \$160 million investment agreement formed in August 2017 with the Hefei State High-tech Industry Development Zone (High-tech Zone), a national-level high-tech zone in China, to establish a manufacturing facility in Hefei, China, the factory is equipped to support Generation 10.5+ (G10.5+) substrate production. With this investment, Photronics is the first producer of G10.5+ photomasks in China, with more capacity than any other competitor. The cleanroom is fully automated, and the facility will employ approximately 70 people in manufacturing and supporting functions.

Panel producers in China are moving to adopt G10.5+ substrates for the manufacture of ultra-large screen TV panels. This form factor provides superior efficiency for 65" and 75" panels when compared with Generation 7.5 and Generation 8.5 substrates. China is already the largest producer of LCD panels and TVs, and their market share is expected to increase as more G10.5+ capacity comes online. In conjunction with the investment agreement, Photronics has obtained customer commitments from two of the largest domestic display manufacturers in China, which should help quickly fill the planned production capacity of the facility and enable profitability soon after startup. Earlier this month, Photronics shipped its first G10.5+ photomask to one of these customers.

In addition to G10.5+, China is investing more aggressively in AMOLED technology. Today, China represents approximately 10% of AMOLED capacity. By 2023, this is projected to grow to nearly 40%. Including the new facility in Hefei, Photronics now has three operations in Asia dedicated to the production of FPD photomasks. With this collective presence, Photronics is able to meet all technical requirements to enable panel producers to design and manufacture high-end AMOLED displays for mobile and all other applications. Photronics has long been seen as a technology leader within the PFD photomask sector; the new facility in Hefei reinforces this leadership position.

China Expansion Strengthens Leadership Position

Kirlin concluded, "With our operating presence in China, and the additional capacity and capability it brings, we are in an even stronger competitive position. Our IC facility, in combination with our JV partner DNP, is capable of delivering masks for all high-end and mainstream applications. For FPD, we are the clear technology leader and are well positioned to grow with the G10.5+ and AMOLED panel production expansion. Our market position and anticipated revenue growth, along with investment incentives provided by Xiamen Torch and Hefei High-tech Zone, should enable us to deliver exceptional value to all stakeholders, including customers, suppliers, employees, partners, and shareholders."

About Photronics

[Photronics](#) is a leading worldwide manufacturer of integrated circuit (IC) and flat panel display (FPD) [photomasks](#). High precision quartz plates that contain microscopic images of electronic circuits, photomasks are a key element in the IC and FPD manufacturing process. Founded in 1969, Photronics has been a trusted photomask supplier for 50 years. Today, the company employs 1,575 across 11 strategically located [manufacturing facilities](#) in Asia, Europe, and North America. Additional information on the Company can be accessed at www.photronics.com.

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements made by or on behalf of the company and its subsidiaries. The forward-looking statements contained in this press release involve risks and uncertainties that may affect the company's operations, markets, products, services, prices, and other factors. These risks and uncertainties include, but are not limited to, economic, competitive, legal, governmental, political, and technological factors as well as decisions we may make in the future regarding our business, capital structure and other matters. These forward-looking statements generally can be identified by phrases such as "believes", "expects", "anticipates", "plans", "projects", and similar expressions. There is no assurance that the company's expectations will be realized. For additional information please see the company's quarterly and annual reports filed with the Securities and Exchange Commission.

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Source: Photronics, Inc.