



Applied Materials Brings its E-Beam Review Technology to the Display Industry

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- Latest in a pipeline of new display products expanding Applied's addressable market
- For the first time, high-resolution SEM review can be performed inline without having to break apart panels
- Display manufacturers can quickly optimize yields during production ramps and avoid costly yield excursions

SANTA CLARA, Calif., Sept. 21, 2016 (GLOBE NEWSWIRE) -- Applied Materials, Inc. today introduced the display industry's first high-resolution inline e-beam review (EBR) system, increasing the speed at which manufacturers of OLED and UHD LCD screens can achieve optimum yields and bring new display concepts to market.

Applied is the semiconductor industry leader in EBR with more than 70 percent market share in 2015. The company has combined its leading-edge SEM* capabilities used in semiconductor device review with a large-scale display vacuum platform, resulting in an inline EBR technology that is the fastest, most effective method to discover and address the root causes of killer defects in advanced mobile and TV displays.

Applied's EBR system has received orders from 6 of the top 10 largest display manufacturers in the world and demand is increasing as manufacturers look to quickly and cost effectively optimize their yields and bring new types of displays to market faster.

"Our new EBR system is the latest in a strong pipeline of display products that enables customers to solve critical OLED and LCD manufacturing challenges," said Ali Salehpour, senior vice president and general manager, Display and Adjacent Markets and Applied Global Services, Applied Materials. "Applied's unique ability to combine semiconductor yield techniques and panel-level SEM technology expands our addressable market and avoids costly yield excursions for our customers. Emerging applications such as augmented and virtual reality and smart vehicles require better displays with new form factors. These applications are driving demand for solutions like our EBR tool that give customers significant time-to-market advantages."

"As a worldwide leader in display, Tianma values the strong relationship with Applied Materials to help us develop new technologies required to produce the high-quality, high-performance mobile displays that consumers have come to expect," said Dr. Jun Ma, vice president, Tianma Micro-electronics Co., Ltd. "Applied's EBR system will enable us to reduce the start-up time at our Wuhan fab and accelerate our ability to bring more advanced display technologies to market. In addition to EBR, we look forward to working with Applied to introduce other semiconductor yield techniques to mobile display manufacturing."

Advanced display technologies require an increasing number of process steps resulting in more and smaller contaminants, and new types of defects. Current inline automated optical defect inspection tools for displays are not as effective as SEM analysis in distinguishing killer from non-killer defects, or in determining systematic root causes of defects. Prior to the introduction of Applied's EBR system, conducting SEM analysis on displays required breaking the glass substrate into pieces and examining each piece separately under a microscope. This is not only costly and time consuming but also makes it nearly impossible to determine the location of the defect on the full panel. Applied solves these limitations by providing inline SEM review at the industry's highest resolution and throughput without requiring the panel to be broken.

Applied Materials, Inc. (Nasdaq:AMAT) is the leader in materials engineering solutions used to produce virtually every new chip and advanced display in the world. Our expertise in modifying materials at atomic levels and on an industrial scale enables customers to transform possibilities into reality. At Applied Materials, our innovations make possible the technology shaping the future. Learn more at www.appliedmaterials.com.

*SEM = scanning electron microscope

A photo accompanying this announcement is available at <http://www.globenewswire.com/NewsRoom/AttachmentNg/5fc93c73-79e0-4b63-85b8-a782bab416f4>

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Applied Materials' display e-beam review (EBR) system



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