



Applied Materials Advances OLED Display Manufacturing for Flexible Mobile Products and Curved TVs

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- *New Applied AKT-20K(TM) and Applied AKT-40K(TM) TFE* systems help solve challenges of high-productivity flexible OLED manufacturing*

SANTA CLARA, Calif., October 12, 2015 - Applied Materials, Inc. today unveiled two new systems that enable the volume production of high-resolution, thin and lightweight flexible OLED displays for mobile products and TVs. The Applied AKT-20K(TM) TFE PECVD* and Applied AKT-40K(TM) TFE PECVD tools deliver breakthroughs in materials engineering to deposit thin-film encapsulation barrier layers that are crucial for protecting extremely sensitive OLED devices. These systems allow display makers to replace the rigid insulating front glass on the devices and bring to market bendable and curved displays for a new generation of consumer products.

The vibrant color and low power consumption of OLED displays have driven their rapid adoption in smartphones, with flexible OLED now the fastest growing display segment in the mobile industry. The new TFE systems (20K for 925 x 1500mm and 40K for 1250 x 2200mm) address different display market segments to meet the growing demand for more versatile, thinner and lighter small- and large-area flexible OLEDs.

"The advances in size, resolution, picture quality and form factor creates considerable market opportunities for display makers to bring new flexible products to market," said Dr. Brian Shieh, vice president and general manager of Applied's Display Products Group. "Flexible OLEDs must be robust enough to meet the real-life demands of consumers, and the Applied AKT-20K TFE system, already in production, allows panel makers to accelerate the introduction of flexible and curved mobile applications that will change the shape of the screens we use every day."

Key to the Applied AKT TFE product line is the capability to extend the lifetime of flexible OLEDs by offering diffusion barrier films with very low water and oxygen penetration. These high-performance films, deposited at low temperatures of <100°C, address the susceptibility of OLED material to degrade when exposed to environmental elements. In addition, the systems' unique vision alignment technology ensures accurate and precise mask positioning and deposition, allowing display manufacturers to eliminate photolithography and etch process steps and reduce production costs.

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in materials engineering solutions for the semiconductor, flat panel display and solar photovoltaic industries. Our technologies help make innovations like smartphones, flat screen TVs and solar panels more affordable and accessible to consumers and businesses around the world. Learn more at www.appliedmaterials.com.

*TFE=thin-film encapsulation; *PECVD=plasma enhanced chemical vapor deposition

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