3M and Lotus Applied Technology Complete ALD Barrier Technology License Agreement

3M has entered into a licensing agreement with Lotus Applied Technology to access Lotus's TransFlexALD™ spatial Atomic Layer Deposition (ALD) and barrier materials patent portfolio. TransFlexALD technology enables high-speed, low-cost deposition of single layer "ultra-barrier" coatings on rolls of polymer film using ALD. These coatings play a critical role in the encapsulation of moisture- and oxygen-sensitive electronics, such as OLED (organic light emitting device) lighting and displays, quantum dot films, photovoltaics, and flexible electronics.

"We are pleased to partner with Lotus AT and for the potential of their ALD technology to expand our ultra barrier film solutions portfolio as we integrate it with 3M's proven technology strengths," said John Banovetz, vice president of 3M's Corporate Research Laboratory. "This licensing agreement and our continued product innovation will help 3M increase the performance of our ultra barrier films and offer cost-effective barrier solutions that will allow our customers to provide more competitive products in the flexible electronics markets they serve."

3M is a leading manufacturer of flexible, transparent ultra barrier films providing encapsulation solutions for display $(3M^{\text{TM}})$ Flexible Transparent Barrier Film) and other sensitive electronic applications.

"We are excited to partner with 3M, a distinguished technology leader in the field of ultra barrier films," said Eric Dickey, president of Lotus Applied Technology. "This technology offers the opportunity to radically improve the performance of single-layer barrier coatings, and 3M's experience and expertise in this field will enable its rapid deployment in a field of applications that have been demanding higher performance at lower cost."

About 3M

At 3M, we apply science in collaborative ways to improve lives daily. With \$32 billion in sales, our 90,000 employees connect with customers all around the world. Learn more about 3M's creative solutions to the world's problems at www.3M.com or on Twitter @3M or @3MNewsroom.

3M and 3M[™] Flexible Transparent Barrier film are trademarks of 3M Company.

About Lotus Applied Technology

LotusAT is a technology development and licensing company working to break down the cost and throughput limitations of conventional Atomic Layer Deposition. Our innovative roll to roll solutions enable increased performance at reduced cost in a wide variety of applications ranging from commercial packaging to ultra-high performance barriers for flexible electronics, while our VortexALD™ batch technology offers the high quality and attributes of ALD films at speeds and costs superior to conventional PVD and CVD technologies. Learn more at www.lotusat.com.

TransFlexALD™ is a trademark of Lotus Applied Technology.

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