Applied Materials, Merck and Braunschweig University Awarded Funding by German Government for OLED Research

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ALZENAU, Germany--(BUSINESS WIRE)--Nov. 17, 2009-- Applied Materials, Inc., Merck KGaA and the Braunschweig University of Technology (TU-BS) today announced that they have been awarded a grant by Germany's Federal Ministry of Education and Research (BMBF) to develop processes to lower the cost of manufacturing organic light-emitting diode (OLED) lighting for general illumination applications. Applied will spearhead the three-year project, named Light InLine (LILi), joining forces with Merck, a leading manufacturer of high performance OLED materials and TU-BS, an internationally recognized center for OLED research. Work on the LILi project will be centered at Applied Materials' advanced development facility in Alzenau, Germany.

Fabricated on sheets of glass, OLED lighting tiles can emit white light that is brighter, more uniform and more energy efficient than fluorescent light fixtures, making them well-suited for ceiling lights in homes and offices. While a number of OLED products have been developed in recent years, key challenges such as limited lifetime and high costs must be addressed for the technology to be widely adopted. The LILi project aims to address these challenges by developing large-area manufacturing processes using high-performance organic materials and efficient device design.

"Solid state lighting is an important component of an energy-efficient future," said Dr. Mark Pinto, senior vice president, corporate chief technology officer and general manager of Applied's Energy and Environmental Solutions Organization. "OLED technology aligns well with our equipment used for manufacturing flat panel displays. We've already delivered a system that is now in pilot manufacturing at a leading European lighting manufacturer. Through the LILi project, we expect to further optimize this technology to increase the quality and drive down the cost for OLED lighting applications."

"Merck has a wealth of experience in developing and scaling up the complex organic compounds that are essential for stable and cost-effective OLED manufacturing," said Dr. Udo Heider, vice president, Liquid Crystals/OLED, Merck KGaA. "The LILi project is a great opportunity for us to test new organic materials with state-of-the-art manufacturing equipment in order to validate their stability and performance on large area substrates."

"Innovation in OLED technology is one of the primary focuses of our institute," said Professor Wolfgang Kowalsky from TU-BS. "We're pleased to partner with Applied Materials and Merck to evaluate how our new high-efficiency OLED lighting device structures will perform in an industrial-scale environment."

The total cost of the OLED project will amount to approximately €7.49 million, which includes €3.26 million to be provided by the German Federal Ministry of Education and Research and €4.23 million to be contributed by the industry partners. The grant (FKZ 13N10611) is part of the BMBF's "OLED 2 – Organic Light Emitting Diodes - Phase 2" initiative, which seeks to support OLED collaborative research and encourage OLED manufacturing in Germany. For more information, visit the project website at www.liliproject.com.

Merck is a global pharmaceutical and chemical company with total revenues of € 7.6 billion in 2008, a history that began in 1668, and a future shaped approximately 33,000 employees in 60 countries. Its success is characterized by innovations from entrepreneurial employees. Merck's operating activities come under the umbrella of Merck KGaA, in which the Merck family holds an approximately 70% interest and free shareholders own the remaining approximately 30%. In 1917 the U.S. subsidiary Merck & Co. was expropriated and has been an independent company ever since.

The **Braunschweig University of Technology** is the oldest technical university in Germany. It was founded in 1745 and is member of TU9, an incorporated society of the most renowned and largest German Institutes of Technology. Today, it has about 13,000 students, making it the third largest university in Lower Saxony. For more information, visit www.tu-braunschweig.de.

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