Postings: from the desk of Jim Brodrick

Although you do not often hear about growth in domestic manufacturing here in the United States, the solid-state lighting industry is steadily growing and establishing a manufacturing presence here at home. Solid-state lighting was not only born of U.S. ingenuity and R&D, but is riding the crest of a worldwide regulatory trend toward greater energy efficiency. This offers a golden opportunity for U.S. manufacturing to take a significant role in SSL. From time to time, these Postings will focus on SSL companies manufacturing here in the U.S., a series we call "SSL in America." This is not intended to promote any of the companies, but rather to motivate and inspire others to follow suit. The philosophy and actions of the companies you'll read about here align with the recommendations set forth in the U.S. Department of Energy (DOE) white paper "Keeping Manufacturing in the United States," which grew out of DOE's 2010 SSL Manufacturing R&D Workshop.

One of the most exciting SSL news items in 2010 was the October launch of the country's first pilot OLED manufacturing facility set up to provide product to luminaire makers. Why? Because OLEDs are not yet commercially viable for general illumination, and what few niche products currently exist are high in price and limited in performance as well as quantity–with no significant manufacturing taking place up until now. By providing prototype white-OLED lighting panels to U.S. luminaire manufacturers, the new facility should "prime the pump" to help get the OLED lighting industry to the next stage. What's more, it will help establish the manufacturing

base for that industry here in the U.S., which is where OLED technology originated.

Located in Canandaigua, NY, the new OLED manufacturing facility, which is partly funded by DOE, serves as a model for how collaborative effort can pay big dividends–and how multiple levels of government working together can have a much bigger impact than DOE working alone. In this case, the players are Universal Display Corporation (UDC), Moser Baer Technologies Inc. (MBT), and New York's Smart System Technology & Commercialization Center (STC).

UDC is a New Jersey-based OLED technology development company that was founded in 1994. It develops and patents the processes and techniques to make OLEDs, and licenses them to companies that are involved in OLED manufacturing. UDC's initial focus was on OLEDs for displays, but that focus broadened when the company realized the potential of OLEDs for lighting. In addition to licensing the technology to make OLEDs, UDC developed and sells the phosphorescent emitters that are used in manufacturing them. It gets those chemicals from PPG, which is based in Pennsylvania. UDC's R&D is conducted here in the U.S. as well, which means that all of the company's core activities take place domestically.

Last year, UDC formed a partnership with MBT, the U.S.-based subsidiary of Moser Baer India, a global manufacturer of optical disks and photovoltaics. MBT agreed to design, build, and operate the Canandaigua facility, which will demonstrate the scalability of UDC's phosphorescent OLED (PHOLED) technology and materials for the manufacture of OLED lighting panels that meet commercial lighting targets. The facility is located within the STC, which is managed and supported by the College of Nanoscale Science & Engineering of the State University of New York at Albany. Because the STC is a state-sponsored technology center, the project is the recipient of tax exemptions and benefits, as well as low-interest

loans.

DOE provided $4 million in funding for the project, under the American Recovery and Reinvestment Act of 2009, with the rest of the money provided by MBT.

One goal of the Canandaigua project is to develop efficient techniques for the mass-production of OLEDs for lighting. This should help reduce manufacturing costs, which remain a major hurdle. According to Mike Hack, UDC vice president of strategic product development, the success of this project and others like it could make it possible for OLEDs to account for 1%-2% of the lighting market by 2017, which he says would result in many U.S. jobs. According to MBT CEO Gopalan "Raj" Rajeswaran the facility, still in the process of being built, is expected to be up and running late this year to make the first OLED products by the spring of 2012.

UDC and Moser Baer are among a number of companies that are working to create and strengthen a solid-state lighting manufacturing base here in the U.S. This will not only help bring significant energy savings through more efficient lighting products, but will benefit our economy by adding jobs at multiple levels of the supply chain.

As always, if you have questions or comments, you can reach me at postings@lightingfacts.com.