

October 3, 2013



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 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 endorse or promote any of the companies, but rather to describe advances in energy-efficient solid-state lighting. The activities you'll read about here are consistent with 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.

Spotlight on Philips Lumileds

A business group within Netherlands-based Philips Lighting, Philips Lumileds is an integrated manufacturer of LEDs and LED modules that are used in display, automotive, smart-phone flash, and general illumination. About 90 percent of the company's front-end epitaxy is done in San Jose, CA, with the subsequent wafer processing done overseas along with the phosphor work and back-end processing. Philips Lumileds' corporate headquarters are also in San Jose, where a total of about 700 people are employed – ranging in function from administration, to executive, to sales, to marketing, to product development, to engineering, to R&D, to factory operations. The company has been in the same San Jose facility since the 1970s and, according to site operations general manager Dr. Sunil Thomas, many employees have long tenures that reflect their considerable skillsets. In addition, he notes, Philips Lumileds relies heavily on local vendors, creating a sizeable ripple effect.

The company began as the optoelectronics division of Hewlett-Packard (HP) about 40 years ago. In 1999 HP split into two, and the optoelectronics group was assigned to the new Agilent Technologies. To develop and market LEDs, Agilent and Philips then formed Lumileds, which became Philips Lumileds in 2005 when Philips acquired Agilent's interest in the company.

According to Sunil, Philips Lumileds derives a number of advantages from manufacturing domestically. For one thing, he says, it speeds up the time to market by having the R&D and manufacturing teams co-inhabiting the same space. It also allows the company to tap into Silicon Valley's extensive semiconductor infrastructure, and to take advantage of the considerable innovation that's made the region so well-known. What's more, Sunil adds, the attractions of Silicon Valley – located in the San Francisco Bay area – make it easy to attract top-flight personnel from all parts of the country and even overseas.

On the flip side, he notes, are low overseas labor rates and the incentives that many foreign governments offer to manufacturers. Sunil says that Philips Lumileds always considers these carefully, as they have to be included in the equation, and to offset them the company works hard to improve productivity and reduce costs. One way it does this, he explains, is by following the principles of lean manufacturing, which emphasizes eliminating waste while delivering quality products on time at least cost with greatest efficiency.

A regular attendee at DOE SSL workshops, Philips Lumileds has been the recipient of a number of DOE SSL R&D funding awards, and these cost-shared projects signal the company's commitment to continually improve the efficacy and performance of its products. Sunil says the company hopes to at least double its San Jose epitaxy output within the next five years.

Philips Lumileds is 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 us at postings@akoyaonline.com.