

# SSL Postings

U.S. DEPARTMENT OF ENERGY

September 23, 2014



*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 [DOE white paper](#) “Keeping Manufacturing in the United States,” which grew out of DOE’s 2010 SSL Manufacturing R&D Workshop.*

## Spotlight on the Kurt J. Lesker Company

The Kurt J. Lesker Company<sup>®</sup> (KJLC) is a manufacturer and provider of vacuum products and systems for many markets, with a strategic focus on six markets: R&D, wear and decorative coating, optical, electronics, ultra-high vacuum synchrotron, and solid-state lighting. The company celebrated its 60<sup>th</sup> anniversary this year, but its involvement with SSL began in the mid-1990s and includes making vacuum chambers and vacuum-deposition equipment that are used in the manufacturing of LEDs and OLEDs.

KJLC's SSL-related vacuum-deposition equipment is primarily sold to the OLED industry to deposit the organic layers, and mainly involves evaporative thin-film deposition. Initially, that equipment was mostly used to manufacture OLED displays, but as the OLED industry has branched into white light for general illumination, KJLC has started providing the deposition equipment for that as well.

The company—which has been a regular attendee at DOE [SSL workshops](#) and participated in our [OLED lighting industry planning meeting](#) last fall—also sells sputtering systems that deposit the transparent conductive oxide layers for OLEDs. In addition, KJLC makes vacuum chambers for the LED industry that are used for growing crystals and depositing the epitaxial layers.

KJLC vice president of sales and marketing Dennis Sollon notes that most of the company's OLED customers are at the R&D or pilot stage, while its LED customers are generally at full production levels. The equipment KJLC sells to its OLED customers typically consists of fully integrated, turnkey deposition systems, whereas the equipment sold to its LED customers tends to be custom-engineered to fit their proprietary processes.

KJLC designs, builds, and tests its equipment in-house, and manufactures that equipment at one of three locations. The main location is in the Pittsburgh suburb of Jefferson Hills, PA, which is where KJLC is headquartered and where the majority of its SSL-related manufacturing takes place, with other similar facilities in Europe and Asia. KJLC employs about 250 people in Jefferson Hills, ranging from mechanical engineers, electrical engineers, software engineers, and industrial engineers to machinists, welders, sales and marketing folks, and administrative staff. That's not counting a considerable ripple effect that results from the company using U.S. suppliers for many critical components.

KJLC's Jefferson Hills campus, which is part of an economic revitalization in the Pittsburgh area, features three separate buildings. In addition to a manufacturing and engineering facility, there's a distribution center and a separate facility for assembly and application support.

Dennis notes that a major reason the company does most of its SSL-related manufacturing in the U.S. is because of the importance of protecting intellectual property, which is often involved in KJLC's more complex products. Another factor, he says, is the ease of communication between KJLC and its SSL customers, about 60% of whom are based in the U.S. Dennis explains that because the company is often developing custom solutions, customer communication can be extensive and is easier when both parties are on the same continent and also have the option of meeting face-to-face if necessary. An additional advantage, he says, is the high-tech knowledge base in the Pittsburgh area, which provides valuable resources as well as skilled labor.

Dennis says the company is fully committed to the SSL market segment, which is growing substantially. He adds that although the OLED market is at an earlier stage than the market for LED lighting, KJLC sees a lot of opportunity with OLED lighting and is working closely with several OLED customers as well.

KJLC 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](mailto:postings@akoyaonline.com).