

SSL Postings



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 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.

Founded in 2008 in Fremont, CA, which is in Silicon Valley, Redwood Systems manufactures a digital platform that offers an alternative to the way lights have traditionally been wired, powered, and controlled. Sam Klepper, the company's chief marketing officer, explains that instead of high-voltage AC wiring, which has been used since Edison's day, Redwood uses a computer networking platform that's similar in principle to Ethernet.

Redwood manufactures the hardware comprising that network, the software that manages it, and the sensors that are incorporated to detect motion, light level and energy, and temperature. These sensors, one for each luminaire, are an important part of the

system, because they help control the light to a high degree – for example, by determining whether a specific area is occupied. The data can also be exported to other building systems. The result, says Klepper, is more efficient energy consumption, which is measured by the system so that users can monitor it.

All of Redwood's manufacturing is done in Fremont, where the company employs about 75 people. Klepper says that because of the complex digital nature of its product, it would be hard to manufacture it anywhere else in the world other than in Silicon Valley, which has an exceptionally high concentration of the specialized expertise required. That expertise, he says, is embedded throughout the entire platform – from the microprocessor, to the user interface, to the controls.

Klepper says Redwood's system is being used in schools and municipalities, commercial offices, and data centers. The company works with more than 20 LED luminaire manufacturers to ensure that their luminaires are compatible with Redwood's system. This typically requires making a few small changes in the luminaire – including removing the driver, because Redwood's system features a centralized driver that powers and controls all the luminaires, thereby eliminating the need for a driver in each one. Because SSL is not always the only lighting technology in a building, Redwood has also come out with a variation of its standard platform that works with mixed technologies, including not only LEDs, but also fluorescent, CFL, and high-intensity discharge lighting.

Noting that Redwood is expanding its sales focus to go beyond North America, Klepper says the company plans to increase its U.S. manufacturing as it grows.

Redwood 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.

Redwood Systems is one example of how the SSL industry is creating jobs in the United States. There are many others we would like to know more about. A survey of U.S. employment and job growth in the SSL industry is now being conducted by the [Next Generation Lighting Industry Alliance \(NGLIA\)](#). Administered by the National Electrical Manufacturers Association, NGLIA is an alliance of for-profit lighting manufacturers formed to accelerate SSL development and commercialization through government-industry partnership. NGLIA members collaborate with DOE on diverse activities in support of SSL core technology research, product development, manufacturing, demonstration, and market conditioning and outreach. To participate in the NGLIA survey, contact NGLIA at nglia@nema.org (all information provided will only be used in the aggregate and will be kept confidential for each company).

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