

SSL Postings

U.S. DEPARTMENT OF ENERGY

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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 also 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, the Postings focus on SSL companies manufacturing here in the U.S., in a series called “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 [“Prospects for U.S.-Based Manufacturing in the SSL Industry.”](#)

Spotlight on Echelon

Echelon Corporation manufactures controls and networking platforms that are used in street and area lighting, building automation, transportation, and machine-to-machine applications. The company was founded in 1989 as a manufacturer of open-standard network controls. CTO Sohrab Modi explains that as Echelon grew, it sold its platform capabilities to various OEM vendors, who would incorporate them into thermostats, HVAC systems, even railroad braking systems; and because these controls were generic, some of them were bought by lighting companies for use in their products.

In 2014, Echelon acquired Lumewave, which four years earlier had developed a wireless controls solution for intelligent outdoor lighting. This acquisition, Sohrab says, significantly escalated Echelon’s involvement in the lighting market, so that now, in addition to providing components that are incorporated into other companies’ systems, Echelon also offers the entire system—from the chips to the gateways to the management consoles. He says the bulk of the company’s lighting control systems are used with outdoor lighting, most of it involving LEDs.

Echelon’s hardware is manufactured overseas, but its software is all created in the U.S., some of it by employees at a small satellite office in Tampa, FL, that focuses on R&D and product development, but most of it at the company’s headquarters in

Santa Clara, CA. Located just a few blocks from the stadium where this year's Super Bowl was played, that facility is home to about 75 employees whose areas of specialization range from R&D, finance, and administration to shipping and receiving, operations, and human resources. The chips, modules, and gateways are designed in Santa Clara as well. Sohrab says the lowest level of the control stack, which provides radiofrequency capability, comes from other providers, some of them located in the U.S., but Echelon creates everything else above that.

He notes that developing the software in the U.S. allows the company to work closely with lamp and luminaire manufacturers to customize its offerings. The fact that Echelon is based in the heart of Silicon Valley, Sohrab says, magnifies that advantage, because there's so much innovation taking place there — not just in the field of software, but also in lighting, energy efficiency, drivers, and LEDs. This gives Echelon easy access to new trends, techniques, and designs.

The company's location also gives it access to a huge talent pool that would be more difficult to find elsewhere, especially when it comes to people with expertise in embedded systems. On the flip side, labor rates are higher in the U.S. than overseas, and in Silicon Valley there's such intense competition for talented people that retention can be a challenge, but Sohrab says you have to balance those things against the many advantages of developing the software domestically.

Echelon 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.