

SSL Postings

U.S. DEPARTMENT OF ENERGY

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Although we don't often hear about growth in U.S. manufacturing, the solid-state lighting industry has been steadily growing and establishing a manufacturing presence here at home, strengthening our country's position as a leader in the technology. 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 presents a golden opportunity for U.S. companies to play an increased role in SSL manufacturing. From time to time, the Postings focus on SSL companies that manufacture here in the U.S. This is not intended to endorse or promote any of the companies, but rather to motivate and inspire other U.S. companies to follow suit. The philosophy and activities you'll read about here are consistent with the recommendations set forth in the U.S. Department of Energy (DOE) white paper ["Prospects for U.S.-Based Manufacturing in the SSL Industry."](#)

Tempo

Tempo is a manufacturer of LED linear lighting for commercial use. The company got its start in 1986, making low-voltage incandescent safety lighting for movie theaters — the low-level lighting that building codes require to remain on even when the theater is darkened for a film screening. According to CEO Terrence Walsh, Tempo began making LED versions of those lights in 1997, when there was a boom in movie theater construction. Even those early LEDs offered adequate light for low-level wayfinding, as well as vibration resistance and far longer life than incandescents. By the 2000s, the company stopped manufacturing the incandescent products and switched entirely to LED, and today manufactures more than 85% of the cinema safety lighting in North America.

By 2008, Terrence relates, SSL technology had improved to the point where Tempo branched out and started to develop and manufacture LED linear lighting products for architectural applications, with cove lighting being its first offering. Today, in addition to movie-theater safety lighting, the company manufactures architectural lighting systems for cove, accent, and wall-wash applications, as well as an industrial line for general illumination. All of the lighting is LED.

Terrence says that while Tempo has always had a strong domestic manufacturing presence, it began increasing that presence a little over three years ago, by moving a number of its operations that had been done in Asia to the U.S. A major reason for this, he says, is that it gives the company more flexibility — especially important in a technologically disruptive market such as SSL — as well as greater control over the entire supply chain. Today, all of the designing, engineering, final assembly, and testing is done at Tempo's headquarters in Irvine, CA, where about 100 people are employed. In addition, Terrence notes, many of the components — such as the circuit board assemblies and

LED modules — are outsourced to domestic companies that manufacture them to Tempo's specifications. And some of the die casting and injection molding is also done by U.S.-based firms.

Another advantage of manufacturing domestically, Terrence says, is that it enables Tempo to ship most of its products within four to six weeks to its customers, 90% of whom are in North America. Since every Tempo product is made to order, that quick turnaround — important in the lighting-construction industry, where delays can hold up an entire project — wouldn't be possible if manufacturing were done overseas. In addition, Terrence points out, having manufacturing and engineering under the same roof makes it easier for Tempo to make its products — none of which come in traditional form factors — with a high level of configurability in terms of CCT, light output, dimmability, etc.

He notes that the company has evolved in tandem with the evolution of SSL. Not only has the number of employees more than tripled, but their skillsets have changed considerably. For example, Tempo's engineering department has grown substantially and now includes skill sets beyond traditional lighting engineering, allowing the company to take a truly systemic approach. Terrence explains that the company's luminaires arrive at the job site completely assembled — part of a fundamental change to the industry, which he says makes things more efficient for all involved.

He observes that SSL has enabled companies like Tempo to look for ways to make lighting easier to install and maintain, by creating configurable platforms that are almost "plug-and-play." Thus, Terrence adds, the increased efficiency isn't limited only to electrical consumption. Tempo's efforts to reduce infrastructure costs, streamline installation, and lower maintenance costs have given rise to the company's slogan of "Less humans per lumen" — meaning that, in addition to the savings from lower energy consumption, it costs the customer less money to light the space, because installation and maintenance costs are minimized.

As the lighting market shifts to SSL technology, Tempo is one of many companies that are helping to reinforce U.S. leadership as they work to create and strengthen a solid-state lighting manufacturing base here. 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.