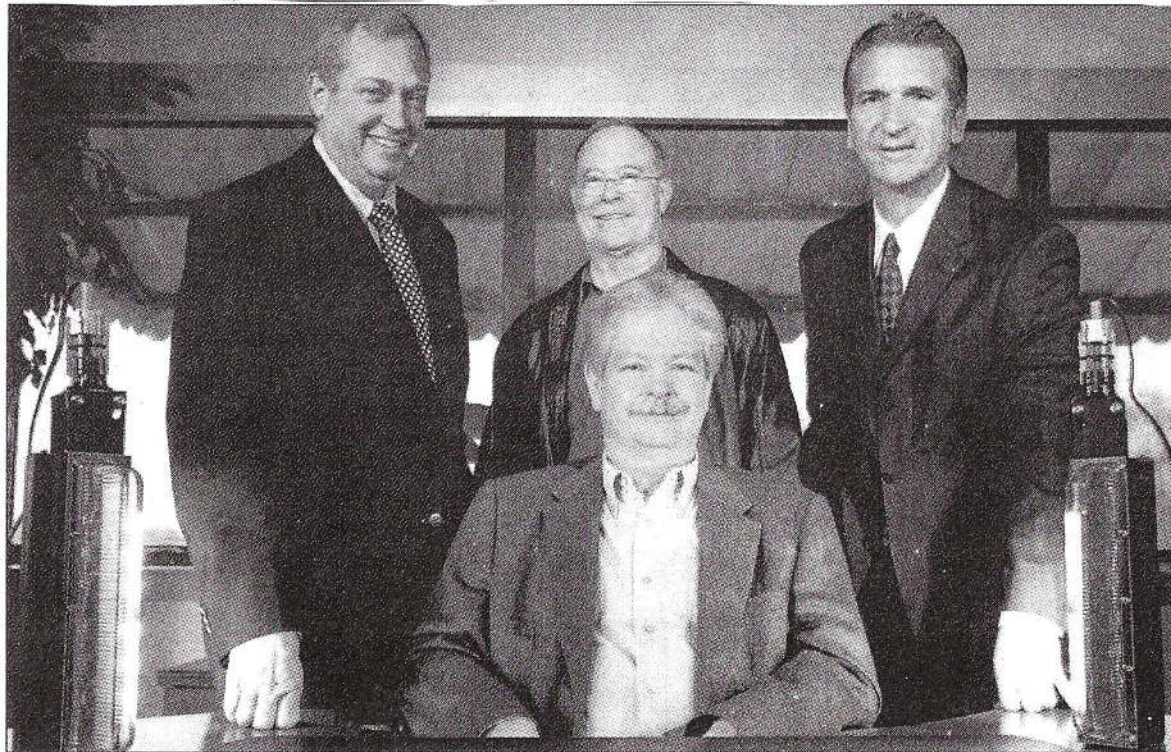


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Green Business



MICHAEL PINNOCHE

Mike Bruck, front, Steve Weintz, top left, Pat Mullins and Ron Smith say their IntenCity Lighting product can save municipalities a mint on the cost of lighting streets.

Taking LED to the Streets

Dardanelle Company Introduces Energy-Efficient Streetlights

By NATE HINKEL
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WITH ENVIRONMENTALLY SENSITIVE and energy-efficient construction initiatives making headlines around the globe, an upstart Arkansas lighting manufacturer is taking its green product to the streets.

There are believed to be at least 10 million to 15 million streetlights in place in the United States alone, though no one really seems to have counted. The potential market for retrofits is at least \$4 billion, according to market research done by the Arkansas Small Business Development Center.

IntenCity Lighting of Dardanelle is aiming to replace as many of those antiquated streetlights as possible with a patent-pending system that promises to save money by dramatically cutting energy and maintenance costs. The luminaire the company has developed uses light-emitting diode (LED) technology, which uses about half the energy and lasts as many as 10 years longer than traditional "gas and glass" fixtures.

LIGHTS (Continued on Page 16)

Master

Lights: LED Technology Uses Half the Energy

(Continued From Page 1)

"The last year or so has been product development and engineering and design, and now we're there," said Steve Weintz, vice president of IntenCity, which is just now launching its product. "We are the only official LED street-lighting product in the marketplace today. There are a lot of people working on it, but as of this moment, we're it."

A decade ago, LED technology lent itself to the upgrade of traffic signals, which have steadily transitioned to the sharper, more energy-efficient models beginning to dominate intersections worldwide. The savings and efficiency municipalities are witnessing with the new generation of traffic signals have encouraged efforts to find better ways to light streets.

"The LED technology being used in traffic signals has opened the door for city engineers to get comfortable with and recognize the future of LED technology," said Patrick Mullins, IntenCity's executive vice president of product development. "The long-term benefits are undeniable, and eventually all street lighting will have to be updated."

City Scope

A recent study by city officials in Ann Arbor, Mich., which is about half the size of Little Rock, showed that nearly \$1.5 million a year — about 25 percent of its energy budget — was spent on traffic signals and streetlights. It also showed the city was saving \$49,000 annually after the switch to LED traffic signals in 2000. Street lighting, which accounts for 92 percent of the \$1.5 million annual bill, is next in line to make the switch.

IntenCity's lighting system is one of a handful of alternative lighting products currently being tested in Ann Arbor. Mike Bergren, assistant field operations manager for the city, said Ann Arbor has ordered three IntenCity lights that it hopes to install later this week.

"There will be four groupings of different streetlights on one city street here, and each will be labeled by a letter so the public can give independent feedback as to which grouping it prefers," Bergren said. "We haven't installed IntenCity's product yet, but we're excited to see what they bring to the table."

Bergren said the handful of energy-efficient test lights already in place had generated more than 100 e-mails and only three had been negative.

"There's no doubt that power companies and municipalities are the ones that are going to drive the success of our product," said Ron Smith, president of Curtis H. Stout Inc. of Little Rock, the regional sales company recently hired by IntenCity to move its LED streetlights. "I think the only hurdle in a municipality not wanting to upgrade would be the inability to come up with the initial capital to do it."

The initial cost of an IntenCity LED streetlight is about twice that of traditional streetlights, depending on the scope of the project, according to Smith. But the additional costs can be recouped in about three years through lower energy and maintenance costs, and those savings would continue through the lights' expected life of 12 years. IntenCity Lighting also offers municipal financing — basically a five year, lease-to-own program that overcomes the up-front cost of converting existing lights to LEDs.

Dardanelle Dust-up

Mullins, the product developer at IntenCity, honed his LED technology on the front edge of the traffic light changeover with various companies around the country. Through the grapevine, Mullins caught wind of what Mike Bruck, president and CEO of IntenCity, was doing with a small electronics company, EFS Manufacturing, that he was running in tiny Nimrod. The Nimrod company has several contract jobs, like making the electronics inside the pill-dispensing equipment used at Walgreen's pharmacies and electrical work on digital parking meters.

"They told me about Mike's little operation in Arkansas, and they put me on a plane, and together we designed the packaging and the final product of these LED streetlights," Mullins said.

That was less than two years ago. IntenCity was quickly formed and an 18,000-SF facility in Dardanelle was secured. It currently has one production line to manufacture the streetlights with space to add several more if sales take off as hoped later this quarter.

Weintz, vice president at IntenCity and president of his own business development firm, SBW Ventures Inc., was brought on board, and at the end of 2006 the company contracted with Curtis H. Stout Inc. to begin sales. CHS is a 60-year-old manufacturers' rep firm that covers Arkansas, Louisiana, Mississippi and half of Tennessee.

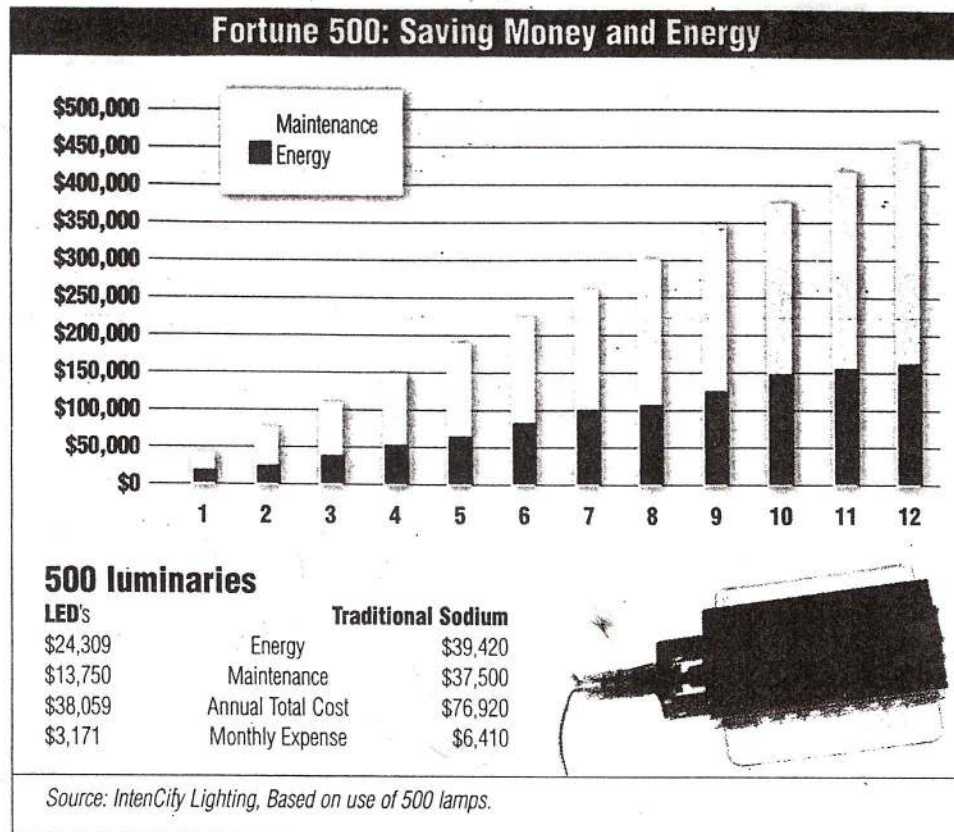
"Our company has done an intense study of the LED market for over seven years," Smith said. "I feel like IntenCity is the leader with their LED streetlight, and we are thrilled to team up with an Arkansas-based company to help launch their product."

Get the LED Out

LED technology has been in use since the 1960s, mainly in small indicator lights, like on a watch display or small appliance. LED light output gradually increased and evolved into much larger uses, such as projection of the mammoth viewing screen at Reynolds Razorbacks Stadium in Fayetteville.

In the last few years, increasing energy awareness (and higher prices) combined with greater light output capabilities have made LED technology a good fit for commercial and residential lighting purposes.

"There are a lot of wannabes out there right now, a lot of people who try to package it into a circuit board," Mullins said. "And no one has yet done what we've done with the optics, the photometrics and the thermal management, and that's the keys to our success."



Secrets of Success

LEDs are extremely sensitive to high temperatures, Mullins said.

"Our design definitely gets rid of some of that heat, which is essential for longer life," he said.

The photometrics, or reach and focus of the light, of IntenCity's product are enhanced by a reflector system that helps light reach the farthest distance between poles of any currently on the market, according to Mullins. There are 24 LEDs on each light, and the rest of the work is done with its reflector system.

"That was the No. 1 complaint when LEDs were first introduced as streetlights," Mullins said. "They basically looked like a flashlight on a pole that put a spotlight straight down into a small area on the ground."

IntenCity's design footprint covers about 100 feet in each direction and can be focused in with reflectors to cut back on much of the light pollution that "dark sky" advocates are seeking to eliminate.

"Some companies are putting shields behind the lights or a flat lens on there, but they don't change the wattage and they still have the additional glow on the ground," Bruck said. "A lot of the dark skies advocates want the wattage down, so what we're doing is getting rid of the hot spot and spreading the light."

And that includes focusing the light in lateral direction on the surface to eliminate light pollution into neighborhood yards and windows.

LED technology also lends itself to adjusting the colors of light. For example, much has been made about coastal lighting in Florida that has disrupted the nesting habits of sea turtles, Weintz said.

"We have an amber-colored luminaire that is safe for sea turtle habitat areas and coastal parking areas without having to change much in the manufacturing process on our end," he said. "That sounds funny in this part of the country, but it's a big deal in coastal areas."

Light It Up

With manufacturing ready to go and a contracted sales team in place, IntenCity isn't quite sure what to expect until it happens.

"The industry is ready for the product and they're waiting, and I think you'll see a very fast launch," Weintz said. "With 10 to 15 million street lights out there and the obvious benefits of our system, the possibilities are very exciting."

Bruck said the 18,000-SF manufacturing plant in Dardanelle could eventually crank out as many as 1,000 pieces a day, but there's no telling whether even that will be enough.

"We don't really have a clue what to expect," he said. "But I do know we're ready to get it fired up."

Weintz said IntenCity already had trial streetlights in place in a handful of cities aside from Ann Arbor, including municipalities in California, Illinois, Alaska, Wisconsin and Iowa, and recently made its first small sale to a university in Mexico. The company has received inquiries about its products from all over the world and has entered into negotiations for product sales in the United Kingdom and Australia. The LED lights come boxed up and ready for one-person installation and can be retrofitted onto an existing pole to replace the traditional light.

"California is a very energy-conscious state right now," Weintz said. "The folks at the University of California - Davis are extremely excited with their test run."

Right now, IntenCity is satisfied with limiting itself to streetlights, but eventually will expand into other products.

"We have a lot of things on the drawing board," Bruck said. "This is our first product out, but we are developing a number of other lighting application fixtures such as parking garage lights, wall packs for commercial buildings, tunnel lighting and possibly refrigerator illumination sticks. We want to take the technology that we've developed and form that into other types of lighting products."