

Intelligent LED Lighting Systems for Exterior Lighting Applications



Eric Higgs - CEO

About LumaStream

LumaStream develops and manufactures breakthrough products for *digital* power conversion, control, and distribution. We provide the lighting industry's most sustainable Intelligent LED Lighting Systems for commercial, residential, hospitality and exterior lighting applications.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

CEOCFO: Mr. Higgs, would you tell us the concept at LumaStream?

Mr. Higgs: The concept is to provide solutions to a rapidly growing high-tech product, LED, in an industry that has been using basically Edison technology and infrastructure for 130 years.

There are always challenges in the introduction of new technology. It becomes quite disruptive. We took a logical approach to the inherent nature of LED and built technology that is wholly unique and patented for distributing power across entire buildings - on something as simple as a piece of wire. The reason we use "speaker wire" is because LEDs run on low voltage, just like a speaker.

Because we use simple speaker wire, we've eliminated all that heavy copper for a high-voltage infrastructure. We've reduced the labor for the installation dramatically. We end up with fixtures that actually last and have super high quality light. They last because LED bulbs and fixtures that the industry is currently selling have hundreds of electronic components in it. They take AC power over high voltage infrastructure, which is what is in place now, to convert it down to low voltage DC. These bulbs are failing prematurely. There is too much heat in them so they just aren't lasting. Also, The light quality shifts over time with that much heat. Our fixtures are virtually indestructible and do not fail until they get to the end of their truly useful life which could be ten or fifteen years.

CEOCFO: What is it that you have figured out technologically to allow this breakthrough?

Mr. Higgs: There is what is called a voltage drop on power over long distances on thin wire. There is a power that drives the fixtures, which at further and further distances becomes weaker. The engineering challenge, which was a very large one, was to keep the voltage at a level that allows a fixture that is very close to have the same brightness as one very far away. We maintain a steady voltage and as a byproduct created a system that is highly controllable.

We have taken a traditional world where power conversion is done in a number of different ways, but not digitally. We have used algorithms to convert high voltage to low voltage in a digital manner, which means we have broken down the power into bits and bits and we control it at granular level. In simple terms, we have created the equivalent of a stereo amp with speakers for LED lighting technology. While the rest of the industry is trying to put LEDs on an old infrastructure that's inadequate, we are the only company that has figured out how to power and control fixtures in a manner consistent with the inherent nature of LED technology.

CEOCFO: Is the industry aware of the deficiencies you address?

Mr. Higgs: Even the Department of Energy now is saying that the LED solution electronics are called drivers on the fixture. Those electronics inside the fixture are stopgap measures. What we have is absolutely the most logical way to distribute power for LED and the industry is recognizing it. Some of the largest lighting companies in the world are very interested in our technology and some are actually purchasing our power supply.

The industry is recognizing this as a game changer so we are sitting on enormous technology. We are a small company and we have a business model where we partner with the big fixture companies. I have been an entrepreneur my whole life and I am trying to create this disruptive thing. In this particular case if you can solve the problems and challenges in a big industry that is rapidly changing, then you have a value proposition if you are small.

The typology of LED technology is that you have a control interface. Whether it is a simple on/off dimming switch or a high-end control - like at a concert – it's part of a total system. You have the power conversion that we do and that is our core IP. It is what's unique about us and then you have the fixtures.

What I saw many years ago is that there was no company providing a whole system, and the integration of those components was a huge challenge in compatible components like they are supposed to be. I saw a few opportunities. One was disruptive technology in low voltage infrastructure. The second was to create complete turnkey systems and sell them to the market. Third was to not go through a traditional supply chain. To go from low-tech to a high-tech product would be inadequate because people are not trained and the mindset is not there. So, we decided to sell directly to the end customer rather than light rep companies and distributors. This way we bypass all the markups. It is working incredibly well. Those are the components of our business.

CEO CFO: *Is it easy to get interest from people and do they understand immediately?*

Mr. Higgs: When we show the customer an LED bulb or fixture that has been cut open, they can look and realize the failures. When they compare that to one of the fixtures that we sell with our turnkey system with no electronics, they see it is logical. They see that ours is going to last and the other one is not. You do not have to be an electrical engineer to understand it. It is also logical that if you use speaker wire rather than all the copper and those things that are powering all of our buildings today. We have surge protection which LED fixtures and LED bulbs do not have and it is essentially remote. There are a number of benefits and it is a logical solution. The bottom line is it saves customers a tremendous amount of money.

Service is a huge part of our business and we usually have to answer questions. Part of the sale is to educate the customer and they all identify with the frustrations of LED. We provide them with a direct line of communication and this is wholly novel in the industry.

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CEO CFO: *How does cost factor in?*

Mr. Higgs: We are bypassing the traditional supply chain and its multiple markups. So, we are often coming in to close to first cost. There has been much discussion on return on investment. If they go LED versus the cheaper route of conventional lighting, how much more will they pay and when is it going to be paid back? Right now we have very little discussion on ROI because there isn't one when we're coming in at first cost, so beyond ROI, we can talk about meeting customer sustainability objectives or requirements, and we can also elevate the conversation to proactively looking at the human response to the light.

We talk about selling more products and keeping customers in restaurants there longer. We talk about driving more customers to those environments. There is scientific evidence now that proves that the proper light for patients and their families waiting in an healthcare environment that the color, temperature and frequency of the light has a huge effect on how people respond and how calm they feel.

Having the proper lighting drives retail purchasing behavior and increases productivity in the workplace. This dialogue is one that has been rarely discussed with conventional lighting. It is what we are concentrating on. We are in a number of restaurant chains and we talk about creating ambiance in fast-food restaurants. It is the proper use of human response to light. We are not just a better mousetrap in terms of a technology jump; we focus on what this technology can do.

CEO CFO: *You had a recent influx of funds. How will you make use of the funding?*

Mr. Higgs: We now have complete validation of our technology and complete validation of our path to market and adoption. This is growth capital. This capital is for furthering our own intellectual property portfolio and we believe we have a significant jump on the industry in this area as I have been discussing with our low-voltage power distribution; we will continue that IP. Most of the capital will go toward infrastructure, people being able to respond faster to more and more chains.

Chains are our core targets because the work is very repeatable and scalable. We do a pilot or two and we get it right and then we get all locations after that and it is something that is predictable cash flow, highly scalable.

The attention we can give the customer service wise is extremely high. That capital will be for growth. We manufacture product right here in St. Pete, Florida. We make it right here in America. The other part of it is there is a huge deficit in training employees in high-tech manufacturing.

We have created a partnership with St. Petersburg College; a very novel partnership. We built a classroom at our new facility and St. Petersburg College is training these students for C&C, which is a higher tech machining technology. They are getting certification. We just hired a couple of students and we have a novel partnership between academia and private industry. We are actually training people we need, since we otherwise cannot find them. It is an interesting concept but what we make is right here in St. Petersburg, Florida.

CEOCFO: Put it all together for our readers. *Why pay attention to LumaStream?*

Mr. Higgs: LumaStream is creating the future of a high-tech LED lighting. We have the most logical way to power and control LED. It is consistent with the inherent nature of this new technology and it is about scalable, robust energy efficient way to power and control lighting.

BIO: Eric Higgs is a dynamic leader who brings more than 20 years of high-tech business experience, with a focus on industry changing innovation, calculated risk-taking, and efficient, profitable paths to market.

As CEO of LumaStream, Eric Higgs is the chief architect of the go-to-market strategy including technology development, sales and marketing strategy, operations, and investor relations. From his experience with successful, hyper-growth companies, Eric Higgs is able to quickly deploy enterprise business processes and information system design to support the company's dramatic growth. Additionally, Eric Higgs steers the company's sustainable differentiation and profitability by enforcing tenants of speed to market, a patented technology portfolio, and high quality service.

Eric Higgs started his career in 1988 with KPMG Peat Marwick as an information technology consultant. He subsequently joined Citysearch in 1995 as the Chief Information Officer, successfully leading the design, development and implementation of the operating and information infrastructure within that hyper-growth environment that culminated in their successful public offering after a merger with Ticketmaster. Shortly thereafter Eric Higgs was named Chief Operating Officer of Cerego, LLC, a company executing a radically new technology paradigm for adaptive learning.

Eric Higgs is also an accomplished sculptor. His work is in major public installations, museums, and private collections around the world.

Eric Higgs received a B.S. degree in Computer Science at the College of William and Mary and an M.B.A. from Stanford University.



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