Success Story: IMC Connects Lumax with The Learning Factory to Develop New Product

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Lumax Industries is a leading manufacturer of high quality, custom industrial, commercial, and institutional fluorescent and LED lighting fixtures. Founded in 1976, Lumax is privately owned and operated with a 150,000 square foot manufacturing facility based in Altoona, PA.

The company is a Made in the USA manufacturer, offering a complete line of fluorescent and LED fixtures for many lighting applications, including recessed parabolic and lensed troffers, recessed indirect, surface mounts, strips, channels, and industrial units, wraparounds, task and wall brackets, and vandal and security lighting.

SITUATION

Lumax's success can be attributed to a mastery of all the latest manufacturing and product technologies across the entire lighting spectrum; a well-established reputation for capstone quality and superlative customer service; and a willingness to design, develop, and manufacture lighting fixtures for an ever evolving and more specialized, technologically advanced marketplace.

Despite the company's rich history and ongoing success, Lumax's leadership

team also recognizes the importance of responding soundly to significant movements within their industry. With the growing momentum of LED technology, Lumax sought to explore the potential of an innovative LED industrial high bay light fixture.

SOLUTION

IMC Business Advisor Ed Zubavich connected Lumax Engineering Manager Rich Taylor with The Learning Factory, a program within Penn State's College of Engineering. The Learning Factory helps to provide engineering students with practical hands-on experience through industry sponsored and client-based capstone projects.

Taylor submitted a project proposal to have students design and fabricate two high bay LED lighting fixtures with stringent criterion for ambient operating temperatures, lumen output and distribution, ease of manufacture, and aesthetics.

> *"I can't say enough positive things about The Learning Factory, and I am thankful for the connection that IMC so proactively made. I truly felt like the students were a part of our team." – Rich Taylor*

"I wanted to choose a project that would be brand new for us and not just a modification to an existing product," Taylor explained. "I wanted to start with a clean slate that would allow the students – who were senior-level engineers in an outstanding program – to be as creative as they want to be. I wanted to provide them that opportunity while also giving Lumax a chance to explore something beyond what we would normally pursue."

When Damian Rose, a project advisor with The Learning Factory and part-time instructor for the Department of Mechanical and Nuclear Engineering at Penn State, saw the Lumax proposal, he knew that the project would be a worthwhile endeavor for students. Rose, who is also an engineer at the Applied Research Laboratory (ARL) at Penn State, was exposed to Lumax products in ARL facilities.

"I was quite impressed with their product and knew that the company was one that believed in quality and innovation," Rose explained. "I felt that the project would

give students the chance to work with a solid, innovative company on a project that combined many different aspects of engineering —thermal analysis, electrical work, CAD work, fabrication, and more.” A team of five students worked on the project, with Rose serving as behind-the-scenes advisor and Taylor as the industry sponsor. IMC contributed funds to help formally launch the project.

Over 15 weeks, the students met with Lumax, presented multiple designs, regularly communicated with Taylor and abided timelines, and engineered a design that was aesthetically pleasing, worked thermally, and performed optically. They fabricated two fully functional prototypes that tested better thermally than LED high bay fixtures that were already on the market.

RESULTS

The students’ hard work paid off in a big way. A panel of industry experts judged the project a second place award winner at the 2013 Student Design Project Showcase held on the Penn State campus. The “LED High Bay Light Fixture sponsored by Lumax Lighting” was among some 163 projects at the event, including 115 senior capstone projects involving 560 seniors.

Lumax has since put the product on display in their Altoona showroom and clients and sales representatives have responded with enthusiastic feedback. The product was also a highlight of the Lumax booth at LIGHTFAIR International 2013, touted as the world’s largest annual architectural and commercial lighting trade show and conference.