

PearlLED
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Customer Success Story

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Without Autodesk Inventor, Digital Prototyping, and 3D rendering, it would take us months to complete our many iterations, instead of hours. It would simply be impossible for us to properly design our products.

—Tranh Nguyen
Chief Executive Officer
PearlLED

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Autodesk®

Cooler lightbulbs ever.

PearlLED uses Digital Prototyping and Autodesk® software to design a new breed of lightbulbs.



Pearl-30 Bulb. Image courtesy of PearlLED.

Design, originality, and functionality are the trademarks of innovation—all of which can be found in the creative minds at San Francisco-based PearlLED. The company is on a mission to lead the world of lighting with bulbs that last longer, look great, cost less, and have a small environmental footprint. To achieve its goals the company is making extensive use of Digital Prototyping and Autodesk® Inventor® software to create its line of commercial products.

PearlLED has enjoyed particular success providing its Pearl-30 bulbs to commercial customers in need of recessed lighting, including hotels, office buildings, and other commercial buildings. Offering sunlight-quality beams without the searing heat typically associated with halogen bulbs, the Pearl-30's are designed to last up to 50,000 hours. Compare that to the 1,000 hours provided by conventional incandescent bulbs. What's more, Pearl-30 bulbs contain no mercury, unlike compact fluorescent lightbulbs (CFLs).

"Our technology is definitely innovative, but it is our creativity that makes us stand out," says Tranh Nguyen, CEO at PearlLED. "We design with a fervent desire to break away from convention and achieve new levels of efficiency. We do everything in-house, and we use Autodesk Inventor to design it all. The software enables us to be innovative at the speed of our own inspiration, which makes us very fast. Without Autodesk Inventor, Digital Prototyping, and 3D rendering, it would take us months to complete our many iterations, instead of hours. It would simply be impossible for us to properly design our products."

While the shape of the Pearl-30 is simple and symmetrical, Tranh and his team used Autodesk Inventor to design up to 10 iterations before finding exactly what they wanted. Using digital prototypes to test their products led to the deceptively simple Pearl-30, which comprises four basic parts: an aluminum extrusion, a lens, a power adapter, and a base. After digitally modeling the Pearl-30, Tranh's team sends both 2D drawings in Autodesk® DWG™ format and a 3D digital model to its extruder suppliers, who benefit from seeing the physical product as it is meant to eventually look. In addition, PearlLED uses Autodesk® Showcase® software to create highly designed marketing materials that sell its products before they even roll off the manufacturing line.

Tranh is proud of the aluminum housing and overall look of his more efficient bulb. Pointing to the fact that most incandescent bulbs are immediately covered with a lampshade, both for light direction and for heat protection, Tranh sheds more light on the subject: "Because most lights are used with a shade," he explains, "as much as half of the light is wasted—randomly diffused out and becoming what we call light pollution. Our optics focus the light where it can be used best, and produce true daylight color through dynamic color mixing. When it comes down to it, our LED lights are the best-looking, lowest-cost solutions and produce the lowest amount of heat."

All of which makes PearlLED lights among the coolest out there, in every sense of the word.

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