

PHC NORTHWEST, INC.

*USING SOLIDWORKS SOLUTIONS TO DEVELOP PRODUCTS THAT HELP
PEOPLE WITH DISABILITIES*



PHC Northwest leverages SOLIDWORKS design and simulation solutions to develop its Beyond LimitationsSM line of LED-based lighting products.

Challenge:

Establish an efficient product development and manufacturing capability to create products and offer services that generate self-sustaining revenues to support its mission of providing educational, training, and job opportunities for people with disabilities.

Solution:

Implement SOLIDWORKS Professional design, SOLIDWORKS Simulation Professional analysis, and SOLIDWORKS Electrical 3D electrical design software.

Results:

- Cut development cycle by 66 percent
- Accelerated launch of innovative LED lighting product line
- Contributed to self-sustaining revenue stream
- Provided design and engineering opportunities to people with disabilities

What began in 1951 as a small, private school for children with disabilities in Portland, Oregon, has blossomed into an expanding, self-sustaining enterprise that provides broad-based educational, training, and job opportunities for people with developmental, physical, and mental disabilities.

PHC Northwest (PHCNW) has grown into a dynamic and forward-thinking industry leader. Its diversified business lines allow it to help employees develop the technical skills required to earn living wages in a variety of occupations, including product development, manufacturing, industrial, clerical, janitorial, warehousing, order fulfillment, and landscaping services.

PHCNW focuses on empowerment—both as an enterprise and for the individuals it serves. The nonprofit organization is committed to generating its own revenue and receives no government funding. Because PHCNW empowers its 750 employees to work and pay taxes, they're able to raise families, build careers, and live independently without having to rely on government-funded benefits.

The organization's self-reliant business model is clearly evident in its hosting of the largest contiguous solar energy array in the Pacific Northwest—which provides all of its power—and in its development of successful product lines, design and engineering resources, and manufacturing capabilities. According to General Manager Massoud Mollaghaffari, designing, manufacturing, and marketing its own products is critical to fulfilling the organization's mission.

"We concentrate on people's abilities and potential and apply the same approach to our operations," Mollaghaffari says. "We own our future, and developing successful product lines is a key objective for enabling our organization to reach its full potential. By developing our own product lines, we achieve two goals: we generate revenue that's reinvested to further our mission, and we train our people in skills that are in demand and the basis for a rewarding career."

Choosing the right product design and manufacturing platform to launch new products was of paramount importance in helping PHCNW compete successfully. The organization chose SOLIDWORKS® solutions, implementing SOLIDWORKS Professional design, SOLIDWORKS Simulation Professional analysis, and SOLIDWORKS Electrical 3D™ electrical design software. PHCNW chose SOLIDWORKS solutions because they are easy to use, integrate directly with MasterCAM® manufacturing software, and provide the range of capabilities required to develop innovative products.

"Acquiring SOLIDWORKS was vital to getting our product development effort off the ground," Mollaghaffari stresses. "SOLIDWORKS is helping us succeed and grow. We couldn't live without it."

BEYOND LIMITATIONS

Using SOLIDWORKS solutions, PHCNW has developed and launched the Beyond Limitations (BL) line of LED-based lighting products (www.BL-lights.com). The organization has expanded its product offering into five distinct lines, including indoor, outdoor, facility, and pool and fountain lighting, as well as a line of LED light engines. PHCNW products have done well in the market. PHCNW is not only a major supplier to the state of Oregon—supplying lighting for streets, parking garages, and other facilities—but also has installations around the world, including British Columbia, Texas, and the Doha International Airport in Qatar.

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"By implementing SOLIDWORKS software, we have reduced our development cycles by two-thirds while simultaneously expanding our machine shop," Mollaghaffari says. "Developing our own products with SOLIDWORKS helps sustain our operations and allows our employees to learn a skill set that is in high demand in the Pacific Northwest."

SIMULATION AND ELECTRICAL SOLUTIONS SPARK DEVELOPMENT

In addition to achieving efficiencies with the combination of SOLIDWORKS design and MasterCAM machining software, PHCNW has realized productivity gains using SOLIDWORKS Simulation Professional analysis and SOLIDWORKS Electrical 3D design tools.

“SOLIDWORKS Simulation has really helped us understand the heat-management aspects of LED lighting design through simulations of thermal performance,” Mollaghaffari notes. “We wouldn’t have been able to get into light engine design without it, and the solution has expedited our prototyping process and helped shorten time-to-market.

“We anticipate SOLIDWORKS Electrical 3D software will push us to the next level by enabling us to visualize the placement of electrical components in lighting fixtures in parallel to work on the mechanical side,” Mollaghaffari adds.

MOST INNOVATIVE NEW PRODUCT

PHCNW is not just using SOLIDWORKS solutions just to develop successful products. The organization is creating innovative product designs that are receiving industry recognition. The first BL SLICES™ product, an adjustable, interactive task/desk LED lighting fixture, recently won the Most Innovative New Product award at the Portland Lights trade show.

“Our product development success is helping to eliminate the stigma surrounding people with disabilities,” Mollaghaffari says. “Our people are professional, innovative, and successful. They are creating state-of-the-art products, and SOLIDWORKS is helping them succeed.”



With SOLIDWORKS Electrical 3D software, PHC Northwest expects to realize efficiencies in electrical design similar to those realized using SOLIDWORKS mechanical design software.

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