

ALMECO GROUP - PRESENTING A SMART VIRTUAL REALITY EXPERIENCE FOR LIGHTING



“Because SPEOS is based on the physical laws of optics, you get ultra-realistic renderings of your future product, which allow you to make early decisions on your product’s material and texture. That is why we use ANSYS OPTIS’ solutions: to showcase our aluminum expertise in life-like conditions.”

Jacopo Mori

*Engineering and New Projects Manager
ALMECO Group*



CONTEXT

ALMECO is the world leader in aluminum production. The company consists of 4 different units, each of which is structured to manage the specialized process of aluminum manufacturing, depending on the different types of treatment to which it is subjected and the specific application sector to which is intended. The production of anodized material for decor and lighting application as well as the reflectors' development and production take place in the company's headquarters in Milan.

For much of its history, ALMECO has used SPEOS – light modeling software integrated into the most famous CAD platforms – to master their lighting products and design their future reflectors. Product innovation occupies a prominent position in the ALMECO strategy. Over the years, ALMECO has devoted a significant proportion of revenue to research and continuous portion of solutions. The company is always striving to bring the best of technology to the design of their reflectors promptly responding to their clients' specific requirements.

BUSINESS CHALLENGES

As the company was meeting a growing demand from the lighting industry, they wanted to integrate new virtual reality design and manufacturing solutions into their traditional processes and methods.

These new means sought to enable the experience and evaluation of reflectors in virtual reality. The challenges were to be able to quickly explore several use cases, and to get a highly precise idea of the aspect and effect of the reflector' capacities in its final environment, in life-like conditions.

“Directly integrated into our CAD mechanical software, ANSYS OPTIS' SPEOS is the leading solution on the market to design and experience your future product even before it exists,” explains Jacopo Mori, Engineering and New Projects Manager at ALMECO Group. “Because it is based on the physical laws of optics, you get ultrarealistic renderings of your future product and make early decisions on your product's material and texture. That is why we use ANSYS OPTIS' solution: to showcase our aluminum expertise in life-like conditions. As a logical consequence, we wanted to be able to directly exploit the prototypes we're creating with SPEOS in Virtual Reality,” adds Jacopo Mori.



The ultimate goal for ALMECO was to save time and costs on the development process, while getting a unique demonstrator to playfully facilitate their customers' choices.

ENGINEERING SOLUTIONS

ALMECO added the new capabilities of the latest SPEOS release to their suite. Thus, making it possible to experience and test reflectors in virtual reality, adding to the immersive realism and completing the existing SPEOS solution in use.



BENEFITS

Even though they have been using SPEOS to design for many years, ALMECO now enjoys the power of Virtual Reality to pave the way for a revolutionary marketing and commercial process. Thanks to ANSYS OPTIS' VR capabilities, the ALMECO engineering and design teams can now showcase their simulation results – beams, light, reflectors, aluminum reflection, etc. – directly on a mobile device, making it possible to improve and customize the product according to their customers' needs.

The advantages are:

- Cut production time thanks to early decisionmaking in the design process
- Design of merchandising programs that truly meet the needs of customers
- Virtual experience future products on a smartphone or at 1:1 scale in a CAVE

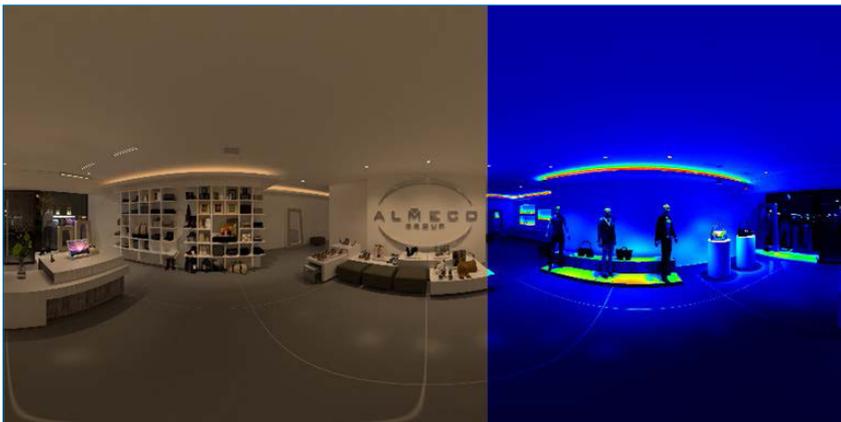
“Today, virtual reality simulations are indispensable tools to get an accurate representation of consumer products manufacturers and to design merchandising programs that truly meet the needs of customers,” comments Mori. “What’s amazing is that you can virtually experience your latest products both on your smartphone with a cardboard VR helmet, and at 1:1 scale in a virtual reality cave. ANSYS OPTIS' virtual reality solution totally changed the way to make a decision about a product: from the design, to the lighting and the choice of materials. With this solution, we know that the final rendering will be identical to our virtual prototype to the smallest detail! ANSYS OPTIS' software is helping us achieve a long-term wish: using virtual store simulations for manufacturing and ultimately marketing purposes.”

The virtual showroom is now used as a turnkey tool to promote and showcase the excellent performance of the company's products. They can now render the aspect of materials like clothes and fabrics the exact way they are, as it strongly depends on lighting. By experiencing their reflectors in Virtual Reality, ALMECO continues improving their existing products, in search for a result more esthetically pleasing and fully optimized. That will be a starting point for another product.

“Using SPEOS, we know that the final rendering will be identical to our virtual prototype to the smallest detail! ANSYS OPTIS’ software helped us achieved a long-term wish: using virtual store simulations for manufacturing and marketing purposes. Today, we are using virtual reality for the experience, but this is not the end of the process, it’s the beginning of another one!”

Jacopo Mori*New Projects Manager*

Indeed, Virtual Reality enables you to explore any prototype in life-like conditions and quickly raise awareness of the possible design improvements, creating an infinite loop. In other words, Virtual Reality becomes a sales support tool allowing more qualitative and accurate specifications on a product which will meet the needs of customers, while avoiding timeconsuming physical prototyping and gaining time in the design process. In addition to saving time, ALMECO’s customers will be able to explore several use cases of the reflectors in complete immersion and have a precise idea of the aspect and effect of the reflector’ capacities in its final environment.

**ALMECO GROUP**

Headquarters:

Via della Liberazione, 1520098 Civesio
San Giuliano Milanese (Mi) - Italy

For more information:

www.almecogroup.com

ANSYS, Inc.
Southpointe
2600 ANSYS Drive
Canonsburg, PA 15317
U.S.A.
724.746.3304
ansysinfo@ansys.com

If you’ve ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you’ve used a product where ANSYS software played a critical role in its creation. ANSYS is the global leader in engineering simulation. We help the world’s most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and engineer products limited only by imagination. Visit www.ansys.com for more information.