



PRESS RELEASE

For immediate release

OPTIS software offers advanced lighting design capabilities to aerospace manufacturers

SPEOS light simulation software, based on a unique Human Eye Model, supports aircraft designers to create the optimum environment for pilots – maximising display visibility while reducing glare.



Toulon, France – 9 April 2009 – OPTIS, the leading software developer for the scientific simulation of light, has announced that its SPEOS optical simulation software allows aerospace engineers to maximise pilots' cockpit safety, especially in military applications where reduced internal and external lighting conditions are often required.

OPTIS's SPEOS Visual Ergonomics package, which precisely simulates the behaviour of the human eye, is integrated into leading CAD applications including CATIA V5. It allows aircraft designers to refine the interior features of flight decks. This approach, which is unique in its reference to the performance of the human eye, allows the optimisation of interior lighting, control displays, reflective surfaces and the exterior view as perceived by the pilot.

The software considers a wide range of variables that affect a pilot's perception, such as materials of interior construction, reflective screen displays and surfaces, windscreen filters, head up display (HUD) performance, landing lights and even the position of sun and moon.

Pete Moorhouse, VP Sales & Marketing at OPTIS, commented, "For the aerospace sector, improving safety is undoubtedly a fundamental issue. Reducing the fatigue of pilots is another key requirement that this software package meets".

"The OPTIS approach can also save aerospace sector manufacturers time and money, by cutting the need for expensive test flight programs. Without leaving the ground, we can simulate practically every possible combination of interior design, aircraft location and external lighting conditions such as an airfield at night or an aircraft carrier under combat conditions."

OPTIS software is helping not only in reducing reflections in windows and HUDs but improving visibility in night vision applications in both civil and military applications. As an example one leading aircraft manufacturer is using the software to simulate what a pilot sees during a night landing, including when a plane lands on an aircraft carrier with minimal landing and navigational lights.

Bombardier Aerospace is using OPTIS solutions to gain a unique insight into what the flight deck will look like in operation. OPTIS is the only solution which enables us to accurately predict glare, reflections, and other real-life factors which could distract or tire the pilot, to the point of compromising comfort and ultimately safety.

"By eliminating these negative points early in the virtual design stage we expect to reduce our design time by 50% and avoid costly prototypes. Thanks to SPEOS' integration in CATIA V5 we already knew the interface, so it took just 2 weeks for us to learn SPEOS." Said Richard Heppell, Manager Core Systemes Engineering, Bombardier Aerospace.

Moorhouse added, "The resulting changes to flight deck and lighting design that are achieved by using the OPTIS approach are based on the physically correct representation of what the pilot actually sees rather than other methods which only use simple ray tracing methods with no reference to the human eye and its complexity".

Exhibiting at the COE show

OPTIS will be demonstrating the power of the combination of SPEOS and Visual Ergonomics at the forthcoming COE conference and TechniFair event in Seattle, USA, which runs between 19-22 April 2009. The aerospace industry-focused COE event (formerly the Catia Operators Exchange) is the only international event that brings together users of software developed by Dassault Systèmes, with whom OPTIS has been a software partner since 2002.

The COE organizer comments, "With more than 80,000 users in 400 member companies, this annual event provides a collaborative forum that drives innovation and maximizes productivity through the exploitation of CAx / PDM technology and services provided by Dassault, IBM and their partners."

OPTIS will also be presenting its aerospace focused solutions at the Paris Air Show in Le Bourget, France, between 15-21 June 2009. [More information at www.coe.org and www.paris-air-show.com]

Next stage developments

The next stage of OPTIS's software development program is to offer these simulation results inside immersive virtual reality scenarios. The combination of simulation output and interactive virtual reality centers provides an accurate representation of the effect on a pilot's view during an aircraft's landing or take-off phase and the accompanying changes in lighting conditions.

Moorhouse said, "This is where we see the next phase of physics-based simulation. OPTIS is working to integrate our output results within the leading virtual reality solutions and in combination with input devices we are able to provide a flight simulator-like experience, but including the optical changes that occur during any change in position or lighting conditions. Manufacturers are also interested in using the software to simulate pilot visibility during mid-air refuelling to overcome glare problems caused by the sun."

About OPTIS

OPTIS is a leading software developer for the scientific simulation of light and human vision within a Virtual Reality Environment. Its solutions allow designers, ergonomists and engineers to simulate and optimize lighting performance, product appearance as well as the visibility and legibility of information on human machine interfaces, in a fully-immersive environment.

Since integrating its SPEOS solution in CATIA V5 in 2002, OPTIS is still the only company to provide a light simulation solution fully based on a physical model inside a CAD/CAM software.

OPTIS has delivered more than 5500 licences to 1500 customers in 36 countries worldwide. Users include most of the major automotive, aerospace, electronics, white goods and lighting manufacturers, as well as architects, universities, research laboratories and defence agencies. They use the SPEOS technology to design, simulate and visualise in a virtual reality environment, products as diverse as automotive lighting, mobile phone screens and keypads, dashboard and cockpit displays, LCDs, LEDs, luminaires, and optics for industrial vision and medical applications.

For more information, visit www.optis-world.com

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