



PRESS RELEASE

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OPTIS ANNOUNCES THE VIRTU'ART PROJECT, AIMED AT IMPROVING THE REALISM OF VIRTUAL PROTOTYPES AND DIGITAL MOCKUPS



Toulon, France – 13th May 2009 – OPTIS, world leading provider of software for the scientific simulation of light and human vision, announces the launch of the Virtu'ART project : « Virtual Mock-up with Advanced Rendering Technology ».

The aim of Virtu'ART is to develop an advanced technology for visually realistic modelling, applied to aircraft and helicopter interiors at the start of the design process, thanks to a physics based digital mockup.

The project will last 3 years and will be piloted by company OPTIS, world leader in solutions for the simulation of light and human vision. Approved by the Pole Pegase (aerospace cluster in Provence) Virtu'ART is comprised of 5 partners : EADS Innovation Works, Eurocopter, the Laboratory of Information and Systems Sciences (LSIS), The Virtual Reality Centre of the Mediterranean (CRVM) and OPTIS. Toplink Innovation, who assisted OPTIS in setting up the project, proposes financial and R&D roadmap solutions.

Virtu'ART offers advanced software technology, based on physics, for the realistic visual rendering of cockpits, cabins, baggage holds and aircraft/helicopter assembly halls. This technology will allow decisions to be made about the choice of shapes, colors, materials, lighting and displays which can impact safety, on board comfort as well as the maintainability of systems early on in their design phase.

The technology resulting from Virtu'ART will be aimed at several profiles of user, all focussed on meeting the needs of customers, the pilot, passengers, as well as assembly and maintenance personnel. It will be compatible with the latest display technologies (Virtual Reality rooms and helmets) and will be used to visualise credible virtual mockups within a 3D environment. It will be interactive so the user may modify and test a geometry, materials and lighting. As this technology is based on the physics of light, it can also be used to specify requirements in terms of ergonomics, perceived quality and visual accessibility.

For example the mock-up will be able to measure the importance of reflections caused by a specific light source, material or geometry, so as to optimise the system before it goes into production.

In the case of helicopter design, where each helicopter has a high degree of personalisation, this virtual modelling solution should mean that the cost and duration of the design phase - and thus the time to market - can be reduced, when compared to traditional methods using physical prototypes. .

Virtu'ART was born out of the needs expressed by major actors in the transport field, looking for more realism in graphical representation, for low-cost rapid and safe decision-making about aspect, colour, choice of materials and shapes, at the beginning of the design cycle. They required a tool to help them make decisions about the ergonomic definition of human-machine interfaces, allowing them to interactively manipulate the model. Such a tool will have multiple applications in aircraft design: from allowing designers to check the effects of cabin lighting and the potential nuisance it can cause, to giving them a good view of luggage holds during maintenance operations, to visualising how exterior paintwork appears. These studies must be a standard part of the global design process of a product, and require physical simulation to be perfectly integrated into the CAD/CAE tool. (Computer-Aided Design/Computer Aided Engineering).

Virtu'ART integrates the human into the simulation loop, by taking into account human visual perception (absent from current technologies). This is essential for achieving realism and accurately reproducing the visualisation of a future product. What's more, a model must be life-size to ensure coherence in the representation of volumes and relief, so as to best reproduce effects of lighting and any potential nuisances it causes.

Today, virtual mock-up visualisation softwares are mostly based on geometric representation (traditional CAD). They rely on graphics cards and use graphical approximations or computed-generated images. Their graphical algorithms are not based on laws of physics and don't provide visual information which is sufficiently reliable for it to be used for decision-making about lighting, colours, and materials. Another disadvantage of current technology: they often offer pre-calculated images, which don't update when a part of the scene is manipulated.

OPTIS, specialised in physical and physiological optics, now wants to take up the challenge set by virtual reality. For Jacques DELACOUR, CEO & President of company OPTIS, says "the world of virtual reality, dedicated to displaying digital mock-ups in 3D, is limited by the absence of physical realism of software solutions. The competencies we have acquired over 20 years in optics, light simulation and visual perception, set us apart from others in that we take into account the complete chain of virtual reality; the simulation loop needs to include the performance of the projection system, the screens as well as the user's vision."

Virtu'ART, a fundamental breakthrough in the "100% digital" field, will be a software capable of displaying a digital mock-up with a very high level of realism in a Virtual Reality environment, a combination of the following innovations:

- A real-time and thereby interactive visualisation technology.
- Adapted to physiological properties of human vision.
- Connected to simulations based on physical models enabling effective online decision-making.
- Integrating the human perception of light and colours into simulation.
- Offering a completely automated process, from design to visualisation.

Of course, the potential applications of this technology will be wide-reaching, notably in the transport field.

About OPTIS

Software editor OPTIS is worldwide leader in the scientific simulation of light and human vision. Its solutions enable designers, ergonomists and engineers to simulate and optimise the lighting performance and appearance of a product, as well as the visibility and readability of information on a human-machine interface, within an immersive environment. Since integrating its SPEOS solution in CATIA V5 from Dassault Systèmes in 2002, OPTIS remains the only company to provide a physics-based light simulation solution within a CAD software.

www.optis-world.com

About The EADS Innovation Works

The EADS Innovation Works is the Research and Technology production facility of EADS. With sites is both the strategic and operational entity designed to promote the creation of added value through innovation, competences and collaboration between different members of the Group. The EADS Innovation Works is an operational and strategic entity for the creation of added value by technology innovation. It fosters technological excellence and business orientation through the sharing of competences and means between the various partners of EADS and it develops and maintain partnerships with world-famous schools, universities and research centres.

www.eads.com

About Eurocopter

Established in 1992, the Franco-German-Spanish Eurocopter Group is a Division of EADS, a world leader in aerospace, defence and related services. The Eurocopter Group employs approx. 15,600 people. In 2008, Eurocopter confirmed its position as the world's No. 1 helicopter manufacturer in the civil and parapublic market, with a turnover of 4.5 billion Euros, orders for 715 new helicopters, and a 53 percent market share in the civil and parapublic sectors..

www.eurocopter.com

About LSIS

The LSIS, Laboratory of Information and Systems Sciences, is Mixed Research Unit of the CNRS (UMR 6168) including the SimGraph team, as part of the Virtu'ART project, represents a pole of expertise in the field of image analysis, data merging and graphical simulation.

About the CRVM, ISM Marey

Situated on the Scientific and Technological Campus of Luminy, in Marseille, the Mediterranean Centre of Virtual Reality is shared platform of the Institute of Movement Sciences (Unité Mixte de Recherche CNRS / Université d'Aix-Marseille). The MCVR presents the state-of-the-art in the field of immersive and interactive virtual reality technologies. Its display is reconfigurable, offering 45m2 of stereoscopic projection. The main objective of the MCVR, within the regional socio-economic make-up, is to facilitate all Research and Development projects..

www.realite-virtuelle.univmed.fr

About Pôle Pégase

Pégase is one of the 3 competitiveness clusters in France dedicated to the aeronautic and space industry.. It is specialised in the development of new air and space services such as the inspection of art forms without heavy equipment using a mini drone, the transport of exceptional loads even in the absence of infrastructures using a jumbo airship, energy efficiency, rapid transport of people via a flying ship. A vector of growth for the players of the aerospace industry, Pégase's dynamic is also that of innovative technologies including optics, electronics, energy, photonics, new materials, and IT. Founded in 2007, Pégase has around 115 members – industrial and research and training organisations.

www.pole-pegase.com

OPTIS Press Contact: Angela GREEN agreen@optis-world.com Tel: +33 494086697

OPTIS - ZE La Farlède - BP 275 - 83078 Toulon Cedex 9 - France.: tel (+33) 4 94 08 66 90 – fax : (+33) 4 94 08 66 94
optis@optis-world.com www.optis-world.com