

# OPTIS

From Optics to Virtual Reality

## PRESS KIT

### **PRESS CONTACT**

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# WHO ARE WE?



## COMPANY NAME

OPTIS



## CREATION

1989



## WEBSITE

[www.optis-world.com](http://www.optis-world.com)

## ACTIVITY

OPTIS, the virtual prototyping company, brings life and emotion to all industrial projects. Its world-leading solutions pave the way for a revolutionary design process: towards zero physical prototype.

Since 1989, OPTIS offers its know-how in light and human vision simulation into famous CAD/CAM software and dedicated virtual immersive solutions. This synergy creates true-to-life virtual mockups which are used as real decision-making tools.

Today, more than 2400 clients in over 50 countries already trust OPTIS and innovate day after day with its solutions to ensure the look and safety of their designs, reduce their ecological footprint and bring their future products faster on the market.

## LOCATION

France, Germany, United Kingdom, China, Japan, United States, Italy, India, Korea, Sweden, and around the world, through a network of resellers.

## HEADQUARTERS

OPTIS SAS

Phone : +334 94 08 66 90

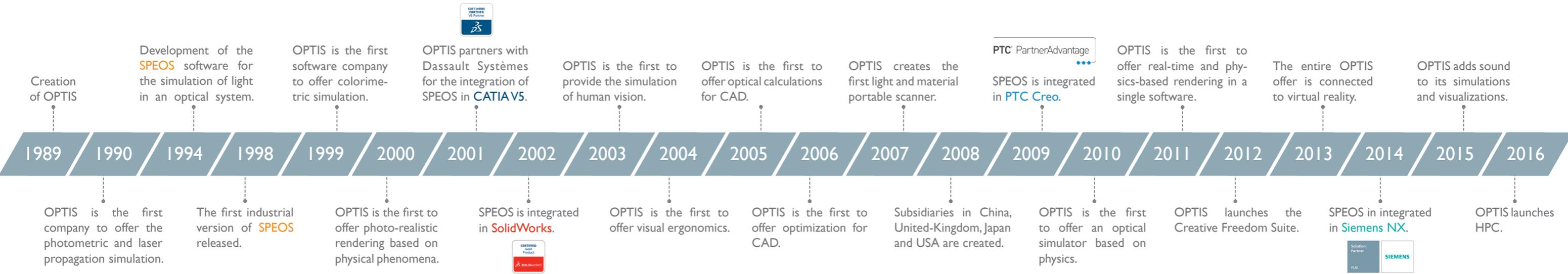
Address : ZE La Farlède, rue Parmentier, CS 40275, 83078 Toulon Cedex



- Headquarters
- OPTIS' subsidiaries
- Resellers

# HIGHLIGHTS

## OUR HISTORY



## OPTIS IN 2017



The power of a large company with the flexibility of a small business.

# OUR VISION

People are at the heart of our vision. Our project is to virtually recreate the physical world, to place people at the core of a multi-sensory experience.

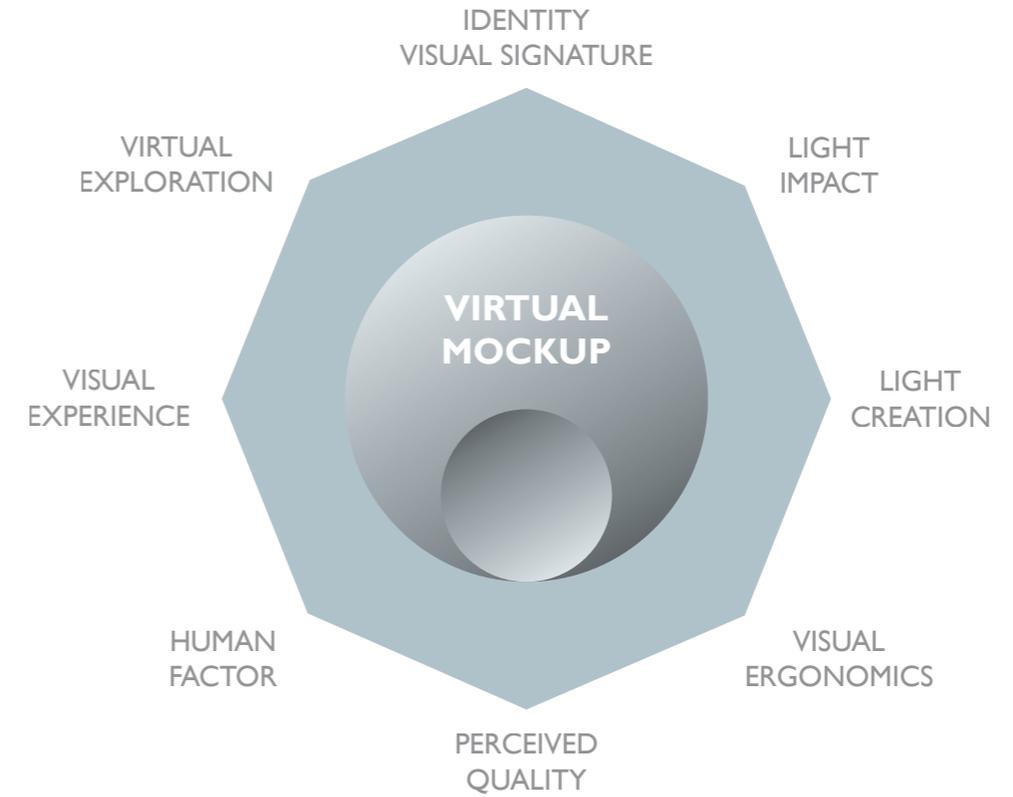
Enter a world where your process starts with the people you're designing for and ends with new solutions suiting their needs. This human-centered design is all about people: the virtual physical world enables industries to generate tons of ideas, build a bunch of prototypes, share what you've made with the people you're designing for; and eventually put innovative new solutions for them out in the world.

## IMMERSIVE EXPERIENCE

Experiencing a product before it even exists? It is possible. OPTIS believes that the future of industrial design lies on the power of realistic perception and virtual reality to create reliable virtual prototypes. Virtual prototyping is not new, but how to be sure that the prototype will look exactly how the product would in reality, to make the right decisions about design?

The OPTIS answer: dedicated sound, light and human vision simulation, for an utmost realism and true to life prototypes. OPTIS solutions are based on a powerful physics-based architecture using high speed calculations. Why? To quickly and accurately highlight the potential problems early enough in the process, and correct them at minimal cost.

The integration of OPTIS physics-based optical solutions into the PLM world creates a real synergy: OPTIS solutions become an integral component of the product life cycle. Life-like virtual mockups are closer to reality than actual prototypes: the only way to make fast decisions and validate projects safely before creating the final product.



## COLLABORATIVE INNOVATION

OPTIS' physics-based approach from optics to Virtual Reality is not only about technology, but is the medium for a new era of collaborative innovation. OPTIS' power is to enable designers, engineers and ergonomists to work together in one collaborative environment. Now, they can use the same realistic virtual prototypes at any stage of the design process of a product, from raw design to marketing. Through the replacement of physical prototypes used during the creation of a new product with easy to use virtual mock-ups, OPTIS enables an immersion in a virtual world. This is a unique way of experiencing the product, feel the emotion, and collaboratively decide on the design, in real time.

The virtual prototype on the left and the final product on the right (Courtesy of Jaguar Land Rover)



# THE OPTIS OFFER

With 27 years of industry experience, OPTIS is a world-renowned editor in the world of optics with its flagship software SPEOS, dedicated to the simulation of optics, light and human vision. Always attentive to the needs of industry and passionate about innovation, OPTIS offers a modular platform and brings together solutions connected to virtual reality. Its consistent combination of software, hardware and engineering services enables to achieve the most innovative, effective, beautiful and sustainable designs yet - in a blink of an eye.



**SPEOS**  
LIGHT & HUMAN VISION SIMULATION



**OMS2**  
PORTABLE MATERIAL SCANNER



**THEIA-RT**  
REAL TIME HIGH END VISUALIZATION



**VRXPERIENCE**  
VIRTUAL DYNAMICS EXPLORATION



**AESTHETICA**  
PERCEIVED QUALITY OPTIMIZATION



**HIM**  
HUMAN CENTRIC DESIGN



**LEA**  
ACOUSTICS AND SOUND DESIGN

## SOFTWARE AND HARDWARE

- Optical design with SPEOS
- Simulation of light and human vision with SPEOS
- Visual ergonomics with SPEOS and THEIA-RT
- Innovation design with THEIA-RT
- Ergonomics with HIM
- Experience with VRXperience
- Light & material measurements with OMS
- Sound design and acoustics with LEA

OPTIS puts the physics of light at the fingertips of engineers and designers alike, without the need to be optical experts. OPTIS' solutions take into account the optical properties of materials and light sources to ensure its simulations reflect reality accurately. They are fully integrated in the 4 major PLM tools: CATIA V5, SolidWorks, PTC Creo and Siemens NX.

## DEDICATED SERVICES



### STUDIES

- Research & analysis of patents
- Principle research & feasibility study.
- Study and realization of demonstrators and prototypes.
- Industrialization.



### CUSTOM SOFTWARE

- A base of 450 man-years of R&D.
- A team of 150 engineers and developers.
- A unique savoir-faire.



### TRAININGS

- Trainings specifically dedicated to industries.
- Trainings for lighting, colorimetry, photometry, optics and laser effects specialization.
- Assistance with OPTIS software.

# APPLICATIONS



AUTOMOTIVE

Mood lighting, tail lamps, headlamps, dashboards, vision, ergonomics, rear-view mirrors, windshields...



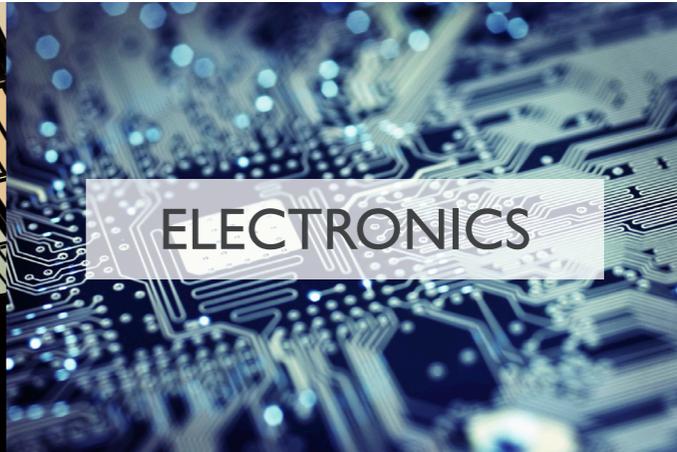
AEROSPACE

Cockpits, canopies, instruments, cabin lighting and ambiance, exterior lighting, in-flight entertainment screens...



LIGHTING

Interior lighting, outside + street lighting, reflections, environmental impact, computer-generating images...



ELECTRONICS

OLED and LCD screens, lighting buttons and controls, backlights, mobile phones and digital tablets...



ENERGY



LUXURY



RESEARCH



AUTOMATION



MEDICAL



ARCHITECTURE

# CUSTOMER STORY



Interior of a vehicle simulated by OPTIS

## BENTLEY MOTORS

How did Bentley deploy and take benefit from OPTIS Virtual Reality solutions?

What is important for the appearance of the car is also important for the ergonomics of the cockpit: cluster, navigation, entertainment system and surrounding material have been all studied to improve driver and passengers' experience. Each piece of technology has been seamlessly integrated into the vehicle to offer intelligent functionality maximizing safety by improving reachability and also enhancing legibility of displayed information. With OPTIS human vision simulation, you can really perceive what the future driver will see and avoid light reflexion on any part of the car.

Before building the production line, Bentley deployed HIM solution from OPTIS to model the line in virtual reality and study any gesture in view to maximize safety and comfort of operators when building the car. The best way to make dreams happen.

Thanks to the adoption of innovative technologies like Virtual Reality into its design process, Bentley has been able to open new doors for the design of his cars and to perfect them, by virtually experiencing many variants of shape and material, of on-board technologies, multiplying test and improving both safety and quality for the benefit of their customers.



“OPTIS solutions were able to combine everything together and were at the heart of our decision center addressing engineers, designers and for the first time craftspeople, altogether around virtual reality.”

Mark Harding, Manufacturing Project Leader at Bentley



# CUSTOMER STORY



Example of a lighting system design: SatLight

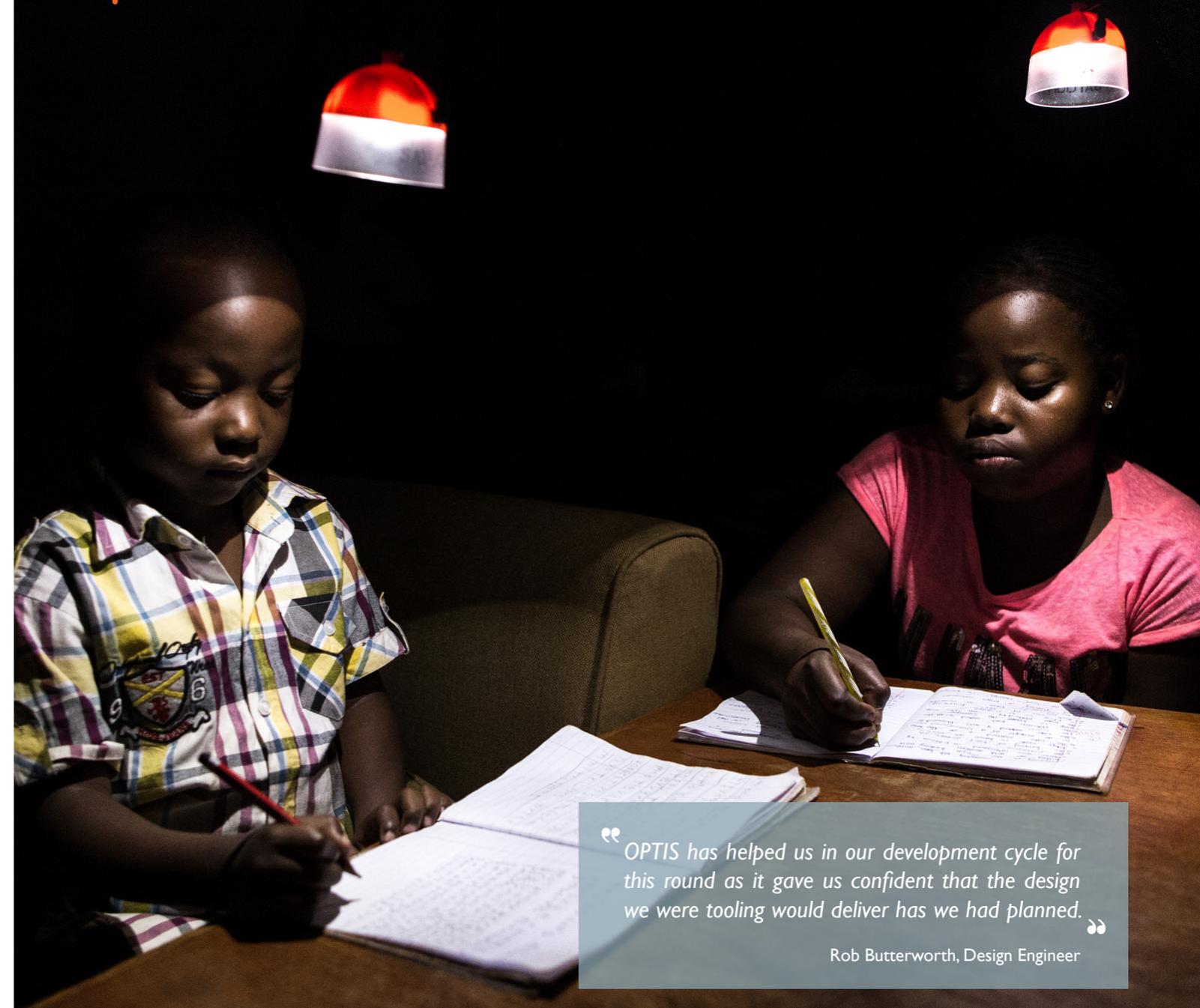
## THE GRAVITY LIGHT FOUNDATION

How did OPTIS help GravityLight to develop the new humanitarian lighting generation?

The GravityLight Foundation took the challenge to replace the use of the kerosene lamps in the developing world. Today, 20% of the world's population do not have access to electricity. That's 1 in 5 people. Without electricity, most of these people have no other option but to use kerosene lamps to light their homes. The aim of this startup then is to eradicate kerosene lamps by developing an extremely low-cost light. The key is to create an innovative device that generates light from gravity. GravityLight is a lamp providing clean, reliable and safe light, enabling people to break free from the economic, health and environmental hazards of kerosene lamps.

"We worked through the tools to get an impression of light output from the geometry. SPEOS gave us the opportunity to show the existing design was performing well to achieve what we wanted. The idea was to increase the light intensity over a smaller area like a spot light".

In the future, the British foundation intends to develop a new GravityLight generation. This project will be the occasion to challenge potential problems light-related thanks to the use of SPEOS. "It will be a very useful tool going forward and developing the GravityLight, when we have to define lens geometries in future versions and products. It will let us simulate the light distribution we can expect from any given lens design before we commit to high cost and long lead-time tooling, and give numbers on the actual illuminance expected".



"OPTIS has helped us in our development cycle for this round as it gave us confidence that the design we were tooling would deliver as we had planned."

Rob Butterworth, Design Engineer

# CUSTOMER STORY



Aircraft cockpit

## BOMBARDIER AEROSPACE

How did OPTIS software help Bombardier Aerospace achieve a technical advantage over its competitors?

“We have looked at other software on the market, but SPEOS CAA V5 Based was by far the choice of Bombardier. The technical advantages in SPEOS CAA V5 Based are worldwide unique as it is the only software that combines light simulation with human vision perception based on physical reality. In addition, the fact that it is fully integrated inside the CATIA V5 platform, follows the PLM solution implemented at Bombardier.

Thanks to OPTIS software, we truly believe we can shorten our product development time and eliminate the time-consuming and costly phase of making physical prototypes. It was a very valuable evaluation experience for the cockpit lighting design, and I am confident we can extend the technology to other sectors such as cabin lighting and exterior lighting...” Richard Heppell, Manager Core Systems. Engineering, says.

“Bombardier is a prestigious company and an important reference for us. We are confident that by using SPEOS CAAV5 Based for their lighting design, Bombardier will reduce their time-to-market, creating highly realistic digital mockups, and further improve the visual ergonomics of their cockpits.” Jacques Delacour, CEO and President of OPTIS, declares.



## METRICS

“It took us just 2 weeks to become operational on the software.

We expect design time to be reduced by 50%.”

**BOMBARDIER**  
the evolution of mobility

# TESTIMONIALS

## OUR CUSTOMERS SHARE THEIR SATISFACTION



“Designing Airport Light Fittings means solving many different kinds of problems, mechanical, electrical as well as optical design. Our optical components very often have mechanical functions too. Therefore optical design is just one of many things our engineers have to do; they cannot be specialists just doing nothing but optical design. That is the main reason that we need an optical design tool that is easy to get familiar with and that is easy to handle also for engineers who do not do optical design every day.”

*Richard Heppell - Core Systems Engineering Manager  
Bombardier Aerospace*

“Thanks to OPTIS software, Philips Lighting North America truly believes we can shorten our product development time by using the new Optical Shape Design tool. It was a very valuable evaluation experience for general lighting in indoor and outdoor applications. Its power and usability make it a recognizable asset to any optical designer.”



*Marc-Henri Monier - M.Sc.A - Optical designer, Technology & Support Group  
Philips Lighting North America*



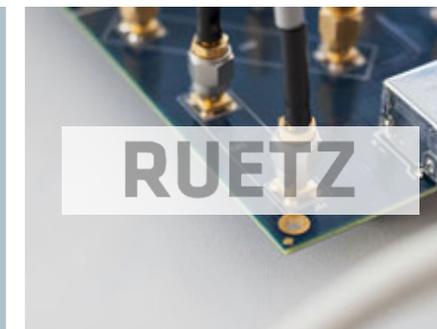
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“The results of the simulation of the Renault Megane are remarkable. Perceived quality and realism of the interior visualization is very close to reality.”

*Jean-Marc Célérier  
Renault DER (study & research management)*

“The things I like most about SPEOS are its calculation speed, ease of use, fast learning curve and the high-quality support. For Ruetz, the success of the operation extends much further than its contract with Audi: the company is now acknowledged as a major OEM in the automotive lighting industry. The confidence of the manufacturer Audi, gained thanks to Ruetz’s partnership with company OPTIS has opened up a new market.”

*Clemens Stöberl - Engineer  
Ruetz*



“With the new OSD feature, it just takes few minutes to design pyramid optics which previously needed several days for our CAD designer to create.”

*Brian Johnson - Director of Engineering  
AGM Automotive, Inc.*

