



“ANSYS SPEOS intuitive 3D interface immediately shows the optical analysis of data in the 3D environment; this significantly improves the effectiveness of communication and coordination between the customers and the optical department in the company.”

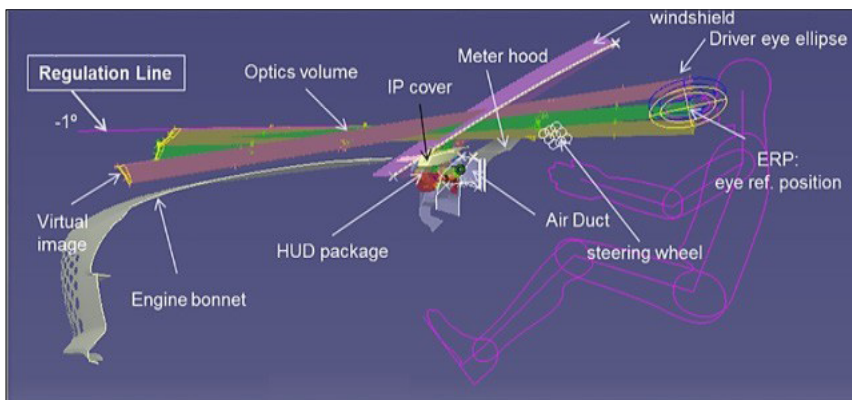
Mping Lai

*Light and Optical Design Manager for Smart Vehicle Applications,
Lite-On Technologies*

Lite-On Technology accelerates the development of head-up display products with ANSYS SPEOS

Introduction

Product development engineers must be able to analyze the performance of a HUD system in terms of distortion, ghost images, optical volume, sun-related stray light and the interaction of light on material surfaces. Also, the single optical component of a HUD has a required tolerance of 5 to 6 microns in the manufacturing process, and it is very sensitive to combination and processing errors.



Challenges

The optical analysis software solutions previously used by Lite-On Technology's engineering team provided only lists of data. Engineers had to perform mathematical operations on this data, transfer it into graphic reports and inform staff members and customers of the results. It often took a whole week to work with the data and prepare the customer communication report.

Technology Used

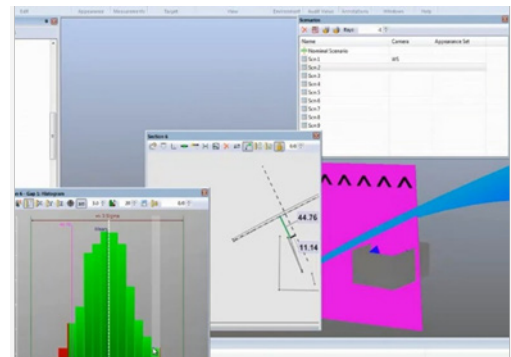
ANSYS SPEOS

Engineering Solution

- ANSYS SPEOS determined the quality of automotive HUD virtual images using optical metrics to describe system performance, including dynamic distortion, ghosting, visual disparity and image sharpness.
- Analysis of tolerance and optical interactions was done in one intuitive 3D platform with ANSYS SPEOS, which provided intuitive graphical results.
- With ANSYS SPEOS' powerful 3D function, Lite-On Technology's engineers easily set various solar locations to analyze sun-related stray light and the interaction of light on material surfaces.

Benefits

- Fully automated ANSYS SPEOS performed a complete analysis of the quality of HUD images based on thousands of measurements for several driver sizes in minutes instead of days.
- The intuitive graphical results from ANSYS SPEOS helped customers and the R & D team to communicate more effectively, making a full report available in one day versus a week using previous software solutions.
- Lite-On Technology's strategy was to bypass the low-price competitive HUD aftermarket and to focus instead on the relatively high-price world of OEM suppliers. ANSYS SPEOS helped in this endeavor by completing the long, strict validation process to enter the OEM market.



Company Description

Lite-On Technology was established in 1975. Its turnover in 2016 was 229.5 billion TWD. The products provided by Lite-On Technology are widely used in computer, telecommunication, consumer electronics, automotive electronics, LED lighting, cloud computing, industrial automation, biotechnology, medical and other fields.

The company's world-leading technologies include optoelectronic products, information technology, storage devices, handheld devices and many others.

ANSYS, Inc.

www.ansys.com
ansysinfo@ansys.com
866.267.9724