Synopsys Releases LucidShape and LucidDrive Version 2.1

Latest Releases Deliver Human Vision Simulation Updates, User Interface Enhancements, and Expanded Libraries for Automotive Lighting Design and Analysis

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Highlights:

- Upgraded LucidShape TreeView functionality enables faster performance for large models
- Enhanced LucidShape Visualize Module has a simplified user interface for fast fine-tuning of photorealistic images
- Enhanced LucidShape Human Eye Vision Image interface includes glare analysis based on Vos and Holladay formulations
- Expanded LucidDrive nighttime driving simulations include new scripts, options and libraries

Synopsys, Inc. (Nasdaq: SNPS) today announced the availability of version 2.1 of its LucidShape® and LucidDrive® software products for the design and virtual-reality simulation of automotive exterior lighting. Synopsys LucidShape version 2.1 introduces upgraded interfaces to its TreeView structure and Visualize Module that speed the design and analysis of 3D automotive lighting models, as well as new options for simulating vehicle headlamp glare effects as perceived by the human eye. In addition, Synopsys LucidDrive version 2.1 introduces key enhancements for simulating vehicle headlamps under nighttime driving conditions. For example, LucidDrive simulations have been expanded to include matrix beam headlamps, dimming and swiveling headlamps, and vehicle geometry for left-hand traffic conditions.

"With updates to human eye vision and Adaptive Front-Lighting System simulations, both LucidShape and LucidDrive continue to support advances in automotive lighting design," said George Bayz, vice president and general manager of Synopsys' Optical Solutions Group. "The latest releases also help users quickly translate their ideas into complete designs with ease-of-use improvements to simplify model setup and refinement."

LucidShape Software

LucidShape version 2.1 includes the following new features for automotive lighting design:

- The TreeView, which provides a hierarchical display of LucidShape model data, has been upgraded for faster performance and improved large model handling.
- The Visualize Module, which delivers high-speed photorealistic images of an automotive lighting system's lit appearance, has a simplified user interface that includes new presets and range controls to quickly fine tune results.
- The Visualize Module Human Eye Vision Image (HEVI) interface includes new options for simulating and solving glare effects. Users have the option to choose from different glare models, including Vos and Holladay, and to include information that enables glare analysis as a function of angle and observer age.
- Expanded 2D and 3D measured Bidirectional Scatter Distribution Function (BSDF) material libraries for high-accuracy modeling of surface scattering for materials used in automotive lighting.

"The introduction of Vos and Holladay glare functionality in LucidShape is another big step forward in improving photorealism of simulated images," said Jason Smith, optical engineering manager at Grakon, LLC. "The additional TreeView updates substantially increase navigation speed, especially in larger models."

LucidDrive Software

LucidDrive version 2.1 includes the following new features for evaluating beam patterns of vehicle headlamps under nighttime driving conditions:

- New matrix beam Adaptive Front-Lighting System (AFS) script with prepared solutions for six and eight lighting elements
- New options for defining color temperature and chromatic adaption to enhance the realism of LucidDrive's lighting simulations
- New vehicle geometry for simulating nighttime driving conditions for left-hand traffic
- Improved road libraries for fast preview and selection of road scenes
- New scripts to enable MATLAB simulation of dimming and swiveling headlamps

Availability and Resources

LucidShape and LucidDrive version 2.1 are available now. Customers with a current maintenance agreement can download the software from the Synopsys website using their SolvNet® account.

About Synopsys' LucidShape Products

Synopsys' LucidShape products provide a complete set of design and analysis tools for automotive lighting. With dedicated algorithms optimized for automotive applications, LucidShape facilitates the design of automotive forward, rear and signal lighting and reflectors. In addition, the LucidDrive tool provides night driving simulations that generate realistic lighting scenes in real time, which allow designers to quickly and accurately evaluate beam patterns of vehicle headlamps prior to expensive fabrication and testing. For more information, visit https://optics.synopsys.com/lucidshape.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 16th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software quality and security solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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