Synopsys Delivers the Industry's Only Complete Workflow for Automotive Lighting Design and Visualization in CATIA

LucidShape CAA V5 Based v2020.06 offers powerful design features and stunning photorealistic rendering capabilities for headlight, tail light, and signal light innovations

MOUNTAIN VIEW, Calif., June 10, 2020 /PRNewswire/ -- Synopsys, Inc. (Nasdaq: SNPS) today announced the latest release of its LucidShape® CAA V5 Based software product to provide the industry's only complete design and visualization workflow solution for automotive lighting design within the CATIA V5 environment. LucidShape CAA V5 Based v2020.06 introduces two new modules—Design and Visualize—that enable designers to quickly conceptualize and design automotive lighting products and generate stunning, physics-based photorealistic images that accurately depict how headlights, tail lights, and signal lights will look in real life.

LucidShape CAA V5 Based includes ease-of-use improvements, such as CATIA Design Tables for efficient simulations of multiple model configurations, and improved design-for-manufacturing capabilities for automotive light guides. Designers can achieve first-time-right designs and faster time to market with CATIA-integrated optical and mechanical modeling and fully parametric features.

"The Design Table feature in LucidShape CAA V5 Based is a real game changer," saidStuart Falco, optical engineer at Grote Industries. "It enables efficient, in-depth investigations throughout the design process, without the need for tedious model setup or configuration steps. It is a great tool for evaluating multiple design options such as material choices for a component. Design Table also streamlines analysis of manufacturing and assembly tolerances and their impact on photometry. You can enter tolerance perturbations into the Design Table, associate the data with a simulation, and specify the configurations that should be queued for subsequent simulation."

The following features are included in LucidShape CAA V5 Based:

- **Powerful Design Tools**: Geometry creation tools that give users the freedom to focus on overall design objectives rather than the implementation details of complex optics have always made LucidShape unique. These tools are now available to CATIA users in the new LucidShape CAA Design Module. Tools like MacroFocal design features help designers rapidly conceptualize and design freeform reflectors and lenses that meet photometric and aesthetic requirements for cutting-edge automotive lighting products.
- **Stunning Photorealistic Renderings**: Photorealistic visualization is used in the creative process to evaluate the aesthetics of a lighting design, and in the engineering process to evaluate optical feasibility based on uniformity, brightness, and manufacturability. The new LucidShape CAA Visualize Module generates stunning, physics-based photorealistic images. Features like the Environment Light Source and the Human Eye Vision Image tool augment the realism in a scene and enable designers to virtually evaluate how the human eye will perceive a headlight, tail light, or signal light.
- **Ease of Use and Design-for-Manufacturability**: Ease-of-use improvements in the LucidShape CAA Base Module include the CATIA Design Table feature that allows users to construct and simulate design variations quickly. It also streamlines the creation of multiple design forms for a product line. In addition, the Light Guide Design Module provides designers with the capability to efficiently create light guides with fillets that conform to manufacturing constraints. Designers can create light guide designs faster, optimize light distributions and uniformity, and achieve better as-built performance.

"Automotive exterior lighting systems are key safety, styling, and branding attributes for automobiles," saidStuart David, group director of Synopsys' Optical Solutions Group. "Our new LucidShape CAA Design and Visualization Modules allow CATIA V5 users to design lighting systems that meet technically stringent safety regulations within the styling constraints and branding guidelines of any automotive OEM. These new modules give designers powerful geometry creation tools and accurate, reliable visual analyses, all seamlessly integrated within the CATIA V5 workflow environment for first-time-right designs."

Availability

LucidShape CAA V5 Based v2020.06 is available now. Customers with a current maintenance agreement can download this version from the Synopsys website using their SolvNetPlus account, or obtain the software from theirlocal distributor.

About Synopsys LucidShape Products

Synopsys' LucidShape products provide a complete set of design, simulation and analysis tools for automotive lighting. With dedicated algorithms tailored for automotive applications, LucidShape software facilitates the design of automotive forward,

rear, and signal lighting reflectors and lenses. Learn more at www.synopsys.com/optical-solutions/lucidshape.html.

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 15th 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 security and quality solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest security and quality, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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