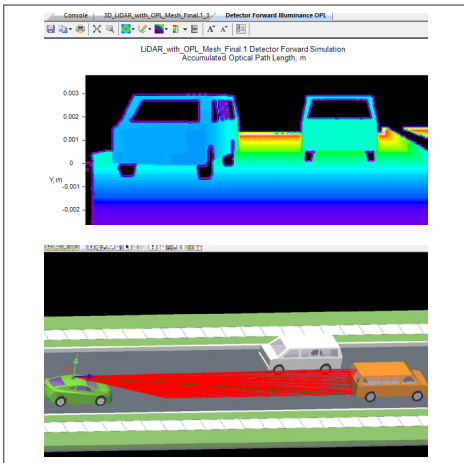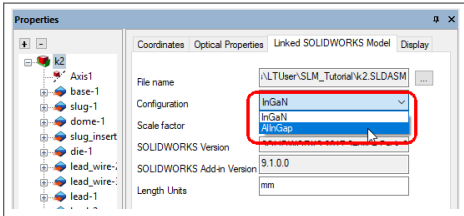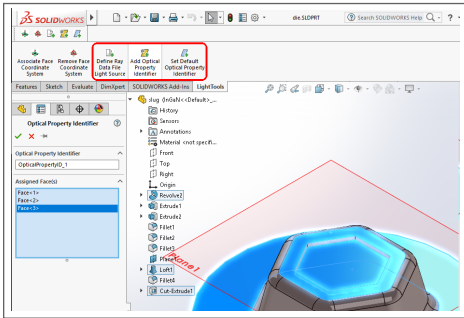# What's New in LightTools Version 9.1
Upgrade Your Illumination Optics Designs

For more information or to start your 30-day evaluation, please contact Synopsys' Optical Solutions Group at   (626) 795-9101, visit synopsys.com/optical-solutions/lighttools, or send an e-mail to optics@synopsys.com.

Do More with the SOLIDWORKS Link Module

LightTools 9.1 provides key improvements for illumination engineers working within SOLIDWORKS; including the ability to:

- Assign ray data sources and optical property identifiers directly to the model in SOLIDWORKS
- Control the placement of ray data sources using the SOLIDWORKS coordinate system
- Access SOLIDWORKS configurations within LightTools

LiDAR Modeling and Analysis Improvements

This release offers key capabilities needed for modeling and analyzing systems for light detection and ranging (LiDAR) or laser applications.

- Expanded capabilities for light sources enable the modeling of Gaussian and Super Gaussian light distributions using spatial and angular apodization, for designing laser sources, for example.
- A new analysis feature facilitates detecting objects and determining their distance. For forward simulations, you can now specify an Optical Path Length mesh for LightTools analyses. This new mesh type enables you to capture the optical path length of rays collected in a simulation, and this data can be used to approximate time-of-flight information necessary in various LiDAR systems, for example.
- Improvements to coherent ray tracing, which allows users to address phase interference of overlapping beams, include updated calculations that consider both the phase information from the optical path length of a ray and the field amplitudes.

Biaxial Materials for Birefringent Feature

LightTools' birefringent capability enables you to trace rays through anisotropic materials (also commonly referred to as birefringent materials). The biaxial capability allows you to model optical systems using anisotropic materials such as mica and topaz, where the effects of polarization and dispersion are important.

Distributed Simulation Module

The LightTools Distributed Simulation Module provides the ability to increase the simulation speed of large, computation intensive ray trace processes over a collection of computers for both forward and backward simulations.