RayViz™ for SOLIDWORKS®

Efficient Tool for Managing Optical and Mechanical Design Workflow

RayViz is an add-in to SOLIDWORKS that allows users to apply and save optical properties directly to the SOLIDWORKS model via the TracePro System Tree within SOLIDWORKS. In order to ensure data integrity, a single model is used by TracePro for ray tracing and optical analysis and by SOLIDWORKS for mechanical design and modifying optical material properties. With RayViz, design engineers significantly accelerate the iterative design process – all without sacrificing performance or functionality.

Managing Design Work Flow

The design, tolerance, and documentation of optical systems require a high level of collaboration between optical and mechanical engineers. Design teams face increasingly shorter product development cycles and lower R&D budgets.

In order to effectively manage collaborative work flow, RayViz not only facilitates optical design, but also enables the overall system level development process by integrating the optical model into both the SOLIDWORKS model and the design team's workflow.
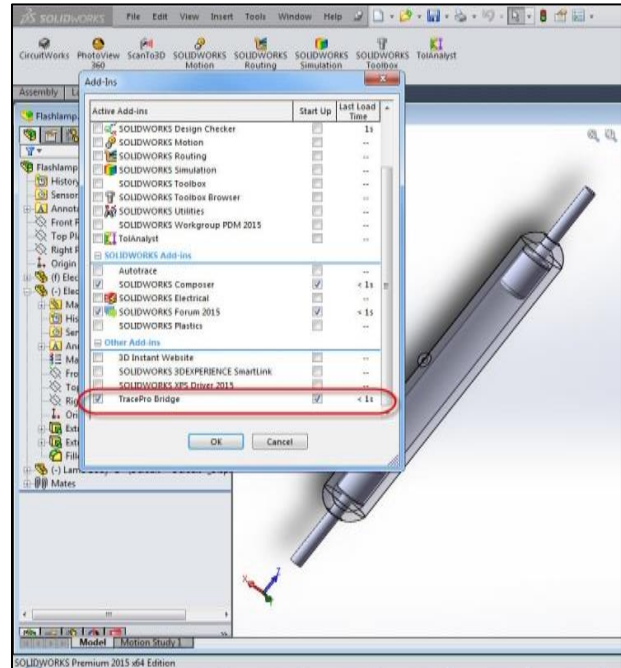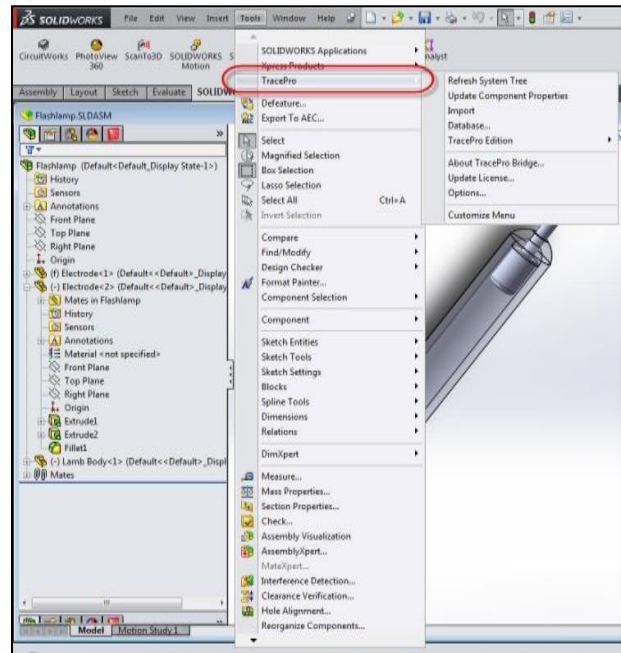

Figure 1: RayViz In SOLIDWORKS: Tools > Add-Ins

Figure 2: TracePro Menu added to SOLIDWORKS

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How it Works

- **Start with SOLIDWORKS Model**
  Create parts and assemblies in SOLIDWORKS. SOLIDWORKS alone,however, will not accommodate the definition of optical properties of parts or assemblies.

- **Apply Optical Properties and Archive in SOLIDWORKS**
  With the RayViz add-in, define and modify the optical component geometries and the optical material and surface properties within the TracePro System Tree in SOLIDWORKS. Save the model to either a SOLIDWORKS or TracePro file format.

- **Open Model in TracePro, Trace Rays, and Analyze Optical Performance**
  Open the saved model in TracePro and immediately notice the mirroring of the SOLIDWORKS model in the TracePro model tree. The healing husk tool is available to check imported geometry and is used to analyze, heal and stitch imported geometry creation and manipulation capabilities to move, copy, and Boolean imported geometry. Then use TracePro's analysis capabilities to optimize and tolerance the design. Return to SOLIDWORKS to modify the geometry and optical properties, and archive the updated model.
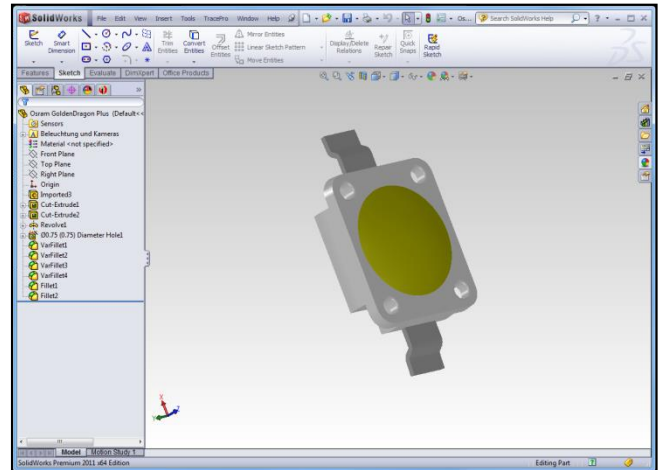

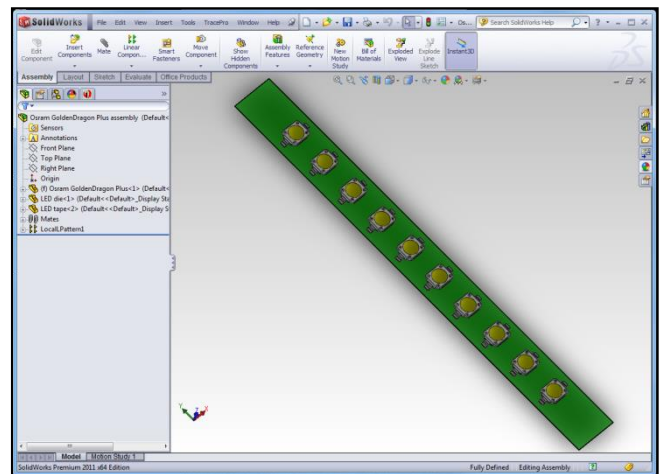**Figure 3**: Insert an Existing Part to an Assembly
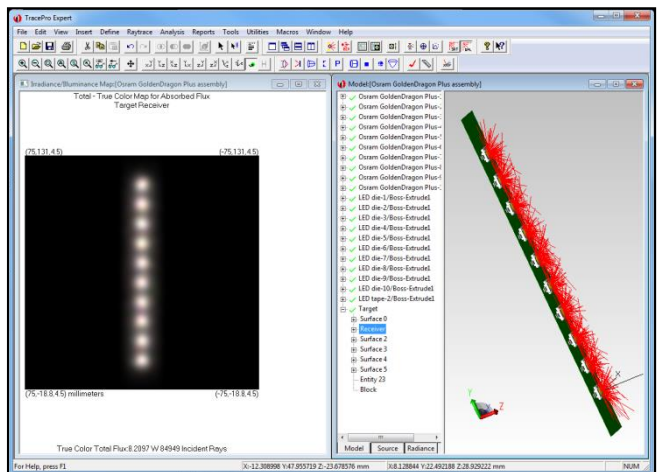

Figure 4: Apply Properties in RayViz for SOLIDWORKS

Figure 5: Export Model to TracePro for Analysis

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