Features & Benefits

LensMechanix®

Feature	End-user benefit	Company benefit
Load OpticStudio files	Load OpticStudio® files as native CAD parts, eliminating the time spent redesigning the geometry of the optical system. You can view all of the optical information and start designing the mechanical system right away. Includes support for the compound lens, boolean native, and grid sag.	Save time, streamline workflow, maximize efficiency
Support conversion of off-axis components to non-sequential	With support to the Grid Sag compoenet, you can locad optical systems that have off-axis lenses, mirrors with finite substrates, faces with decentered apertures, and more complex aspheric surfaces.	Maintain design fidelity
Instant ray filters	Instantly draw ray filters that help you identify which mechanical components are affecting the optical performance. You can make changes to the mechanical components early in the design process.	Catch and correct errors early, reduce prototypes
Save OpticStudio output files	Share files from the CAD platform to OpticStudio while maintaining design fidelity. Both the optics and the mechanical design are shared without losing information.	Maintain design fidelity, streamline workflow
Optical Performance Summary	Easily identify how much your mechanical components are affecting the optical performance in a pass/fail format. You can make informed design tradeoffs on cost versus performance.	Make changes early in the design process, make informed tradeoffs

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Update OpticStudio file	In an assembly with both optics and mechanics, you can wipe out the optics and replace them with the new ones when there are changes to the optical design. Updating the system helps you understand what changes need to be made in the mechanical design when there are changes to the optical design.	Respond quicker to changes
Apply scatter profiles	Get an accurate representation of the reflective properties of the mechanical components. Get ray trace results that more accurately represent a real-world model (physical prototype).	Changes can be done in a virtual prototype
Construction geometry	Make informed mechanical design decisions by accessing data such as clear apertures, centers of curvature, apexes, and optical axes. You get access to all of the geometry information that you need in one file.	Make informed design decisions
Ray animation	View an animation of rays going from the sources through the optomechanical path then to the detectors. This enables you to make changes to the mechanical system in the order that they arise and could reduce the changes that you have to make in the mechanical system.	Catch and correct errors early
Load OpticStudio file as read-only	Load OpticStudio design files as read-only to avoid making any changes to the optical system.	Maintain design integrity
Computational Domain	Exclude components for a ray trace, enabling you to analyze only specific components at a time. You can run faster ray traces without having to remove components from the assembly as well as determine the performance without specific components.	Find errors early

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Fold mirror tool	Enables mechanical engineers to add a fold mirror in an existing optical train to accommodate space requirements. Adding a fold mirror within the CAD platform means you don't have to go back and forth between optical and mechanical design to define the position of fold mirrors.	Reduce back and forth when changes are made
Make mechanical component into optical	When designing complex optical geometry, such as lightpipes, you can create the geometry using native CAD features and turn it into an optical component to trace rays through it. This helps you create complex optical geometry faster, since you use tools you are familiar with.	Save time
Power throughput	View the power lost to optical and mechanical components, enabling you to identify whether changes need to be done to mechanical design or optical design.	Make changes early in the design process
Add mechanical edge	Add material around a lens to use as mounting edge. You can easily add the edge within the CAD platform which you can use to mount your optics better.	Reduce back and forth
Import ZAR files with Creo parts	Load OpticStudio files that contain Creo parts into Creo. This enables you to access the same information that was previously designed without having to worry about loss of information or having to relocate components.	Streamline workflow
Load OpticStudio multi-configuration files	Load OpticStudio files that have multi-configurations. You can view the performance of systems at different setups to ensure all setups meet performance requirements.	Streamline workflow

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Run multiple ray traces in multi-configuration files	Run multiple ray traces with fewer clicks when working with optical designs with multi-configuration files.	Faster
Generate lens drawings	Create ISO 10110 drawings for aspheric and standard lenses. Drawings automatically populate with ISO 10110 standard to ensure they are ready for manufacturing.	Streamline workflow
Load and display tolerance information	Access optical tolerance data, including parameter and positional information, the was defined in the OpticStudio file to make informed design decisions.	Streamline workflow
What's new dialog box	Get updates when a software download with improved features is available.	Recent updates
Generate a report	Generate a PDF or DOCX file to easily share information with colleagues that need high-level information.	Improve collaboration
Surface power	View the power incident on any mechanical surface. You can view how much power is striking a specific component to determine if the object is causing too much energy loss.	Save time
Add custom component	Add custom optical components to simulate and suggest changes in the optical design for faster iterations	Save time, streamline workflow
Add catalog component	Add off-the-shelf optical components in a CAD platform for faster component placement and iterations	Save time, streamline workflow

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