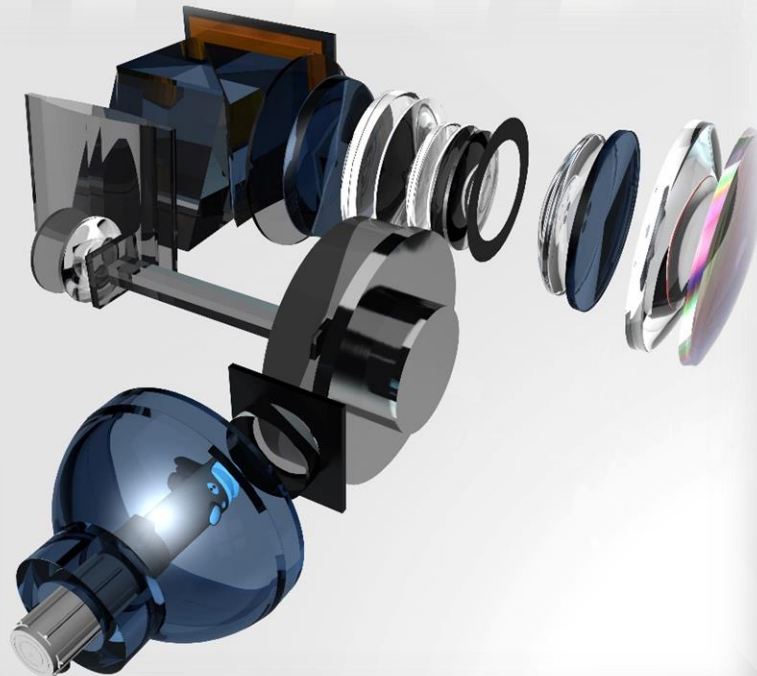


Shanghai Optics Lens System Design and Assembly



Shanghai Optics provides full-service optical design, engineering, manufacturing and assembly to a variety of clients worldwide for over 57 years. Our core expert engineering team consists of 6 top research designers and 12 optical/mechanical engineers/electrical engineers.

Our optical system solutions can be applied to many different fields such as Biomedical and Life Science, Industrial and Consumer, Defense and Military.



6 Top Research Designers



12 Top Optical Engineers

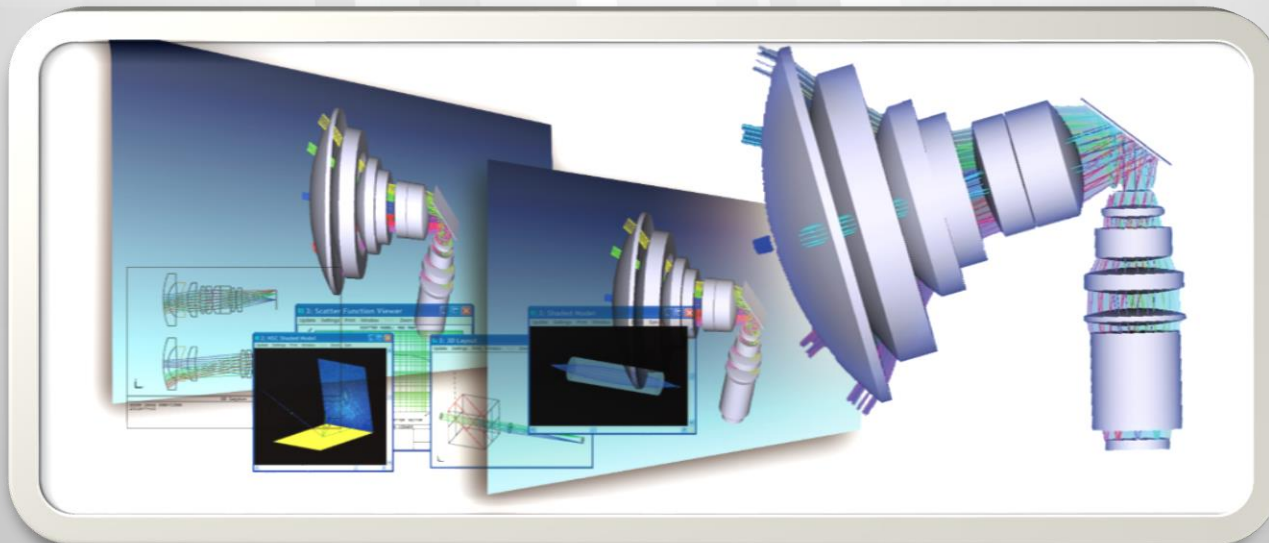
Industries we serve:

- Industrial Application
- Military
- Defense & Security
- Consumer Products
- Commercial/ Manufacturing
- Entertainment
- Medical
- Life Science Research
- Inspection & Metrology
- Aerospace and Scientific Research

Lens System Design

Shanghai Optics provides a variety of designs (imaging, illumination, electro-optic and opto-mechanical systems) for all different types of applications.

- Precision optical system design and optimization
- Powerful optical and illumination analysis
- Fully integrated system including CCD/CMOS and circuit board integration
- Capability to provide model light sources, mechanical parts, and optical components



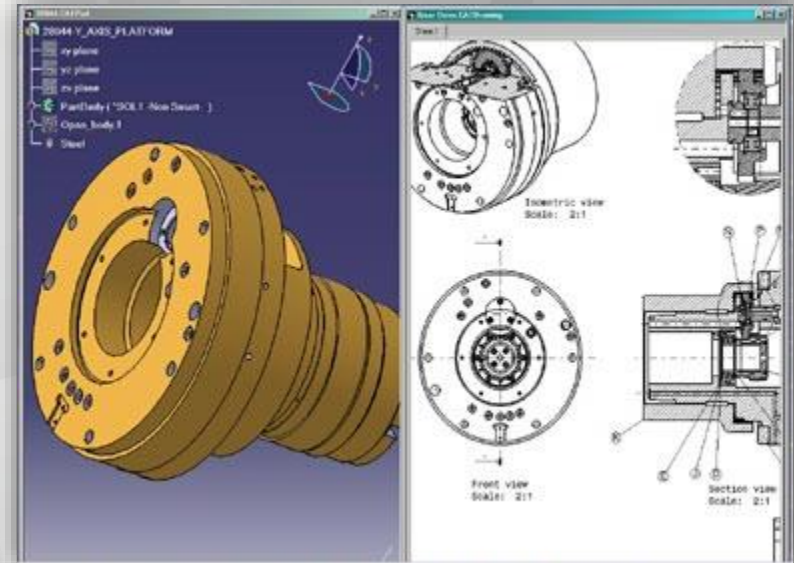
Lens System Design

Shanghai Optics offers mechanical designs to fit our customers' current and standard interfaces.

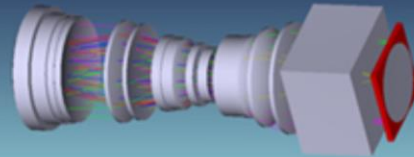
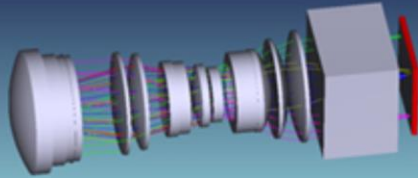
With second-to-none processing technology, we are confident in our ability to complete the most efficient mechanical design along with secure optical performance.

(3D projector metrology on site)

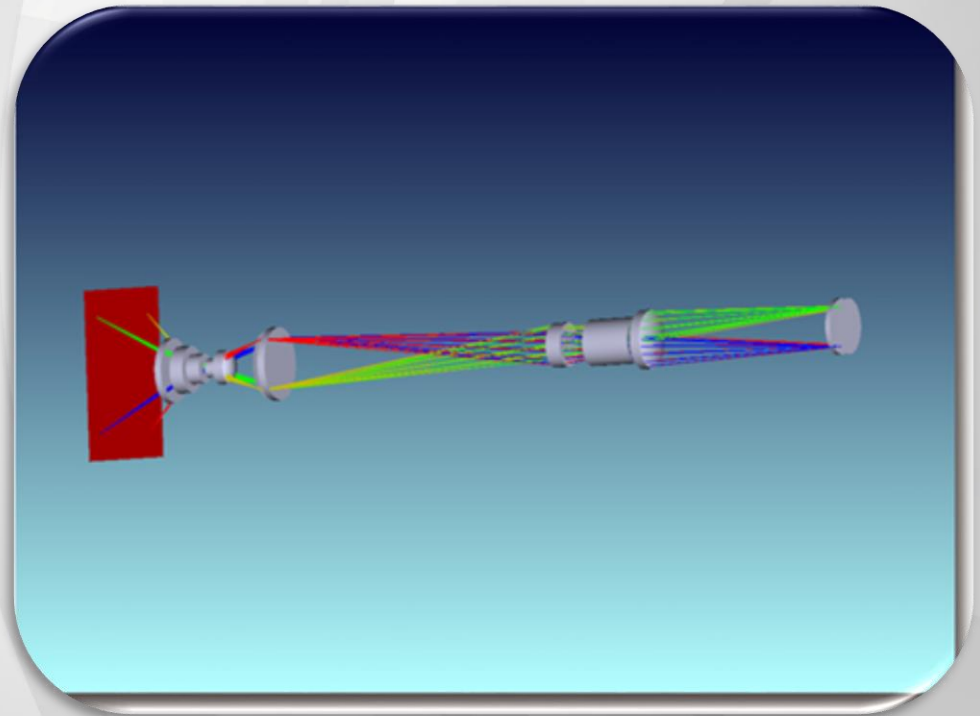
- Diameter tolerance: $\pm 0.025\text{mm}$
- Aperture tolerance: $\pm 0.020\text{mm}$
- Various outer surface finishing available
- Logo etching, curving, and pad printing
- Materials: aluminum, stainless steel



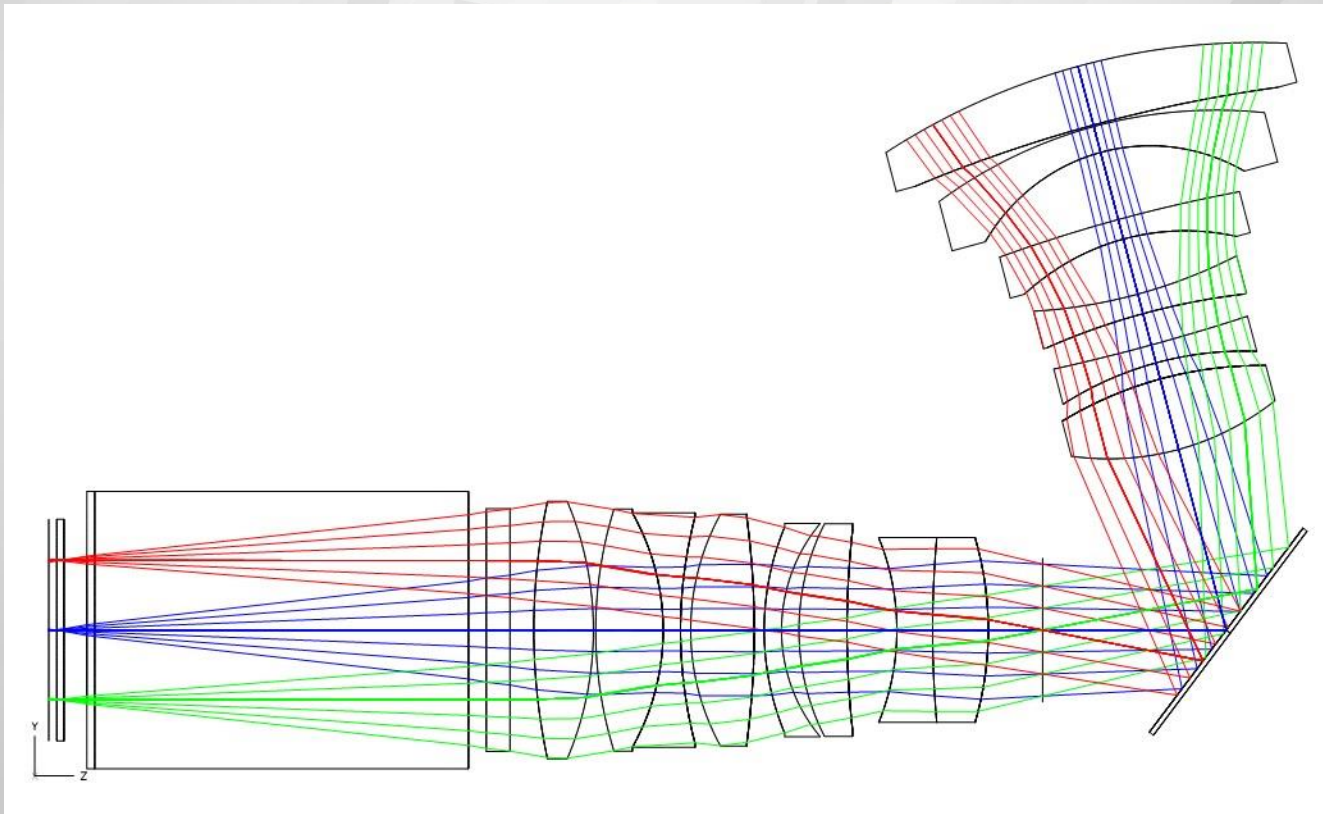
Projector Zoom Lens



Micro-Scanning Lens

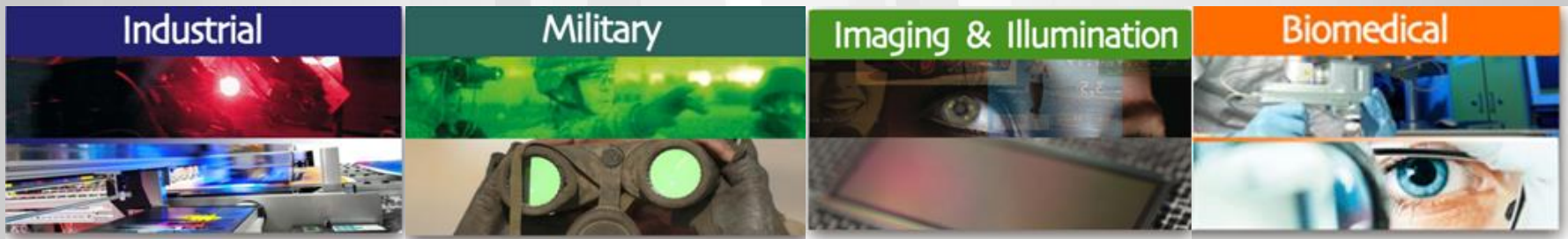


Rear Bending TV Projector Lens



Lens System Assembly

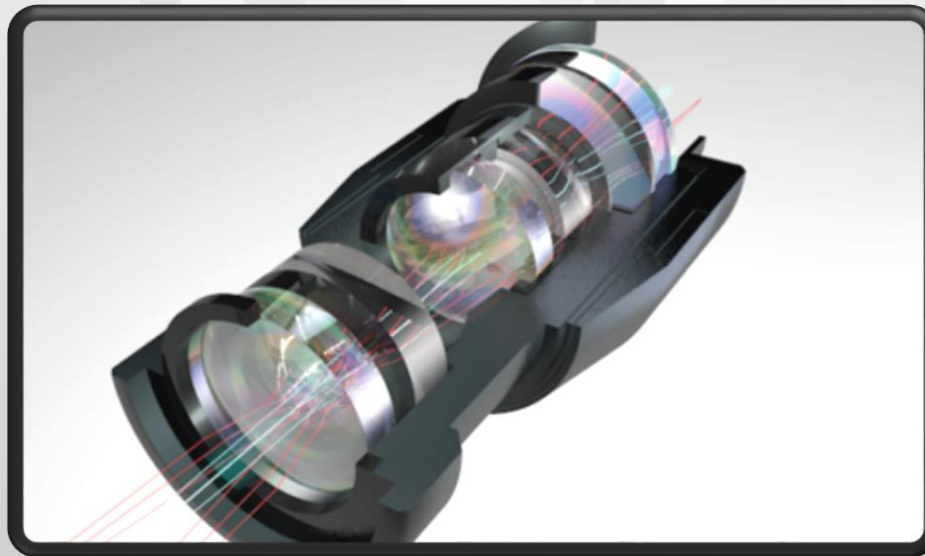
Shanghai Optics offers a wide range of lens system assembly services covering visible to UV & IR wavelengths. We serve customers ranging from biomedical, imaging & illumination, to industrial and military applications. With extensive experience in manufacturing optical components, we have an excellent understanding between manufacturability and design expectations.



Lens Assembly

With extensive experience in custom lens design and optical precision assembly, Shanghai Optics ensures lens performance through extensive testing both during manufacturing and after assembly.

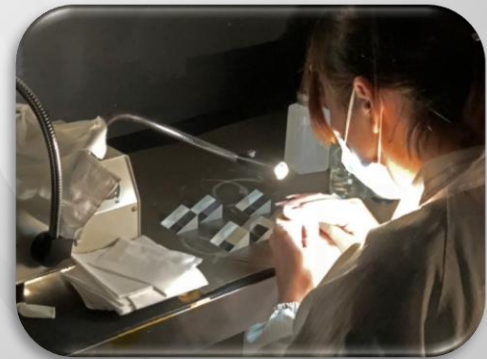
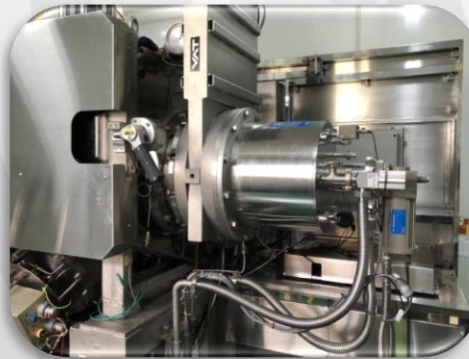
- High Quality Manufacturing Capability
- Continually Invest in Metrology Equipment and Metrology Capabilities



Design for Manufacturing (DFM)

Our expert engineering team has years of manufacturing experience and can help customers optimize their optical system with in-depth Design for Manufacturing.

- Cost-Effective Philosophy
 - We can help you achieve the most cost-effective solution for your application.
- System Optimization
 - Our process includes optimal material selection/geometric dimensioning/tolerance analysis
 - Our final design is completely optimized for cost/performance/manufacturability



Vertically Integrated Capabilities



- Design and most of manufacturing done in-house with full control of each stage of the production.
- High standard incoming inspection to ensure top quality and we only use vendors of authorized vendor list.
- Assembly, testing and inspection is all done in-house.
- Quality guaranteed and 100% customer satisfaction

Shanghai Optics invests in its manufacturing facility and metrology equipment in order to meet the quality demands of our customer's applications.

Some of the State-of-Art Metrology Equipment:

- Trioptics OptiCentric System
- Shimadzu Spectrophotometer
- Trioptics Image Master (MTF)
- Zygo's 6" Verifire XP Interferometer
- Surface Mapping Microscope
- Radius Test Benches
- 18-inch Aperture Zygo Mark IV
- Taylor Hobson Form Talysurf Contact
- 3-D Simulation Projectors



Quality Assurance

- Shanghai Optics stands behind our products 100%
- All parts are under the comprehensive quality management system (ISO: 9001 & 14001 certified)
- 100% inspection of all parts
- State-of-the-art metrology equipment



Capability Highlights

Large glass material inventories

We have over 800 types of glass materials in stock for daily usage. Special materials can be arranged per the customer's request.



Capability Highlights

Test Plates

We have built up a collection of more than 5,000 types of high end test plates. They are all sorted and classified, ready for the customer's selection.



Production Highlights



Production Highlights



Why Shanghai Optics

- Reduce risks associated with handling optics
- Reduce the potential distortion of optics within the assembly and ensure the optimal accuracy
- Inspect and test mounted optics



Thank You!