For flawless optical subsystems, count on unmatched expertise.

In the battlespace, airspace or outer space, there are no do-overs. Equipment – and every ounce of technology behind it – must perform as intended. It must work without fail under the most severe and hostile conditions, in a system pared to its minimum operating weight; often with the world watching.

This is the pressure-loaded environment where Rockwell Collins thrives. Because our optical solutions are so often held to the highest integrity, precision and performance are at the heart of everything we do.
Maybe you need it all — expert collaboration and capabilities in optical assembly design to specification, custom tooling and manufacturing processes. Or, maybe you have the designs and you just need the capabilities to manufacture the system.

Rockwell Collins has them.

Not only do we have the capabilities, we also have a proud legacy of delivering to customers that demand virtually flawless performance in precision optical solutions. Our applications are designed to the highest integrity, with literally no room for error. You’ll find our optical assemblies across such domains as air, ground and space.

The Rockwell Collins difference

Innovative design concepts
Customized tooling
Customized manufacturing
Exportable manufacturing processes

Applications for space, reconnaissance, navigation, targeting, piloting, aircraft or ground countermeasures, laser communications and simulation/display applications

U.S.-based design capability for ITAR applications

Full ISO and AS9100 qualified quality system

Shared service support for engineering, analysis, material science and procurement

International manufacturing capability (Rockwell Collins in Australia)

Advanced product quality planning for technical, schedule and cost efficiencies

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Core competencies

Optics and optical mechanical engineering design and development
- ZEMAX® and LightTools®
- Ultraviolet, visible, infrared and multispectral
- Reflective and refractive configurations
- Athermalization
- ANSYS®
- Field-of-view change mechanisms
- Precision tooling and casting design
- Advanced materials (crystals, ceramics, composites)
- Rapid prototyping
- Precision alignment techniques

Manufacturing
- CNC glass shaping — spherical and aspheric
- Precision optical components
- Visible through IR optical coatings
- Diamond turning

Assembly
- Precision optical/mechanical assembly
- Precision electro-optical assembly
- Complex optical alignment
- Clean room facilities
- MIL, space qualified
- Electronic assembly

Testing
- Visible/infrared interferometers
- MTF/automatic test equipment
- Profilometry
- Environmental test facilities
- PCBA test
- Micro display calibration and test

Your toughest optical challenges deserve the brightest optical minds.
Rockwell Collins designs and manufactures optical assemblies and subassemblies that support major commercial aviation, defense and space programs.

**Optical assemblies for aircraft countermeasures**

**Program experience**
- Missile warning sensors
- Fixed-wing countermeasures
- Rotary-wing countermeasures

**Optical subsystems for head-up displays (HUDs), reconnaissance, navigation and targeting**

**Program experience**
- Military qualified relay lens assemblies – F-18, Cobra, JAS-39
- Commercial qualified relay lens assemblies – 787, 737 MAX, 777X
- F-35 Distributed Aperture System (DAS) optical assemblies
- ATARS Low Altitude Imaging Unit (LAIU) and Medium Altitude Imaging Unit (MAIU) lenses

**Optical assemblies for space applications**

**Program experience**
- Camera lenses for Mars exploration rovers
- Juno mission to Jupiter – wide-angle lens for spacecraft’s Junocam
- Lightning Imaging Sensor (LIS) and Lightning Mapper Sensor (LMS) lenses
- Defense Meteorological Satellite Program (DMSP) BLOCK V
- 38 to 200 mm star tracker lenses

From design through production, Rockwell Collins has delivered precision optical assemblies for distributed aperture sensors on the F-35 program. The sensors provide a range of capabilities, including enabling pilots to “see through” their aircraft for 360-degree, spherical situational awareness, as well as missile detection and tracking.

Rockwell Collins designs, develops and produces the critical optical assemblies for the Miniature Pointer Tracker used in the Large Aircraft Infrared Countermeasures (LAIRCM) system.

Mars rovers rely on the clarity and durability of our lens assemblies. The rover Curiosity features them as the “eyes” on all six of its hazard-detecting and navigation cameras. The lens assemblies are one of the few rover features that haven’t undergone major design changes from one mission to the next.
Building trust every day.

Rockwell Collins delivers innovative aviation and high-integrity solutions to commercial and government customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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