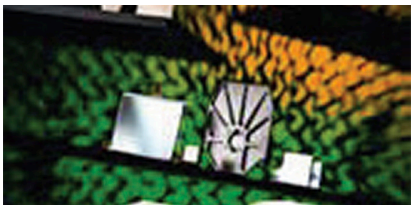
GENERAL DYNAMICS
Mission Systems

Precision Metal Optics



Optical surface design to meet customer prescription requirements or manufacturing

Optimization

Optical mechanical design

Manufacturing process development for exotic materials, coatings and assembly

Finite element and optical design analysis

General Dynamics Mission Systems designs and manufactures custom precision metal optical components and optical assemblies for commercial, defense and space-based applications. We provide end-to-end design, fabrication and testing of beryllium and aluminum optics ranging from single- and multi-faceted scan mirrors to plano and aspheric mirrors to complex telescope assemblies.

General Dynamics Mission Systems designs and manufactures a full portfolio of high-performance electro-optical/infrared (EO/IR) systems and components that provide our customers the clarity, accuracy and reliability to successfully complete their mission.

Applications

- Telescope up to 1.5 meters
- Spectrometers
- Targeting Systems
- Space based observation platforms

Precision Metal Optics

Manufacturing

- Substrate fabrication to include: turning, milling and EDM to achieve complex surface geometries and light-weighting
- Continuous Polishing
- Single point diamond turning
- Precision lapping and grinding
- Computer polish

Assembly

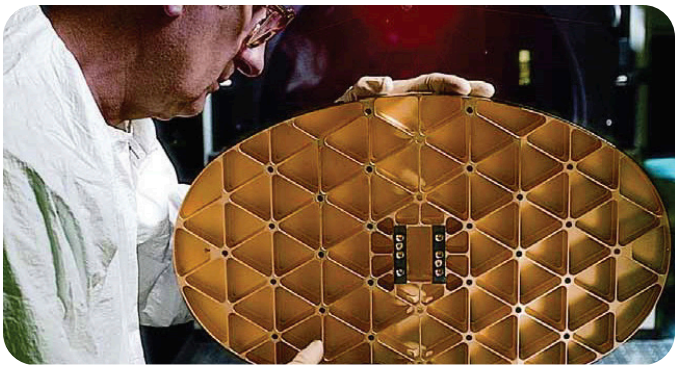
- Prototype development
- Laminar flow booth assembly stations
- NASA-qualified optical assemblies
- Clean Room

Quality Assurance and Metrology

- Interferometric testing
- Static and in-situ metrology
- Zeiss CMM

Product Specifications

- Scan Mirrors
  - Single- and multi-faceted
  - Nickel (Ni) plated Beryllium (Be)
  - Aluminum Beryllium (AlBe)
  - Aluminum (Al)
  - Low scatter polish
- Plano Mirrors
  - Up to 1.5M diameter
  - Rectangular, elliptical, circular
  - 1/12 wave irregularity
  - Low scatter polish
  - 10Å RMS
  - 20/10 scratch dig
  - Temperature testing capabilities
- Aspherics
  - Up to 1.5M diameter
  - Conics and generalized aspheres
  - 1/10 wave irregularity
  - 20Å RMS
  - 40/20 scratch dig
- Assemblies
  - Telescopes
  - Spectrometers
  - Forward looking infrared systems (FLIR)



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