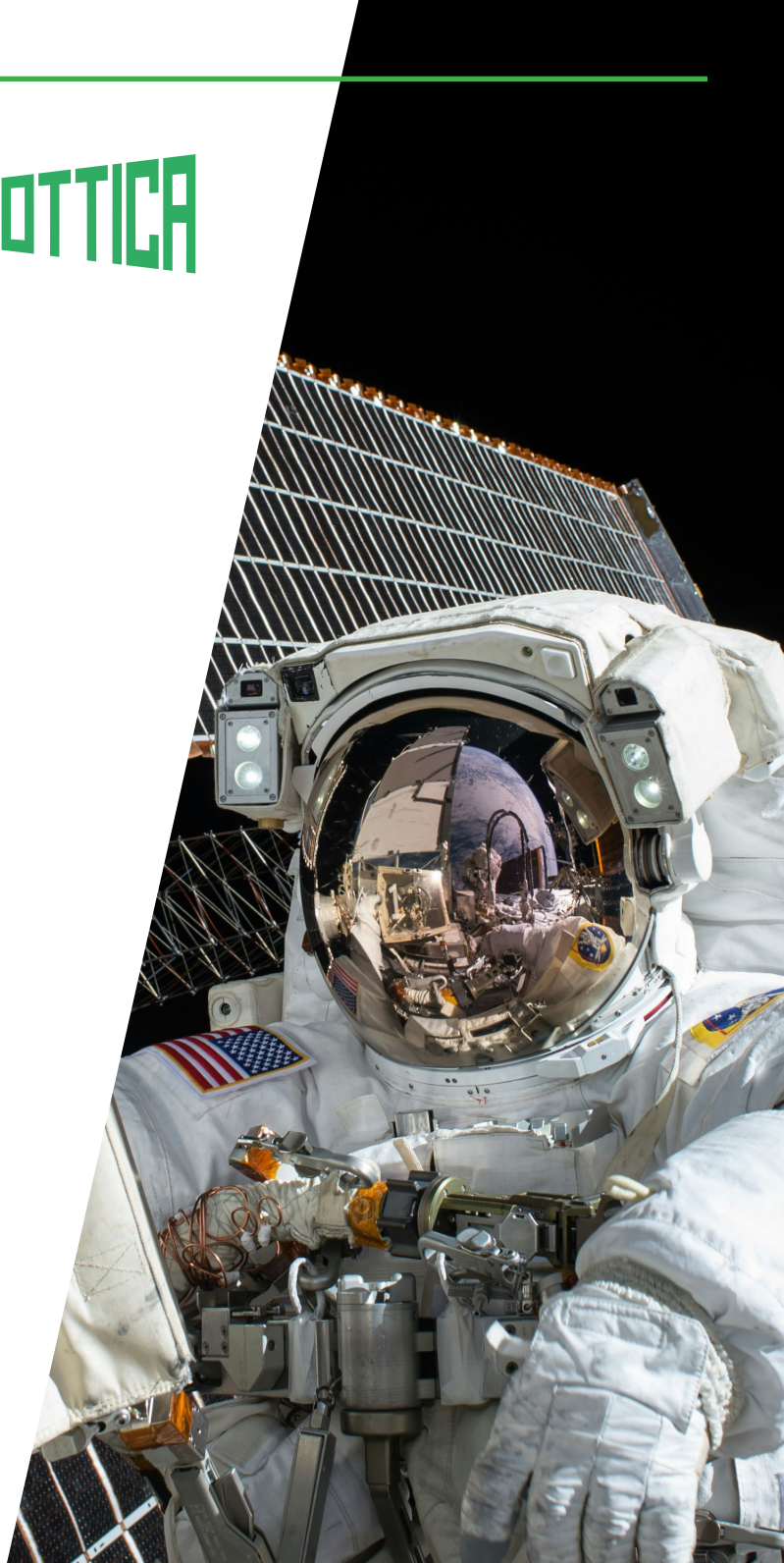
# OPTICAL COMPONENTS FOR THE AEROSPACE INDUSTRY

TECNOTTICA



## OUR OPTICS FOR THE SPACE INDUSTRY

**Spherical lenses.**
Custom optical design with diameters between Ø 3 mm and Ø 310 mm with any radius of curvature and shape.

**Aspheres and Freeform Optics**
A compact product without spherical aberration, reduced dimension and weight, superior performance, cost-effectiveness.

**Large Diameter Optics**
High precision lenses with a diameter up to Ø 310 mm and a surface irregularity up to λ/20.

**Mirrors**
Spherical or plano mirrors with different shapes, material and coating (dichroic mirrors or metallic mirrors) for any purpose.

**Filters**
Filters optimized for ultraviolet (UV), visible (VIS) and near infrared (NIR and SWIR) and dichroic interferencial filters.

**Coating for harsh environments**
Anti-reflective, reflective and dichroic coating resistant to extreme conditions, such as temperature, humidity, solvents, hardness and laser damage (LIDT).

# MATERIALS

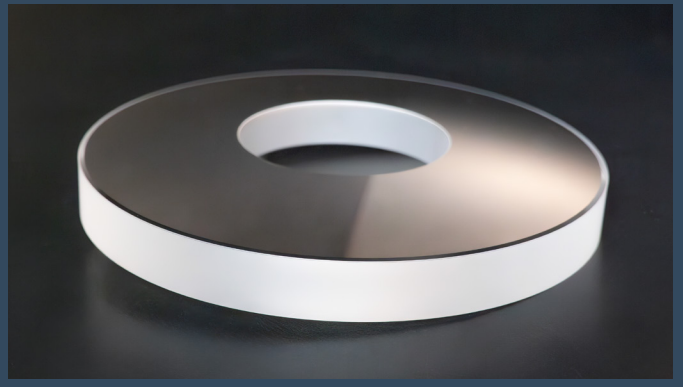
Substrates are crucial in the Aerospace industry and to grant high precision in harsh conditions, such as radiation resistance, thermal stability and mechanical stability, we select the best substrates, including glass-ceramics and specialty glass in the range of UV, VIS and IR.

# OUR EXPERTISE

In Tecnottica we have experience in manufacturing custom optics for Aerospace applications from the VIS to NIR spectral range. We offer different services and manufacturing methodologies to support Clients in all phases.

**A Prototyping service**, from the Site Inspection, Feasibility Study, Design, Production, Project Approval, Glass Sourcing, to Validation and Mass Production.

**Precision Polishing Manufacturing** with Adaptive Deterministic Advanced Polishing Technology (ADAPT) and a Quality Control System (IQS).



**Precision Grinding** for processing wider workpiece geometries, with a Computernumerical-control (CNC) to precisely shape and polish surfaces.

**A specialized Coating Department** for surface treatments able to resist in all environments.

**Advanced Metrology Department** measuring the properties of all optical components and systems, and ensuring they consistently meet desired specifications and function.

**Optomechanical Design and laboratoratory** to obtain and realize the ideal system, that meets the needs of the client.

# TESTS AND QUALITY CONTROL

Our Climatic Chamber, for environmental testing, verify our Coating for Aerospace applications resistance to stress factors, such as high humidity levels and, extreme temperature to ensure higher reliability.

Our Quality Control Department inspect each component to grant that they are fully certified according to:

- **Standard ISO 9211**: defines the general characteristics, the test and measurement methods;
- **Standard ISO 9022**: defines terms relating to environmental tests;
- **MIL-F-48616**: defines the inspection method for the Surface Quality;
- **Standard ECSS-Q-ST-70-17C** verify the durability of the coating in hostile conditions.

# APPLICATIONS

- **Space telescopes and cameras**
- **Advanced sensor systems**
- **Laser and optical communication systems**
- **Navigation instrumentation**
- **Imaging systems for Earth observation**
- **Defense and surveillance systems**

TECNOTTICA

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