OPTICAL SYSTEMS FOR SPACE

- Ultra lightweight glassy & SiC mirrors
- High-performance imaging optics
- Filters & focal plane optics
- Telescope & lens assemblies
- µSat camera system
- Optical ground support equipment

SAFRAN

Optical systems for space

Safran Reosc solutions

From single components to complete optical subsystems, Safran Reosc, a subsidiary of Safran Electronics & Defense, develops and supplies a wide range of high-performance optics for various µSat, sciences, defense and remote sensing.

Capitalizing on its renowned expertise in high-precision opto-mechanical design, fabrication and assembly for space optical systems, Safran Reosc is involved in major programs worldwide.

A unique know-how

To meet the specific requirements of space science and earth observation, Safran Reosc's technologies and solutions combine high levels of quality, precision and accuracy.

Safran Reosc's products are designed with state-of-the-art analysis and optimization tools such as Code V, Nastran and TopCad.
Besides, the optical polishing shop is able to process any refractive optical material and mirror substrates (glass, SiC, beryllium) in all sizes up to 4 meters. High-precision plano, freeform, spherical and aspheric surfaces are produced by Computer Controlled Polishing and Ion Beam Figuring techniques.
With its 15 evaporators, the coating lab is able to develop and deposit any coating on components up to 1.5-meter diameter and 2D structure for advanced E.O. applications.

Proven lens centering and mounting, and mirror attachment techniques are used to align and integrate the components before testing the systems under extensive environmental tests for space qualification.

- **Large aspheric mirrors**
- **Large SiC mirrors**
- **Focal plane optics**
- **Filters and dichroic plates**
- **Ground support equipment**

REFERENCES

SIC mirrors

- ALADIN (ESA)
- ALSAT-2 (Algeria)
- ASTROTERRA (Spot6 & Spot7 – France)
- FORMOSAT-2 (Taiwan)
- GAIA (ESA)
- GOCI – COMS (Korea)
- IASI Corner Cubes (France)
- KazEOSat-1 (Kazakhstan)
- METEOSAT 3rd generation scan mirrors (ESA)
- Multispectral Imager (Japan)
- NIRSPEC (ESA)
- PERUSAT (Peru)
- SPIRALE (France)
- SSOT (Chile)
- THEOS (Thailand)
- VNREDSat-1 (Vietnam)

Glass mirrors

- COROT (France)
- GOMOS (ESA)
- HELIOS 1 & HELIOS 2 (France)
- HIPPARCOS (ESA)
- Hyperspectral Imager (Japan)
- IRS P5 CARTOSAT (India)
- ISO (ESA)
- ISR 1C – 1D (India)
- KOMPSAT-2, KOMPSAT-7 (Korea)
- MERLIN (France - Germany)
- METEOSAT 1st GENERATION F1 – F7 (ESA)
- METEOSAT 3rd generationFCI & IRS (ESA)
- ORFEUS (Germany)
- SEOSAT (Spain)
- SOLAR B (Japan)
- SPOT1 to SPOT 5 (France)

Filters

- SENTINEL 4 (ESA)
- LI Filter (ESA)
- PLEAIDES (France)
- SGLI (Japan)
- CBERS (Brazil – China)
- KOMPSAT (Korea)
- METEOSAT 3rd generation IR filters (ESA)

Lens and focal planes

- OCEANSAT 1 & 2 (India)
- METEOSAT 2nd GENERATION (ESA)
- HRS (France)
- METEOSAT 3rd generation FCI SSA (ESA)

Optical ground support equipment

- Autocollimation Flats (up to 1.5-m)
- Collimator (up to 1.5-m)

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