Orbital systems Satellites Transversal competencies



Part of the Space Direction of Safran Electronics & Defense, **Safran Reosc** is the European leader in high-performance space optics with 50 years of cooperation with CNES, Airbus, TAS and OHB, recognized by ESA, DLR, ISA, ISRO, JAXA, KARI, NASA, FFI, ISA, CAST ...

We deliver the latest and most high-performance space optics and camera for earth observation, weather forecast, science, environment monitoring and Space Situation Awareness.

#### **COMPETENCIES & CAPABILITIES**

#### From spec to final product we offer:

- · Lens design & mechanical engineering,
- Ultra-lightweight glass machining for large size optics,
- Robotic polishing of aspheres & freeform, in metal, glass or SiC, from a few cm to 4-m size, IBF & MRF figuring,
- · Accurate metrology bench design and calibration,
- UV-Vis-IR thin film deposition up to 1.6-m aperture, thin film 2D structuration and pixelated coatings,
- Lens assembly, telescope integration and final performance evaluations in ISO-5 clean room,
- Program & quality management per space standards.



# SAFRAN REOSC

## **PRODUCTS & SERVICES**

Safran Reosc offers critical products & services for optical earth observation, weather forecast, science & environment monitoring:

- · Precision lens design & mechanical engineering,
- · Lightweight mirrors and fixtures (metal, glassy, SiC),
- High performance Vis-IR dioptric optics,
- · Vis-IR filters & thin films, down to cryogenic temperature
- Flexible supply from single component, opto-mechanical module to full telescope or equipment,
- · Precision collimators & reference flats for ground testing,
- Ultra-low SWaP space cameras for nanosatellites.

#### **MAJOR SPACE PROJECTS & REFERENCES**

**Earth observation:** Spot, Helios, CSO, Perusat, KazEOSat-2, VNRED, Ofeq, Formosat, Cartosat, Oceansat, Kompsat-2 & 7, Pleiades Neo

Meteo: Meteosat, MSG, MTG, METOP, IASI, IASI-NG, Gaofen-5, INSAT

**Science:** Orfeus, Solar-B, Solar Dynamic Observatory, Gaia, Hipparcos, Corot, ISO, JWST NIRSpec, Euclid, JUICE

Environment: Aeolus, EarthCARE, Merlin, Microcarb, Copernicus LSTM

**Test Equipment:** Precision large flats & collimators for TAS, Airbus, CNES, ESA, NASA, JAXA, ELOP, ISRO, KARI

Nanosat cameras for NorSat-4 and JAPETUS constellation.

## **POINT OF CONTACT**

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