

Optics for Sentinel 4

Challenging materials. Unsurpassable precision.

Project description: The Sentinel-4 Satellite is part of the *Copernicus-Program*, a joint venture of the **EU** and the **ESA**. Its mission, equipped with two high resolution spectrometer, is the complete monitoring of Europe and North Africa providing reliable high precision real time data for the environmental management.

Project realisation: While Jena-Optronik develops, designs, builds, and tests the optical systems, asphericon is responsible for manufacturing the lenses. The project included a total of 19 different lens types (aspheres and spheres) as well as convex/convex, convex/plano and concave/concave combinations. The lenses themselves range from 50 up to 80 millimeters in diameter and are manufactured of CaF_2 , LAK9, SF6 resp. SiO_2 . asphericon provided lenses with high-end surface form tolerances, surface roughness and surface imperfection tolerances.

Parameters

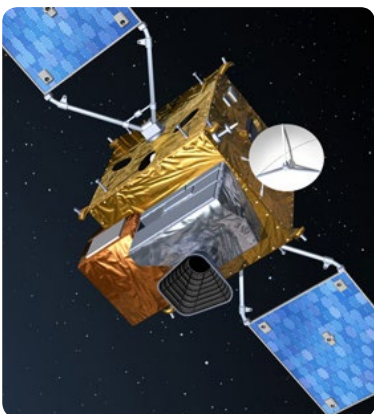


Fig. 1 Sentinel-4 Satellite | © ESA - P.Carril

- = 45 subcontractors, including Jena-Optronik, asphericon, University Bremen
- = Launch: 2022 (Spectrometer 1)
2027 (Spectrometer 2)
- = Time of flight 8 years each
- = Satellite cruising altitude 36,000 km

Objectives

- = Understanding and embarking of the climate change
- = Prevention of natural disasters + guarantee of civil security

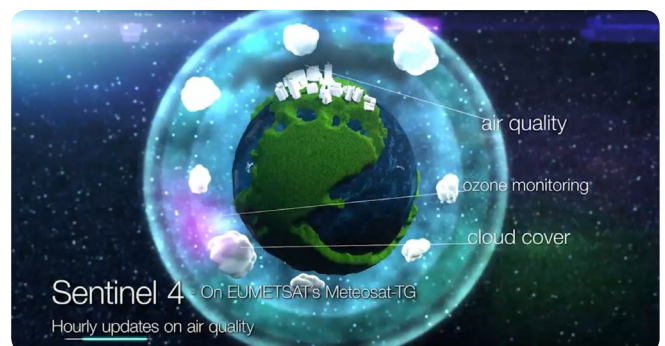


Fig. 2 Objectives of the Sentinel-4 mission | © Airbus Defence Space