

## Attitude and Orbit Control Systems

**We are a worldwide leading company in the field of Attitude and Orbit Control Systems (AOCS) for space applications.**

Our specialists have developed and manufactured opto-electronic sensors for the Attitude and Orbit Control Systems (AOCS) of satellites since the 1980s and evolved this technology to become a worldwide leader in this field.

The product range of Attitude and Orbit Control Systems (AOCS) sensors covers

- Star Sensors ASTRO 10, ASTRO 15, ASTRO APS and ASTROgyro
- Rendezvous- and Docking Sensor RVS, RVS 3000 and RVS 3000-3D
- Fine Sun Sensor FSS

The first Star Tracker ASTRO 1 has proven its space competence on the space station MIR for more than 15 years. Today, the ASTRO 15 Star Tracker developed for long-term missions with high accuracy pointing is successfully operating e.g. on DirecTV's satellites. Application examples for the company's ASTRO 10 Star Tracker are the Earth Observation programs TerraSAR-X as well as Tandem-X and the German SARLupe. The next generation star sensor ASTRO APS is based on innovative CMOS detector technology and will be integrated on the European large telecom satellite AlphaSat.

More than 60 flight units of the Precision Sun Sensor PSS are operating very successfully on space missions since 1997, e.g. on several Alcatel Spacebus 3000 satellites. The successor model FSS (Fine Sun Sensor) is an analogue sun sensor with a high degree of flexibility to cope with a large variety of customer requirements and has been delivered for Radarsat-2, Cosmo-Skymed and Galileo GSTB-V2.

The unmanned transfer vehicles ATV (ESA) and HTV (JAXA), but also the American "Cygnus" approach the International Space Station ISS with the help of the Rendezvous- and Docking Sensor RVS.