

KSAT and Spacetec – Providers of Service and Equipment

One part of the remote sensing activities is to develop, build and launch sensors, another part is receiving and distribution of the data the sensors provide. Many of the remote sensing satellites use polar orbits, thus, all orbits a day can be seen from the polar areas, but few can be seen from areas around the equator. Thus, for those who own and manage the satellites, the first appropriate business is find accessible areas close to the poles, the next is to find companies that have the right competence and are willing to invest in necessary infrastructure.

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KSAT the Key for Remote Sensing Activities

In Tromsø Satellite Station, today Kongsberg Satellite Services (KSAT), the satellite owners and operators find a company that both have access to necessary areas and capital to build the infrastructure. Today the company is owned on a 50/50 basis of the Kongsberg Group and the Norwegian Space Centre Properties, however, it is underlined that KSAT is wholly developed by the Tromsø R&D community.



One of the antennas at the antenna area. Photo: KSAT

Kongsberg Satellite Services AS (KSAT) is uniquely positioned to provide ground station and earth observation services for polar orbiting satellites. With three interconnected polar ground stations; Tromsø at 69°N, Svalbard (SvalSat) at 78°N and Antarctic TrollSat Station at 72°S, and with a growing mid-latitude network, KSAT operates over 50 antennas optimally positioned for access to polar orbiting satellites. The newly established Mid Latitude Network will in addition ensure customers world over possibilities to receive near real time data for their own area.

KSAT has supplied earth observation services dating back to the 1960s and today supports more than 60 satellites, including high resolution synthetic aperture radar (SAR) and electro-optical satellites, allowing us to provide earth observation data and services to a wide range of customers. The Tromsø Network Operations Centre remotely operates facilities around the world through one single interconnected network.

The first time the data was received at the station near Longyearbyen, Svalbard, it was transferred to the mainland via geostationary communication satellites. However, the place is in the border area for contact with the satellites and since it is continuously increasing the data today is transferred to the mainland via fiber cables.

For satellite owners, KSAT manages the only commercial ground station in the world able to provide all-orbit-support (14 passes per day) and provides services for the satellite owners like:

- Telemetry, Tracking and Command services (TT&C)
- Launch and early orbit phase support (LEOP)
- Data acquisition, processing, distribution and archiving
- Hosting and operation of Customer Furnished Equipment (CFE)

Early on, Norway adapted the SAR technology for monitoring the area independently of bad weather and constant darkness in parts of a year. Based on this technology, KSAT's oil spill detection service has been operational for over a decade.

Equipment for Data Sampling

KONGSBERG SPACETEC AS is a world leading supplier of ground stations for data acquisition from Earth observation and meteorological satellites, including production of value added applications both for optical and radar sensors.

The company's business focus is on delivery of meteorological turn-key ground stations and value added applications, environmental and surveillance ground station systems, and value added applications, system engineering, training, maintenance and support.



One type of the MEOS antenna. Photo Spacetec

Kongsberg Spacetec is a part of the international knowledge-based corporation Kongsberg and provides meteorological turn-key systems and value added products, environmental and marine surveillance systems and value added applications, direct ingest system, station control system, engineering, installation, training, maintenance and support and also consultancy studies.

Kongsberg Spacetec is co-located with Kongsberg Satellite Services providing the company a unique possibility to develop and test systems in close relationship with an operational end-user.

The main product is the MEOS TM Polar Ground station. MEOS stands for Multi-mission Earth Observation System and is a flexible and modular turn-key system for acquisition archiving, processing analysis and distribution of meteorological data.

The polar ground stations support sensors in most of the well-known operational satellites such as the American NOAA satellites, the European Metop and some sensors in the Chinese FY satellites. In addition, the system supports the American research satellites TERRA and AQUA. Upgrading is also under way to support the American NPOESS Preparatory Project (NPP) and the reconstructed NPOESS satellites, the Joint Polar Satellite System JPSS.

