

MEOS POLAR

Direct Broadcast Terminal

for L- and X-band Polar Orbiting Satellites



KONGSBERG

The MEOS Polar Ground Station is a multi-mission, flexible and modular turnkey system for acquisition, archiving, processing, analysis and distribution of meteorological data.

The MEOS Polar Ground Station supports the following satellites, sensors and transmission formats:

Satellites	Sensors	Transmissions
NOAA	AVHRR, TOVS, ATOVS	HRPT
SeaStar	SeaWiFS	HRPT
FY-1	MVISR	CHRPT
TERRA and AQUA	MODIS, AIRS, AMSU-A, HSB	Direct Broadcast
METOP	AVHRR, ATOVS	HRPT

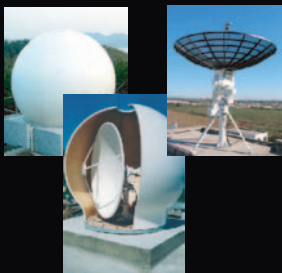
The MEOS Polar Ground Station can be delivered with support for any combination of these missions depending on the customer's requirements. It is easy to upgrade the MEOS Polar to support other existing or future missions, simply through providing new licence files.

Front-end System

The system provide the functionality to track the satellite, receive the radio frequency and deliver data to the ingest system.

The Front End System includes:

- Antenna
- Feed/downconverter
- Digital receiver/bitsynchroniser
- Satellite tracking controller



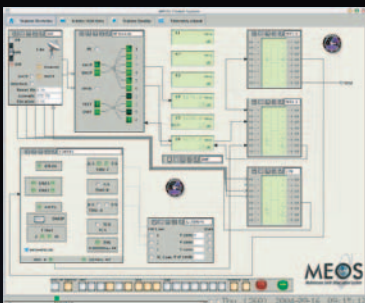
Basic Package

The Basic Package ingests data from the Front End System and provides all the necessary tools for basic processing and operation of the ground station. Data are pre-processed and stored into a Unix file system in mission specific formats or as Level 0, Level 1 and map-projected products in HDF 5 format. All data is archived in a product database.

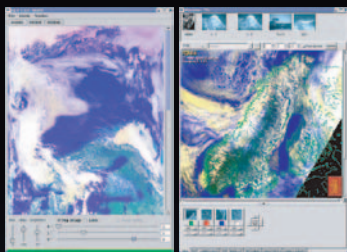
Map-projected products can be viewed with the visualisation software package MEOS View, which is a standard feature of the Basic Package. It is a fast, operational viewing tool containing functions; such as, accessing archived products, zooming, animation, printing, image enhancements, format converting and overlaying graphics.

Raw data files and higher level products may be distributed over LAN/WAN to other users. All operations are automatic and easily configurable, including management of disk space and retrieval of processing parameter files.

The system has advanced capabilities for monitoring of the system. All status information is written to disk as log reports. This gives a unique capability to do diagnostics locally as well as remotely, and to generate reception quality reports. The Basic Package contains a Quick Look Viewer showing incoming data in real time, with possibility to show selected channels, perform image enhancement, view a previous dissemination and to display multiple missions.



MEOS Station Control System
Graphical User Interface



Quick Look Viewer - AVHRR

Meos View - MODIS
channels 1, 2 and 23 with
overlaid coastlines

Features

- Ingest of raw data to disk and pre-processing
- Production oriented Station Control System
- Local and remote operation control
- Configurable Graphical User Interface for monitoring and control of the ground station
- Advanced logging and display of site telemetry and status in real time:
 - Schedule display
 - Activity display
 - Event log display
 - Station overview display
 - Telemetry viewer display
 - Other components (customer specific graphical user interfaces)
- Quick Look Viewer
- Open data access at all processing levels
- Generating of browse and meta data files
- Archiving of raw data and higher order products
- Export of HDF 5 products to JPEG, PPM and PNG
- Distribution of raw data and products (FTP, UDP and NFS)
- Visualisation tools:
 - MEOS View for HDF 5 products
 - HDFLook can be used for MODIS and SeaWiFS Level 1a and Level 1b
- Web reports

Products

- **AVHRR:** Level 1b and calibrated map-projected products
- **SeaWiFS:** Level 1a and Level 1b as generated by the SeaDAS processing package
- **MVISR:** Calibrated map-projected products
- **MODIS:** Level 0, Level 1a and Level 1b, and bowtie corrected calibrated map-projected products. The International MODIS and AIRS Processing Package (IMAPP) is integrated in MEOS and used for Level 1a and Level 1b MODIS processing

All map-projected products have defined projection parameters, and are stored as HDF 5 files.