MEOS POLAR
Direct Broadcast Terminal
for L- and X-band Polar Orbiting Satellites

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:

<table>
<thead>
<tr>
<th>Satellite</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>MEOS</td>
<td>1545 MHz</td>
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<tr>
<td>MEOS</td>
<td>3860 MHz</td>
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<tr>
<td>MEOS</td>
<td>6095 MHz</td>
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<tr>
<td>MEOS</td>
<td>9010 MHz</td>
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<tr>
<td>MEOS</td>
<td>11925 MHz</td>
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<tr>
<td>MEOS</td>
<td>14840 MHz</td>
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</table>

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

Front-end System

The system provides 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/intermediate frequency
- 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 database system in mission specific formats or at 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 visualization software package MEOS view, which is a standard feature of the Basic Package. It is a fast, easy-to-use viewing tool containing functions, such as, accessing archived products, zooming, panning, animating, 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 the operators to keep track of the system 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 preview of data frames and to display high resolution images.

Features
- Input of raw data to disk and processing
- Production oriented Station Operation System
- Local and remote operation
- 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 software interfaces)
- Quick Look Viewer

Products
- AVIRIR
  - Level 0 and calibrated map-projected products
  - SeaWIFS
    - Level 1a and Level 2a as generated by the Sinergise processing package
  - MYSIR
    - Coloured map-projected products
- MODIS
  - Level 0, Level 1a and 1b, and bowtie corrected map-projected products
  - The International MODIS and AIRS Processing Package [SMAPP] is integrated in MODIS 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.

Quick Look Viewer - ASCII
MODIS View - MODIS channels 1, 2 and 3 with overlaid vegetation

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