

MASPALOMAS SPACE STATION



Space missions require the performance of tracking and control activities during the operating life of the space vehicle, as well as support during satellite launching. Similarly, for certain missions, such as those involving earth-monitoring satellites, those responsible for the mission must ensure that the images and data captured by the satellite are received, processed, archived and distributed.

INTA's Maspalomas Space Station carries out an intensive supporting activity in great many international space missions by performing tracking, telemetry and telecommand (TTC), monitoring and control, measurement and ranging calibration operations, as well as receiving, processing and distributing images and data. In addition, our space station is responsible, within its assigned geographical area, for the reception and retransmission of alert messages from emergency beacons as part of the COSPAS-SARSAT mission.

INTA's satellite tracking and control activities are carried out in three specifically delimited areas:

- **MER (Main Equipment Room) SOUTH: TTC and COSPAS-SARSAT operations.**
- **MER CENTER: CREPAD Program (CREPAD is the Spanish acronym for Center for the Reception, Processing, Archiving and Distribution of Images and Earth Monitoring.).**
- **MER NORTH: Remote sensing, acquisition, recording, processing and distribution of earth monitoring data from other missions (NOAA, SEASTAR, LANDSAT, ERS, SPOT and IRS-P3).**

PRODUCTS

The Maspalomas Space Station has the technical and specialized human resources required to handle the following operations:

- Satellite tracking.
- Space mission TTC.
- Satellite launching support.
- Ranging measurements.
- Preparation and distribution of maps showing: ocean surface temperatures by geographic zones; marine chlorophyll, radiances emerging from the water, diffuse attenuation coefficient, aerosol optical thickness and vegetation index.
- Distribution of oil spill images.
- Distribution to the World Fire Web of information regarding forest fires in the area we cover.
- Distribution of earth monitoring data, generally to the scientific community.
- Marine climatology: wind map, wave map, ice map.
- Marine pollution caused by oil spill.
- Marine pollution caused by oil drilling.
- Radar images.

Tracking stations offer society the information obtained by earth-orbiting satellites



TTC operations antenna (15 m), MINISAT operations antenna (5 m) and COSPAS-SARSAT antenna (under dome).



MER North operations room, devoted to earth resources operations with a 10-meter antenna.

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FACILITIES AND EQUIPMENT

The space station's main facilities are:

- Reception and transmission systems using 15 m, 10 m, 9.3 m, 5 m, 4.88 m and 2.4 m dish antennas.
- Uplink, downlink, ranging and Doppler systems, monitoring and control, test, frequency and weather.
- Telecommand and telemetry systems.
- Workstations and multiprocessors.
- Robotized archiving of Earth monitoring products.
- Reception and demodulator chain, real-time recording system, processing lines.
- Communications and data transmission systems.

ACCREDITATIONS

The Maspalomas Space Station is accredited as the Spanish MCC (Main Control Center) for the COSPAS-SARSAT system.

KEY CUSTOMERS

Among the regular customers of the Maspalomas Space Station, the following can be highlighted:

- ESA (European Space Agency).
- NASDA (Japanese Space Agency).
- Scientific institutions and universities.
- EUMETSAT (European Meteorological Satellites).
- Users of COSPAS-SARSAT beacons.
- Diverse regional centers of the Instituto Español de Oceanografía (Spanish Oceanographic Institute).
- Instituto Canario de Ciencias Marinas (Canary Islands Marine Science Institute).
- Other governmental and private organizations, both national and international.

15 m antenna for TTC operations.

