EUMETSAT GEOSTATIONARY AND LOW EARTH ORBIT PROGRAMMES: STATUS AND PLANS

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ABSTRACT

EUMETSAT operates four operational geostationary satellites covering orbital positions around 0° and at 63° East. The first Meteosat Second Generation satellite - now renamed Meteosat 8 - started its routine operations phase on 29 January 2004, upon completion of commissioning. Since then, the MSG system has been delivering observations from 3.4° W and a set of operational services including “Day 1” products. The products and services will be gradually improved and expanded through coordinated efforts across the geographically distributed EUMETSAT applications ground segment. EUMETSAT plans to launch a second MSG satellite in 2005 to provide a hot back up to Meteosat 8.

The development of the EUMETSAT Polar System (EPS) is progressing with the launch of the first Metop satellite planned in the fourth quarter of 2005. The Metop satellite is developed in cooperation with ESA, with payload contributions from CNES and NOAA. Together with the NOAA POES system, the EPS system will form the Initial Joint Polar System and bring innovative European sounding instruments to operational status. In the meantime EUMETSAT has implemented the EARS service to improve the timeliness of access to regional ATOVS data from the NOAA satellites.

Altogether, MSG and EPS will deliver operational observations, products and services over typically 15 years, based on three successive Metop satellites and four MSG satellites, and will thus constitute, together with the network of Satellite Applications Facilities, a major asset for the GMES initiative. In addition, EUMETSAT will contribute with NOAA, NASA and CNES to the Ocean Surface Topography Mission (OS M) scheduled for launch by the end of 2007. This altimeter mission will continue the series of sea level measurements initiated by TOPEX/Poseidon in 1992 and benefit the development of operational oceanography, seasonal forecasting and climate monitoring.

EUMETSAT and ESA have initiated joint preparatory activities for the definition of a Meteosat Third Generation (MTG) system required to replace MSG in the 2015 timeframe. The EUMETSAT user consultation process implemented in 2000-2002 has first defined and prioritised high level user needs for geophysical parameters with explicit reference to their assumed impact on the performances of operational applications. The most demanding requirements in terms of observation frequency were then “assigned” to the geostationary orbit (MTG) in order to identify and assess relevant observing techniques. Requirements for three imagery and two sounding missions were then extracted and captured in a EUMETSAT MTG Mission Requirements Document. This document is one key EUMETSAT input to the system-level pre-phase A studies that ESA and EUMETSAT will conduct in 2004-2005.

The results of the EUMETSAT user consultation will also be used for studies of post-EPS LEO missions, in the framework of a Joint Transition Activities Agreement signed in June 2003 with NOAA.