

EARTH OBSERVATION SYMPOSIUM (B1)  
International Cooperation in Earth Observation Missions (1)

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METOP B IN-ORBIT COMMISSIONING

**Abstract**

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On the 19th of September, Metop B, the second of the 3 Metop satellites, has been launched by a Soyuz rocket from the Baikonur cosmodrome. This paper presents the main activities which have been performed in the weeks following the launch, to thoroughly verify the satellite behaviour and performance, in order to achieve a fully operational status of the platform and avionics, opening the way to the instruments verification. All spacecraft subsystems were found to operate with very good results and margins. This phase has been followed by the detailed verification and calibration of the various instruments, which constitutes the last step before the satellite full entry into service. Metop B, like its predecessor Metop A, is part of a series of 3 satellites developed by Astrium as Prime contractor for ESA and Eumetsat. These satellites are operated by Eumetsat, and are the first European satellites dedicated to operational meteorology flying in polar orbit at an altitude of 830 km. Metop A has been providing data since October 2006, and will now operate in tandem with Metop B. The Metop satellites design is based upon the Spot family of platforms, which has flown more than 10 times through successive versions. Metop uses the last platform version adapted to the highly complex payload made of 11 different instruments, leading to an overall satellite mass over 4 tons. The Metop payload is a mix of instruments coming from Europe and United States resulting from an international partnership between Space Agencies involving EUMETSAT, ESA, CNES, NOAA and NASA. The Metop B satellite first operations were accomplished nominally through an automatic sequence. This first phase was fully nominal, and all critical operations like the deployment of the solar array and its orientation towards the sun, as well as the deployment of 5 antennas were accomplished flawlessly. Attitude and orbit control operations were achieved according to planning, and obtained results were in line with expectations. After the verification of the good health and functionality of the various satellite components, the calibration and validation of the meteorological science data started with progressive dissemination of the meteorological products to the users. Full instruments verification and calibration continued over several months, before the satellite was declared operational by Eumetsat.