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A new era for European weather satellites has begun - MetOp circles the poles

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MetOp-A launch

On Thursday 19 October 2006, at 18.28 (Central European Summer Time) the European meteorological satellite MetOp was launched from Baikonur, Kazakhstan. MetOp A (Meteorological Operational Satellite) is now circling Earth in a polar orbit.

MetOp, from the European Space Agency (ESA) adds new developments to proven technologies, which make additional observation methods possible in high precision. The German Aerospace Center (DLR) has supported the MetOp series of satellites, amongst other ways by the development of innovative methods for data evaluation. MetOp opens a new era for the European meteorology - it will improve numerical weather forecasting in such a way that the reliable forecast period is increased from three to five days.

Weather forecasts can be improved by MetOp because it is not a geostationary satellite. Geostationary satellites, such as the European *Meteosat*, orbit the equator on a geostationary orbit at an altitude of 36 000 kilometres. This is too high to measure temperature and humidity properly. In addition, geostationary satellites do not permit views of the important weather conditions over the North and South Poles.

MetOp closes now this gap. It orbits at a height of 817 kilometres and this offers a clearly higher resolution. Also, its orbit is "Sun-synchronous" - i.e. the satellite passes its observation areas at approximately the same time each orbit.

MetOp is Europe's contribution to a joint project with the USA to operate polar satellites - the Initial Joint Polar System (IJPS). The idea was agreed upon at a summit in 1982. The technological development of MetOp began in the early 1990s with the close cooperation of ESA and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT).

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