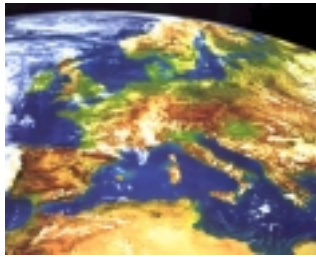


(9/10) Meteorological data and weather forecasts

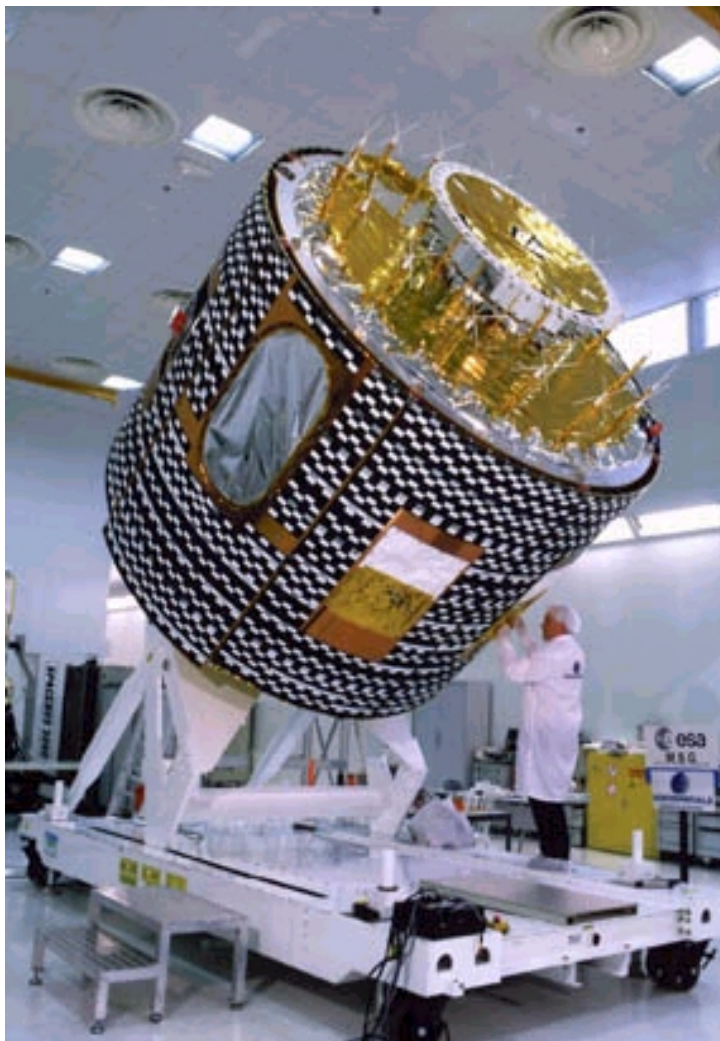


1977: Europe launches its first weather satellite, Meteosat. Meteosat provides twice-hourly meteorological images. European weather forecasting has been completely transformed by the Meteosat satellites, of which seven have been built to date. The Meteosat Second Generation program will take over from 2002.

Meteorology satellites come in two types: **polar orbiting** meteorology satellites move in basically circular orbits, usually at an altitude of 800 to 1500 km, while **geostationary** satellites are positioned at a fixed point above the equator, at an altitude of some 36 000 km. Meteosat is a geostationary satellite.

The new generation

Europe's newcomer, Meteosat Second Generation (MSG) represents a major qualitative improvement.



Fotos: ESA

- Will deliver twice as much images with a refresh rate of fifteen minutes,
- 1 km resolution in the broad visible spectrum (currently 2.5 km).
- 12 spectrum bands can be studied (currently only 3). The visible spectrum being divided into 3 separately imaged bands and the infrared spectrum into 9. This is used to detect traces in the atmosphere of substances such as ozone.
- Fast data transmission. With a data rate of over 3 Mbps, MSG is almost twenty times as fast as its precursor, the present Meteosat.

MSG was designed by the European Space Agency, ESA. The satellite weather data will be processed by Eumetsat in Darmstadt, Germany and relayed to meteorological services. The launch is planned for August 2002.