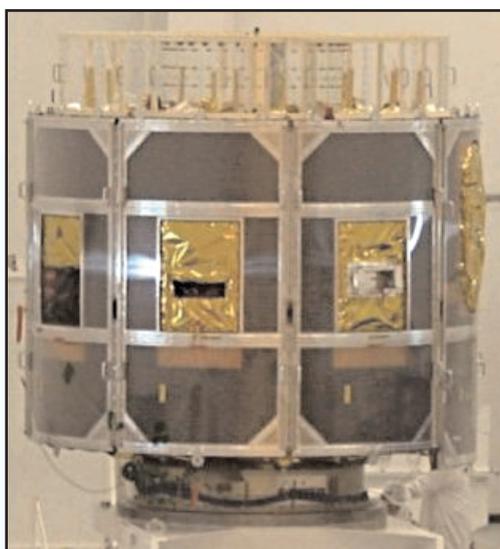


Meteosat-8 second generation satellite



MSG-1 during assembly



MSG-1 at the phase of integration in the Ariane 5 fairing

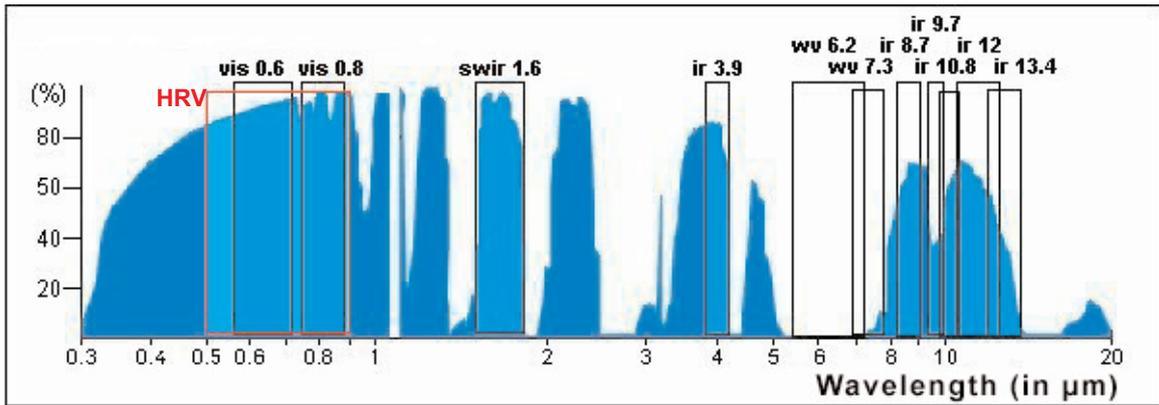
Almost twenty-five years after the launch of the very first Meteosat satellite in November 1977, the first example of the second generation of European weather watch satellites was put into orbit adding a new dimension to the climate monitoring of our planet. On the 28 August 2002 at 7.45pm local time (22.45 UTC), a European Ariane 5 launcher took off from the Guiana Space Centre at Kourou, in French Guiana. Constructed by Alcatel Space Industries with a consortium of more than 50 European manufacturers, MSG-1 was developed by the ESA (European Space Agency) for EUMETSAT, the European organization for the exploitation of meteorological satellites.

Two and a half times larger than the Meteosat 1 to 7, MSG-1 is a cylindrical satellite 3.22 metres in diameter and 3.74 metres high. At lift-off, its mass reached 2 tonnes, of which almost half was taken up by the propellants required to maintain it in position for the 7 years of its operational lifetime. The objective of the MSG programme is to continue the success of the Meteosat missions with new more accurate sensors for the continuous observation of the Earth's atmosphere up to 2014. The MSG satellites will thus continue with the watch that has been continuously provided by their predecessors for a quarter of a century, amassing a multitude of information essential for understanding and modelling the climatic activity of our planet.

Every quarter of an hour (instead of 1/2 hour for the previous Meteosat series), the SEVIRI (Spinning Enhanced Visible & InfraRed Imager) imager can supply an image observed by the satellite in 12 different frequency bands in the visible and infrared spectra. By reducing the data refresh time from 30 to 15 minutes, MSG-1 enables meteorologists to detect rapid development phenomena more easily, such as thunderstorms or snowstorms. Likewise, the resolution of the infrared channels goes from 5 km to 3 km whereas one of the new visible channels supplies images at a resolution of 1 km instead of 2.5 km for the previous ones.

MSG-1 also carries a payload for the collection and retransmission in near real time of observations gathered by the automatic ground stations. Two other satellites will follow MSG-1 in the coming years and the realisation of a fourth satellite is being studied.

MSG-1 reached its position at 3.4°West in January 2004 and was declared operational on 29 January 2004, then taking the name Meteosat-8.



Atmospheric transmission and positions of the Seviri channels

Channel name	Spectral band (μm)	Spatial resolution
HRV	0.5 – 0.9	1 km
VIS 0.6	0.56 – 0.71	3 km
VIS 0.8	0.74 – 0.88	3 km
IR 1.6	1.50 – 1.78	3 km
IR 3.9	3.48 – 4.36	3 km
IR 6.2 (WV)	5.35 – 7.15	3 km
IR 7.3 (WV)	6.85 – 7.85	3 km
IR 8.7	8.30 – 9.10	3 km
IR 9.7	9.38 – 9.94	3 km
IR 10.8	9.80 – 11.80	3 km
IR 12.0	11.00 – 13.00	3 km
IR 13.4	12.40 – 14.40	3 km



Artist's impression of the second generation Meteosat-8 satellite in geostationary orbit