

Metop-A Commissioning

Following the launch of Metop-A on 19 October 2006, the Early Orbit Phase operations were successfully performed by the European Space Operations Centre (ESOC) in Darmstadt over the subsequent 3 days. On 22 October, operations of the satellite were handed over to EUMETSAT and the Satellite In-Orbit Verification phase started. This phase was followed by the remainder of the Commissioning phase, including validation of the product processing chains.

On 15 May 2007, Metop-A was formally declared operational, and users in Europe and beyond could start benefiting from the satellite's unique capabilities.

Post-launch and Commissioning Schedule

Activity	Date	Status
Launch	19 October 2006	Completed
LEOP Handover	22 October 2006	Completed
Satellite In-Orbit Validation (SIOV) Phase Start	23 October 2006	Completed
Direct Readout Service (LRPT/HRPT switch-on)	24 October 2006	Completed
SARR, SARP instrument switch-on	24 October 2006	Completed
AMSU A1 & A2 instrument switch-on	24 October 2006	Completed
First internally produced Level 1 products for AMSU-A1/A2	24 October 2006	Completed
IASI instrument switch-on and start of outgassing	24 October 2006	Completed
AVHRR instrument switch-on and start of outgassing	25 October 2006	Completed
First internally produced Level 1 products from AVHRR (Visible channels only)	25 October 2006	Completed
HIRS-4 instrument switch-on and start of outgassing	25 October 2006	Completed
A-DCS instrument switch-on	26 October 2006	Completed
GRAS instrument switch-on and first data	27 October 2006	Completed

ASCAT instrument switch-on and first data	27 October 2006	Completed
First internally produced Level 1 ASCAT Product	27 October 2006	Completed
GOME-2 instrument switch-on	27 October 2006	Completed
GOME-2 first spectra	30 October 2006	Completed
ASCAT Instrument Functionally Checked	31 October 2006	Completed
MHS instrument switch-on and first data	31 October 2006	Completed
First Internally produced Level 1 MHS product	1 November 2006	Completed
SEM instrument switch-on and instrument functionally checked	9 November 2006	Completed
End of IASI/HIRS/AVHRR outgassing	20 November 2006	Completed
ASCAT switch-on and measurement mode	20 November 2006	Completed
A-DCS switch-on and measurement mode	20 November 2006	Completed
AVHRR First IR channel Data	21 November 2006	Completed
GOME switch-on and restart of verification	21 November 2006	Completed
GRAS switch-on and measurement mode	21 November 2006	Completed
HIRS in measurement mode and First Data	21 November 2006	Completed
First Internally Produced Level 1 HIRS and AVHRR (IR) products	21 November 2006	Completed
MHS switch-on and measurement mode	23 November 2006	Completed
Payload Module Reactivation	24 November 2006	Completed

First Results using pre-calibrated ASCAT Level 1 products	27 November 2006	Completed
AMSU-A switch-on and measurement mode	27 November 2006	Completed
IASI First measurement data available	27 November 2006	Completed
First internally produced IASI Level 1 Product	29 November 2006	Completed
MHS instrument functionally checked	7 December 2006	Completed
AVHRR Instrument declared ready for routine operations	14 December 2006	Completed
HIRS Instrument declared ready for routine operations	14 December 2006	Completed
First Internally Produced Level 1 GOME-2 Product	20 December 2006	Completed
IASI Instrument in Nominal Operations	20 December 2006	Completed
Switch-on of the MetOp-A LRPT Direct Readout Service	15 January 2007	Completed
AMSU-A instrument functionally checked	18 January 2007	Completed
Switch-on of the MetOp-A AHRPT Direct Readout Service	23 January 2007	Completed
GRAS Instrument Functionally Checked	23 January 2007	Completed
Search And Rescue Package Functionally Checked	24 January 2007	Completed
Switch-Off of LRPT Direct Readout Service	26 January 2007	Completed
First internally Produced Level 1 GRAS Product	Early June 2007	
IASI instrument functionally checked	30 January 2007	Completed
ASCAT instrument functionally checked	31 January 2007	Completed

GOME-2 Instrument functionally Checked	31 January 2007	Completed
A-DCS instrument functionally checked	February 2007	Completed
Search and Rescue Package declared operational	March/April 2007	Completed
Completion of SIOV phase	March 2007	Completed

Status of Metop-A AHRPT

On 4 July 2007 the AHRPT transmitter was observed to have autonomously switched off. Investigations with Astrium and ESA/ESTEC were initiated and have thus far concluded that the failure on the nominal AHRPT is of a permanent, non-correctable nature and as such, the nominal AHRPT subsystem cannot be used for the remaining operational life-time of the Metop-A spacecraft. For more information see the news updates of [10 July](#) and [31 July](#).

The ESA/EUMETSAT Failure Investigation Team is currently performing testing on the likely failed component of the AHRPT SSPA in order to diagnose the exact failure mechanism. The results of this investigation are not expected prior to February 2008. These results will help identify if there is any action which could be taken in the operation of the A-HRPT B-side on Metop-A which would reduce the likelihood of a similar failure occurring on that unit. Therefore, there are currently no definitive plans to activate the A-HRPT B-side on Metop-A.

Early Release of Data and Products

To access the EPS Global Data Products on EUMETCast during the commissioning period, users are requested to complete the [on-line registration form](#).

When completing the registration form we recommend that users select those products they would like to receive during EPS operations and complete any licensing process as required. Registered users will be granted access to these data during commissioning on a product by product basis as the global data become available.

The following table provides an indication of when pre-validated level 1 and level 2 products will be made available via EUMETCast and the Archive Service. Precise dates of the start of trial dissemination will be announced nearer to the event. Please note that pre-validated products may become available at an earlier date than indicated.

Product	Availability Date	Status
AVHRR/3 Level 1	End November 2006	Started 28 November 2006
AMSU-A Level 1	31 October 2006	Started / resumed 29 November 2006
MHS Level 1	End November 2006	Started 27 November 2006

HIRS/4 Level 1	End November 2006	Started	28 November 2006
ASCAT Level 1	31 January 2007	Started	
IASI Level 1	24 May 2007	started	
GOME-2 Level 1	1 March 2007	Started	
GRAS Level 1	August 2007	Started	
ATOVS Level 2	Autumn 2007		
IASI Level 2	September 2007	Started	

Access to Data during Commissioning

Until the entry into operational service, the priority was given to commissioning activities. The early access to EPS data was therefore provided on a best effort basis, without full service commitment. This implied that schedule changes might occur at any time and that dissemination might be interrupted due to other commissioning activities. Data delivered during commissioning was not considered to be validated data.

Commissioning overview

The commissioning was conducted over three distinct phases:

- The Launch and Early Orbit (LEOP) Phase had a duration of 3 days. All operations were performed by the LEOP Service Provider (ESOC). The activities were formally closed by the Satellite Handover Review (SHR), at which point the satellite control was transferred from ESOC to EUMETSAT.
- The satellite In-Orbit Verification (SIOV) phase. During this phase, all operations were performed from the EPS Control Centre at EUMETSAT. The Satellite In-Orbit Verification tests were defined and conducted by the ESA/EUMETSAT Single Space Segment Team (SSST). This phase ended with the SIOV Review (SIOVR), declaring formally the space segment as verified and suitable for operational usage and for subsequent system In-Orbit Verification and Validation activities. The nominal duration of this phase was 10 weeks, with several instrument chains being made available gradually throughout the phase.
- The In-Orbit System Verification and Validation phase. During this phase, the system and the services to the End-Users were validated in an end-to end manner by the EUMETSAT Team before being declared operational. In practice, and with the objective of optimising the schedule, this phase was initiated in parallel with the SIOV, as soon as the relevant data/services become available. The activities included the product and instruments Calibration and Validation (Cal/Val) activities. This phase, and therefore the commissioning activities, was closed by the Commissioning Handover Review (CHR) which was completed on 15 May 2007.

Sequence of instrument switch-on:

