

**UNIFIED ARCHIVE AND RETRIEVAL FACILITY (U-MARF):
DEVELOPMENT OVERVIEW AND STATUS**

This document presents the status of development of the Unified Archive and Retrieval Facility (U-MARF) at EUMETSAT.

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1 INTRODUCTION

The objective of the U-MARF is to implement a unified, incremental EUMETSAT Meteorological Archiving and Retrieval Facility (MARF), and its related on-line User Services, for data from the Meteosat (MTP), Meteosat Second Generation (MSG) and Eumetsat Polar System (EPS) missions.

The procurement approach consists of a phased incremental development consisting of two major versions as described in document CGMS-XXVII EUM-WP-25. The development of the first version (V1) of the U-MARF is phased with the MSG development programme and will provide services related to METEOSAT and MSG data and products. With the second version of the U-MARF (V2), to be developed in parallel to the EPS programme, U-MARF services will be further extended to the EUMETSAT Polar System (EPS) and connectivity interfaces with the Archiving and Retrieval services offered by the Satellite Application Facilities (SAF).

The U-MARF project team was set-up at EUMETSAT in early 1998. The U-MARF Facility is being procured from industry based on a contract awarded in November 1998 to a Consortium lead by Matra Systèmes & Information (F) and involving Advanced Computer Systems (I) as a major sub-contractor. The industrial development was kicked-off in mid-December 1998.

2 DEVELOPMENT STATUS

In 1998, the U-MARF development started with the Requirement Analysis and Architectural Design Phases. These phases aimed at studying the U-MARF as a whole, i.e. analysing the V1 and initial V2 requirements and defining the V1 architecture, as well as a preliminary architecture for V2.

The latest phase was concluded by the Architectural Design Review held in May 1999.

Further on, the U-MARF development concentrated as planned on the V1 version, with two additional distinct lifecycles:

- The V1-A version, which consists of 4 subsystems, aims at implementing the full ingestion chain of MSG data until archiving and cataloguing,
- The V1-B version, which adds 3 additional subsystems/functions, i.e. MTP ingestion, Product Formatting and Delivery and User Services the latter including automated web retrieval functions.

The Detailed Design Reviews of the V1-A and V1-B versions were respectively held in July and October 1999.

The Production phase of the V1-A version has been closed. After several sessions of System Verification testing of the V1-A version on the contractor's site, in April and May, the authorisation to ship the V1-A configuration to the EUMETSAT Headquarters was given in May 2000. 18 months after the kick-off of the project, the shipping and installation of the equipment related to this V1-A version has been completed.

After a complete validation of the archive subsystem in its final hardware configuration, the V1-A Acceptance Tests will be performed in September 2000. This should enable the U-MARF, after a successful conclusion of the formal V1-A Provisional Acceptance Review, to support the pre-integration activities with the MSG Ground Segment.

During these intense V1-A activities, development of the V1-B subsystems has not been neglected. These developments shall be completed with the various Factory Acceptances of these V1-B subsystems planned in July and August 2000. The Integration Readiness Review of the V1-B version formally terminating the V1-B production is scheduled for the end of September and the Provisional Acceptance Review of the V1-B for the end of 2000.

Within EUMETSAT, the requirements of the next U-MARF V2 version extending to EPS and SAF services are planned to be finalised by November 2000, in order to start the Updated Architectural Phase which will prepare the procurement of the U-MARF V2. The kick-off of the V2 development is planned for July 2001.