

RMIB GERB Processing: Project Plan

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CHANGE RECORD

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1 Introduction and scope

This document gives an overview of the management of the RMIB GERB Processing (RGP) project. This project aims at fulfilling the requirements given in document MSG-RMIB-GE-RS-0001. The documentation related to the project is listed in MSG-RMIB-GE-LS-0001.

2 Project breakdown

2.1 Project deliverables

The RGP project must deliver the following items before the launch of the GERB satellite:

- the source code for the RGP, including scripts.
- the executable modules for the RGP.
- the initial hardware on which to run the RGP software.
- technical documentation for every RGP subsystem and for the RGP system as a whole.
- the user manual for the RGP output products.
- the RGP operator manual.

The technical documentation for every RGP subsystem includes:

- algorithmic documentation
- software documentation
- unit level test results

The technical documentation for the RGP system as a whole includes:

- software documentation
- system level test results

2.2 Development philosophy

Neither of the bodies funding the development of the RGP (see section 5) has placed any requirements for the use of specific development methodologies.

The bulk of the development work consists of the development of new scientific algorithms. The focus lies on the quality of the output of those algorithms. Their execution time should be low enough to allow near real time processing with the computing machine budget (see section 5).

Therefore a gradual development philosophy is adopted (see section 4).

2.3 Software tools

The project software code must be able to run on any UNIX machine. In the development stage SGI UNIX and LINUX are used. Software code that must run in real time is written in ANSI C. Scripting is limited to sequential calling of programs.

For documentation a preference is given to latex but MS word is also tolerated.

2.4 Breakdown into work packages

The project work is broken down into work packages in document MSG-RMIB-GE-TN-0010. This is a living document, which is continuously updated. It reflects the state of the project work package execution at the time of the last update as well as an estimate of the execution times for the remaining work per work package.

3 Project organisation

3.1 Organisational structure

The development team consists of a number of developers, lead by L. Gonzalez. L. Gonzalez has the support of S. Dewitte.

3.2 External interfaces

The RGP project has interfaces to several external groups outside the immediate development team.

The first group are defined by Interface Control Documents as the information that is needed about the interface is technical. These external groups and the relevant documents are:

- the RAL based GGSPS. Document MSG-RAL-GE-IF-0011
- EUMETSAT. Document “HRIT-LRIT Global specification. Issue 2.5”
- the RGP data users. Document MSG-RMIB-GE-0001

The second group of external bodies are those to which the project reports. These are:

- the GERB International Science Team (GIST).
- the Belgian science policy office.
- the European Commission

The first of these oversees the development of GERB from a scientific perspective. The last two bodies are providers of funds.

The final group with which the project has interfaces are specific teams within the programme for building the GERB instrument. The RGP team need to be aware of many, though not all, of the details of the hardware development. Those listed here are due to the need to know specific properties of the instrument.

- Groups within RAL who design the GERB instrument.
- Detector developers at Leicester University.
- Imperial College (for the results of ground calibration and general science).

3.3 Project responsibilities

S. Dewitte is responsible for the scientific quality of the RGP output products.

L. Gonzalez is responsible for the delivery of the RGP system.

The responsibilities for the different subtasks are described in document MSG-RMIB-GE-TN-0010.

3.4 Documentation

A specific workpackage is not finished without generation of technical documentation. No specific form for the documentation is imposed. As a minimum, the technical documentation should contain the information needed for the maintenance of the developed subsystem.

A list of all RMIB documentation relative to the GERB project is kept in document MSG-RMIB-GE-LS-0001.

4 Project phasing

The project is divided into several phases:

1. The system is designed at block scheme level in a number of subsystems. The subsystems are functional units, not yet specified in terms of executable programs. This first level of the design is described in document MSG-RMIB-GE-TN-0004.
2. Candidate algorithms for the subsystems are coded, tested (unit level test) and documented. This second level of the design is described in documents MSG-RMIB-GE-TN-0003,5,6,7,8 for the different subsystems.
3. A working system is assembled and tested (system level test).
4. The hardware on which to run the system operationally is purchased.

4.1 Project milestones

Several milestones for the RGP are planned:

Milestone	Date	Comments
Preliminary Design Review	3 March 1998	Opportunity to review phase 1
Critical Design Review	Aug 1999	Opportunity to review phase 2
Operational Implementation	May 2000	
End to end test	TBD	TBD with RAL GGSPS
Launch of MSG-1	24 October 2000	

4.2 Schedule management

The schedule is managed in document MSG-RMIB-GE-TN-0010.

5 Funding

The RGP is being funded by the Belgian science policy office under the PRODEX programme and by the European Commission under the Framework IV programme. The funds available are 8 million BF from PRODEX and 531 keuro from the EC.

A separate computing machine budget of 4 million BF is available from the Belgian science policy office (LOTTO).