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Transport Programme
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MAEVA

A Master ATM European VAlidation Plan

MAEVA Summary Report

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1. INTRODUCTION AND OBJECTIVES


The validation of air traffic management (ATM) systems is an on-going process which is carried out at the same time as the system is being developed. The detailed definition of validation programmes, methodologies, tests and trials for these systems is a quite complex task.

The major objective of the Master ATM European Validation Plan (MAEVA) Project was to provide the European Commission (EC) with an overall validation strategy for the future pre-European Air Traffic Management Programme (EATMP) for its Fifth Framework Programme (5th FP) validation projects. MAEVA, which was sponsored by the Directorate General for Transport and Energy, was also expected to provide decision-making support in managing all Fifth Framework Programme validation related projects and co-ordinating with Eurocontrol and Member States within an overall European validation initiative.

The objectives proposed for MAEVA were:

- To produce a validation methodology to be applied by the projects and consolidate it in a single document, the Validation Guideline Handbook (VGH).
- To produce a consistent and complete Validation Master Plan (VMP), taking into account on-going and future related projects.
- To monitor validation-related projects and their alignment with the Validation Master Plan, and identify deviations in the scope of the validation, the methodologies and the management.
- To tune and update the VGH and the VMP on the basis of results of the monitoring process.
- To support the decision-making process of the European ATM community in the area of ATM development.
- To make recommendations to EC decision-making bodies.
- To disseminate the results of MAEVA broadly.


MAEVA consolidated a common, consistent methodology for validation of the pre-EATMP system to ensure a consistent validation process of the EATMP concept through individual validation projects. It supported the specification of the required validation environment for individual validation exercises and the ATM components to be considered by the projects. The validation exercises identified were closely monitored and assessed. For this purpose, MAEVA established links with the validation projects and a group of ATM validation experts in order to obtain feedback from them. The MAEVA results were also broadly disseminated in the ATM community.

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2. MAEVA PARTNERSHIP

Taking into account the EC need for strong reactive support throughout the monitoring and assessment processes MAEVA formed a small but cohesive team of recognised experts in several areas of interest: Isdefe, the project coordinator (Spain), Aena (Spain), AVTECH (Sweden), NATS (UK) and Sofréavia/DNA (France). The following table contact details for the MAEVA team.

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3. DESCRIPTION OF WORK


In order to achieve the proposed objectives the MAEVA work was structured in three phases: Definition, Monitoring and Assessment.

During the Definition Phase (Phase 1), MAEVA produced the VGH and VMP, the main outputs of this phase, with a minimum level of granularity. MAEVA also identified on-going or foreseen ATM validation-related projects, and proposed guidelines and specifications to monitor methodologies and trials for individual validation projects. This phase also defined methodologies and validation trials and tests applicable to each of the identified projects.

During the Monitoring Phase (Phase 2), MAEVA monitored the validation activities undertaken by the identified validation projects to ensure that they were correctly following the guidelines defined in Phase 1. Deviations were identified and the VGH and VMP were updated in accordance with the results of the monitoring and assessment process. During this phase, the results of on-going and future validation-related projects were continuously monitored and assessed. The results obtained were disseminated through the expert groups, the ATM community as a whole and through a dedicated website. The major products of this phase were technical monitoring reports on the findings of the assessment of the results of the validation processes.

The Assessment Phase (Phase 3) assessed, analysed and consolidated the results obtained in Phase 2 regarding the validation processes or validation methodologies. It also evaluated the potential benefits of the TORCH Operational Concept¹ on the basis of its validated status at the time of initiation of Phase 3. Recommendations were proposed to the EC for its further validation activities within the FP5. The product of this phase was a final report synthesising and consolidating the assessment of the products of Phase 2.

¹ The TORCH Operational Concept is an ATM concept for the year 2005 onwards, developed under the sponsorships of the EC in the TORCH project.


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4. RESULTS AND CONCLUSIONS

Documents were produced summarising the monitoring, assessment and results obtained during the MAEVA lifetime. The most important documents were the VGH and the VMP. The MAEVA Final Report is also a major result of MAEVA. These documents are public and will be the main reference for the users of MAEVA:

- The VGH: This document provides guidelines for conducting validation exercises based on an uniform validation framework. The objective of the VGH is to assist users in performing their validation activities. This document was updated within MAEVA to address and include best and most-widely used practices applied in the validation exercises being monitored.
- The VMP: This document establishes a validation framework for analysing projects involving validation of the ATM system. The overall MAEVA overview of the validation processes is presented in a series of tables that show the status of each of the monitored validation projects with regard to series of validation-related aspects. On the basis of all the information, this document identifies potential gaps and potential overlaps and conclusions in addressing the elements of the TORCH Operational Concept.
- The MAEVA Final Report: This document summarises the findings, recommendations and conclusions obtained from assessing the validation processes conducted by the monitored projects.

The MAEVA results were broadly disseminated through out the ATM community. Three Dissemination Forums were held during the project, in Barcelona and in Palma de Mallorca (Spain).

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5. .EXPLOTATION AND DISSEMINATION

Dissemination was performed in two stages:

- Limited Dissemination or consultation. The objective was twofold: to collect the opinions, suggestions and positions of a small set of experts on the revised methodologies and VMP to tune and improve the work performed by MAEVA, and to achieve a maximum level of consensus with representative organisations in the field.
- Dissemination to the broad ATM community: Once the consultation process was completed for a specific new release of the Validation Methodology, gathered in the VGH, and/or VMP, dissemination was brought to the overall European ATM community.

In order to disseminate the MAEVA outputs, three dissemination forums were organised during the lifetime of the project. These forums were held in Barcelona and in Palma de Mallorca (Spain).

A group of European experts representing key stakeholders in the validation of ATM Systems attended the Dissemination Forums: Policy Makers, Service Providers (Navigation, Airports, Controllers), Users (Aircraft operators, Pilots), Research Centres, Industry. These stakeholders were of ATM systems selected by the EC and in co-ordination with the MAEVA Core Teams. They also included representatives of the Eurocontrol Agency and other European organisations.

A public Website was also created and maintained during the project to disseminate the outputs generated.

Regarding the exploitation of results and the use intentions for the MAEVA outputs, it is worth mentioning that the most important outcomes of project, the VGH and the VMP, are expected to be the main references for users. These documents and other documentation produced during MAEVA will also help the EC in their decision-taking process regarding the application of validation methodologies.

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MAEVA Summary Report**

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**MAEVA
Contract N° 2000-AM.10011**

Project

Coordinator: Isdefe

Partners:

Aena
AVTECH
NATS
SOFREAVIA

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