



# Final Project Report

## Document information

Project Title	Performance Analysis of ATM Target Concept
Project Number	B.05
Project Manager	ENAIRE
Deliverable Name	Final Project Report
Deliverable ID	D55
Edition	00.01.00
Template Version	03.00.04

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## **Abstract**

B.05 objective was to assess the overall performance benefits of ATM Target Concept based on Master planning information and Validation Results coming from SESAR Programme's R&D activities, which were processed, analysed and compared with Validation Targets to identify gaps. As part of these activities, B.05 produced guidelines and support to ensure a common approach to measuring performance among projects, along with a continuous assessment and integration of validation results produced along the programme..

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Rational for rejection
None.

## Document History

Edition	Date	Status	Author	Justification
00.00.01	31.08.2015	Draft		Creation of the document
00.00.02	15.12.2015	Draft		Integration of B.05 partners comments
00.00.03	08.04.2016	Draft		Adaptation to New Template and integration of SJU comments
00.01.00	12/09/2016	Final		Integration of comments from external projects

## Intellectual Property Rights (foreground)

This deliverable consists of SJU foreground.

## Acronyms

Acronym	Definition
ATM	Air Traffic Management
EATMA	European Air Traffic Management Architecture
F2F	Face to face
KPA	Key Performance Area
KPI	Key Performance Indicator
Project B04.01	Development & maintenance of the ATM Performance and business aspects of the European ATM Enterprise Architecture
Project C.02	Deployment/Performance planning and reporting
Project 16.06.06	Business Case Maintenance, support and coordination
R&D	Research and Development
SESAR	Single European Sky Air Traffic Management Research Programme
SJU	SESAR Joint Undertaking
TMA	Terminal Manoeuvring Area

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# 1 Project Overview

B.05 main objectives were to assess the overall performance benefits of the ATM Target Concept based on evidences and results coming from the SESAR Programme's R&D activities and to compare those benefits with the validation targets identifying the causes of the potential gaps.

B.05 activity was part of the SESAR Performance Management process assessing benefits built upon the Performance Framework defined by project B04.01, supporting the Master Planning activity developed in project C.02 through the identification of the most promising deployment packages and scenarios in terms of performance benefits and in turn, supporting the elaboration of Business Cases by project 16.06.06 through B.05 assessments and gained experience.

Consequently, to ensure that performance measurements developed by SESAR projects were relevant, consistent, comparable and representative, B.05 elaborated reference material and gave continuous support through the review of validation plans, validation reports and participation of meetings and workshops with the operational projects.

## 1.1 Project progress and contribution to the Master Plan

Performance has been a key driver for SESAR as a cornerstone on which the success of the programme can be measured. Project B.05 was tasked with a) assessing the performance impact of the operational improvements of the SESAR Target Concept, as validated by the SESAR programme and with b) identifying the performance achievements of the programme when comparing with the expected performance reflected through the validation targets.

This was achieved by estimating the performance improvement of each SESAR Solution for the SESAR Key Performance Areas (KPAs), namely: Fuel Efficiency, Capacity, Predictability & Punctuality, Civil-Military Cooperation and Coordination, Cost-Effectiveness and Flexibility. Due to its evolutionary nature, the performance assessment activity needed to be performed in several yearly iterations, using additional or updated exercise validation results to continuously refine the quality of the assessment. The process comprised the following activities:

- Definition of the scope of the assessment, ensuring a clear understanding of the KPAs and KPIs under analysis;
- Preparation for the SESAR Solution assessment, gathering all of the relevant documentary information that was available to obtain a thorough understanding of the objectives of the Solution, the validation expectations and plans, and finally the validation results;
- SESAR Solution assessment principally performed through review of the documentary information followed up by reviews with the project coordinators by F2F meetings and/or webexes. The projects belonging to the same SESAR Solution were assessed collectively to understand how they expect to deliver benefits. The performance mechanisms, assumptions and constraints and an updated assessment of performance indicators were produced;
- Aggregation of benefits to an appropriate level for each KPA, either European/Network (for example for Fuel Efficiency) or Local level (for example for Capacity);
- Comparison of benefit expectations against targets, identifying and analysing gaps in terms of differences between target and assessment.

To support this activity, software models were developed and maintained for each KPA. Besides, to ensure the availability and consistency of the information needed for the assessment, several guidance documents were produced and made available to projects. Continuous support was provided to projects for the application of this guidance along with review of their key documents and face to face meetings.

Finally, B.05 assessments were key inputs into the identification of essential deployment packages and scenarios as part of the Master Plan process under project C.02 umbrella as well as into the elaboration of the business cases undertaken by 16.06.06 where the benefits were monetised over time to assess the financial and economic impact of SESAR. For doing these activities, close cooperation and team work with C.02 and 16.06.06 were established to ensure a common

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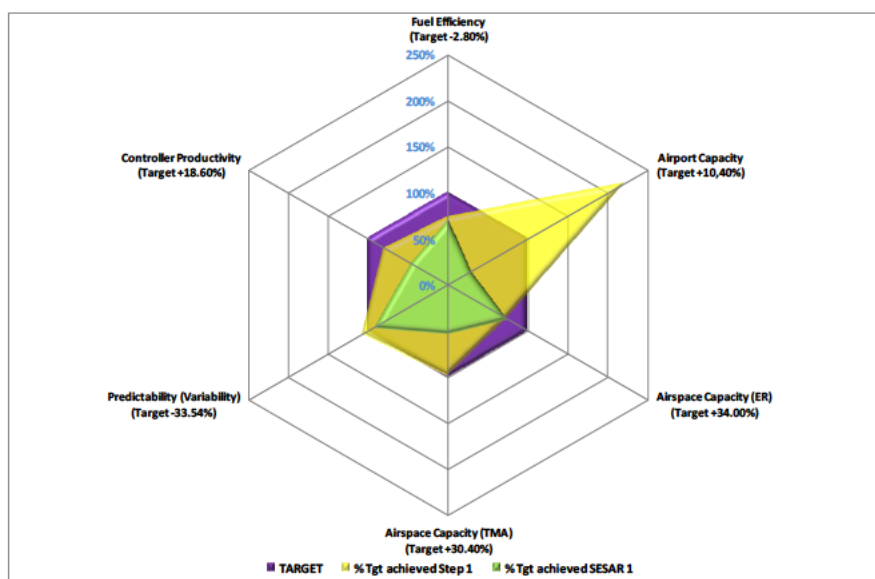
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understanding of the performance assessment methods applied by B.05 and the needs to be addressed for the construction of key deployment elements and their correct monetisation.

## 1.2 Project achievements

The main achievements of project B.05 towards the continuation of the activities in SESAR 2020 are the following:

- Overall Step 1 Performance Assessment and Gap Analysis (referred to the Step 1 of the ATM Concept Story Board Steps) showing that the programme has achieved the targets defined by B04.01 and in some cases it has even over passed them. The next figure shows in summary the assessed achievement of the Step 1 and SESAR 1 for the principal KPAs for which targets have been assigned.



- Overall SESAR 1 Performance Assessment (referred to the solutions that in the programme have proven proper maturity to be deployed) that will be used as a baseline for Performance Assessment in SESAR 2020;
- Pilot Common Project Performance Assessment, referred to a preliminary benefit assessment of the first materialisation and implementation of the most relevant ATM functionalities developed by SESAR;
- Reference Material for KPIs measurement and Data Collection aligned with the Performance Framework to ensure that SESAR 2020 projects can measure performance in a relevant, consistent, comparable and representative manner;
- Integration of Performance aspects into European ATM Enterprise Architecture (EATMA) that will support the population and collection of performance data, the consolidation of performance benefits and the identification of deployment packages and scenarios for SESAR 2020 Performance Management process;
- Common Assumptions Management for SESAR 2020 to ensure that performance assumptions used for benefit consolidation are consistent with the operational assumptions taken by Solutions Projects and with the assumptions undertaken for the Business Cases elaboration.

## 1.3 Project Deliverables

The following table presents the relevant deliverables that have been produced by the project.

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D72	Final Performance Assessment Report	This deliverable presents the final performance assessment results and gap analysis, as the last iteration of the process. It consists of two complementary parts: a document with a summary of the assessment results, gap analysis, a description of the methodology applied and also identifies issues arising during the assessment process, and the PARs (Performance Assessment Reports) providing the detailed calculations, assumptions and gap analysis for each SESAR Solution assessment.
D86	B.05 Guidance on KPIs and Data Collection – Support to SESAR 2020 Transition	This document provides guidance to those involved in obtaining and consolidating performance data and includes guidance on KPIs and Data Collection for the KPAs of Punctuality, Civil-Military cooperation and coordination, Flexibility and Resilience, Environment/Fuel Efficiency, Airspace Capacity, Airport Capacity, Predictability and Cost Effectiveness. It details the data that needs to be collected (indicators/metrics) and in which format.
D92	Data coherence and assumptions management report 2016	Report on Data Collection activities (Performance data and Assumptions). Coordination activities with C.02 and 16.6.6 during 2016.

## 1.4 Contribution to Standardisation

Not Applicable.

## 1.5 Project Conclusion and Recommendations

The main purpose of project B.05 was the Performance Assessment, aimed at providing stakeholders with a consolidated view of the performance validation indicating what was achieved by the solutions developed during SESAR1, providing a consistent baseline for starting SESAR2020 performance activities and representing a key input to the SESAR Business Case.

Upon completion of the project activities, the following conclusions and recommendations can be derived:

- The programme has successfully demonstrated that the performance achievements established when initiating the SESAR development phase have been achieved. For Fuel Efficiency, Controller Productivity and Predictability, the targets are closely achieved and for Airspace Capacity (TMA and En-route) and Airport Capacity measured figures have even overpassed the targets. This will constitute a performance baseline for SESAR 2020 Performance Management process.
- Thanks to B.05 guidance and support, B.05 has witnessed (and documented) a positive evolution throughout the Programme, from an initial situation with a reduced set of (usually not homogeneous) quantitative measures to having a reference framework for Performance Measurement taking into account by SESAR projects in their Validation Exercises.
- The results achieved by B.05 in the framework of SESAR 1 and the experiences gained on team work with operational projects and transversals such as C.02 and 16.06.06 form the

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basis for the performance-driven approach of SESAR 2020 and the method of content integration envisaged in the next programme. In this context it is meaningful that the close coordination between B.05 and the aforementioned projects paved the way in the transition from a purely bottom-up driven process towards a more and more top-down oriented approach.

- The integration of performance aspects into EATMA will constitute a central repository and the tool to boost the Performance Management Process in SESAR 2020 through the support for data collection and for consolidation of performance assessment showing a structured, consistent and integrated picture of the European ATM performance. As part of this picture, the Master Plan Process will receive the consolidated assessment necessary to ensure that the Deployment Planning process executed at Master Plan level is adequately de-risked against operational, technological and economic/financial issues.



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