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**Safety, Performance and Interoperability  
Requirements Document for Enhanced Visual  
Separation on Approach (ATSA-VSA)**

RTCA DO-314  
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Prepared by: SC-186  
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## FOREWORD

This document was prepared by the “ADS-B Requirements Focus Group” (RFG). The RFG was established through the EUROCONTROL/FAA Memorandum of Cooperation. The RFG operates as a joint RTCA Special Committee 186 (SC-186) and EUROCAE activity. This document was approved by the RTCA Program Management Committee (PMC) on December 16, 2008:

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## CHAPTER 1 INTRODUCTION

This document provides the minimum operational, Safety, and Performance Requirements (SPR) and Interoperability Requirements (INTEROP) for the implementation of Airborne Traffic Situational Awareness (ATSA) for “Enhanced Visual Separation on Approach” (VSA). The ATSA-VSA application is fully defined in the Operational Services and Environment Definition (OSED) found in Annex A.

All material in this document was developed jointly by EUROCAE Working Group 51 and RTCA Special Committee 186 within the group commonly referred to as the “ADS-B Requirements Focus Group” (RFG).

This document was developed based on the criteria for SPR and INTEROP documents set forth in RTCA DO-264/EUROCAE ED-78A, “Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications.” [7]. It provides the minimum ATSA-VSA requirements - and allocations thereof - based on the results of a coordinated requirements determination process.

The requirements contained in this document are necessary to provide adequate assurance that the appropriate aspects of the relevant Communication Navigation Surveillance and Air Traffic Management (CNS/ATM) system, when operating together, will perform their intended function in an acceptably safe manner for the operations defined in the OSED. The system here includes ground and airborne elements.

Whilst all detailed SPR related assessments are found in Annexes to this document, Chapter 3 presents the outcome of the reconciliation process of all of these results into a single set of underlying Safety and Performance Requirements. This process retains the most stringent requirement for those attributes or parameters commonly treated by both the safety and performance assessments. Traceability of those requirements back to the corresponding assessment(s) is provided.

### 1.1 PURPOSE OF THE DOCUMENT

This document defines and allocates the set of minimum requirements for the end-to-end operational, safety, performance, and interoperability aspects for implementations of the ATSA-VSA application. Allocation of these requirements is done by this SPR/INTEROP to the necessary domains of the CNS/ATM system, i.e. at aircraft and ground domain level.

These requirements can be used as a component for approval processes including aircraft type design approval, aircraft operator operational approval, and Air Traffic Services (ATS) provider operational approval. This SPR/INTEROP specification is also written to support system specific standards (e.g. MOPS, TSOs, etc.) which will be required for many airspace regulators.

In addition, this document also provides guidance to determine the levels of design assurance and performance that are needed for each element (aircraft, operator, and ANSP – Air Navigation Service Provider) to support the ATSA-VSA application.

The ATSA-VSA SPR and INTEROP are also envisaged to be used along with those from other surveillance applications based on Automatic Dependent Surveillance-Broadcast (ADS-B) to develop minimum standards for avionics systems to assure that all subsystems perform their intended functions adequately for these applications.