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# Safety, Performance and Interoperability Requirements Document for the In-Trail Procedure in Oceanic Airspace (ATSA-ITP) Application

RTCA/DO-312
June 19, 2008

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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 EUROCAE and RTCA Special Committee 186 (SC-186) activity. This document was approved by the RTCA Program Management Committee (PMC) on June 19, 2008.

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- Developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of Minimum Operational Performance Standards (MOPS) for electronic systems and equipment that support aviation; and
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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 enhanced Airborne Traffic Situational Awareness (ATSA) for "In-Trail Procedure" (ITP). The ATSA-ITP 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." [18]. It provides the minimum ATSA-ITP 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.

While 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 is provided back to the corresponding assessment(s).

## 1.1 PURPOSE OF THIS 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-ITP 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 for approval processes including aircraft type design approval, aircraft operator operational approval, and Air Traffic Services (ATS) provider operational approval.

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-ITP application.

The ATSA-ITP 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 avionic systems to assure that all subsystems perform their intended functions adequately for these applications.