

RTCA TASK FORCE REPORT



The Transition to Digital Communications

“Urgent Needs, Practical Means”
December 1993

EXECUTIVE SUMMARY

RTCA Task Force Report on the Transition to Digital Communications “Urgent Needs, Practical Means”, December 1993

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- RTCA, Inc., a non-profit organization whose membership represents a cross-section of the aviation community, operates as a Federal Advisory Committee. Through the use of volunteers, RTCA regularly develops consensus recommendations on major aviation-related communication, navigation and surveillance issues.

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OVERVIEW

The aviation community urgently needs the economic benefits that can be realized from improved operational efficiency and capacity. Essential to achieving these improvements is the significantly expanded use of digital communications among all segments of the aviation community. Within the context of effective policies, procedures, and automation, digital communications offer a practical means for achieving the operational and economic benefits from such improvements.

Institutional changes and selective application of modern technology will be needed to make this happen. Digital communications can do much to improve operations in the National Air Space. However, international cooperation is imperative if the U.S. aviation community is to operate effectively in this shrinking world.

Government and industry must make fundamental changes in the way they do business. A close, effective government/industry partnership is needed to economically and expeditiously implement digital communications within the context of ICAO's CNS/ATM system concept.

The benefits to be realized from improvements in aviation communications and the applications they support are enormous. In the oceanic domain alone, the resulting air traffic management improvements and reduced separation standards could generate over \$13 billion in (constant dollar) benefits to the airlines, over the period 1995-2015.

None of this will come to pass, however, unless airspace users see tangible benefits from investing in the new technology and are convinced that airspace managers can be counted on to make the necessary automation investments and procedural changes. Benefits must be translated into financial returns; the criteria for success must be established in advance. Airspace managers must be willing to define *a priori* what tangible returns will be realized from each level of investment made by the airspace users and managers to achieve the required capability.

Digital communications technology is here now and can be implemented rapidly, once a single, clear system concept is in place, cost/benefits are defined, and a detailed transition plan has been established. The Task Force strongly recommends that its report be used as the basis for continuing this important effort.

BACKGROUND

In 1992, the FAA asked RTCA to establish a Task Force to prepare a comprehensive strategy for development of and transition to the Global Navigation Satellite System (GNSS). GNSS is a key element of the future Air Traffic Management (ATM) system. Task Force 1 carried out its work in less