

**Terms of Reference  
for the  
International Business Aviation Council  
CNS/ATM Advisory Group**

*As agreed CNS/ATM AG 2 24/25, June 2008*

**Purpose**

These Terms of Reference (TOR) describe the background, scope, objectives and management structure for an international business aviation Advisory Group formed to monitor and make recommendations on activities related to the implementation of CNS/ATM systems worldwide.

**Background**

In the 1980s, ICAO, Member States, service providers and the aviation user community started work on development of a new plan for managing the world's airspace and navigation systems, taking into account the new emerging technologies. It was recognized that the existing approach to provision of air traffic services and aircraft navigation were limiting capacity and efficiency.

The task of exploring a new dynamic was assigned in 1983 to an ICAO Special Committee on the Future Air Navigation System (FANS), in which IBAC participated. The FANS work culminated in the ICAO 10th Air Navigation Conference in 1991, where the FANS concept was endorsed.

Following acceptance by the ICAO Council, FANS was subsequently renamed the Communications, Navigation, Surveillance/ Air Traffic Management (CNS/ATM) concept. Implementation of CNS/ATM was initially planned through a 'Global Coordinated Plan for transition to ICAO CNS/ATM Systems'. Later, with maturation of the concept, a Global Air Navigation Plan for CNS/ATM was developed.

In the intervening years it became evident that in order to ensure better use of CNS/ATM technologies and to ensure coordinated implementation, an Operational Concept was needed. The ICAO Air Traffic Management Operational Concept Panel (ATMCP) was formed to develop the Operational Concept which was produced and then sanctioned by the 11th Air Navigation Conference held in September 30, 2003. Work is continuing on development of Standards and Recommended Practices that will govern new equipment in the future.

In parallel with this activity and based on Required Navigation Performance (RNP), material was introduced into ICAO PANS ATM (Doc 4444) to accommodate reductions in horizontal separation criteria. Work continues in this field by the ICAO SAS Panel (formerly RGCS Panel). Navigation performance is now addressed in the ICAO Performance Based Navigation (PBN) Manual, which contains navigation specifications for RNAV (95% accuracy) and RNP (also includes on board performance monitoring and alerting).

Separation based on PBN specifications (e.g. RNP 4) has been implemented in a number of ICAO regions, including APAC and MID. Further reductions in separation based on PBN are under consideration in several regions, including the NAT. Such further reductions will likely require data link applications, specifically ADS-C and CPDLC.

In addition to the adoption of technical characteristics for air-ground data links, specifications have also been adopted for ADS-C and CPDLC message sets and related operational procedures. Work continues under the re-established ICAO OPLINK Panel (formerly the ADS Panel).

The CNS/ ATM operational concept covers a large range of institutional, infrastructural, procedural and technological issues. Technology issues apply to many new systems such as GNSS, ADS-B, CPDLC, data link and other emerging systems.

It has become clear through the years of development of the various CNS/ATM plans that the airline industry has been the primary user focal point for technological and procedures development. The airline industry has been extremely active and engaged in planning activities and contributing to work by ICAO and service providers. The international business aviation industry has been very active at discussions at the high level, and has presented various papers on the impact of CNS/ATM to international business aviation operations. However, since the international business aviation industry lacks a cohesive technological planning mechanism, the international business aviation industry has not been able to significantly influence the specific planning forums dealing with technologies and procedures.

The international business aviation industry is very diverse, with a wide spectrum of manufacturers (as opposed to the two very large manufacturers in the airline industry). International business aviation Operators are generally small and lack the R&D staff to develop new concepts. With over 14,000 operating companies, international business aviation is very significant in numbers, but given the horizontal shape of the industry it is very difficult to coordinate harmonized statements of requirements.

In 2004 the international business aviation community created an operator/major manufacturer Joint Committee (JC) to develop a coordinated international business aviation position on CNS/ATM. The final report of the JC was submitted in 2005 to ICAO as input to the Global Navigation Plan. It was agreed by the JC that an analysis would be conducted of the results of the international business aviation recommendations approximately two years after submission.

Since the completion of the international business aviation CNS/ATM Report it has become increasingly obvious that proactive attention is needed on an ongoing basis to the many activities associated with CNS/ATM in virtually all corners of the world. There is a need to coordinate international business aviation activities and to ensure communication of issues of importance to the industry.

**The objectives of the CNS/ATM Advisory Group (AG) will be to:**

1 a) To serve as the international business aviation CNS/ATM Advisory Group and achieve coordinated action by trade associations, airframe manufacturers, avionics OEMs, training organizations and operators.

b) To facilitate the harmonized, timely and orderly implementation of CNS/ATM technologies in international business aircraft to enhance safety, improve access, increase efficiency and ensure environmental benefits globally.

c) To develop guidance material, including where necessary, of a policy nature for IBAC pertaining to CNS/ATM related issues

2 a) To serve as the international business aviation Focal Point to ICAO Global Air Navigation Planning and provide assistance for IBAC on international business aviation Policy Issues in Montreal.

b) To develop recommendations for consideration by the IBAC POC pertaining to CNS/ATM issues.

c) To receive and disseminate reports from IBAC representatives engaged in ICAO forums and provide input, where appropriate.

d) To provide working or policy papers for IBAC's representatives at Planning and Implementation Regional Groups (PIRGs) so Planning & Implementation activities on CNS/ATM may take into consideration the needs of the international business aviation community.

3 a) To coordinate CNS / ATM Policy among the international business aviation community (i.e. regional international business aircraft Associations, international business aircraft trade associations, GAMA, other AG members, etc.) to ensure harmonization.

b) To report to the IBAC Planning and Operations Committee (POC) on the status of the CNS/ATM Advisory Group activities.

c) To develop recommendations for consideration by the IBAC POC pertaining to CNS/ATM issues.

4 a) To facilitate education of the international business aviation community about future CNS/ATM Requirements and encourage equipage in a harmonized, timely, and orderly manner.

b) To provide a web-based clearing house (using links where necessary) for technical and operational information, implementation time-scales, required approvals and training information.

5 a) To identify and assist in the resolution of technical issues and operational/procedural issues associated with the introduction of CNS/ATM technology.

b) To develop a current baseline and future projections for the implementation of CPDLC, ADS-C, ADS-B and other CNS/ATM technologies in business aircraft globally.

c) To provide guidance to the global business Aviation community on fleet planning decisions for CNS/ATM equipage and regional operations procedures.

6 To provide a focal point for FANS Monitoring Agencies, such as the EUR/NAT Region FCMA and the A/PAC Region FITs.

7 To provide a forum for operators and Air Navigation Service Providers to identify and assist in the resolution of global business aviation issues associated with CNS/ATM.

### **Scope**

The CNS/ATM Advisory Group will have a wide mandate to maintain currency and data on all CNS/ATM activities. The Group is to report to the POC on an ongoing basis and is to recommend to the POC proposals for any expansion of its mandate.

### **Membership**

The Advisory Group members serve on a voluntary basis. Members represent both international business aviation operators and manufacturers

### **Management**

The International Business Aviation Council Advisory Group will report to the IBAC Planning and Operations Committee (POC).

The Chairman of the Advisory Group will be appointed by the IBAC POC.

### **Meetings**

Meetings will be organized by the Advisory Group Chairman. It is expected that a minimum of 2 meetings per year will be required. Most communications and work will be conducted by e-mail and teleconferencing.

### **Costs**

Expenses of Members of the Advisory Group will be born by their respective organizations or companies. Expenses for the Advisory Group Chairman will be born by IBAC, with any assistance from contributing organizations as required. IBAC will fund administrative costs for the Advisory Group such as meeting rooms.