

**TERMS OF REFERENCE OF  
ASIA AND PACIFIC  
GROUND-BASED AUGMENTATION SYSTEM (GBAS) /  
SATELLITE-BASED AUGMENTATION SYSTEM (SBAS)  
IMPLEMENTATION TASK FORCE  
(APAC GBAS/SBAS ITF)**

Consists of objectives and deliverables as follows:

**The Objectives of the APAC GBAS/SBAS ITF are to:**

- 1) *Keep abreast of the latest global developments in GBAS/SBAS and associated technologies to cope with forthcoming development and implementation of ICAO SARPs, the Global Air Navigation Plan (GANP), the Global Aviation Safety Plan (GASP) and Asia/Pacific Seamless Air Navigation Service Plan (APSAP);*
- 2) *Facilitate the implementation, enhancements, operation and maintenance of GBAS/SBAS and services identified in the Aviation System Block Upgrades (ASBU) modules and APSAP elements using the project management principles where appropriate;*
- 3) *Ensure continuous and coherent development of the GBAS/SBAS that is maintaining synergy and harmonization with other regions to enhance systems robustness, resilience and interoperability; and*
- 4) *Review, identify and address major issues in technical, operational, safety and regulatory aspects to facilitate the implementation or provision of safe, efficient and orderly Air Navigation Service (ANS) in relation to GBAS/SBAS.*

**Deliverables to meet the Objectives:**

- 1) *To submit progress report to the ICAO CNS Sub-group while keeping ATM Sub-group informed of addressing the APAC GBAS/SBAS ITF deliverables (listed in 2 to 6 below);*
- 2) *To support the ICAO in making specific recommendations and developing guidance materials, such as minimum functional/performance requirements and optional/local requirements, which aims at facilitating the implementation or provision of robust, safe, efficient and orderly ANS by the use of existing and/or new procedures, facilities and technologies in relation to GBAS/SBAS;*
- 3) *To review outcomes of the Navigation Systems Panel, AN-Conf, DGCA Conference, APANPIRG, CNS Sub-group, ATM Sub-group, RASMAG, PBNICG and other international conferences related to GBAS/SBAS, revise and update a tasks list and action items for the APAC GBAS/SBAS ITF;*
- 4) *To study and identify applicable applications, share experience, and recommend the best industry practices in the Asia and Pacific Regions considering:*
  - *Systems planning and design*
  - *ICAO roadmap in the GANP/ASBU*
  - *Systems interoperability*
  - *Operation and maintenance practice*
  - *Ionospheric effects and scintillation*
  - *Avionics*

- *GBAS Landing System (GLS) and SBAS procedure development and validation*
  - *Siting criteria and safeguarding*
  - *Safety assessment*
  - *Training*
  - *Acceptance and certification*
  - *Transition*
- 5) *To encourage research and development, trials and demonstrations of applications and technologies, and, as necessary, steer for the sharing of this information and expertise among States/Administrations through organizing educational seminars and symposia to educate States/Administrations and airspace users; and*
- 6) *To formulate draft Conclusions and Decisions relating to matters in the field of GBAS/SBAS that come within the scope of the APANPIRG, CNS Sub-group, ATM Sub-group, and RASMAG work plan.*

**Timeframe for Deliverables:**

*For deliverable item 2 on guidance materials, it is anticipated that a first draft could be made available in 3 years after establishment of the Task Force for seeking endorsement by CNS Sub-group, after which the guidance materials would be updated/enhanced on an on-going basis. For other deliverable items 3-6, they will be made available as appropriate subject to review by the Task Force. The life time of the Task Force would be subject to review after endorsement of the first edition of the guidance materials.*

**Meeting:**

*The APAC GBAS/SBAS ITF shall convene annually with at least one face-to-face meeting per year, which is supplemented by teleconference meetings (e.g. WebEx) as appropriate.*

**Membership:**

*All APAC member States/Administrations providing ANS in the Asia and Pacific Regions. APAC members should nominate Subject Matter Experts from Civil Aviation Authorities, ANSPs, and other organizations with strong background in engineering and ATC/flight operations in relation to GBAS/SBAS to participate in the Task Force.*

*The Task Force would also invite representatives of International Organizations recognized by the ICAO Council as representing important civil aviation interests to participate in its work in a consultative capacity.*

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