

PERFORMANCE-BASED NAVIGATION (PBN) FREQUENTLY ASKED QUESTIONS (FAQ)

1. What is PBN?

Performance-based Navigation (PBN), in simple terms, redefines the aircraft's required navigation capability from sensor (equipment) based to performance based.

The foundation for Performance Based Navigation is area navigation or RNAV.

RNAV is a method of navigation which permits aircraft operation on any desired flight path within coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

With the advent of area navigation, there was a requirement to define and standardize the capability. This has resulted in a menu of performance-based navigation specifications. For each specification, there is a lateral containment value that the aircraft must be able to remain within, in order to be approved for that operation.

2. Why should a State implement PBN?

There are many reasons for States to implement PBN. PBN affords many benefits to all Stakeholders including the Civil Aviation Authority (CAA). States are responsible for promoting aviation within its area of responsibility. The demand for PBN approaches, airspace, and ops approvals will continue to grow and require involvement by the CAA. Therefore, the CAA needs to be totally aware of PBN in order to regulate airlines, ANSPs, aircraft and avionics manufacturers, etc in order to provide a safe aviation environment for its constituents.

3. What are the main benefits that result from PBN implementation?

PBN offers significant advantages over the current sensor specific method (which uses ground based navigation aids), to develop airspace, ATS routes, instrument flight procedures, and obstacle clearance criteria.

Generally, the main benefits of PBN can be simply explained as follows:



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4. What are the main ICAO documents related to PBN?

The main ICAO documents are:

Doc 9613 – Performance-based Navigation (PBN) Manual

Doc 9992 - Manual on the use of Performance-based Navigation (PBN) in Airspace Design

Doc 9997 – Performance-based Navigation (PBN) Operational Approval Manual

5. Does ICAO provide any PBN Training?

ICAO provides both on-line and classroom courses related to PBN. Please see Products and Services on the ICAO PBN web-site.

In addition, the Flight Procedure Program (FPP) Offices in Beijing China and Dakar Senegal facilitate and provide training on procedure and airspace design utilizing PBN.

For more information contact the ICAO PBN Program Office directly at pbn@icao.int.

6. What is the PBN iKit?

First released in 2012, and now with an updated version (2014), the PBN *iKit* reflects recent documentation revisions related to operational approvals, instrument procedure design and charting and navigation specifications. It also includes references to new ICAO products and services that help to expedite PBN implementation.

7. What are the ICAO PBN Products and Services?

ICAO has always been proactive with assisting States with PBN implementation. However, implementation has not progressed well and the targets of A37-11 will not be met by many States. Therefore, a new approach was required to providing implementation assistance, one that provides States with a catalogue of products and services to meet their implementation needs. This includes assistance with PBN requirements, implementation planning, workshops, symposia and training courses. Please visit our website for details on products and services.