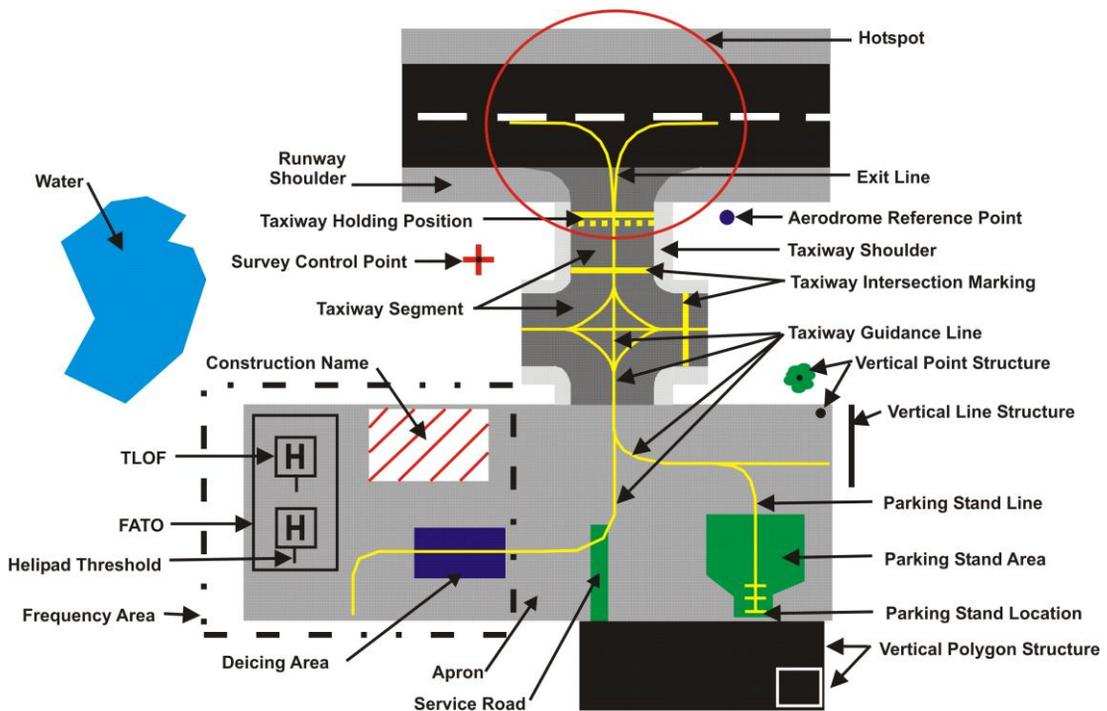




Aerodrome Mapping Database (AMDB)

An AMDB is a spatial database of an airport. An AMDB dataset describes the spatial layout of an aerodrome in terms of features (e.g. runways, taxiways, and parking stands) with geometry described as points, lines or polygons and with attributes (e.g. Surface type) providing further information. AMDBs are produced and exchanged as datasets using global standards and tools of mainstream Geographic Information System (GIS) technology.

AMDB represents a collection of aerodrome information that is organized and arranged for ease of electronic storage and retrieval in systems that supports aerodrome surface movements, training, charting, and planning.

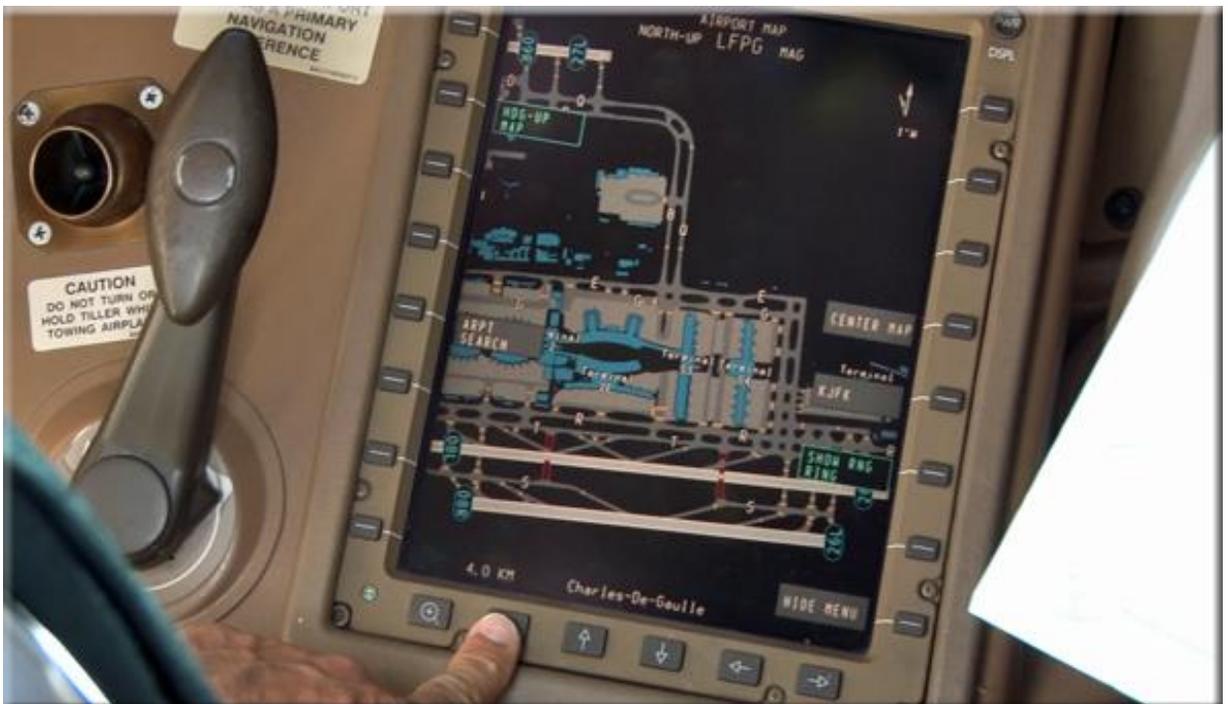


Purpose of AMDB

The purpose of the AMDB is to show an airport in digital form to pilots, everybody else navigating on the airport site, and the traffic controllers in the tower. Maps, charts, elevation models are all obvious requirements for safe and efficient air transportation. Multiple user classes can benefit from using these database, including: pilots, controllers, aerodrome managers and aerodrome security personnel. AMDB is used in following:

- Runway operations.
- Emergency and security service management.
- Surveillance and runway incursion detection and alerting.
- Aerodrome surface guidance and navigation.
- Aerodrome facility and asset management.
- Route and hold-short display and deviation detection and alerting.
- Chart information.
- Display and digital ATIS information.
- Aerodrome and airline resource management.
- Training(flight simulation).
- Notice to Airman (NOTAM) and aeronautical data overlays.
- Synthetic vision.
- Low visibility operation.

AMDB are used in a wide variety of applications but mostly in on-board applications such as Electronic Flight Bags (EFBs). These applications are intended primarily to improve the user's situational awareness and/or to supplement surface navigation, thereby increasing safety margins and operational efficiency.



Pilot using AMDB in Electronic flight bag

Low visibility operation

Low visibility procedures exist to support low visibility operations at aerodromes. When meteorological conditions deteriorate to such an extent that the cloud base drops to a certain level, or the horizontal visibility decreases below a certain value, then it might become necessary to establish Low Visibility Procedures at airfield.

Role of AMDB:

When the runway is CAT II/III equipped and has only one holding point mark, this holding point is compliant with the CAT II/III safeguarding. When the runway is CAT II/III equipped and has more than one holding point, the closest holding point to the runway (marked the same as in the situation with only one holding point) can be only used outside low visibility operation (CAT I). The holding point situated further from the runway has a different marking as shown in the picture. This holding point is situated far enough from the runway in order to protect the ILS sensitive area and will be used during low visibility operation (CAT II/III).



Holding Point marks (left) and the green taxi lights & and the red stop bars (right).

In real airfields, controllers can switch the green taxi lights, and the red stop bars ON/OFF, thus creating taxi routes with clear visual clues to the pilots.

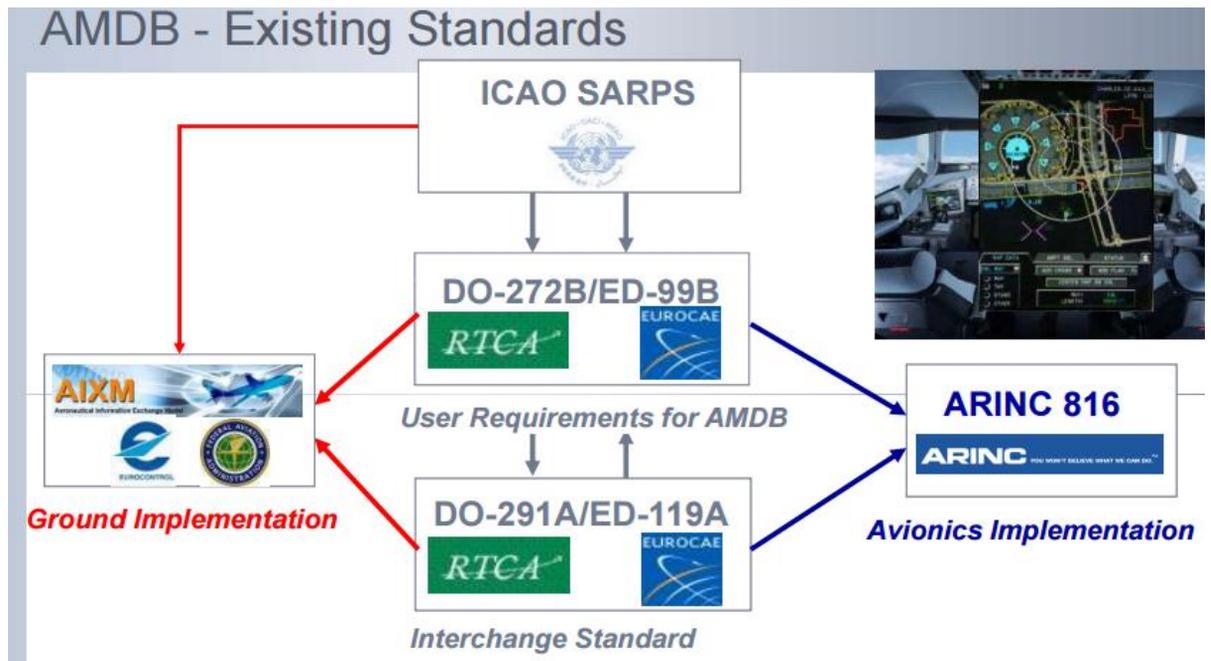
In some airfields, during low visibility operation, aircraft can call an external help in order to join the apron if they are not familiar with the airfield. The airfield controller will then send a follow me car, which can guide the aircraft on the ground.

The RVR is a method used to report the visibility on the runway. Because of the high intensity lights and aircraft movement, the visibility measured on the runway can be higher than the measured meteorological visibility.

Our Standards

SATPALDA follows international standards.

- Radio Technical Commission for Aircraft (RTCA)
- European Organization for Civil Aviation Equipment (EUROCAE)
- International Civil Aviation Organization (ICAO) Standard and recommended Practices (SARPs)



AMDB created at SATPALDA

Recently, we produced an AMDB. It is a highly accurate and precise data based on above mentioned international standards. Production is done on a high resolution stereo pair with photogrammetry software and later attributed in GIS platform. It includes all features covered in an AMDB for aerodrome surface movement and its surroundings.

