PANADES
Procedures for Air Navigation services
-Airspace Design and Evaluation System

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Implementing PBN Procedures with PANADES

PANADES is an integrated software package for Flight Procedure Design that provides an innovative human-machine-interface and a high level of automation throughout the design process.

1. Flight Procedure Design Function
   - Conforms to ICAO PBN concept as well as PANS-OPS Criteria (ICAO Doc 8168).
   - Provides a high degree of usability with a user-friendly interface.
   - Offers complete procedure design in “one window” from the initial approach segment to the missed approach segment.
   - Provides “what-if” scenarios for procedure design.
   - Enables users to re-draw protection areas by simple mouse dragging.
   - Implements high level of automation with advanced algorithms.
   - Automates complicated calculations for RNAV/Conventional procedure designs.
   - Designs protection areas and assesses obstacles with minimum input.

2. Aeronautical Data Management
   - Manages AIP data, obstacle data, terrain data and procedure design data efficiently.
   - All data includes user authority and data type information to enable data administration.
   - Supports AIP data update based on AIRAC AIP Amendment.
   - Enables temporary data management to support trial and error operations.
   - Provides import/export functions to exchange data with other database or software applications.

3. Display Capabilities
   - Controls visibility of data layers on the plan/profile view.
   - Navaid/Obstacle/MAP data can be displayed on/off to visually check the interference of the designated areas.
   - Imports different types of raster maps according to the user’s needs.
   - Provides functions to change colours and line types of data and geometry.

4. Design Support Functions
   - Provides a variety of tools for manual drawing and area assessment.
     - Draws lines, shapes, area geometries, wind spirals and primary/secondary segments.
     - Performs user-specified area assessment for the areas created by user.
   - Enables integrated parameter administration for procedure design.
     - Provides a version management function for procedure parameters to accommodate criteria updates.
     - Parameters for each flight procedure (e.g. turn parameters) can be flexibly changed to support trial and error in procedure design process.
   - Adds important information to plan view or profile view.
     - Useful information such as coordinates/altitude at certain points can be added to the designed protection areas in order to support flight inspection or other post-design validations.