NTT DaTa
Global IT Innovator

PANADES®

Procedures for Air Navigation services
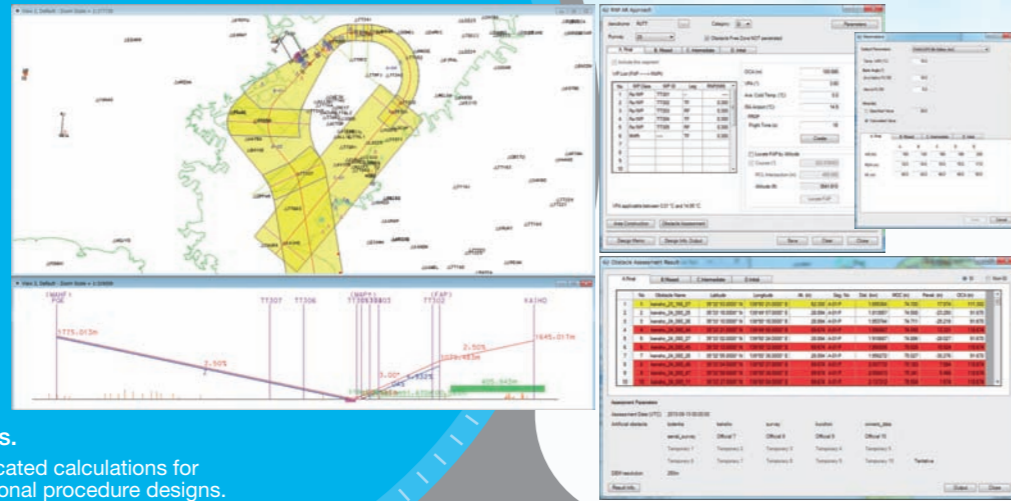## –Airspace Design and Evaluation System

NTT DaTa

NTT DATA Corporation

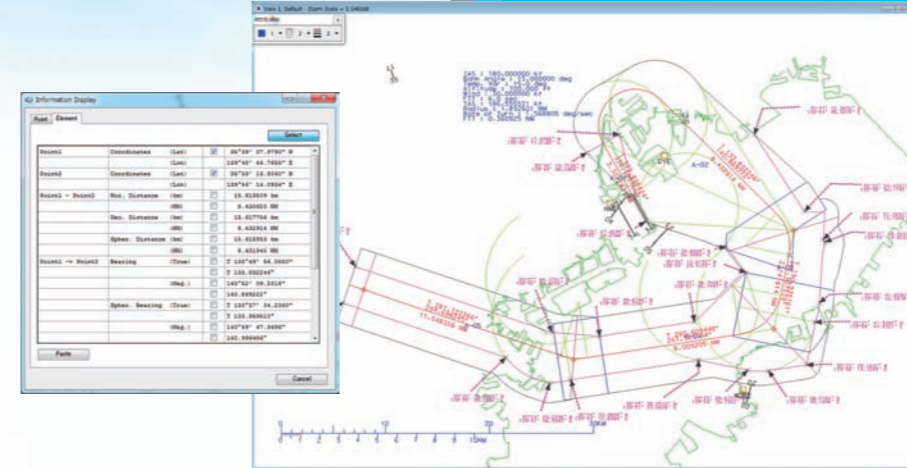# Implementing PBN Procedures with PANADES

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).
- ICAO Doc 9613 PBN Manual.
- Includes functions to design RNP AR Approach Procedures based on RNP AR Procedure Design Manual (ICAO Doc 9905).
- ICAO Doc 9368 Instrument Flight Procedure Construction Manual.
- 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 designed 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.
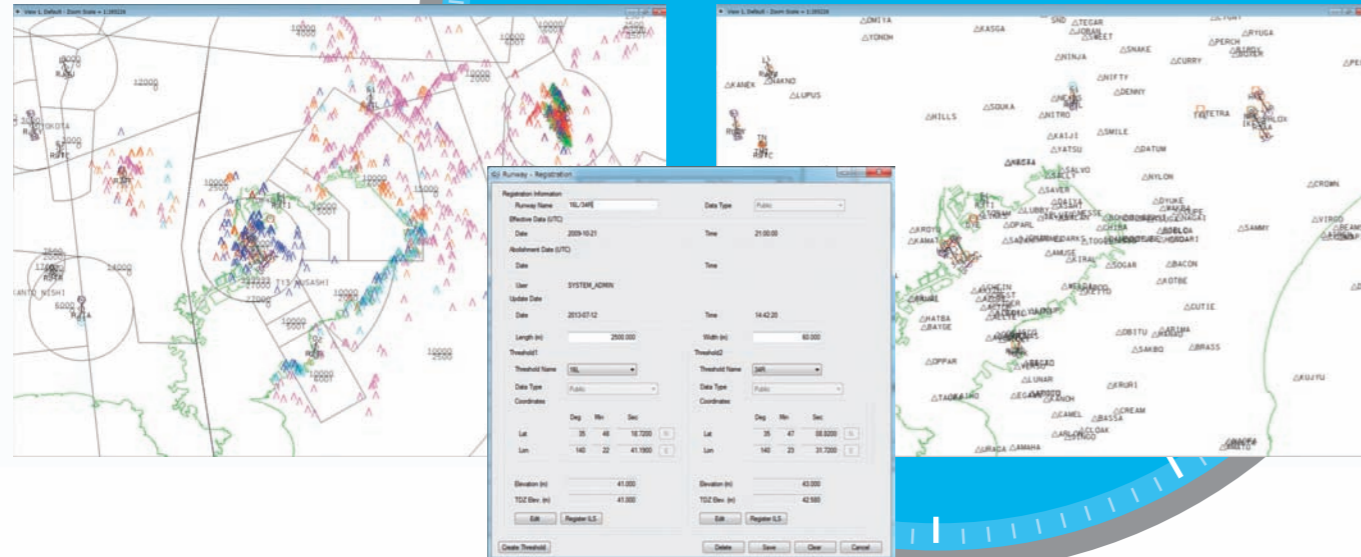
4

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 update.
  → 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.