AVIPLAN | Public Online Training

AviPLAN Fundamentals | Airside Planning and Design

Software essentials and theory covering AviPLAN's Park, Path, Group Path, Group Lead-in, Fillet, Stand, Presentation, drawing and data management tools

Who should attend?

Recommended for users working with, or interested in, AviPLAN Airside Pro

Duration

16 hours over 4 days (4 hours x 4 days)
Additional training hours may be ordered in 4-hour blocks for reviewing functionality or case studies in greater depth.

Prerequisites

- A basic understanding of AutoCAD® or BricsCAD® or MicroStation®
- A basic knowledge of national/international airport planning regulations
- A sound understanding of airport planning concepts

Why choose this training format?

- Tailored learning: Customized sessions meet the organization's needs, ensuring relevance and effectiveness
- Dedicated instructor: An exclusively assigned trainer tailors content to meet the organization's objectives
- Achieve consistency: Employees receive the same instruction which helps maintain organizational standards
- Structured flexibility: Scheduled sessions provide structure while accommodating remote participation
- Comprehensive learning: Topics are covered in detail, maximizing knowledge and application
- Interactive environment: Smaller groups enable active participation, and dynamic discussions
- Convenient access: Participants join from any location, reducing travel time and scheduling conflicts

Course Content

Introduction

- General introduction
- Installation guidelines and Start options
- Overview of menus, ribbons and commands
- Finding your way in (digital) documentation
- Explanation of data origins and simulation methodology
- 2D/3D planning vs visualization

Global and drawing related settings

- Working units and regulations
- Assigning the default session layer and dimension style
- Saving, applying and sharing settings templates
- Creating and sharing user-defined airplane labels
- Understanding the regulation source material
- Customizing airplane safety offset values
- Conflict analysis options

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Park command

- Managing and selecting library content
- View selection; 2D top view / 3D view, side view, front view
- Insertion points, alignments and offsets
- Insertion methods; FreeDrive, Target and Parallel
- Interactively creating and applying airplane configurations
- Handling sessions with CAD functionality vs AviPLAN functionality
- Saving, moving, copying, reopening, deleting and importing sessions

Case study demonstration

- Designing a simple apron extension and stand layout with the Park command

Drawing Manager command

- Managing and assigning CAD layers with AviPLAN
- Controlling session element display and properties
- Creating and applying property templates
- Editing and applying Airplane Configurations
- Converting sessions to 3D
- How to locate and manage sessions in a drawing
- How to use Saved Session Views to easily enable repeated display of simulation scenarios
- Organizing and structuring your design work

Configure Airplane command

- Creating, custom service arrangements
- Configuring and adding Service points, Jacking points or Tie-down points
- Configuring user-defined airplane Labels

Data Manager command

- Understanding how AviPLAN created data and elements are stored in the CAD environment
- Managing, saving and sharing sessions, custom objects, groups and templates

Path command

- Understanding program limitations and assumptions
- Simulation speed settings and principals
- Understanding turning dynamics, effective steering angles, steering limits, and options
- Path building theory, and best methods to assist more realistic movement results
- Path 'sections' vs 'segments' explained
- Choosing the best method to start and construct swept paths for aircraft and vehicles
- Learning how to alternate between construction methods to best follow CAD guidelines
- How to increase accuracy by starting/ending simulations via SmartTarget
- How to edit constructed paths
- Splitting constructed paths into sections for more detailed analysis and varied element display
- Options to place airplane along a path to best interpret and display problem areas
- Creating vehicle/airplane combinations
- Pushback functionality and best practices
- Creating and understanding reports

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Case study demonstrations

- Designing a lead-in and lead-out concept for the previously designed layout with the Path command
- Design best practices for apron layout with taxi-in, taxi-out stands
- Jet blast impact analysis for a taxi-in taxi-out apron area
- Verify a pre-planned 3 for 2 stand overnight-stop (RON) scenario
- Analyze and redesign a nose-in stand including lead-in marking design
- Detailed pushback analysis and redesign of an existing stand including pushback markings and pull forward procedures
- Analyze procedures for an existing runway turn and turn pad and redesign of markings

Vehicle Editor command

- Creating vehicles and combinations e.g., baggage and cargo trains or semitrailers
- Dimensions, coupling characteristics, steering properties etc.
- Saving, selecting and sharing your custom vehicles

Case study demonstrations

- Simulate a baggage train from a stand to a baggage handling system and maneuver through it
- Simulate an articulated vehicle over roadways, roundabouts and reversing into cargo bays

Group Manager command

- Creating groups of airplanes for Stand, Fillet. Group Path and Group Lead-in commands
- Importing, saving, selecting and sharing your custom airplane groups

Group Path command

- Settings, selections and CAD drawing requirements
- Selecting/adding airplanes and/or airplane groups
- Manual vs. automatic construction point selection
- Building a Group Path from scratch
- How to use existing Path sessions to rapidly construct and modify Group Paths
- Connecting Group Path simulations to analyze alternative procedures along a path
- Using conflict detection to analyze to main gear to pavement edges compliance
- Using conflict detection to analyze wingtip clearance apron limit markings
- Interpreting results and creating reports

Case study demonstrations

- Study a route with a large group of airplanes from runway to apron-taxiway for checking main gear clearance compliance and reporting
- Create a second path that combines with the first, as an extended study, to analyze wingtip clearances between apron-taxiways and apron limits lines and service roads.

Fillet command

- Review regulation design criteria for ICAO/EASA/FAA
- How to choose the correct airplane design groups and effective wheelbase parameters
- How to create and apply large groups of airplanes to ensure design longevity
- Rapidly construct regulation compliant taxiway edges with intersection fillets and shoulders

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Case study demonstration

- Create all edges for a complex taxiway intersection based on centerlines only

Stand command

- Stand design theory, basic elements and parameters
- Stand setup; non-contact
- Apron drive passenger boarding bridge setup; selection, settings and configuration
- Pedestal passenger boarding bridge setup; selection, settings and configuration
- Lead-in line setup; positioning, limits and settings
- Using the automated airplane positioning methods
- Adding and positioning stop lines using range indicator assistant
- In-ground services setup; selection, positioning and settings
- Docking rules and Dock-to-door selection (Apron drive types)
- Assessing MultiDock connections (Apron drive types)
- Defining alternative bridge stowing and maintenance positions (Apron drive types)
- Bridge mounted services; selection, positioning and settings (Apron drive types)
- Conflict detection e.g., bridge to bridge, bridge to airplane and airplane to ground markings
- Reviewing output and solving errors in the Stand Results dialog
- Creating reports

Case study demonstrations

- Create a stand model using the existing infrastructure to discover problems and find solutions
- Import previously constructed stands, adapt them to new conditions and solve resulting problems

Group Lead-in command

- Verifying stand designs by analyzing lead-in paths for “as planned” groups of airplanes
- Using SmartTarget to align all airplanes on “as planned” stop lines
- Landing gear conflict analysis with possible in ground obstacles
- Wingtip conflict analysis with above ground obstacles
- Interpreting results and creating reports

Case study demonstration

- Create Group Lead-in sessions for existing stand models to assess possible alignment, landing gear and wingtip conflicts

Bridge Editor command

- Editing a manufactured Passenger Boarding Bridge from the library
- Setting restrictions on the operational area, drive column extension, cabin angle etc.
- Saving, exporting and sharing customized apron drive bridges

2D Presentation command

- Handling single and multiple simulations
- Changing plan view camera positions and following objects
- Previewing animations
- Recording and saving to WMV or MP4 video formats

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Case study demonstration

- By combining several of the simulations created during other case studies, we learn how to create a video that demonstrates a basic turnaround procedure

Homework

- The instructor demonstrates various case study scenarios during the course. Participants receive limited-time access to the case study drawing files and data sets used in the course. This enables participants to revisit the material and replicate the demonstrated case studies at their own pace to support continued learning.

Contact Us

To register or request additional information, please contact your Account Manager or email infoaviation@transoftsolutions.com