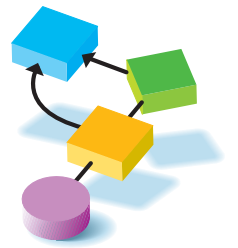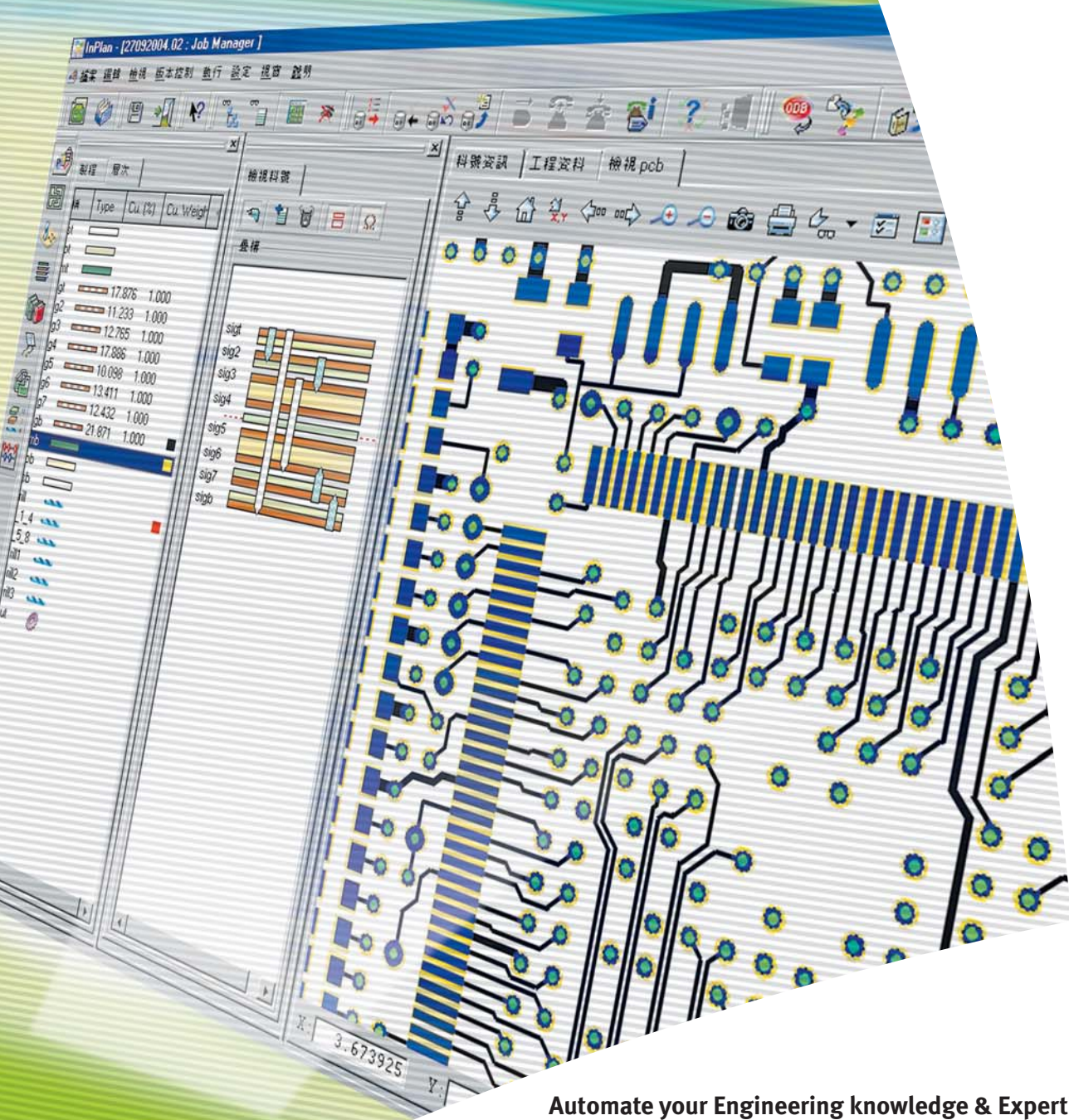# InPlan

Automatic Engineering Process Planning

Automate your Engineering knowledge & Expertise:

InPlan can transform your manual, multi-tool-based, tedious engineering process planning, into a consistent, high quality process. Customized for your needs, it automates time-consuming, error-prone planning activities, and accelerates time-to-market while reducing costs.

Frontline

PCB SOLUTIONS
An Orbotech Valor Company

- *Standardize your engineering process planning*
- *Significantly reduce cycle time*
- *Automatically solve impedance-controlled stacks*
- *Fully integrate your engineering process with CAM, MRP, etc.*
- *Minimize manual data entry and resulting errors*
- *Build a customized electronic knowledge base*
- *Produce high-quality documentation*

Putting It All Together

InPlan unifies all your design processes from quotes to the production floor. You shape its capabilities with your own rules and specs, creating your own customized enterprise knowledge resource.

Satisfy your customers

InPlan allows you to store customer specs electronically for fast, easy updating. Built-in change management revision control eliminates unpleasant surprises down the line.

Securely Manage Changes in Product Data

InPlan keeps revisions and changes fully controlled, traced & comparable. It swiftly handles change orders and saves change information indefinitely.
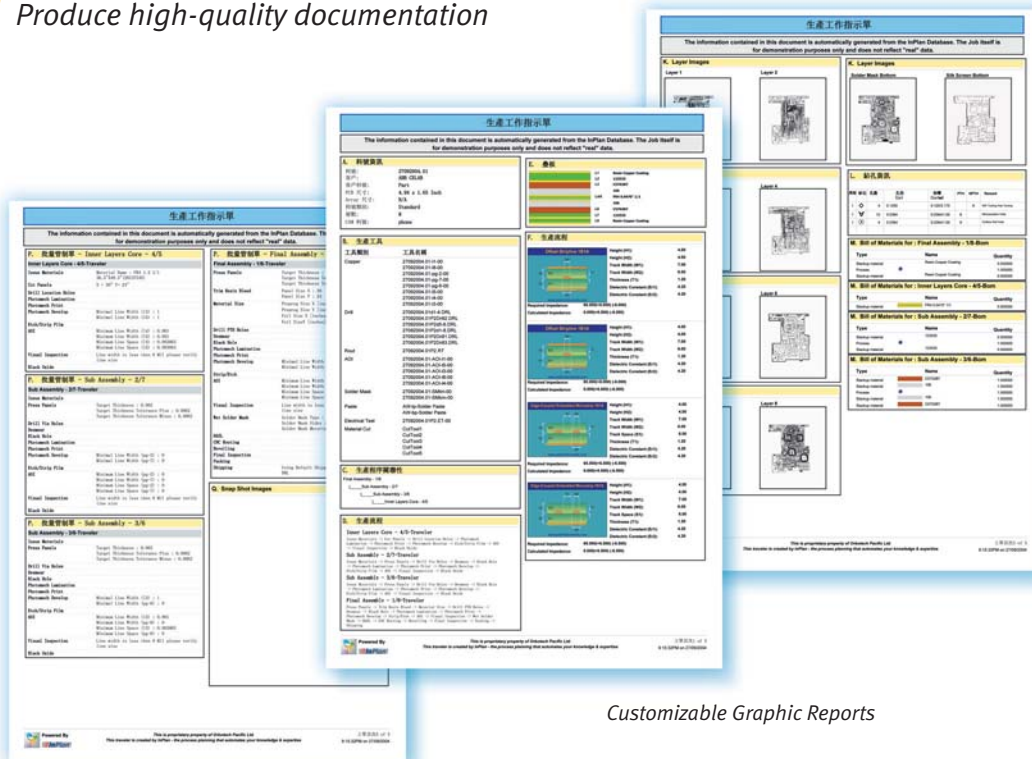
Customizable Graphic Reports

Minimize manual entry of MI data

With InPlan you can make data entry and job editing quick and easy. Extracting relevant information directly from previous MI job designs, Genesis 2000 data, electronic customers and manufacturing specs. Automatically set your parameters based on your custom manufacturing rules. Use InPlan to view layers, drill programs, ODB++ checklists, electronic notes and production panels for expedited decision-making and easily change tracing and updating. InPlan automatically synchronizes job data with CAM and utilizes rules to generate hierarchal manufacturing process trees and builds for each board. Spend less time entering data and more

time processing jobs, minimizing costs and maximizing quality and consistency.

Technical Queries – Close the loop with your customers

Generate your technical queries to your customers automatically in a configurable document that includes easy-to-understand graphical snapshots, ad-hoc or library notes – a perfect customer approval platform for all your manufacturing issues.
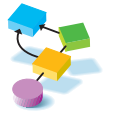
Ensure optimal material utilization

Solve panel design challenges and save significant amounts of material with automatic shape interlocking, flipping and gold connector consideration. With InPlan's Panel Design Algorithm configured to your panelization , you can support both standard and dynamic panels, use automatic coupon placement and ensure optimal cuts from sheets and rolls. Plus, smart editing tools can help you interactively adjust panel layout and automatically generate dimensioning lines.
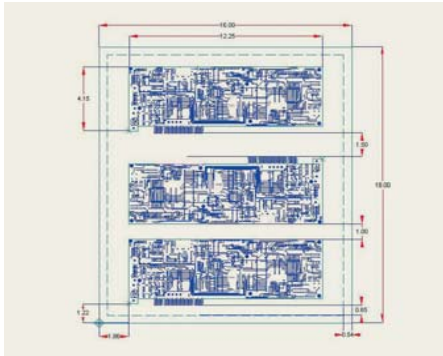
Panel Dimensions Editor

- ODB++ profile shape & size panelization
- Array construction and optimization
- V-cut and gold plating optimization
- Border and spacing control
- Various Symmetry controls
- Graphic diagramming

Assign NC bits in a matter of seconds

InPlan automatically acquires all finish hole ODB++ data. It uses NC tooling and profiling techniques to choose the right drill and rout bits from the library and automatically adds them to the BOM. All decisions re: surface finishing, plating rules, aspect ratio limits and drilling are based on your manufacturing rules.
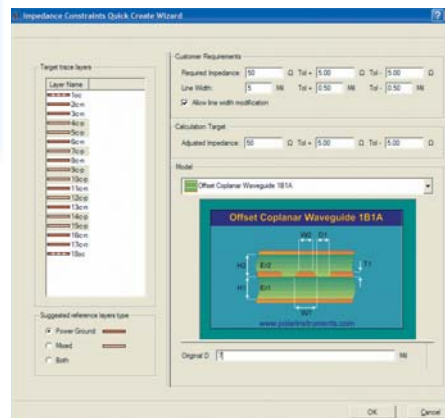InPlan can help you with:
- Plated & non-plated holes, routs & slots
- Large hole tooling in nibbling or rout
- Pilot drilling
- Pressfit, countersink, counterbore and backdrilling
- V-cuts

Automatically solve impedance-controlled builds

InPlan finds the optimal build for standard (PTH) and HDI products within minutes. Its stack-up design supports your impedance control vendor of choice. Use InPlan to customize material selection rules and impedance lines to meet your needs and constraints. InPlan can manage:
- Overall & partial thickness requirements
- Single-ended, Differential and Coplanar impedance modeling
- Customer and manufacturing tolerances
- Automatic adjustment of impedance line widths
- Cost optimization
- Automated laminate (etched-off core) use, when needed
- Minimizing impedance or line width deviations

Stack-up design

BOM Calculation and Editing

InPlan's BOM (Bills of Material) Wizard helps you create and edit comprehensive BOM lists and prepare graphic BOM reports for your preferred geographic sites in seconds. With InPlan BOM, you can automatically add all job-related materials: cores, foils, prepregs, resin-coated foils, laminates, drill and rout bits, drill backup and entry plates, dry films, gold, solder masks and more.

Traveler Editor

Use InPlan to generate Travelers — sets of rule-driven manufacturing work instructions, including product attributes, specific notes and graphic attachments — that are fully integrated with your ERP system.

CAM Instructions Editor

InPlan adds a dimension of automation to your engineering-to-CAM interface by automatically creating rule-based engineering CAM instructions. Interactively add specific instructions to solve specific production issues.

Specs Manager

With InPlan, you can manage customer specs electronically with back tracing and revision control, compare jobs to specs and receive color-coded comparison results. Drill down to the details of discrepancies and generate corrective tooling instructions. Configure and reproduce any number of whatever types of specs you choose.
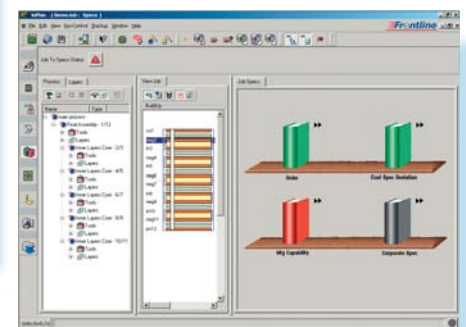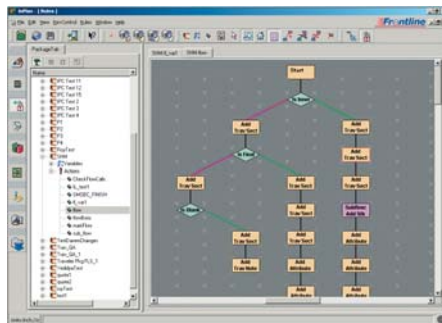

The Specs Manager

Every Function is Contributing to Your Success

Rules Editor
InPlan helps you create and modify CAM instruction rules, process steps and operation lists.

The Rules Editor

Customizable reports
It takes only seconds for InPlan to issue your engineering process planning reports. MI documents, technical queries, travelers, BOM, CAM instructions, etc. are preconfigured to your needs and can be quickly viewed, printed or saved as PDF/Word documents.
InPlan reports can include:

- Tables
- Charts
- Logos
- Panel layout, sheet cut and V-cut diagrams
- Layer and stack-up images
- Cross-sectional cut diagrams for impedance modeling

InPlan Minimum System Requirements

Prerequisite InMind Client
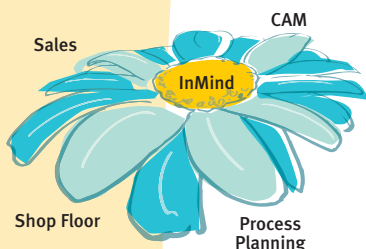**Platforms** Windows NT, Windows 2000, Windows Xp, Linux
Memory 512 MB
CPU P4 2.4 GHz
Prerequisite InMind Server
TBD based on predicted workload and number of concurrent users

InMind - Central Engineering Data Base
This Central Engineering Data Base ensures engineering consistency by providing synchronized versions to all users, even at multiple sites. It prevents data duplication and double data entry and provides a revision-control mechanism for archiving.
Based on an industry standard SQL relational database, InMind is tightly integrated with all InGineering client applications, from process planning through sales.
It seamlessly supports archiving, revision control, hold/release management and multi-user, as well as every aspect of the front end.
InMind's repository, unifies your database, computerizing many time-consuming tasks, such as managing job revisions and specs and keeping all the information you need instantly accessible and fully updated.
Complete, convenient and coherent. That is what InMind is all about.

InGineering

A complete solution - from the quoting stage, through process planning and CAM, all the way to the production floor. InGineering is composed of the central InMind database and a line of state of the art rule-based engineering applications, all revision controlled.

CAM
Sales
InMind
Shop Floor
Process Planning

Integrated Engineering. What you want the front end to be.

Frontline
PCB SOLUTIONS
An Orbotech Valor Company