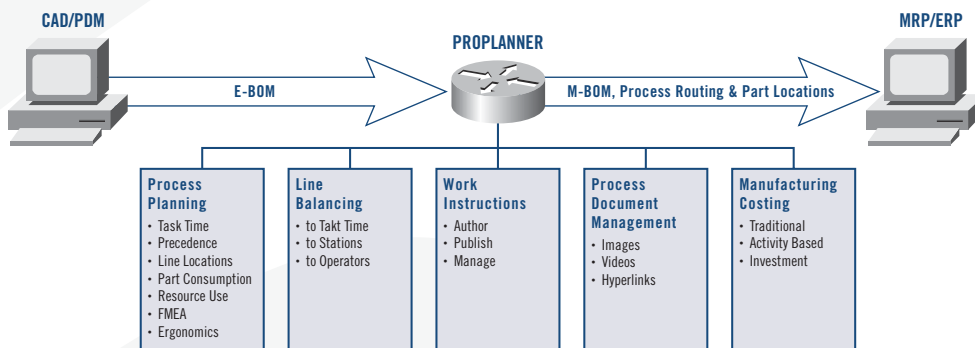


PROPLANNER WILL CUT NEW PROCESS DEPLOYMENT EFFORT BY 20% TO 50% AND VIRTUALLY ELIMINATE COMMON STARTUP ISSUES RELATED TO TASK, RESOURCE AND PART PLACEMENT FOR COMPLEX MIXED-MODEL ASSEMBLY LINES.

If you are a manufacturer of complex assemblies involving 100's, to even 1,000's, of parts, with an extensive portfolio of model and option configurations, then Proplanner is for you. Proplanner was designed, by industrial engineers, for industrial engineers to provide an integrated environment with which to design and deploy complex production systems to the shop floor quickly, and accurately, with minimal effort. In addition, by linking the machining and assembly processes to the components that those processes create, and consume, Proplanner is able to automatically update process routings and task/part/equipment assignments in the factory as new versions of components or models and options are released. Built around the MS Excel and AutoCAD applications that are most often used by process planners today, Proplanner is a transitional tool that is able to fit into the process engineer's existing data and workflow in order to increase their productivity immediately.



LET PROPLANNER MANAGE YOUR PROCESS CHANGES AND AGGREGATE, VERIFY AND RECONCILE, YOUR CURRENT WORD, EXCEL, AUTOCAD, VISIO AND PAPER FORM-BASED PROCESS INFORMATION IN ORDER TO CREATE A LEAN ELECTRONIC PROCESS FROM RECEIPT OF THE BOM TO SUBMISSION OF THE PART AND ROUTING INFORMATION TO ERP.

Proplanner was founded by Dr David Sly, a world renowned expert in Process and Plant Engineering systems that extend and integrate the capabilities of current applications such as AutoCAD and Excel. Since Dr. Sly invented the first CAD-based material flow analysis application 20 years ago (a predecessor to the Flow Path Calculator), he has created a suite of powerful and integrated applications for Time Estimation, Process Management, Ergonomics Assessment, Line Balancing, Workplace Design, eBOM/mBOM Reconciliation and Work Instruction Generation with synchronized Deployment. Previously only available to the largest corporations, Dr. Sly was able to combine the power of Microsoft's new .NET development environment and the latest Internet deployment technologies to provide the most cost effective MPM solution in the market today.

PROPLANNER WILL SHORTEN LAUNCH TIMES AND IMPROVE EFFICIENCY

- Increased Line Throughput by 22%
- Reduced labor by 10%
- Cut Assembly Line Operating costs by \$50K per month
- Removed, or automated, 14 out of 36 steps to launch a new product to the assembly line.
- Saved over 2 weeks of engineering time per re-balance, and nearly eliminated deployment errors related to task, part, and resource placement.
- Cut assembly errors (caused by using obsolete parts, torque specs and processes) by over 50% by automating shop floor instructions to the line and electronically verifying that operators viewed the changes.

3-STEP PROCESS

USING PROPLANNER ON YOUR NEXT PRODUCT LAUNCH IS A SIMPLE 3-STEP PROCESS.

- 1.** Proplanner starts with an electronic BOM which can be read from virtually any MRP/ERP/PDM or spreadsheet application. Users can also author their BOM directly in Proplanner and even manage their CAD files and component information (in the absence of a corporate PDM application).
- 2.** Proplanner provides a comprehensive set of process authoring applications that include editors and parsers for popular pre-determined time standard systems (such as MTM and Modapts), as well as a built-in stopwatch feature that lets you easily enter and evaluate multiple observations from pre-recorded digital videos (also managed by the application) and live studies. Users then link these new tasks to the components and people/tooling/machines, text, pictures and CAD files necessary in performing and describing these tasks to the operators.
- 3.** Finally, Proplanner provides a powerful and easy to use line balancing application where the user can automatically, or manually assign tasks to locations on the assembly line. Users can define multiple scenarios and quickly and easily evaluate the impact of an infinite array of models, options and production sequences on the line.

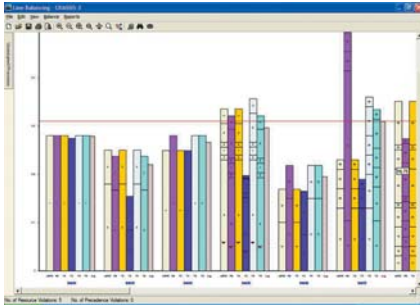
The rest is Automatic. Proplanner reconciles the process plan (mBOM) to the product list (eBOM) as well as the Plant (lines/workstations) and Resources (operators/tooling/machines). Once validated, Proplanner generates the task, part and resource location assignment reports, as well as posts the work instructions to the shop floor and informs the operators of changes.



PROPLANNER'S INTEGRATED APPROACH PROVIDES FAST AND ACCURATE RESULTS

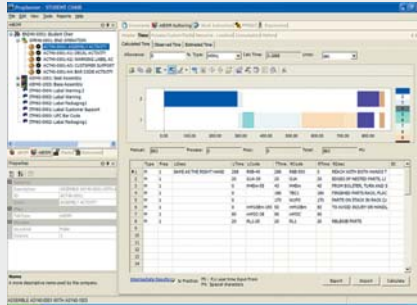
The Proplanner process engineering database is a place for you to keep your process plan up-to-date. The ability to relate the process steps to parts, resources, and plant locations gives you the power to do more process engineering tasks within one system. The Proplanner database provides modules for LEAN charting, process reporting, work instruction authoring and viewing, resource management, and much more.

LINE BALANCING



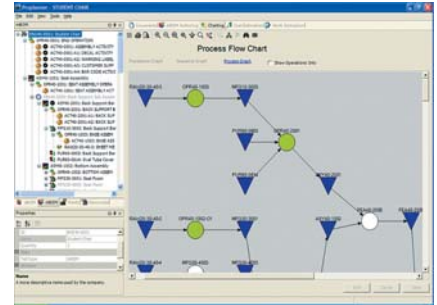
Drag tasks to stations, or let Proplanner do it for you. Quickly see conflicts with models, options, resources, and precedence.

TIME STANDARDS



Use the built-in pre-determined MTM and Modapts standards or our stopwatch feature for video-based and live observations.

LEAN CHARTING



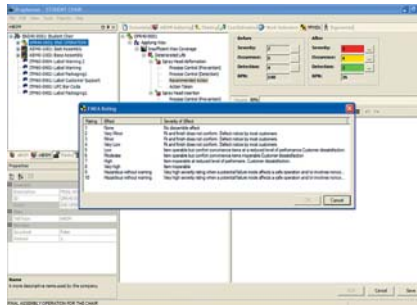
Automatically generates Product Structure Maps, Process Activity Charts, Precedence Diagrams and Sequence Graphs from the mBOM.

WORK INSTRUCTIONS



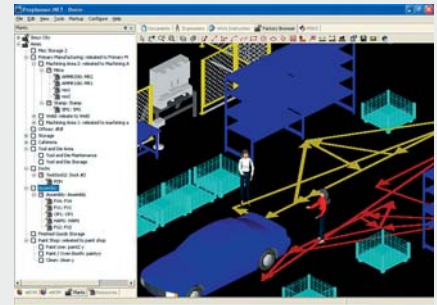
Operation method sheets are automatically created based on the process plan. Print them, or output them to our shop floor viewer.

PROCESS QUALITY



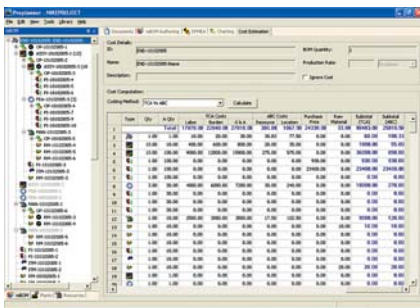
Generate PFMEA and DFMEA studies and automatically compile reports for output to Excel, paper or our shop floor viewer.

LAYOUT DESIGN



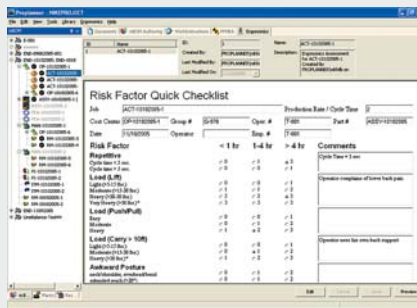
Visually link resources to stations and automatically generate operator walkpath and material flow "spaghetti" diagrams within AutoCAD.

MANUFACTURED COSTING



Compile a list of the resource specific costs for each process step (machining or assembly) for each model and option.

ERGONOMIC ASSESSMENT



Ergonomics Assessments are user-definable "Smart Forms" linked to operations, activities and locations for safety studies.

PROCESS VALIDATION

901: Prototype Car 02			901: Production Car 04			
Level	ID	Version	Level	ID	Version	Change Type
1	8700A: Propulsion System	1				Deleted
			1	8700B: Propulsion System	1	Added
2	8701: Siemens	1				Deleted
			2	8702: Alton	1	Added
1	9701: Bathroom Car Set	1	1	9701: Bathroom Car Set	1	-
1	9702: Lounge Car	1	1	9702: Lounge Car	2	Change
1	9703: Cab Car	1	1	9703: Cab Car	1	-

Reconcile your eBOM to our mBOM (process routing) and electronically verify part, resource and task assignments to locations.