

The logo for JST Electronics, featuring the letters "JST" in a large, bold, blue font above the word "Electronics" in a smaller, blue font. The logo is set within a white diamond shape that has a subtle gradient and is positioned in the upper left corner of the image.

JST
Electronics

A female scientist in a white lab coat and safety glasses is shown in profile, looking down at a piece of equipment. The background is a futuristic, high-tech laboratory with glowing blue circuitry, data lines, and a large, illuminated circuit board in the foreground. The overall color scheme is dominated by blue and white, with a sense of advanced technology and precision.

Valor Process Preparation SMT/AOI/DFx machine

Unrestricted © Siemens AG 2019

✦ Realize innovation.

Process Preparation for manufacturing



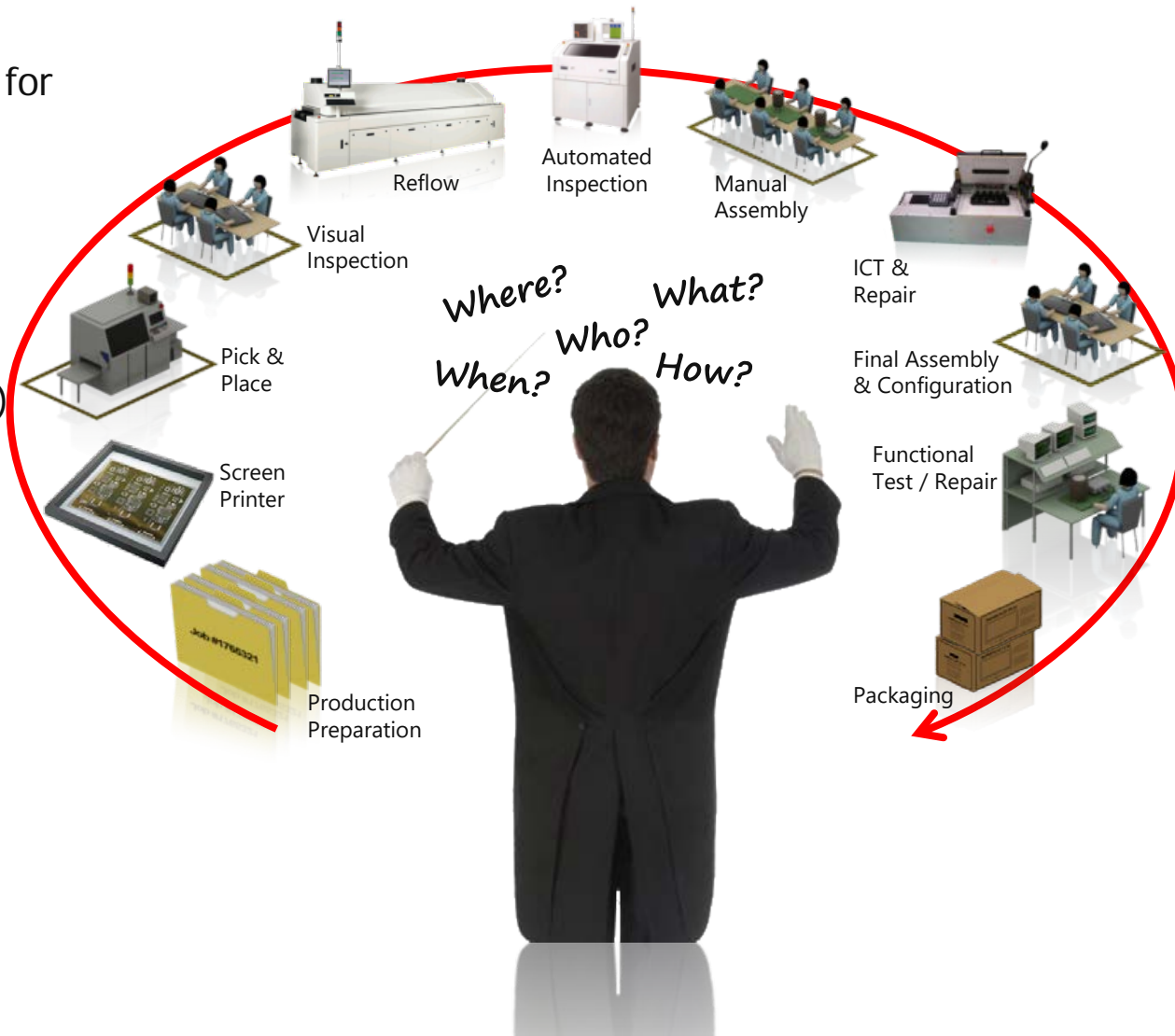
A complete **ANALYSIS, MODELING** and **SIMULATION** environment for maximizing the efficiency of the design-to-manufacturing flow

Accelerate NPI

- ✓ **Increase engineering efficiency** by using a single tool for all process engineering tasks
- ✓ **Eliminate redundant preparation work** with Learning Libraries (machine shapes, rotation etc.)
- ✓ **Increase efficiency** through automation and use of templates (for work instructions, data import parsers, etc.)

Increase line utilization

- ✓ Maximize off-line preparation to eliminate on-line trial and error delays



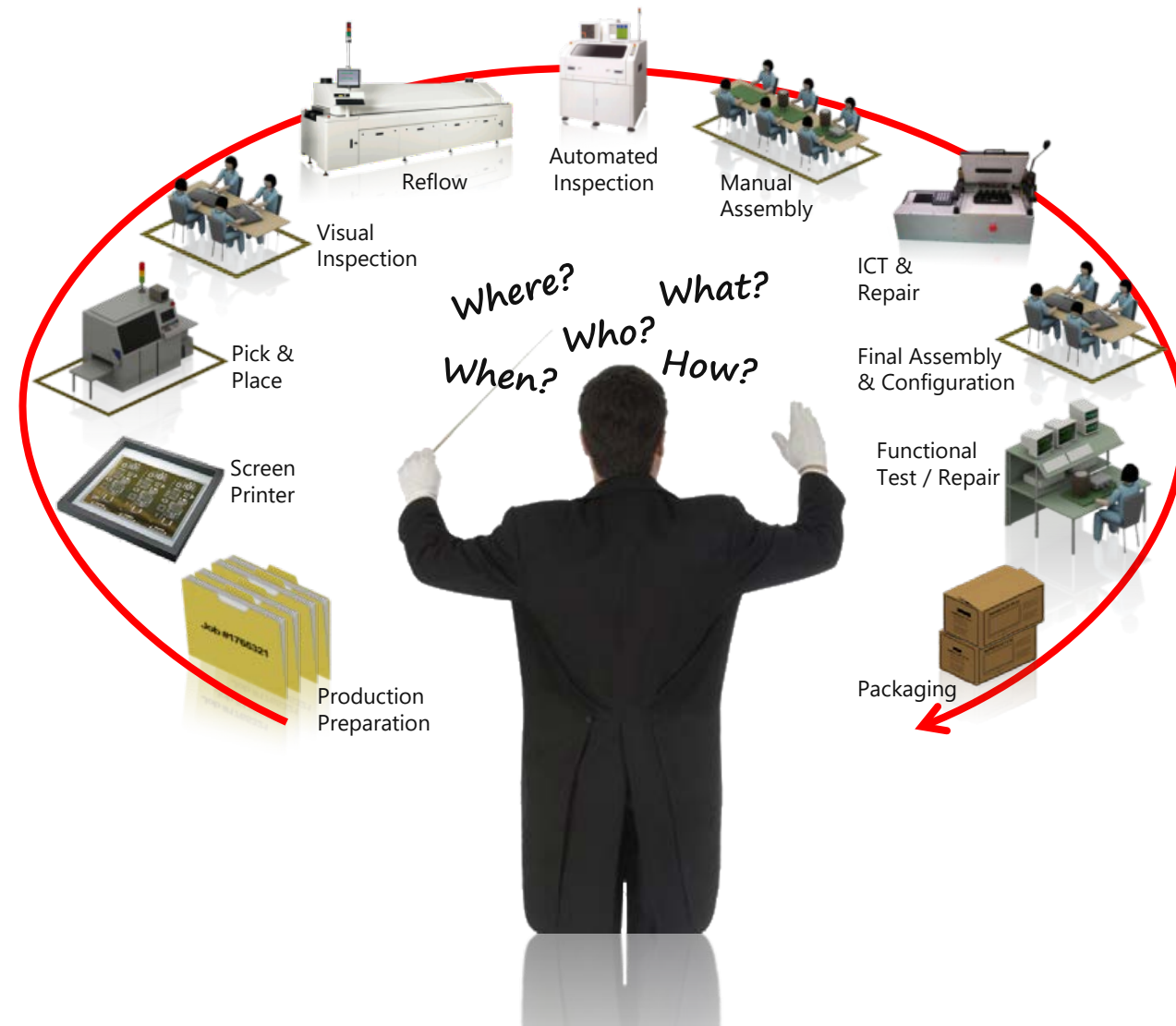
A complete **ANALYSIS, MODELING** and **SIMULATION** environment for maximizing the efficiency of the design-to-manufacturing flow

Preserve manufacturing know-how

- ✓ Consolidate organizational best-practice flows
- ✓ Centralized part libraries incl. rotation neutralization and machine shapes
- ✓ Custom data preparation flows can be defined, enforced, and re-used

Product portability

- ✓ Leverage ODB++ to seamlessly move production between lines and factories – eliminate engineering time and increase quality of end product



Data Prep Express: Meet high-mix, high-NPI SMT challenges with a unified data preparation solution

Simple and rapid data preparation

- ✓ **Flexible solution** supporting input of all CAD, CAM & BOM formats
- ✓ **Rapid output** quickly generating a panelized component placement list (CPL) output to be used with any SMT platform

Process Standardization and quality control

- ✓ **Right-first-time output** thru learning libraries and component rotation neutralization
- ✓ **Workflow management** allows creating workflow templates reducing time and errors
- ✓ **Automated Gerber Reverse Engineering** with unique component extraction algorithm to quickly process Gerber

Light weight and easy to adopt

- ✓ **Intuitive process and simple user interface** allows any process engineer to get up-to-speed quickly
- ✓ **Simple, database-free** installation on any desktop PC



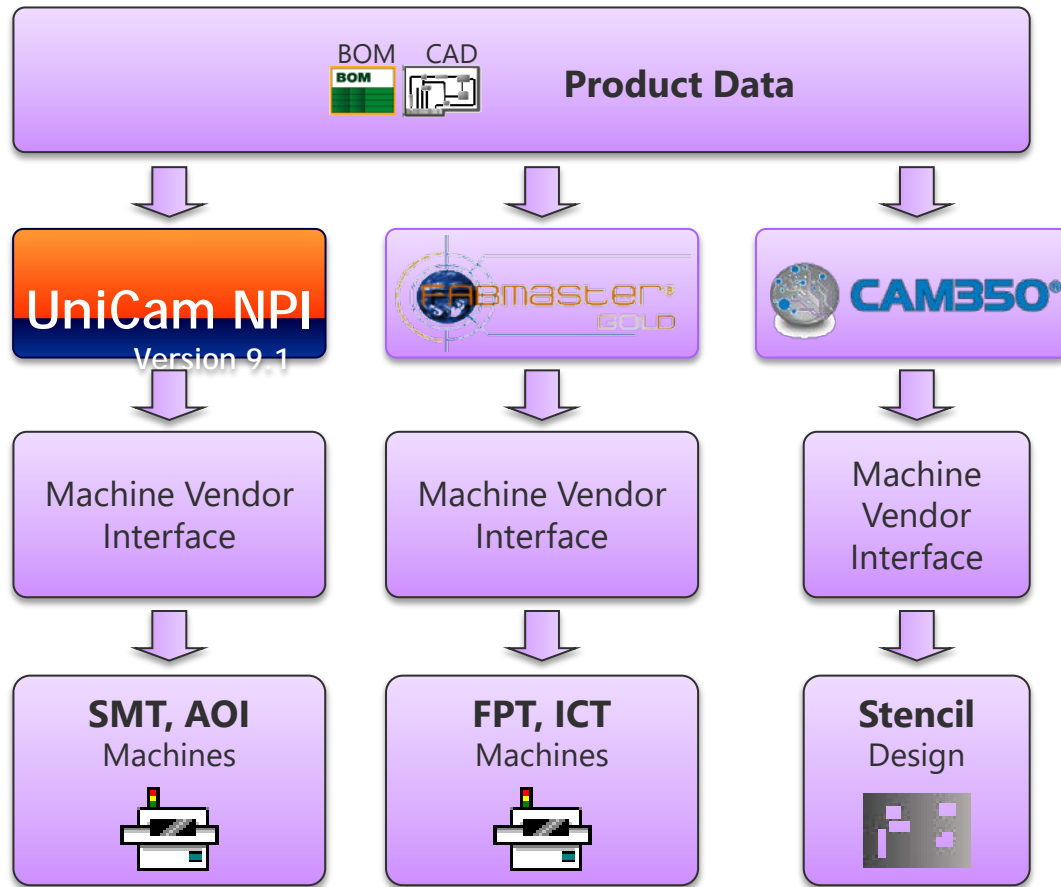
Data Prep Express – CAD/CAM Import

- Supports common CAD/CAM formats
 - Valor ODB++
 - GenCAD
 - IPC 2581
 - Gerber 274X, 274D and Excellon Drill
 - Fabmaster FATF
 - Zuken CR5000 Board Designer
 - Zuken CADIF
 - Zuken PWS
 - Altium Designer
 - Altium P-CAD
 - Cadence Allegro VAL extracts

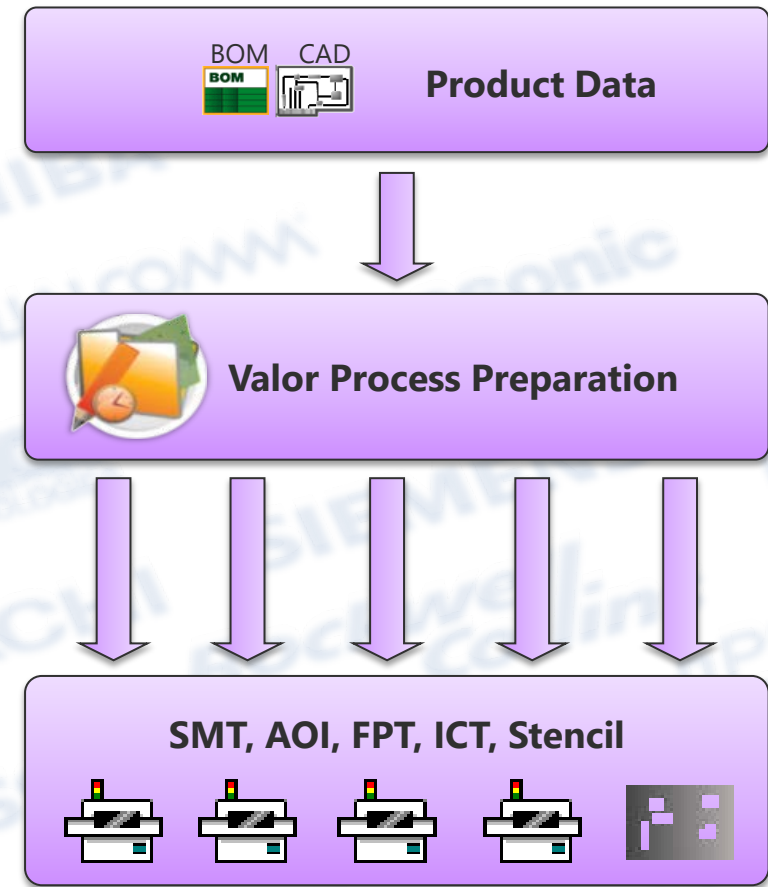
Supported SMT machine groups

- Assembleon GEM
- Assembleon MG
- Assembleon A series
- Assembleon Powerline
- Yamaha YG/H/S/T
- Yamaha YV
- Fuji AIM/XP
- Fuji NXT
- Fuji CP
- Fuji IP/QP
- Hitachi GXH
- Hitachi TCM
- Hitachi TIM
- iPulse
- Juki
- MYDATA
- Mirae
- Panasonic Maihime, NPM
- Panasonic BM
- Panasonic HT, Mxx
- Siemens SiPlace/OIB
- Sony
- Universal Advantis
- Universal Genesis
- Universal GSM
- Universal HSP
- Universal Quadris
- Universal RAD

Harmonized process through a single engineering tool

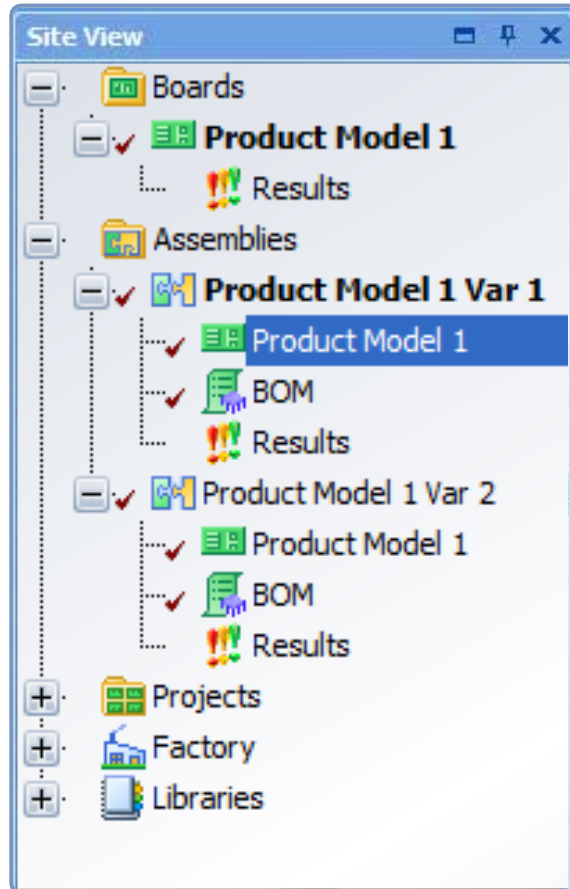


BEFORE: Product model created multiple times

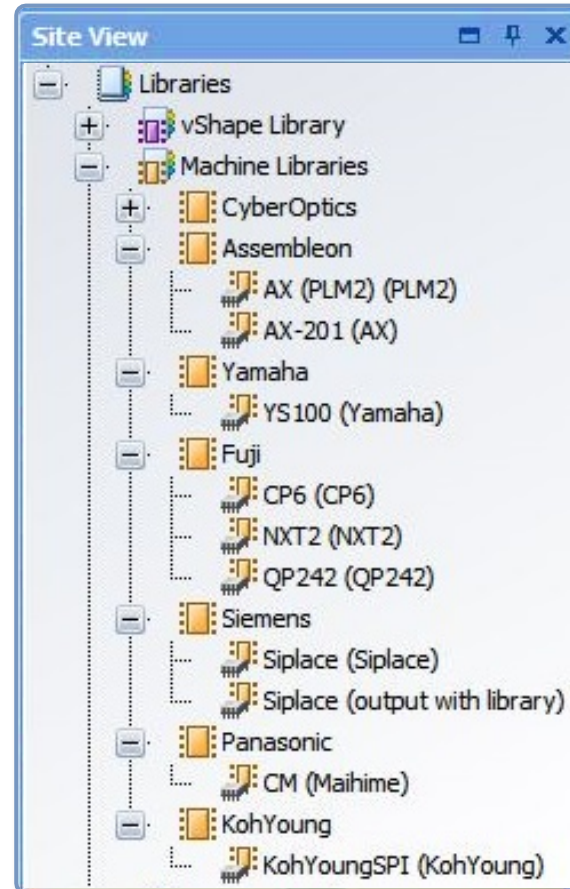


AFTER: Time-to-production reduced by more than 20%

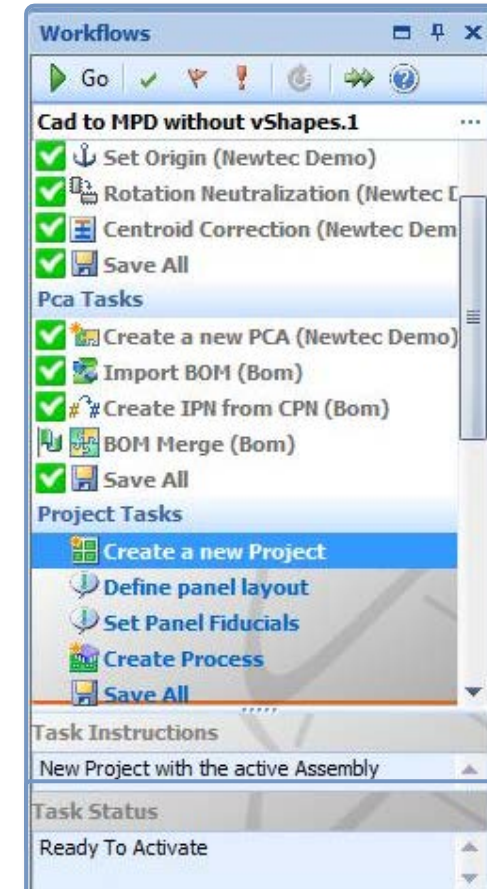
Single data model covers multiple processes and vendor platforms



Hierarchical view of assemblies,
Including support for multiple instances



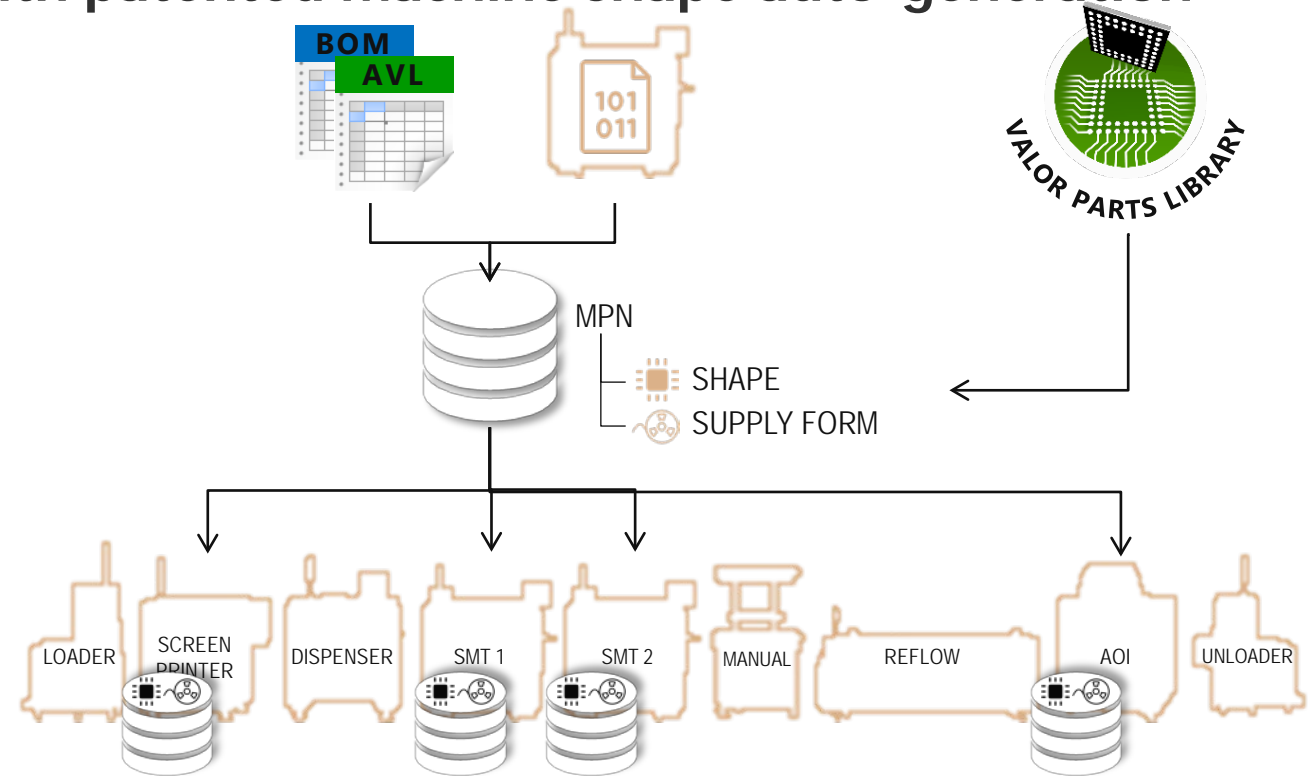
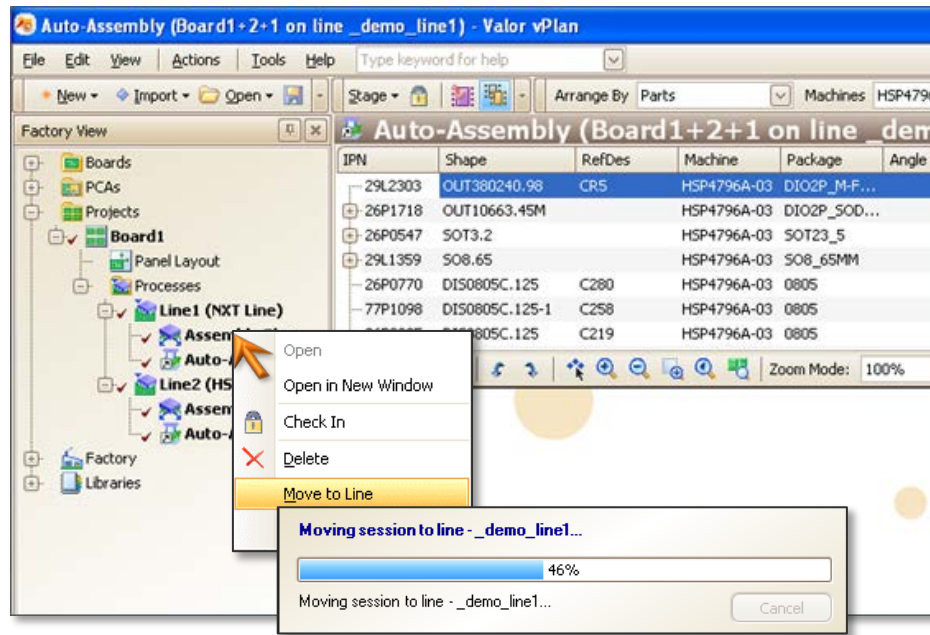
Machine shapes can be
generated on demand



Customizable workflows allow multiple users
to share projects and track their status

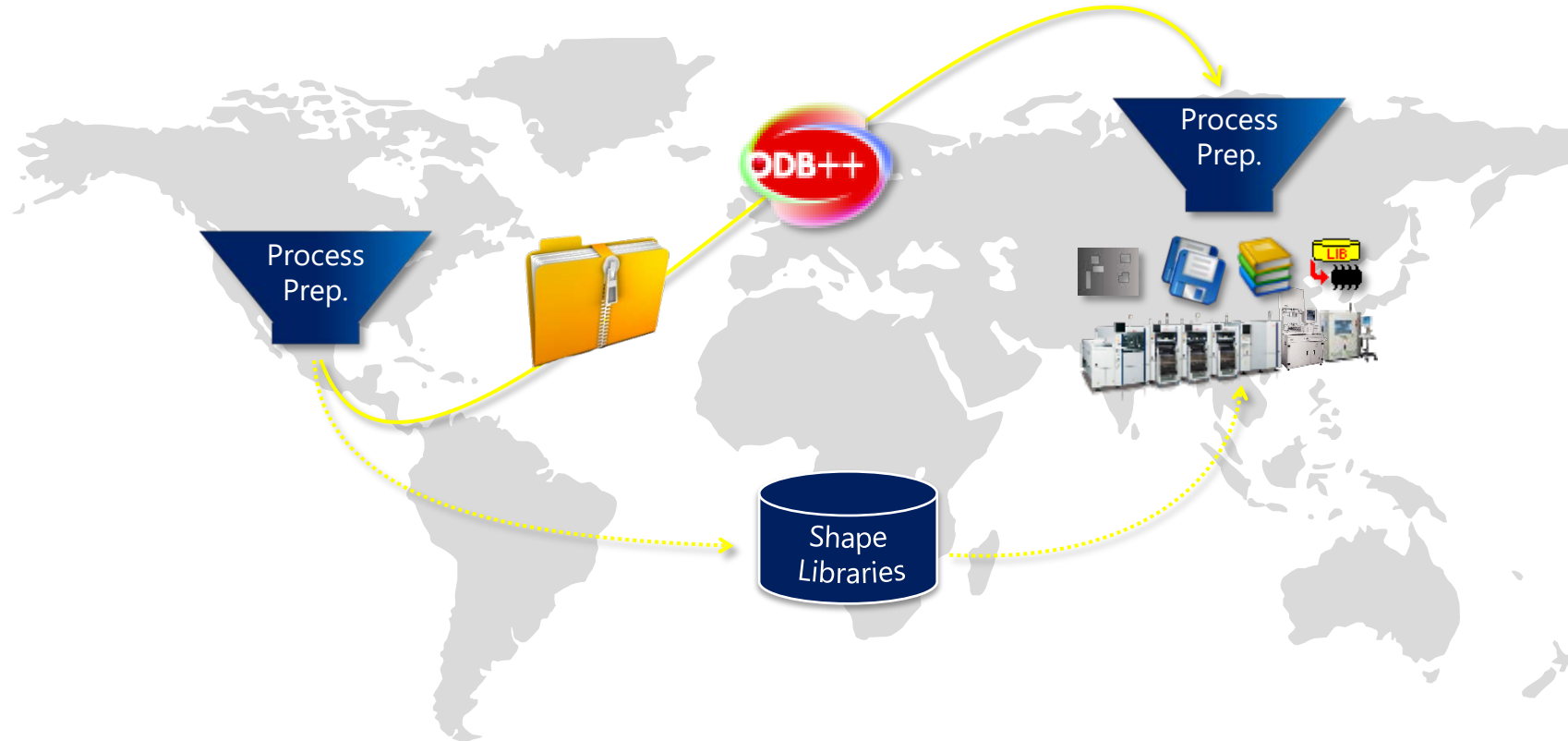
SMT machine programming

Optimize SMT program portability with patented machine shape auto-generation



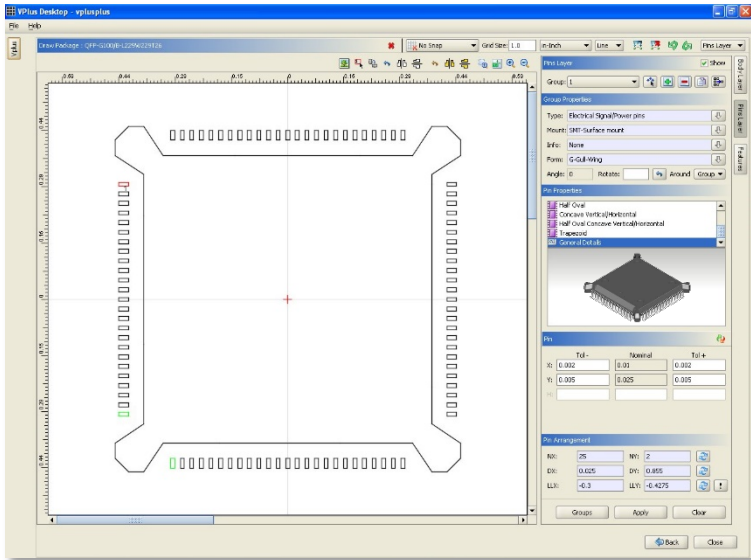
- Part libraries can be created for each machine directly from the Master Parts Library
- Users can create/modify custom parameters to enhance part/shape data
- Native machine programs can also be imported and quickly converted into alternate machine formats
- Programs can be optimized for each line

Enable simple work-order portability



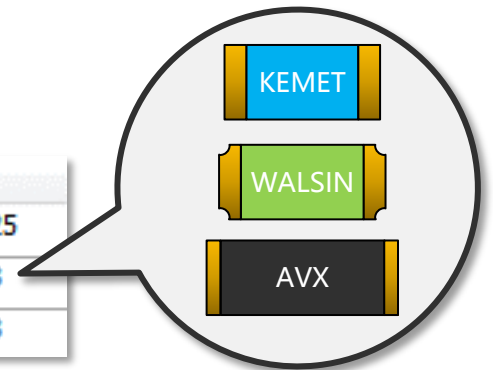
- Single product model can drive all manufacturing of a product worldwide
- Product NPI tasks can be done once at corp. competence centers
- Only process NPI needs to be repeated at each mfg. environment.

VPL - Valor Parts Library



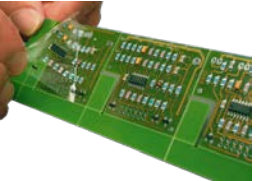
- ISO9001-certified library covering over 35 million part numbers
 - ✓ Accurate shape data
 - ✓ Pin contact area
 - ✓ Component classification (JEDEC)
- Enables accurate virtual-prototype build

Item	CPN	Manufacturer	MPN	VPL-Package	
1	1	G8316005-244	KEMET	C1210C22K5RAC-LWR	DSO-C2/X-L60W32T25
2			WALSIN	1210B22K5KKCT-CRM	DSO-C2/X-L60W31T3
3			AVX	10125C224KATA2A-KOL	DSO-C2/X-L64W25T3

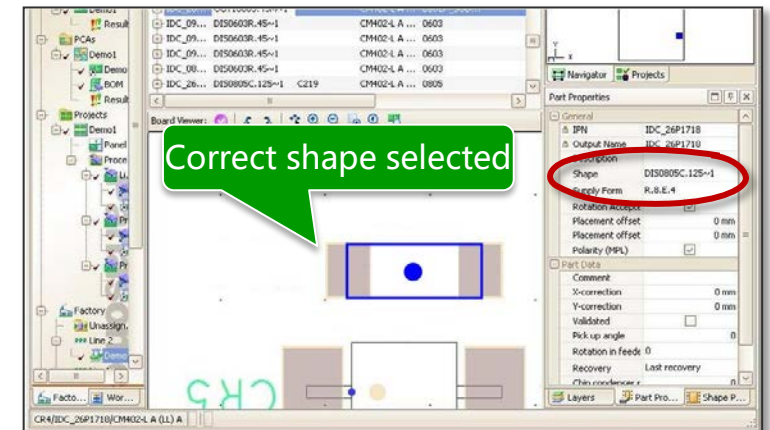
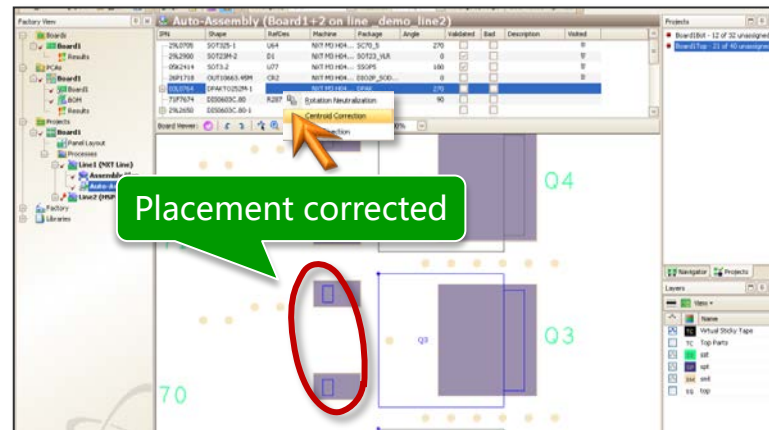
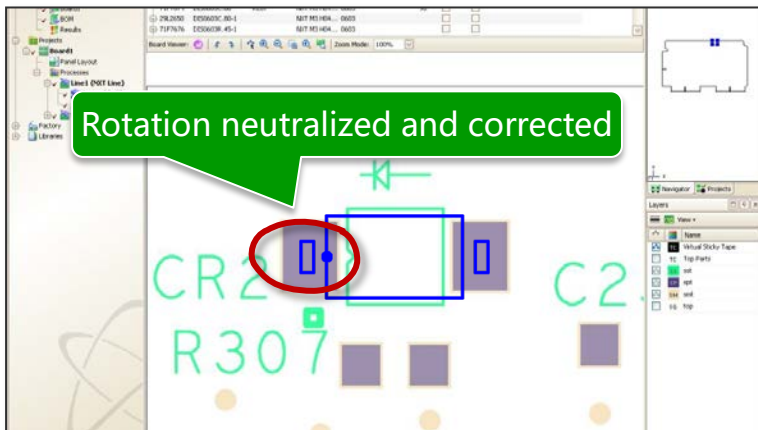
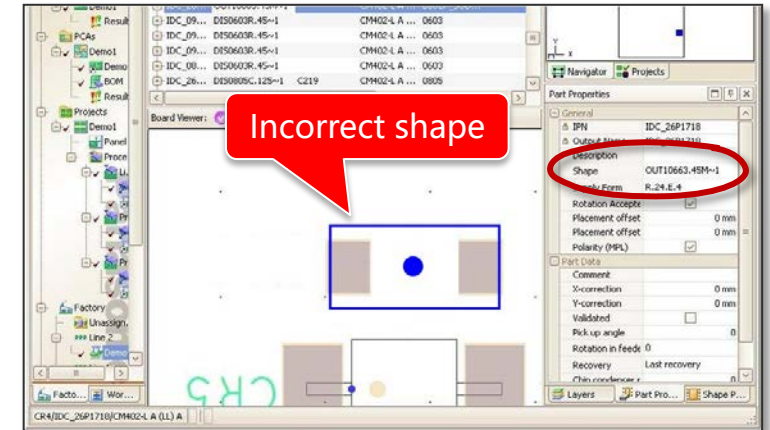
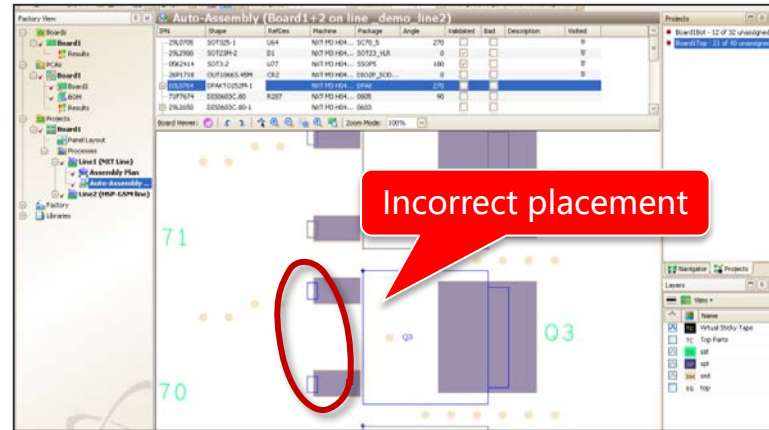
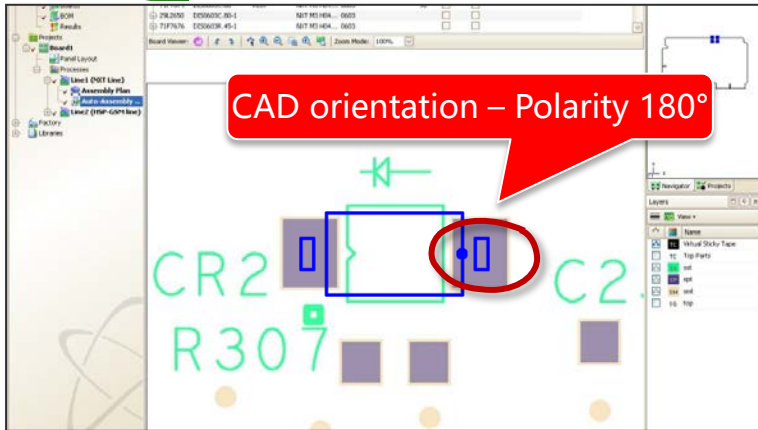


Shapes of alternate parts in the AVL can be easily compared for inconsistencies
 (example: the parts above provide the same electrical function, but require different pad layouts)

Virtual Sticky Tape



“Virtual Sticky Tape” –
Improve SMT productivity with offline placement simulation



Documentation creation

Documentation Editor - [Product Model 1 0 - Process 1- Manual Assembly - Manual Station 1]

File Edit View Insert Entities Text Arrange Tools Help

Name Station

- ScreenPrinter Set-up
- Reflow Settings
- Polarity Check
- Manual Assembly
 - Manual Assembly - ... Manual Assembly - M
 - Manual Assembly - ... Manual Assembly - M
 - Manual Assembly - ... Manual Assembly - M
 - Manual Assembly - ... Manual Assembly - M
- Inspection Top
- QA

Package Zoom

Name Parts Chosen

Category Value

- Placement Info
- Part Info
- AVL Info
- Package Info
- Placement Assignment
- Customize Info

Use kapton tape for all non used holes (MH5 & JP2).

V9,15-18: Mount as close as possible to the print. Do not make kinks in leads.

Icon	IPN	Description	Quantity	RefDes
Yellow	10021208	J CMC MBS P48 R1:3.5/3.7SN	1	KN5
Green	10021563	J CMC MBS P48 B-KEY	1	KN4
Orange	10021564	J HDR2 MBT P14 E1AU 5.84 Sz.54	1	JP1
Cyan	N901972	LK@FIL PHI FILTER BNX002-01	1	L60
Red	N902898	@RV1011 VDR-SIOV S20K30 AUTOO	5	V9, V15-V18

Total : 9

INSTRUCTION:
Wave Soldering Top - 1

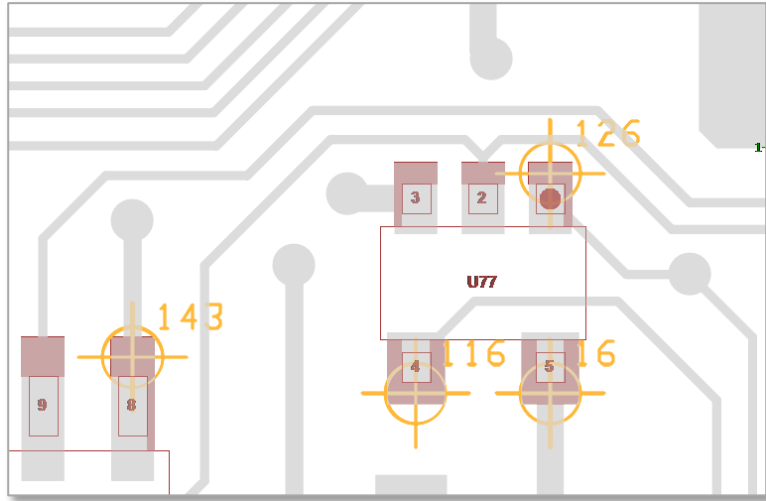
MODULE: PB289500
REVISION: D0
CUSTOMER: GRAMMER EIA ELECTRONICS

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Ready NUM

- Built-in and user-defined templates for static and interactive documentation
- Include any design, product model, SMT, Test, and other production information
- Can include embedded images and files (e.g. JPG, PDF)

Complete testability analysis (DFT) of PCAs



Test Probe Placement Summary

General Info | Nets | Probes

Name	Top	Bottom	Both	Total
All Nets				
Total	3	0	146	149
Accessible	3	0	139	142
Accessible coverage (%)	100	0	95	95
Multiple Pin Nets				
Total	3	0	127	130
Accessible	3	0	124	127
Accessible coverage (%)	100	0	98	98
Single Pin Nets				
Total	0	0	15	15
Accessible	0	0	15	15
Accessible coverage (%)	0	0	100	100

Go to Results | View Report... | Close

Test Probe Placement Summary

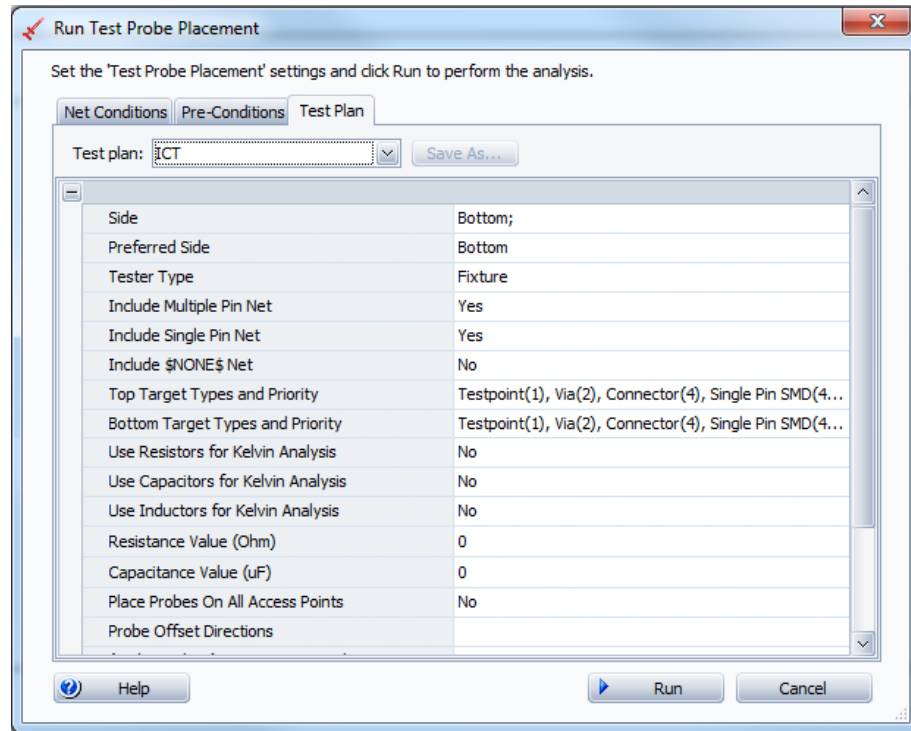
General Info | Nets | Probes

Name	Count	Coverage
Placed probes	928	99 %
Unplaced probes	6	1 %
Nets not probed	6	2 %
Nets partially probed	0	0 %
Nets completely probed	311	97 %
Nets not analyzed	3	1 %

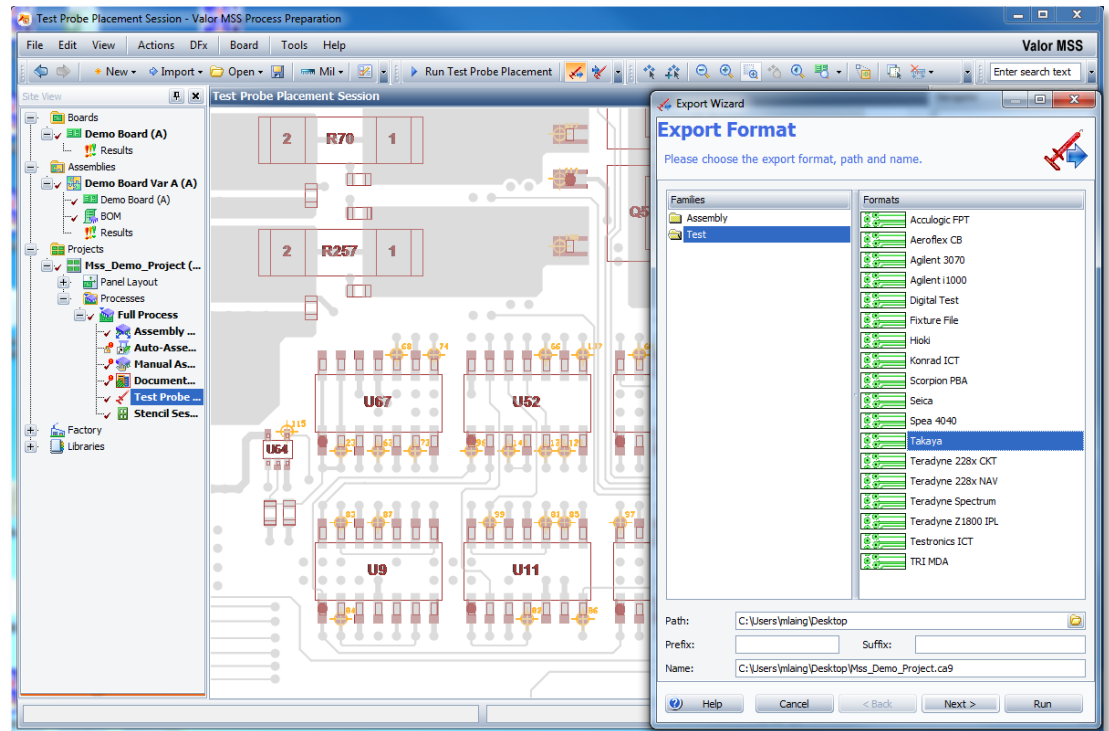
Go to Results | View Report... | Close

- Identification of high risk areas
- Feedback to design about inaccessible points
- Comprehensive yield analysis to quantify testability

Tester and inspection programming

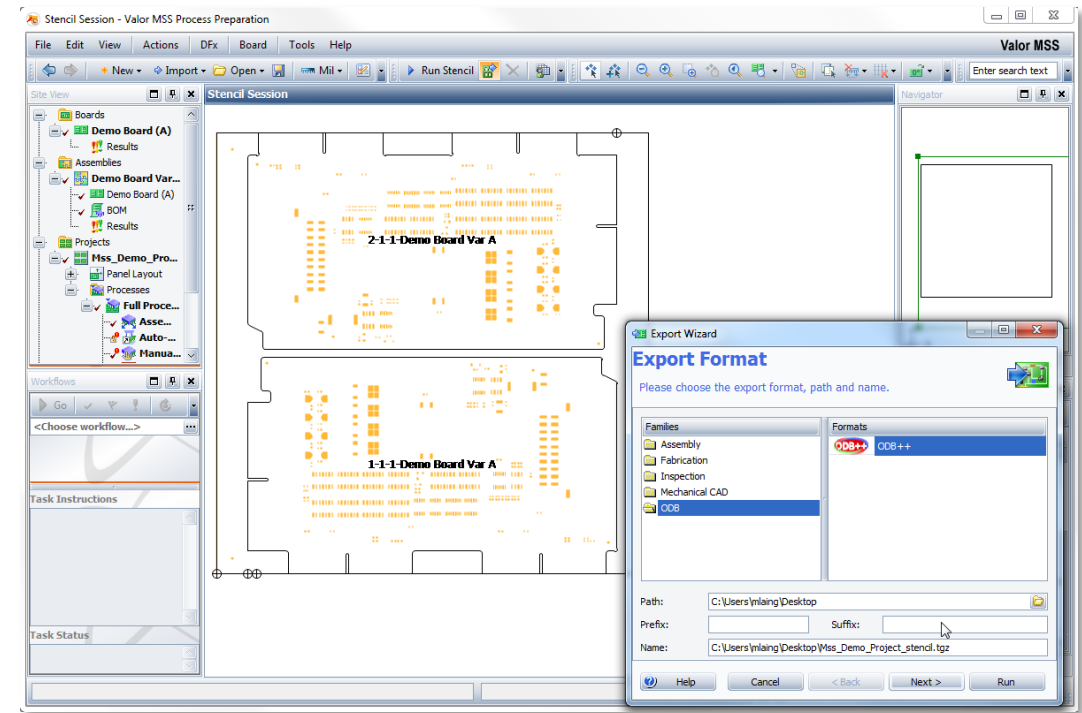
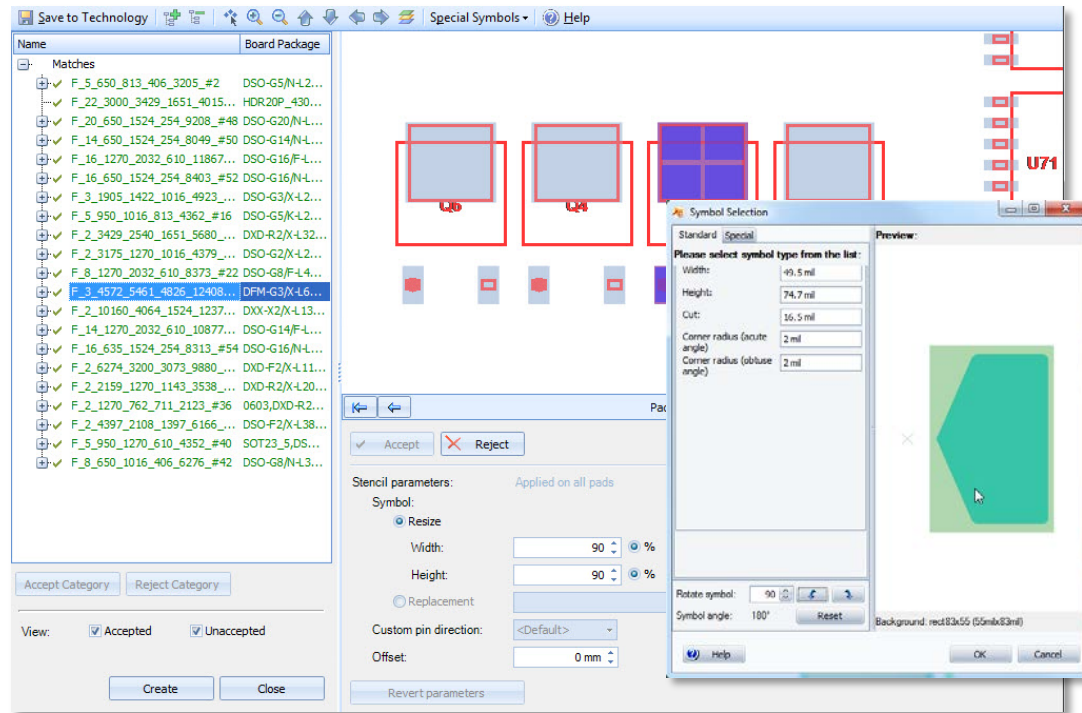


- Automated test probe selection and positioning based on available access to each electrical node
- Full reporting of placements including reason codes for inaccessible points
- Leading industry tester formats supported



- AOI and AXI tester programming
- Programs take into account the location of AOI/AXI machines on the line and components that should be placed up to that point

Stencil design



- Automatically create stencils from product model
- Customizable rules and aperture properties
- Output to ODB++ or Gerber 274X

Value-Add Services

■ Valor Process Preparation deployment service

- *Lean Process* consulting - Get the tools implemented and fine-tuned to YOUR environment
- Customization and fine tuning of machine shape auto-generation rules

■ Process automation

- Leverage Valor Process Preparation's comprehensive API to streamline data flow from design to manufacturing

■ Manufacturing Cost Simulator & Quote Builder

- Uses data available from Valor Process Prep. to generate accurate manufacturing cost simulation
- Based on BOM, factory cost model and design complexity
- Optional: integration to 3rd-party component cost providers (e.g. SiliconExpert, DigiKey)

Design Complexity Factor	Rating
1. Single sided	
2. Double sided	
3. For each 200 placements per side	
4. For each 5 BGA's per side (>0.8mm pitch and >25mm ²)	
5. For each 3 uBGA's per side (<0.8mm pitch and <25mm ²)	
6. > 8" in the X dimension	
7. > 8" in the Y dimension	
8. For each 2 LGA's per side	
9. For each 10 QFN's > 10mm ² per side	
10. For each 5 QFN's < 10mm ² per side	
11. For each 10 QFP's > 20mil pitch per side	
12. For each 5 QFP's < 20mil pitch per side	
13. Finish consideration (Enig > HASL > Silver > OSP)	
14. RoHS consideration	
15. Layer count / copper weight	
16. Rigid flex PCB	
17. Press fit connectors (count / type)	
• 1-5 Easy	
• 6-10 Intermediate	
• 11-15 Difficult	
• 16+ Very Complex	
18. Component density (parts/square inch)	
Total	

The logo for JST Electronics is centered in a white diamond shape. The text "JST" is in a large, bold, blue sans-serif font, and "Electronics" is in a smaller, blue sans-serif font below it. The background of the entire image is a dark blue to teal gradient with a complex network of glowing blue lines and nodes, resembling a digital or molecular structure.

JST
Electronics

For more product, visit:- www.jst-electronics.com