



DIGITAL INDUSTRIES SOFTWARE

ODB++Process

ODB++Process data exchange format for electronic manufacturing equipment vendors

Benefits

- When machine vendors adopt ODB++P, their customers gain a level of confidence that, as they deploy new versions of Valor Process Preparation or new machines and/or their corresponding software, a level of integration will be preserved and no downtime will occur.
- Because equipment vendors working with ODB++P own the reader, they can leverage the content provided by ODB++P when they introduce new machine capability or modify the equipment format specification. This removes the need to redistribute the equipment's format specification and all the associated overhead with NDAs and other risks to IP.

Summary

Siemens introduces its newest data exchange format for electronic manufacturing equipment vendors, ODB++Process (formally known as OPM, now referred to as ODB++P). This format enables the exchange of intelligent assembly process engineering data between Valor Process Preparation (the advanced programming solution powered by Valor Parts Library), and the various electronic manufacturing equipment vendors adopting and making use of the assembly process data conveyed through ODB++P. This continues to establish the digital thread across the design-through-manufacturing flow.

ODB++P is one of the many key advanced manufacturing technologies that Siemens is offering for building a smart factory and applying Industry 4.0 initiatives. ODB++P is machine-agnostic so it works with all SMT and inspection systems.

The ODB++P solution allows Valor Process Preparation to define the process controls and program definitions required for introducing the product model along with process handling requirements from which the various SMT

Features

- Placement, fiducial, BBM definitions
- Board outline
- Panel layout definition
- Accurate VPL package and feeder and tray handling information
- Placement list and place-last guidance
- Optionally part feeder information in the equipment (feeder and tray locations)
- Support pin/warp detection points and barcode label location support
- Pad usage – attribute/pins – attribute
- Layers: drill, silkscreen, signal (copper), solder paste, solder mask
- XML format defined by the XSD schema

equipment vendors can leverage to program the respective machines. This specification is for equipment vendors to use the contents to program equipment in the fastest and most complete way with the data provided by Valor Process Preparation and with use of Valor Parts Library.

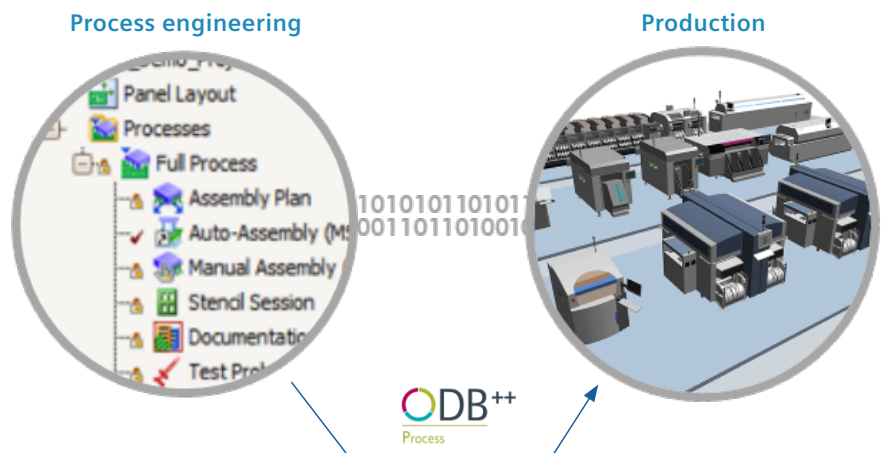
The partner development package includes:

- Sample OPM files
- Fully documented help reference with index and search support
- XSD file for schema information
- Visual Studio C# solution to load OPM file into object structure and report information about the file
- OPM Viewer to graphically display OPM files

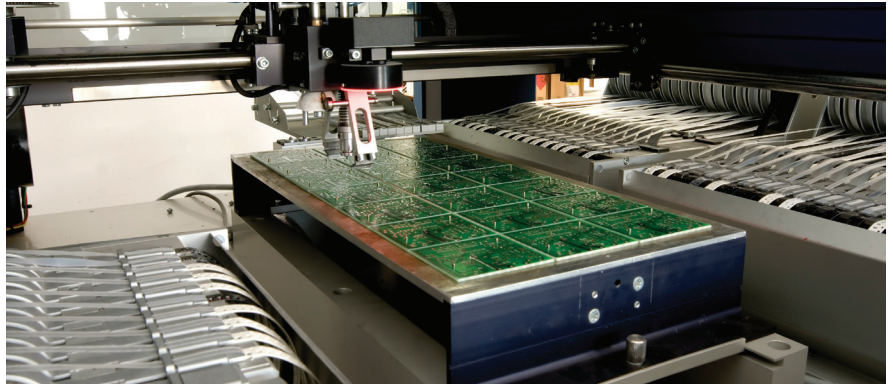
Functional capabilities

ODB++P is a data format that is ideal for new product introduction (NPI) in SMT manufacturing. It contains accurate package geometry definitions powered by Valor Parts Library to shorten or even automate the addition of new parts to the machine libraries. ODB++P captures the manufacturing process plan definitions for stencil, SMT and inspection (SPI/AOI).

The main element of ODB++P is a panelized PCB that represents the board geometries consisting of both sides of the PCB, fiducials, board marks and components and layout information. It includes an already merged bill of material (BOM) that includes a list of part numbers and their package and machine feeder information. In addition, it is possible to present the layer information,



such as the silkscreen information, using graphical primitives such as lines, circles or contours. The graphical primitives are included to verify the data in the equipment software if the software supports it. A line-setup element defines distribution of placements between equipment and provides part supply information, for example, in which slot position a set of components for a given parts are picked up.



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