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# IPC-1131

## Information Technology (IT) Guide for PWB Manufacturers

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Developed by the Information Technology Committee (2-20) of IPC

Users of this standard are encouraged to participate in the development of future revisions.

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# Information Technology (IT) Standard for PWB Manufacturers

## 1 SCOPE

This document is intended to provide a blueprint of key integrated information technology (IT) areas to help PWB manufacturers effectively and efficiently operate their businesses.

**1.1 Purpose** The purpose of this document is to identify and document the key issues for a PWB manufacturer when selecting an IT systems provider. The intent of this document is also to allow the IT systems provider to better meet the IT needs of the PWB manufacturer.

**1.2 Introduction** IT systems can have a significant impact on the success of PWB manufacturing operations. Their impact on the bottom line can be the same as the purchase of a new drill machine or a piece of test equipment. The use of computers as tools in managing information needs to be a part of every PWB manufacturer's overall strategy.

**1.3 IT Strategy Desired Effects** When creating an IT strategy, a company must identify the desired effects. The overall goal in any strategy is to improve the ability to make money. The desired effect can come from an absolute change in product margin or from an increase in competitive advantage in the market. An IT strategy can result in:

- Improved Customer Service
- Increased Profitability
- Improved Cost Control/Reduction
- Increased Sales Revenue
- Improved Quality Assurance
- Improved Throughput – Improved shop loading, scheduling, etc., optimizing product mix.
- Reduced Scrap – Immediate feedback when rejects are determined, thereby reducing the chance for repeat occurrences. Provide increased analysis to identify potential scrap.
- Reduced Cycle Time – Optimize scheduling.
- Reduced Inventory – Raise visibility of material inventory. Improve material requirements planning effectiveness.

**1.4 Selecting IT Solutions** IT solutions vary greatly in price and performance. It is important to identify the expected return for an IT solution. You can then compare this return to the total cost of ownership (TCO) for solutions being selected. The TCO not only includes the pur-

chase price and implementation costs of the software but also ongoing maintenance, training, etc.

Remember that an IT strategy may call for many types of tools. These can be placed into three categories:

- **Client Tools** – This includes supplementary tools like word processing, spreadsheets, communication (e-mail), and presentation development.
- **Business Tools** – This includes business activity tools like accounting, sales, engineering, Computer-Aided Manufacturing (CAM), Material Requirement Planning (MRP), production tracking, maintenance, and shipping.
- **Infrastructure Tools** – This includes the hardware and software needed to allow the Client and Business Tools to run. This can include implementing systems like MS Windows NT, UNIX, or Macintosh.

The PWB manufacturer should use this specification as a starting point in determining what level of computerization their facility should implement and what specifications the systems should meet. It has been found that the PWB industry has many specific needs that may not be typical in other arenas. These needs are listed in this specification. Additional needs should be added based on the particular IT strategy your facility sets.

**1.5 Multi-Site Capabilities** The IT solution must provide an ability to manage multiple-site companies or allow linkage into a corporate enterprise system. The technical architecture of the systems should allow for easy integration to other ERP and tooling systems.

**1.6 Other Features** Additional features of the system should include:

- Ability to operate in mixed mode (character and graphic user interface (GUI))
- Unlimited access to data (user query language)
- Script language
- Feature/function controls (table driven parameters)
- Ability to add flex fields
- Ability to change screen literals

## 2 APPLICABLE DOCUMENTS

None

## 3 PRODUCT AND PROCESS ENGINEERING

Product and Process Engineering define the characteristics which are specific to building a PWB and the steps the PWB must go through in order to be built.