

# Automating Data Collection for Syspro

## **ERP Background**

ERP systems are critical to manufacturing companies because they provide the most effective and economical tools to plan and execute the company's *Sales and Operations* plan.

The Sales and Operations plan can be described as follows:

- Sales plan - what needs to be sold to support the financial business plan
- Operations plan - what needs to be manufactured to support the sales plan

Proper planning and execution of the Sales and Operations plan is crucial to running a *profitable* manufacturing business.

The effectiveness of an ERP system is highly dependent on the accuracy of the data contained within the system. For example, if inventory stock status is inaccurate then planning raw materials for production or promising delivery dates to customers becomes very difficult.

Assuming that the ERP system is *capable* of maintaining data accurately, then the following can be done to help insure the accuracy of that data:

- *Education and training* – ERP operators need to know how to use the system properly so that data is collected and processed correctly
- *Automated data collection* – where feasible the collection and processing of data needs to be automated to reduce human error and to make system data real-time

Syspro has all the features needed to provide a sound inventory control. Sometimes additional tools to automate the capture of inventory movement data is needed to make the system more real-time and more accurate.

## ***Processes to Automate***

The ERP processes that are most suited to automated data collection are:

### 1) *PO receipts*

- validate incoming stock codes against the purchase order
- print identification labels to be affixed to products received
- update warehouse stock status (using bin locations, lot numbers and/or serial numbers if applicable)

### 2) *Issue raw materials to production*

- validate picking of raw materials against a material kit list
- transfer stock from the raw materials warehouse to the shop floor (using bin locations, lot numbers and/or serial numbers if applicable)
- issue material to a job (if jobs are used)

### 3) *Return unused raw materials to stock*

- transfer unused stock from the shop floor back to the raw materials warehouse (using bin locations, lot numbers and/or serial numbers if applicable)
- de-issue material from a job (if jobs are used)

### 4) *Collect labor time*

- collect labor transaction times by employee and operation
- collect time and attendance data
- monitor efficiency and utilization of labor and/or work centers

**Note:** Collecting labor transactions on the shop floor in order to compute efficiency / utilization / productivity and to capture job costs can be done using the standard Syspro labor posting program. However, an alternative that is easier for shop floor employees to use is a product called TimeSaver. The data collected by TimeSaver can be moved into Syspro using the standard labor import program.

#### 5) *Report production*

- report production for a job (using bin locations, lot numbers and/or serial numbers if applicable)
- or report production by backflushing a stock code (using bin locations, lot numbers and/or serial numbers if applicable)
- print identification labels to be affixed to manufactured product

#### 6) *Move manufactured goods*

- capture the movements of sub-assembly WIP to other areas of the shop (using bin locations, lot numbers and/or serial numbers if applicable)
- capture the transfers of finished goods within a warehouse or between different warehouses (using bin locations, lot numbers and/or serial numbers if applicable)

#### 7) *Sales order fulfillment*

- print pick tickets with the sequence and location of items to pick
- validate picked stock to the item on the picking ticket
- automatically update the sales order for items picked (using bin locations, lot numbers and/or serial numbers if applicable)
- print a packing slip to include with the shipment (including printing lot numbers and/or serial numbers if applicable)
- optionally print an invoice to include with the shipment (including printing lot numbers and/or serial numbers if applicable)
- capture shipment tracking data from the UPS WorldShip system
- UPS will automatically email the customer about their shipment

#### 8) *Cycle counting*

- automatically select the stock codes to cycle count based on ABC classification and cycle counting frequency (and perhaps including any suspect stock codes that have a negative on-hand balance)
- locate and count quantities on-hand (using bin locations, lot numbers and/or serial numbers if applicable) using the standard

Syspro stock take capture program or using a stand-alone handheld unit

- if using a stand-alone handheld unit, move stock take data into Syspro using the standard import utility program
- analyze the stock take variance reports and post the results to Syspro

## ***Technologies and Techniques***

The methods available for processing the above transactions include the following:

***1) Use PC's hard-wired to the network and located in the office.***

- Advantage: low investment, 100Mbps network line speed, uses standard Syspro programs
- Disadvantage: transposing data from write-up sheets is prone to errors both at write-up and at keyboard entry, system data not real-time

***2) Use PC's hard-wired to the network and located on the shop floor.***

- Advantage: low investment, 100Mbps network line speed, some data can be captured using bar codes scanners to insure accuracy, system is more real-time, uses standard Syspro programs
- Disadvantage: any data input using the keyboard can still be prone to errors, computer for collecting data is not mobile

***3) Use RF barcode readers connected to the network via a wireless connection.***

- Advantage: most data is captured by reading bar codes to insure accuracy, system data is real-time, built-in bar code scanner, data collection computer is fully mobile and is quite small
- Disadvantage: handheld RF bar code devices are relatively expensive, requires custom third party software

***4) Use a TabletPC connected to the network via a wireless connection.***

- Advantage: most data is captured by reading bar codes to insure accuracy, system data is real-time, data collection computer is fully mobile, uses standard Syspro programs
- Disadvantage: not as small as an RF bar code reader, Tablet PC's cost more than a regular PC (about \$2500 for a complete system including a wireless barcode scanner), not small enough to be hands-free unless mounted to a cart or lift-truck

5) *Use a PocketPC connected to the network via a wireless connection.*

- Advantage: data is captured by reading bar codes to insure accuracy, system data is real-time, unit is quite small, built-in bar code scanner, uses Syspro developed PocketPC programs, hardware cost is about half of a TabletPC
- Disadvantage: Syspro PocketPC programs are currently still under development with unknown release date

The benefits from automating some or all of the above transaction processing can be enormous. Having accurate and real-time stock status information is key to managing material procurement and inventory. This leads to better cost control and better delivery performance. The net result is better earnings.

Generally a combination of techniques and technologies is needed. Hard-wired PC's on the shop floor tend to work very well for PO Receipts and Labor Collection, whereas small wireless devices are better for managing stock put-away, warehouse and bin transfers, cycle counting and stock picking.