G.S.D. Associates, Inc.

Data Collection for Manufacturing

G.S.D. Associates offers data collection expertise in the key applications that help our customers operate more efficiently and at lower cost: Work-In-Process (WIP) Tracking, Inventory Accuracy, Shipping & Receiving, Electronic Data Interchange (EDI), Time & Attendance, Labor Tracking, Shop Floor, Quality Assurance and Asset/Tool Tracking.

Work-In-Process (WIP) - Labor Tracking - Time & Attendance

Description of Application

Tracking work orders or order lots through the production process. Tracking labor time spent on manufacturing processes.

The Challenges

⊗ *Resources inefficiently used due to lack of real-time access to information.*

⊗ *Time cards rely on recall, filling out forms, and keyboard entry.*

⊗ *Data for labor tracking is not captured as it occurs, which leads to inaccurate labor standards and poor job costing.*

Benefits of Automated Data Collection

- *Shop floor activity is linked with planning systems for real-time update of production status and automatic routing through the production process.*
- *Production bottlenecks are avoided.*
- *Actual time spent on jobs is captured.*
- *Need for manual filling out of forms and key punch entry is no longer necessary.*

How G.S.D. Systems are Used

√ *Time and attendance is collected at the front door by simply scanning a badge.*

√ *The reader then adds a time stamp and formats the transaction for the host computer.*

√ *Labor transactions are similarly entered on the shop floor, although multiple fields are usually required by scanning travelers printed from the host on a bar code printer.*

√ *Work-in-Process inventory is available to sales, scheduling and cost control.*

√ *Security.*

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Inventory Control

Description of Application

Inventory control is necessary to reduce costs associated with maintaining both finished goods inventory and parts inventory used in production. Every manufacturer has a significant financial investment in inventory which, with good inventory control, can be minimized.

The Challenges

Parts Inventory

⊗ *Identifying and logging stocking location for parts as they arrive.*

⊗ *Locating inventory parts when it's time to manufacture.*

⊗ *Maintaining accurate inventory count to minimize inventory and prevent line downs.*

⊗ *Cost of physical inventory counts and cycle counting.*

Finished goods inventory

⊗ *Identifying and logging storage location of finished goods.*

⊗ *Missed shipments to customer because products can't be found.*

⊗ *Cost of physical inventory counts and cycle counting.*

Benefits of Automated Data Collection

- *More transactions can be handled by finished goods and parts inventory personnel.*
- *Parts are not lost—parts locations are easily and accurately recorded.*
- *Time required for taking physical inventory can be drastically reduced or eliminated.*
- *ERP, MRP and other systems can be easily and accurately updated.*
- *Improve reliability of on-line inquiries and support for JIT production requirements.*
- *RF communication facilitates real-time status, enabling quick response to customer requests.*

How G.S.D. Products are Used

√ *When parts arrive in receiving, a bar code label is generated on a printer and affixed.*

√ *The host computer identifies a location to store the parts. As these parts are stored, the parts label and stocking location are scanned with a portable reader.*

√ *As parts are required for production, they are scanned out of inventory and the computer automatically reduces the inventory level for each part in the system.*

√ *As parts are assembled into finished goods, a label is generated for each item and affixed. As finished goods are stored, the label and stocking location are scanned with a portable reader.*

√ *The computer updates the quantity for each finished good item.*

√ *As customer orders are picked, each finished good is scanned out of inventory.*

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Receiving and Put Away

Description of Application

Management of goods received from the shippers. Includes verifying that the correct items were delivered against those ordered.

Put Away takes the goods received and verified, and routes them appropriately.

The Challenges

⊗ *Goods need to be quickly and accurately verified once received. Workers need to find the correct stocking locations.*

⊗ *Errors result from handling this process manually.*

⊗ *Paperwork often gets lost.*

⊗ *Storing goods incorrectly results in missing or damaged inventory.*

⊗ *The system needs to be updated with new items.*

Benefits of Automated Data Collection

- *Data collection gives workers accurate and timely feedback on staging and storage areas.*
- *This feedback frees the receiving area for incoming product.*
- *Bar code scanning verifies that the correct items are in their proper location.*
- *Errors are reduced by automating these tasks.*
- *Systems can be updated on a real-time basis.*

How G.S.D. Products are Used

√ *Goods are received at the dock and scanned using a handheld portable or fixed location scanner.*

√ *Once the delivery is complete, the information is uploaded to the host.*

√ *The host verifies that the correct goods have been received and prints out stocking labels.*

√ *The labels are applied to the goods.*

√ *The goods are taken to their stocking location.*

√ *The location label and product label are both scanned, verifying placement of goods.*

√ *The portables are placed in their docks to upload the stocked inventory information to the host.*

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Shipping and Electronic Data Interchange (EDI)

Description of Application

Shipping departments use bar code and automated data collection to accurately process customer orders and to automate EDI documents about customer orders.

The Challenges

Manual systems used by shipping departments are susceptible to human errors and delays which can seriously jeopardize customer relationships and operating expenses.

Picking

⊗ *Wrong parts are picked from the incorrect location.*

⊗ *Key punching and manual pick sheets are slow and error prone.*

Packing

⊗ *Contents of the box don't match the pick list.*

⊗ *Substitutions and omissions go undocumented.*

⊗ *Incomplete orders are delayed or misplaced.*

Manifest

⊗ *Staged orders are overlooked waiting for paperwork corrections.*

⊗ *Manifests are incomplete.*

⊗ *EDI transmissions are delayed by error prone manual systems.*

⊗ *Shipping labels fail compliance specifications and cost chargebacks.*

Benefits of Automated Data Collection

- *Items are quickly routed and consolidated to the correct order using bar coded pick information.*
- *Orders are accurately packed by scanning items as they are boxed or palletized ensuring that omissions or errors are caught before shipment.*
- *Correctly packed boxes are labeled and staged with error-free paperwork.*
- *Accurate EDI advance-ship notices (ASN) can be immediately transmitted to your customers using the electronic manifests from the portable bar code readers.*

How G.S.D. Products are Used

√ *Orders can be efficiently zone picked in real-time using portable RF network readers.*

√ *Items are accurately picked by confirming the bar coded stock locations and inventory labels printed on high quality thermal bar code printers.*

√ *Electronic manifests are automatically and accurately constructed by scanning all boxes and pallets with portable readers as they are loaded onto the truck or rail car.*

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Asset Tracking

Description of Application

The management of the physical location, maintenance and movement of fixed assets and capital goods.

A PC maintains the database with serial numbers assigned to each asset.

The Challenges

⊗ *A large investment in fixed assets. It is in the best interest of the company if it has an accurate accounting of the location of the asset for maintenance and usage.*

⊗ *Accurate information regarding location and state. The absence of tracking system inhibits full utilization of assets.*

⊗ *Manual tracking systems are cumbersome and difficult to use. Without strong dedication of the management team and the employees, a manual system may fail.*

Benefits of Automated Data Collection

- *Eases the data collection component of asset tracking. When data collection is easy, the system is more likely to be used consistently and therefore more likely to contain meaningful information.*
- *Ensures assets are maintained in a timely manner, assuring their long life and usability.*

How G.S.D. Products are Used

√ *Using a database and a small network, a bar code printer is used to print serial number labels for each asset. Option: the labels can be preprinted sequentially.*

√ *The printer is stocked with durable synthetic labels, or tamper-evident material.*

√ *Portable readers, equipped with a scanner, are used to collect the data.*

√ *The portables use a communications dock to transfer data back to the database.*

√ *For asset libraries (like a tool room), a fixed-mount display reader with a scanner can be used for self-checkout.*

√ *The PC utilizes a wedge reader and CCD or laser scanner to easily check in assets at the PC by emulating keyboard data entry.*

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