



## Data Sheet for BellHawk JMTS Real-Time Barcode Job and Materials Tracking System



### Overview

The BellHawk Job and Materials Tracking Service (JMTS) tracks the receipt and put-away of raw materials, their transformation into finished products through a sequence of operations, as well as the packing and shipping of products.

JMTS integrates the capabilities of the BellHawk WIPS and BITS base systems plus adds the ability to specify Bills of Materials (BOMs) and to track the consumption and production of materials for each operation on a work order. It also adds the capability to track work-in-process materials and inventory.

Some of the applications of JMTS include:

- Tracking the manufacturing, processing, transformation or conversion or assembly of materials into finished or intermediate products.
- Tracking repair and recycling of equipment and materials.
- Tracking make-to-order manufacturing as well as engineer-to-order, process-to-order, and repair jobs.
- Tracking batch processing of chemicals, food, beverages, pharmaceuticals and supplements including mixing and packaging.
- Tracking the testing of samples in laboratories as well as the reagents used in their testing.
- Tracking the status of work orders, customer orders, and work-in-process as well as raw, intermediate, and finished goods inventory in real-time, including materials being processed by subcontractors.
- Tracking inventory and labor usage on work orders.
- Tracking split batches and rework as well as scrap.

With the addition of the Warehouse Management System (WMS) option JMTS functions as an integrated Manufacturing Execution System and Warehouse Management System (WMS) that can automatically exchange data with a wide variety of ERP and accounting systems.

JMTS can be purchased outright or rented monthly for use on a client's own Windows Server. It can also be used on a subscription basis in the Cloud over the Internet at a secure data center in the USA.

## BellHawk JMTS Technology



The BellHawk JMTS software is comprised of a special website and a SQL database. All data capture is carried out using web-browser based devices, equipped with barcode scanners. These include PCs and Android tablets with external barcode scanners as well as ruggedized PDAs and mobile computers with integral barcode scanners. Information stored in the BellHawk SQL Server database can be viewed on similar devices as well as on smart phones.

JMTS can track materials using rolls of pre-printed "license-plate" tracking barcode labels. This makes it easy to track inventory and assets without the cost or complexity of using a barcode label printer.



If JMTS is installed on a client's own server then rules-based barcode label printing can be added to the base BITS system. Also Bell-Connector automated data exchange software can be used to implement automated data exchange between BellHawk and a wide variety of ERP, accounting, computer aided design (CAD) and other systems. This tool is available for clients to develop their own interfaces or BellHawk Systems staff can assist in the development of these interfaces.

JMTS can be accessed over the Internet using any modern web-browser on a wide variety of devices including Windows, Android, Linux, and IOS based PCs, tablets, PDAs and smart phones. This makes it ideal for tracking inventory at multiple geographic locations, including in the field, such as at construction and maintenance sites.

JMTS tracks materials by location, which can be on barcoded bins, shelves, or floor locations, or in barcoded totes, on carts, or in vehicles. It can also track materials that have "license-plate" tracking barcodes on individually tracked items and assets, as well as materials in barcoded

containers such as boxes, barrels, and pallets. This tracking is performed using pre-printed rolls of license-plate tracking barcodes.

Initial setup and configuration, such as setting up parts lists and inventory locations can be performed using Excel spreadsheets or comma delimited files. This enables the easy use of data exported from other systems and can avoid duplicate data entry.

## Production Tracking Capabilities

The production tracking capabilities integrated within JMITS system include:

- Ability to see the real-time status of work orders and customer orders anywhere, anytime there is an internet connection using a wide-variety of web-browser equipped devices.
- Ability to specify routes, with bills of material for each step, and to produce barcoded travelers with which to track labor, work orders, and materials.
- Ability to track work-in-process material as it flows from one operation to another, either in a batch or as individual pieces.
- Tracks labor consumed on work order operations as well as the elapsed time for each operation.
- Tracks the consumption of materials on each operation and the production of finished goods, as well as unused materials returned to stock.
- Tracks depletion of floor stock based on back-flushing as work products are reported out from each operation.
- Error detection and mistake prevention, including preventing the use of wrong or expired materials on operations.
- Tracks scrap and rework, plus secondary materials such as reusable scrap produced by operations.
- Tracks service, manufacturing/processing, assembly, and test/repair work orders.



## Inventory Tracking Capabilities

The inventory tracking capabilities integrated within a JMITS system include:

- Provides real-time view of the status of raw, intermediate and finished goods inventory.
- Tracks containers of material in multiple geographic locations, with the same materials being in multiple locations.
- Can track inventory using “license-plate” tracking



methods .

- Makes it easy to see the location of all raw, intermediate, WIP, and finished goods inventory in real-time.
- Tracks materials by lot-number, container, location, and expiration date.
- Tracks materials in nested containers, such as barcoded cartons on a barcoded pallet.
- Tracks individually barcoded items including serial numbers.
- Tracks receiving and put-away of raw goods materials.
- Tracks packing and shipping of finished goods.
- Tracks who handled each container of materials for traceability purposes.
- Tracks returns to stock as well as scrapped inventory and inventory adjustments.
- Performs “cycle-count” type inventory validation.
- Tracks assets and tools, including issuance to people

### **Mistake Prevention**

The Bill of Materials (BOM) to be consumed for each operation to make a product can be stored within BellHawk and then used to generate the list of materials to be consumed on a work order. This BOM can be imported as a formula or ingredients from an external system or imported as a parts list from a CAD system.

When an assembly, mixing, converting, or other manufacturing process is recorded in BellHawk, the materials recorded into the work order operation are checked against the list of materials required and the user is warned if they are about to make a mistake by using the wrong materials.

### **Optional Modules, Configuration and Customization**

While JMTS provides a wide range of functionality working "out-of-the-box" a number of optional modules are available to provide additional capabilities, as described in a separate data sheet.

JMTS can be configured for a wide-range of applications by importing data into its knowledge-base in the form of Excel spreadsheets. Where this does not provide the needed capabilities then BellHawk System's staff can customize the JMTS software to meet the specific requirement of each client.

### **For More Information**

Please see [www.BellHawk.com](http://www.BellHawk.com).