

## CONSTRUCTION

# Data Support's Tool Hawk uses BACKTRACK to track tools and supplies at New World Trade Center construction site

## Solution Overview

### Industry

Construction

### Application

Tool and supplies tracking

### TEKLYNX® Software Product

BACKTRACK® Asset and Inventory Tracking Software

### Software

Data Support Tool Hawk™ Bar Code Tool Tracking system

### Hardware

Symbol MC70 Handheld Mobile Computer  
Desktop personal computer

### Partner

Data Support, Inc.  
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***Keeping track of tools and materials on major publicly funded construction projects is not only desirable – it is required. That's why a joint venture of several leading construction companies and suppliers needed to develop and implement a system for keeping track of the distribution and return of tools on the massive World Trade Center construction site in New York City. It also wanted to track fixed assets and consumables, such as personal safety equipment and construction supplies.***

***The company initially used a manual tracking system but sought an automated approach that would be more efficient and meet contractual Federal Acquisition Regulation (FAR) audit standards. The joint venture selected Data Support, a Nanuet, New York solutions provider and TEKLYNX® partner, to provide the system. Using its Tool Hawk™ tool tracking system built on TEKLYNX BACKTRACK® Asset and Inventory Tracking Software, Data Support provided a single system that meets all of the company's tracking needs.***

Massive, publicly-funded construction sites present special management and control issues that are contractually mandated and translate into day-to-day reporting and oversight responsibilities. The reconstructing of the World Trade Center in New York City certainly qualifies as one of the largest public construction projects in the U.S.

A major part of the reconstruction is the World Trade Center Transportation Hub Project. Estimated at more than \$2 billion, the project will provide a pedestrian tunnel network and other connections to existing and future transportation services, such as ferries at the World Financial Center and Metropolitan Transportation Authority subway lines.

The Port Authority of New York and New Jersey (PANYNJ) awarded prime contracts for construction management and general contracting to a joint venture set up by several leading construction companies and suppliers.

The project falls under Federal Acquisition Regulation (FAR) Subpart 45.5 – "Management of Government Property in Possession of Contractors." Specifically, Subpart 45.505 – "Records and Reports of Government Property," which lays out the requirements for record keeping, management and reporting.



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President  
Data Support*

As a result, the construction management company is required to demonstrate to the Port Authority that they control and can account for the movement of tools that are purchased under the contract, and can recall tools and fixed assets at any time. It also wanted to track its own tools and fixed assets and needed to account for consumable materials as they are used.

### ***Automating for control***

Tools are dispensed from a tool room located in the construction site. Workers come to the tool room to sign out power tools and other expensive items. The tools are tracked in terms of who released the tool and when, who received the tool, what “package” (work location/project account) at which the tool is to be used and when it is returned.

The joint venture started with a temporary manual system that tracked the tools assigned to each worker by listing a tool description on the back of the worker’s time card. It was clear that an automated system would be required to track the over 2,000 tools that were routinely assigned to approximately 150 workers.

Early in 2007, the company issued an RFP to manage the tool, fixed asset and consumable materials inventories. They received several proposals and the contract was awarded to Data Support, Inc. of Nanuet, New York, with its Tool Hawk™ Bar Code Tool Tracking System that is built on BACKTRACK® Asset and Inventory Tracking Software from TEKLYNX®.

The solution includes three applications. The first is tool tracking, which records tool checkout to users as well as the work package for which the tool is used. It also keeps track of the tool owner, which could be the construction management company or PANYNJ. The second application is a bulk material tracking system that manages the inventory of building supplies. The third application is a fixed asset tracking system that keeps track of office equipment and computers. All three of these applications are in the same Tool Hawk/BACKTRACK system.

The combination proved to be powerful for the joint venture. Tom McDonald, President of Data Support, believes that it was the BACKTRACK and Tool Hawk’s flexibility that made the sale. He said, “A key thing about BACKTRACK for the customer is that they did not have to buy three separate pieces of software to run the three applications. All three run through the same Tool Hawk/BACKTRACK system, so they felt that they were getting a lot of value for their purchase.”

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The system is simple, yet effective. The data collection module is installed on Symbol MC70 Handheld Mobile Computers. There are six onsite, including backups. Data for each of the three applications – equipment, asset and materials tracking – are collected using the handheld scanners. The information is uploaded daily into the Tool Hawk/BACKTRACK application running on a personal computer in the construction office.

The system was installed in June of 2007. Data Support imported all of the available tool information from Microsoft Excel spreadsheets into the BACKTRACK database in Tool Hawk. Data Support also designed the user interface and established all of the fields (tool description, serial number, time, date, etc.) that would become part of the record.

“Our technicians spent some time with them going over exactly what they wanted. We actually went through the software screen by screen and they decided what they wanted in the system and how they wanted it displayed. Then we scheduled an install,” explained McDonald. Data Support also conducted training sessions for the users.

Over the summer, an intern assigned a unique identifier to every tool and tagged them with pre-printed anodized aluminum or durable polyester tags. Using the Symbol scanner, the information on the newly applied tags was inputted into the database. A similar process was used for fixed assets, such as office equipment and computers.

### ***Comprehensive tracking management***

Now, when workers come to the tool room, the tool supervisor scans barcodes on his own badge, the worker’s employee ID badge, and the tags on the tools. He then selects and scans a work package or job ticket identifier from a list. Date, time and other standard fields are automatically added by the scanner. Tool returns are handled in the same way. Tool usage data are uploaded from the handheld devices to the Tool Hawk/BACKTRACK application at the end of the day.

The Tool Hawk/BACKTRACK application provides a comprehensive management system. “At any given time, they know who has a tool and, based on the assigned work package, where that tool is. So, if the Port Authority were to perform an audit, the construction management company would be able to account for all of the tools that were out and who had them... workers are responsible for the tools that they’re given,” explained McDonald.

The fixed asset and bulk material tracking processes are similar and use the same employee, location and work package lists. Fixed assets owned by either the Port Authority or the construction management company were also tagged and scanned. Now, depreciation can be tracked by item; and any movement, reassignment or

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disposal is recorded and reported. Bulk materials such as personal protection equipment, plywood, even tape and small hand tools are added to inventory as they arrive and are noted in the system as they are consumed. This enables the company to look for overuse and to accurately account for materials consumption.

A series of reports, custom-designed by Data Support, enable the Tool Hawk/BACKTRACK application to run tool usage reports by worker, by work package and by several other metrics. It can also report tools that have been checked out and not returned, tool usage per month, cost of inventory, bulk material costs, bulk material usage by work package, bulk material usage by worker, and minimum and maximum inventory levels for bulk materials.

Commented McDonald, “We built a number of reports for them but one of the great features of this package is that they can also design and build any report they want. BACKTRACK has a great report writer built in, so it’s easy to add new reports.”

### ***The right tool***

The Tool Hawk/BACKTRACK application meets construction management tracking, reporting and regulatory needs. It has greatly simplified tool, asset and material controls and demonstrated that the joint venture is serious about managing the assets that are part of this massive project.

“We’re very proud of the solution because it answered all their requirements within one system. The construction management company has taken control of the tools on the site, has a tight inventory on fixed assets and is able to demonstrate to the Port Authority how money is being spent on parts and materials. It’s all tracked through a single system using the same portable data terminals for all of the applications,” concluded McDonald.