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Bulletin

Bluetooth for Tool Management

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INTRODUCTION

The recent advances in technology are making an impact on the construction industry. Building Information Modeling BIM) is almost a standard on most projects. The need to deliver information with speed and accuracy has brought about the rise of several smartphone and tablet applications. Another evolving technology being utilized in the construction industry is Bluetooth, specifically when it comes to tool management.

Every company has tools that need to be distributed, relocated, maintained and inventoried. Employees working in warehouses and tool rooms manage tens of thousands of tools used in the installation, maintenance and repair of plumbing and mechanical systems. Tracking the movement of those tools – from a $200 drill to a $50,000 FARO 3D Scanner – has become increasingly necessary to limit loss and drive productivity.

BLUETOOTH – WHAT IS IT?

Bluetooth is a global wireless communication standard that connects devices together over a certain distance. A Bluetooth device uses radio waves instead of wires or cables to connect devices. It is built into billions of products on the market today and connects the "Internet of Things" (IoT). Think headset and phone, speaker and PC, tool to smartphone and more.

OPPORTUNITIES

Most companies with large tool inventories have employees to manage its tool rooms and track the movement of tools and equipment. Less sophisticated tracking systems utilize a paper-and-pen based system in which an employee manually writes down his or her name and the serial number of the tool being removed from the tool room, after which a staff member keys that data into a computer (if they are lucky) to be tracked on an Excel spreadsheet.

These labor intensive systems cost contractors thousands of dollars in labor to locate misplaced or stolen tools, with questionable accuracy. In some cases, employees spend hours on a jobsite searching for tools, or simply do not get tasks completed because the necessary tools were missing.

Bluetooth technology may be the solution you are looking for to simplify tracking and create accountability in tool management.

WHAT DOES BLUETOOTH CONSIST OF?

A Bluetooth tracking system has three major components to allow the best results:

- **A tool tag that sends a Bluetooth wireless signal**. These tags can be internal to the tool, like MILWAUKEE TOOL's One-Key™, or on the battery, like DeWalt Tool Connect™.
- **A receiver on a paired device, such as a Bluetooth enabled smartphone or tablet**.
- **An application that sends information from the receiver to a cloud-based tracking software that can be accessed anywhere, anytime**. Depending on the system, this information can include location and device owner.

WHAT DOES BLUETOOTH DO?

- **Ability to accurately track who currently has the tool, its last known location, who checked it out and returned it to the tool room.**
- **Reduces cost from lost tools, potential tool theft, and lost time tracking down tools in the tool room.**
- **Inventory management of all tools and equipment.** Can help to manage annual budgets and easily filter manufacturer, type and model of all items in the database.
- **Tools with built-in Bluetooth technology can also be remotely re-configured.** Example: Speed and torque of drills can be remotely adjusted.

HOW DO YOU IMPLEMENT BLUETOOTH?

- **Complete an analysis of purchasing new tools with built in Bluetooth technology versus adding Bluetooth trackers to existing tools.**
- **Purchase new tools or Bluetooth tracking tags.** Numerous tools on the market have built in Bluetooth technology, such as MILWAUKEE TOOL'S One-Key. Not all Milwaukee tools have this built in technology.
- **Download and implement a Bluetooth tool tracking application**. Milwaukee's One-Key software is free to download and use.
- **Set up your total inventory of all tools and assign them to a location** (jobsite, tool room, repair)
- **As tools are moved from one location to another, the Bluetooth application tracks the tool and logs the new location data within the software**.
- **If a tool is lost or stolen, attempt to locate the tool from the software.** The software can also assist in filing police reports with necessary information such as manufacturer, model number, serial number, last known location.

- **Several of the tools with integrated Bluetooth tracking also have the added benefit of enhanced tool control/ customization, usage tracking, and performance tracking.**

CHALLENGES

As with any new technology there are some challenges to consider.

- **A new Bluetooth tool management system will not communicate or feed into a legacy tool inventory system.** However, most Bluetooth tool management solutions do accommodate batch uploads from existing Windows™-based tracking systems.
- **Cost.** Several tool manufacturers are offering tools with integral Bluetooth technology at a cost higher than the same tool without the built in technology. In addition, consider the initial upfront cost to manually upload all existing tools in your inventory.
- **Currently the system does not have the full capabilities of a standard GPS system**. You must be within 200 feet of the tool with a paired device to locate it.
- **All existing tools in your inventory could be tagged with an external Bluetooth tag**, however advances in this arena are still in development.

LOOKING AHEAD

Below are items to consider as you navigate through various options for a solution for tool management.

- **Growth**: Does your firm have a need to increase your tool inventory? This may be a good time to make an investment in a Bluetooth tool tracking system.
- **Tool Turnover**: Do you rapidly turnover tools? Consider downloading and utilizing the tool management software and gradually introduce new tools with built in Bluetooth technology.
- **Sourcing:** Can your tool inventory be narrowed to a single manufacturer? A single source system will allow the best results.
- **External Tag:** Several tool manufacturers are expeditiously prototyping an external Bluetooth tag that can be placed on tools in lieu of tools with integral technology. The ability to do this is paramount to our industry as items such as gang boxes, scissor lifts, ladders, etc. may need to be tracked. Adding an external Bluetooth tag will be the most cost- effective solution. Once available, consideration must be given to the battery life of these external tags.

CONCLUSION

It is important to track your tools and equipment, service them at appropriate times and maintain your inventory to ensure you are tooled properly for the size and capacity of your company.

Whether you are currently using pencil and paper, a simple Excel spreadsheet, RFIDs or bar coding, the truth is that the technology for accurately tracking tools and equipment is moving towards Bluetooth technology.

Our initial quest in searching for cutting edge technology for tool management

began with researching the use of RFIDs (Radio-Frequency Identification) for tool management. It quickly became evident that RFID technology is not the correct application for tool management in our industry. The challenges are the cost of implementing RFID technology and its limited network when Bluetooth technology is more prevalent. More and more tool manufacturers such as MILWAUKEE TOOL, DeWalt and Bosch are implementing Bluetooth in their new line up of tools.

Consider all the ways Bluetooth technology has enabled us to stay well connected and deliver accurate information in real time. Whether you are driving your Bluetooth-enabled car, taking hands-free phone calls, listening to your favorite tunes on a wireless Bluetooth speaker, finding your lost car keys with your smartphone, or airdropping your contact information to a new client you just met, Bluetooth is the standard in wireless protocol.

The use of Bluetooth technology is just getting started in construction. Today, it can help you track, inventory and manage your tools and equipment. What might it do for you tomorrow?

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