



➤ Going Mobile Drives Paperless

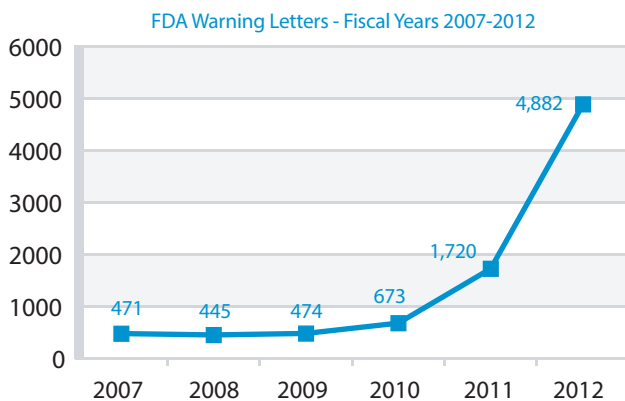
Going Mobile

Going mobile is the key differentiator in driving paperless asset management (whether you are using an EAM, CMMS or CCMS). This is mostly because the use of mobile devices creates a shift in the way that work is completed making it possible to go paperless. Technicians in both maintenance and calibration departments undergo an evolution in the way that they spend their time and complete their work as a result of utilizing mobile devices.

Why Go Mobile for Maintenance and Calibration

Several significant industry trends are driving the adoption of mobile devices and paperless environments. These trends include:

- New Laws - Affordable Care Act
- Increase in FDA Activity
- Globalization
- Drive for Improved Product Quality and Patient Safety



*Source: <http://www.fda.gov/downloads/ICECI/EnforcementActions/UCM346964.pdf>

"We will also be taking an especially hard look whenever patients are placed at an unacceptably high risk of harm by those violations of current good manufacturing practices." - Assistant Attorney General Dr. Frimpong:

With these trends, many companies are looking at what it takes to go paperless and what it means to go mobile in their facility.

Three Reasons to Go Mobile

There are three vital benefits of going mobile for a Life Sciences manufacturing plant that play a direct role in meeting the industry drivers mentioned in the previous section.

1. Improve Technician Productivity and Performance

The use of mobile devices drastically improve technician productivity and job performance. Mobile devices alter work execution by allowing technicians to spend more time on completing work orders rather than entering data into a computer system. Mobile devices let technicians remotely access:

- Upcoming Work Orders
- Equipment Records
- Work Plans and SOPs
- Measurement Data Templates
- Other Valuable Information

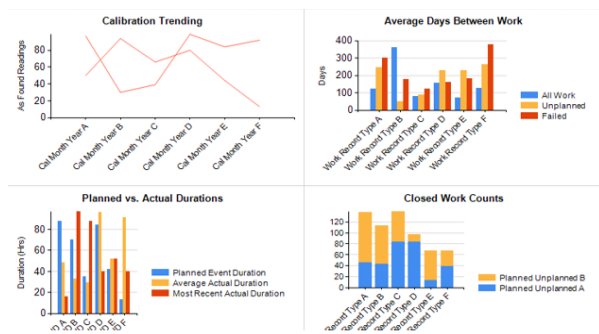
No longer do technicians need to enter data from paper records into the computer at the end of the day. Mobile devices are a valuable tool to assist technicians in completing their work.

2. Go Paperless by Enabling Data Collection

By going mobile, a facility can drive paperless processes. Workflow automation is one of two key components in going paperless. But without the use of mobile devices, a company cannot perform data collection in the field. Now, with the use of tablets and other devices, technicians can capture required data as they complete maintenance or calibration work. Data capture on a mobile device will also increase efficiency of a company's technician.

3. Analyze Reports Remotely – Management can review numbers and statistics on the fly

As soon as data is collected in the field, it is available for analysis. Mobile devices give technicians the ability to capture additional information that they may not have had before, such as measurement data points and work plan steps. This allows management to reference statistics and reports on their own mobile device.



Why Now is the Time to Go Mobile

Paperless environments were not always fully paperless because maintenance and calibration technicians relied on paper to record data, complete sign-offs and review work. The act of completing the work on paper and then recording it on a computer was counterproductive to the paperless environment. The direct cause of this was a lack of available technology.

Past technology was based on:

- Client-Server Applications
- Limited / No Wireless Network Access
- Limited / No Availability or Compatibility of Mobile Devices

Now in many facilities, wireless network access has become ubiquitous. The convergence of those three factors have enabled the use of mobile devices and spurred the development of web based applications. With this new

technology, mobile within a facility has been one of the leading drivers of going paperless.

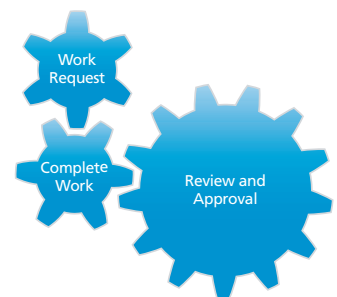
The Impact of Going Mobile

In pharmaceutical manufacturing and other Life Sciences / GMP environments, mobile devices streamline technician work while maintaining compliance. Together, mobile devices and workflow automation allow technicians to focus on completing work and not recording it.

Paper Based Process



Paperless Process with Automated Workflow Engine



In the paperless process, the work request is submitted and automatically routed to seek approval to become a work order. Once the work order is approved, the system notifies the assigned technician. The technician must complete the work before the work request is moved on for final review and then electronically filed. The data is available immediately for analysis.

With a mobile device, technicians gain the ability to record and sign off (provide e-signatures) on work remotely. Technicians can move on to the next job by quickly pulling up their schedules, work orders and procedures right on a mobile device. There is no delay at any given point of time. Technicians' time shift from completing paperwork and filing records to focusing on completing work.

The growing use of mobile devices directly affect maintenance and calibration technicians by eliminating time spent outside of the work execution process.

The Apple® iPad

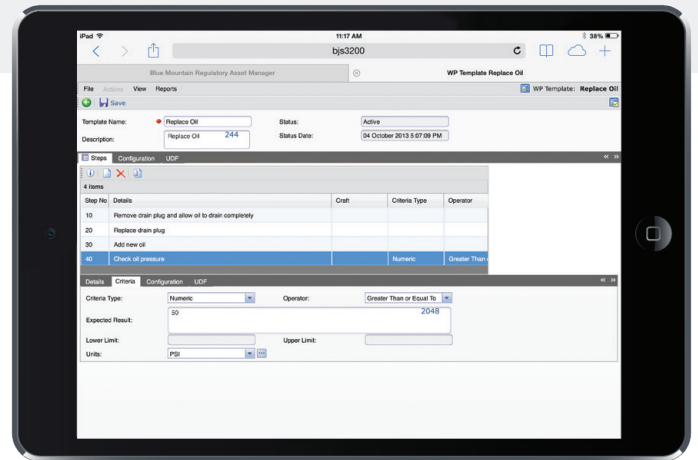
The iPad can be used both on the plant floor as well as for management to access reports and statistics providing meaningful data when it is needed the most.

Pros

- Ease of Use – Simple interface and design
- Intuitive Design and Layout – iOS provides easy to learn functionality
- Now widely adopted by IT departments for the iPad's network security features, including the ability to remote wipe data

Cons

- Can be expensive compared to Microsoft Surface
- Not all software solutions are compatible with the iPad. Must be either web-based or native-based applications
- Limited ability to add on devices such as barcode scanners, printers, etc.
- Limited to technical specifications – cannot expand hard drive capacity, etc.
- Does not serve as a laptop replacement (Surface Pro tablets can utilize docking stations and serve both a laptop and tablet function)



Mobile Form Factors

Mobile coverage used in paperless environments directly refer to the usage of different mobile form factors. These form factors typically include laptops, mobile phones and tablets.

Various departments in a company have different requirements when it comes to mobile devices. The overarching needs of maintenance and calibration departments are listed below:

Maintenance in a Mobile Environment

Typically, maintenance technicians need to capture text snippets, checklists and limited numeric data. With this, maintenance technicians most often prefer to use tablet devices when performing work, because tablets are a large form factor to view SOPs and work plan templates. Additionally, tablets are small enough to travel to equipment in the field with the technician.

The use of mobile devices allow maintenance technicians to:

- View SOPs and work instructions on a mobile device, mark the steps as complete and/or sign off on steps
- Review and evaluate work requests on the floor, approve or disapprove the request and schedule a follow up activity remotely
- Evaluate, update and complete work through the use of a mobile device
- Locate equipment and spare parts remotely
- View a schedule of upcoming work



Calibration in a Mobile Environment

Historically, calibration technicians have preferred laptops due to the amount of numeric data they are required to enter on the job. The data includes measurement data templates and calibration points. Calibration technicians need to access schedules of work, asset and location information and measurement data templates along with a host of additional information.

Calibration technicians are moving toward the use of tablets over notebook computers. Tablets are significantly lighter than laptops and just as convenient when entering numeric data points and transporting within the facility.

The use of mobile devices allow calibration technicians to:

- Record measurement data while it is being measured
- Validate measurements as they are completed and entered
- View a schedule of upcoming work
- Sign off on completed and reviewed work

Rise in Tablets

The growing demand in Life Sciences companies to go paperless has led to an increase in the use of mobile devices, especially tablets, in manufacturing.

With a focus on tablets, there are two primary choices for Life Sciences companies who are choosing to go mobile:

- Apple iPad
- Windows Tablet

Tablets are convenient and light. These devices allow technicians to access and complete all record keeping at the same time that they are completing the work.

The Microsoft® Surface

Out of the gate in 2012, Microsoft Surface (both PRO and RT) proved to be a comprehensive solution for corporations. With built in security functionality and ease of use for Microsoft based companies, the Surface is a strong challenger to the Apple iPad for pharmaceutical, biotech and medical device companies.

Pros

- Surface RT offers a less expensive solution than iPads
- Wider range of compatible software (especially with Surface Pro)
- Compatible with add-on devices including USB devices, barcode scanners, printers, etc.
- Can be used as a laptop with a docking station accessory (Surface Pro)
- Not limited to technical specifications – can expand hard drive space, etc.

Cons

- Small 10" screen size (on some models) make it difficult to use as a laptop
- Bulkier and heavier than Apple iPad
- Surface Pro is more expensive than Apple iPad

Conclusion

With several industry trends including globalization and increased FDA activity, going mobile for maintenance and calibration has never been more important. Companies are looking to cut costs while improving compliance within a facility.

The use of mobile devices drive the creation and execution of a completely paperless environment. They cut both the time spent completing maintenance and calibration work as well as increase the efficiency of planning and scheduling.

In addition, going mobile allows companies to:

- Improve speed of work execution process
- Improve accuracy of technician data entry
- Improve instrument availability via faster calibration and maintenance turnaround times
- Enhance processes and procedures for better compliance
- Quick access to business information improving critical decision making

Now is the time to invest in a mobile environment that will enhance technician productivity and provide continued compliance improvements and ROI.

About Blue Mountain Quality Resources

Blue Mountain Quality Resources is the leading developer of industry standard asset management products and services—designed exclusively for the Life Sciences industry since 1989.

The company's Blue Mountain Regulatory Asset Manager® was the first regulatory asset management system, designed specifically as a harmonization of calibration, maintenance and validations systems into a single comprehensive solution for Life Sciences companies.

For more on products and services available from Blue Mountain Quality Resources call us at 800-982-2388, email us at bluemountain@coolblue.com, or visit www.coolblue.com.



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