

AEGIS Laboratory

Aegis Sciences Corporation (Aegis) is a Nashville, TN based full-service forensic toxicology and healthcare sciences laboratory. Their customers range from major sports organizations to workplace drug testing clients, medical examiner offices, and pre-natal / pain management clients.

The Challenge

Aegis delivers evidence-based, clinically actionable information related to medication compliance, substance abuse, and drug-drug interactions through definitive testing of urine, oral fluid, or blood specimens. With millions of samples, knowing the physical location and status of every sample being processed is crucial to operations.

If a client called inquiring about the status of a sample, the Aegis client services team would contact laboratory management, who would walk into the laboratory and find the location of the sample. Once found, lab management would tell client services the location, who would then inform the client when the sample was expected to be completed. Though Aegis maintained a very high level of accuracy in specimen tracking, this process was time consuming for the Aegis staff.

"We could maintain a process early on with smaller sample volumes and lower numbers of instrumentation, but the business began to grow – fast," said Case. Sample volumes began to grow 10 to 20 times over the next few years. "As we grew into our current sample volume, the job of locating a specific sample proved to be a time consuming endeavor," adds Case.

In addition, the lab facilities management needed to provide calibration and maintenance records for all testing and lab equipment. The process of locating equipment, calculating utilization metrics for a specific instrument, and keeping records of each sample run on that instrument for a pre-determined time period became overwhelming as the instrumentation and sample count grew. As the samples increased through the laboratory, the need to track various metrics related to instrumentation capacity and throughput became very important.

"Although we knew the overall workflow of each sample in our laboratory, the exact location and status of each sample at a specific point in time was not known without physically locating the sample cup or tube in the laboratory"

Rob Case, Director of Operations & Technology Innovation at Aegis.

"Once we started to use RFID, we immediately realized big productivity improvements. It became such a powerful tool for us. Today, we are using RFID in ways we didn't think were possible."

Rob Case, Director of Operations & Technology Innovation at Aegis.



RFID + Barcode Strategy

RFID was identified by Aegis as a technology which could work with their current barcode process but provide automated data collection through the use of strategically placed RFID readers. The RFID tags used in this process also have a barcode printed on them, so Aegis can use both the barcodes and the RFID tags for sample identification purposes.

The RFID implementation was a corporate wide initiative, which was headed up by the Process Research and Innovation department. MSM Solutions was chosen for their vast knowledge of RFID hardware and excellent custom software solutions, which allowed Aegis to fully take advantage of the RFID technology.

"MSM provided us with custom software that integrated with our Oracle database, was user friendly and fit seamlessly into our processes. MSM Solutions' PortalTrack™ software application is the cornerstone of the project."

Features of the solution include the ability to: Identify, Track, Count, Manage

Identify

Samples and equipment are tagged with a label that is both barcode and RFID enabled

Track

Samples and equipment are tracked as it moves through the laboratory

Count

There is a record for all samples processed on each lab instrument and preventative maintenance is performed according to the count for quality assurance

Manage

Lab managers can focus on a specific instrument in a specific time frame and see the number of samples/batches analyzed

The laboratory dashboard presents the exact location of each sample as it moves through the process using PortalTrack. This solution allows the entire organization to obtain a quick "snapshot" of the laboratory, while providing a wealth of information about each sample and instrument.

While PortalTrack™ and RFID have given management at Aegis real-time information, it was critical that current procedures and protocols were not altered as a result of the implementation of this technology. To help facilitate this, MSM recommended Zebra RFID printers to enable Aegis to maintain current labeling practices. "Our labels look exactly the same; only now they have an RFID inlay," remarked Case. With several different inlay choices available from Zebra, Aegis was able to select the ones best suited for their lab environment.

Attention to the Metrics

Specimens are assigned a unique identifier which is tracked through a documented chain of custody leveraging RFID technology throughout the laboratory testing workflow to ensure specimen integrity and the reliability of all aspects of the laboratory's operations. Aegis celebrates an extremely low incidence of analytical errors with analytical test reporting accuracy of 99.9998%.

Aegis utilized a large number of metrics to measure the impact on equipment tracking but one of the most important is the percent utilization of each instrument. By knowing the exact utilization of each instrument, Aegis can load and balance the instrumentation as to not overwhelm one instrument while the rest sit idle.

For Aegis, RFID has many uses outside of laboratory operations. RFID can be used in the inventory control/shipping department, the record retention department, the facilities department, and the client services department just to name a few. Aegis believes that each department could benefit from RFID in some way.

Is your lab keeping up with the competition?

Explore the advantages of RFID and barcoding to Identify, Track, Count, Manage. Contact MSM Solutions today for more information.