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**Advanced laboratory automation manages
soaring test volume while enhancing workflow.**

ADVIA Automation – A Case Study

Answers for life.

SIEMENS

ADVIA Automation helps ACM Medical Laboratory reach new heights.

“ADVIA WorkCell™ essentially took five instruments and turned them into one ‘super-instrument.’ We don’t think of having one chemistry tech, one immunoassay tech. We have two automation techs that help each other.”

Bill Paul
Supervisor, Automated Chemistry Laboratory



ADVIA Automation Solution from Siemens offers:

- High-capacity automated workflow to increase throughput and laboratory productivity
- High performance that empowers laboratories to manage increasing volumes with minimum staffing

Featuring the blazing speed of the ADVIA® 2400 Chemistry System

“The systems we have pounded through so many samples that even in our busiest time, when we’re really stacked up, everything just goes through so nicely,” Paul said. He added that the system enables the lab to load enough reagents to get through a big bolus of runs and last for the entire shift.

And the productivity boost of the ADVIA CentraLink™ Networking Solution

With ADVIA CentraLink, ACM is able to achieve laboratory-wide integration of the track, analyzers, and informatics. “It looks at all the results for you and correlates them compared to normal ranges, any instrument fault, and QC issues,” Paul said. “Techs appreciate having the results flagged that they need to review while releasing those that are normal.”

“One of the things we really appreciate with Siemens is their willingness to listen to what we want done, and say, ‘OK, let’s see how we can accomplish that.’”

As a fast-growing regional reference laboratory, ACM Medical Laboratory in Rochester, New York, needed an automation solution that could accommodate its escalating volume. In 2005, ACM, a division of Unity Health Systems, implemented an ADVIA WorkCell automation solution with two ADVIA® 2400 Clinical Chemistry systems and three ADVIA Centaur® Immunoassay systems.

Dramatic volume increase, same staff.

Since implementing ADVIA WorkCell, ACM has handled an increase of more than 60 percent in chemistry and immunoassay test volume – without adding additional staff.

As a result, techs remain focused on patient results – abnormal results particularly – without having to worry about the instruments.

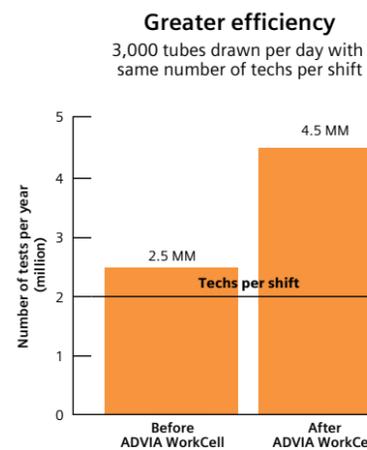
“It doesn’t matter if we do one million tests or five million,” said Rick Walton, Director of Laboratory Operations. “The technician does the same work, monitoring the results as they come off.”

ACM estimates that, without ADVIA WorkCell’s automation, two additional techs would be needed per shift to handle the workload – and skilled technicians are in short supply.

Despite the substantial increase in volume, overall turnaround times have been cut in half. “Thanks to the speed

of ADVIA WorkCell,” Paul said, “once on the system, ACM currently runs about 98 percent of tests within one hour, including repeats, re-runs, and the 30 to 40 STATS the lab sees a day.”

Turnaround time has also been more consistent. “Before, we may have had a sample that took 45 minutes, while a tube that came around the same time might sit for several hours because it didn’t get put on,” Paul said.



Primary tube advantages.

With ADVIA WorkCell, ACM is able to run multiple chemistries and immunoassays from a single primary tube, reducing the number of tubes drawn by a third. This has speeded turnaround time and eliminated manual transfers of tubes between instruments.

Benefits include:

- **40 percent decrease in the number of tubes ordered**
- **98 percent reduction in aliquot tubes generating more than \$1,600 monthly savings**
- **Reduced specimen storage requirements**
- **Reduced number of redraws**

“When we used multiple tubes, you’d have the technologist running a tube on the chemistry and transferring it to the other person,” Paul said. “If somebody didn’t notice that second tube, we’d have two tests missed. That’s no longer a problem.”

Less chance of error.

“Prior to ADVIA WorkCell, the lab manually aliquoted 800 tubes a day, opening us up to 800 chances of pouring off the wrong sample,” Walton said. This high volume of aliquoting also created a bottleneck in the pre-analytical area. ADVIA WorkCell has significantly improved lab efficiency by limiting aliquoting to minimal volume after testing is complete. “Now we’re down to about 150 tubes a day, despite nearly doubling the test volume.”

Not having to pour off multiple tubes has also enabled ACM to drastically reduce mislabeling, and most of that can be attributed to pre-analytical issues. “Doing almost all primary tubes has saved us from having to pull tubes and find out if something got poured off incorrectly,” Paul said.

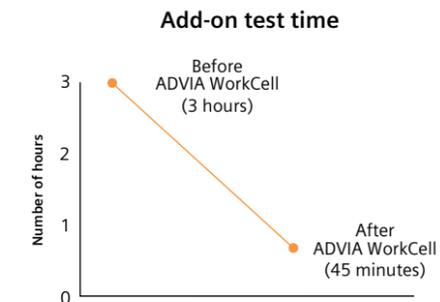
Since missed handoffs are less likely, the number of pending tests has been reduced. “On average, a tech would have to track down up to 200 samples and figure out what tests were missing,” Paul said. “Now, there might be 30 to 40 pendings, and most are samples we haven’t received yet.”

Greater convenience for patients.

Patients ultimately benefit from ADVIA WorkCell since fewer and smaller draws are required – and redraws are less frequent, too.

Streamlined add-on process.

ADVIA WorkCell has made add-on tests far more efficient for the processing department. Since ACM does mostly outpatient and reference work, samples typically are no longer on the track when add-ons are requested. “Processors used to spend three hours a day looking through racks to find specimens,” Walton said. “We’ve cut that by 75 percent.” Now, with the press of a button, a processor can immediately locate a sample, since information is loaded into the LIS.



If the sample is still on the automation system when an add-on is ordered, it places it back on the track and performs the test automatically.

A reliable partner.

It didn’t take long for ACM to discover how intuitive ADVIA WorkCell was. “When we tested ADVIA WorkCell we found it worked flawlessly,” said Walton. “It was so easy to use, we never turned it off and have relied totally on the system ever since.”

“The ADVIA WorkCell has been a huge improvement for us in so many ways, especially in terms of all the ancillary problems you encounter running a lab,” Paul said. “The techs love it – it has made their lives so much easier.”