

MARKET MONITOR™ NOTES

Status of Laboratory Automation In The US Hospital Market

September, 2017



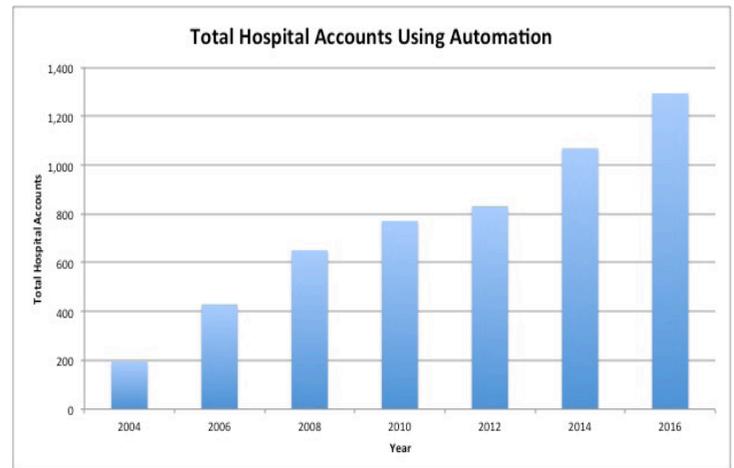
MARKET MONITOR™ Notes are summary publications that focus on a particular issue or discipline within the clinical diagnostics industry. The data for this MARKET MONITOR™ Notes is taken from the 2016 Laboratory Automation MARKET MONITOR™, published in the fourth quarter of 2016.

This issue of MARKET MONITOR™ Notes addresses the status of Laboratory Automation within the United States hospital laboratory market. It should be noted that data from non-hospital commercial clinical laboratories is not included in this analysis.

The 2016 edition of the Laboratory Automation MARKET MONITOR™ is the seventh publication of this report, with the first edition being introduced in 2004. These reports provide an in-depth analysis of the status of laboratory automation in the hospital market, its growth, brand shares, the features and benefits of these systems articulated by current users, and anticipated future implementation among non-users.

Status Of Laboratory Automation

According to the results of Information Dynamics' 2016 edition of the Laboratory Automation MARKET MONITOR™, approximately one out of every four hospital laboratories in the United States use a laboratory automation system. Within the past four years, nearly 500 new hospital accounts have adopted some form of laboratory automation. Previously, such systems were utilized primarily within larger hospitals with higher test volumes and bigger budgets. However, the largest increase in adoption of laboratory automation within the past two years has been in hospitals with less than 100 beds. As manufacturers have offered smaller systems with more customizable options, the usage of laboratory automation is filtering down to the mid sized hospitals. Implementation is still relatively low in the smallest facilities, but even in these segments, automation is being viewed with wider acceptance. The graph to the right illustrates that the market for laboratory automation has enjoyed steady growth over the past twelve years.



Segmenting The Use Of Laboratory Automation

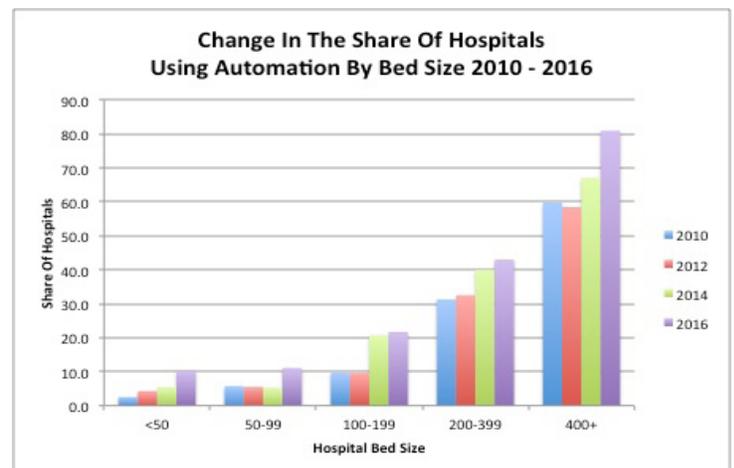
Segmenting markets puts members of a group into categories based on similar characteristics that are of strategic relevance. Bed size segmentation is important as it allows an accurate projection of information to determine market size and brand shares. Bed size also provides a low cost means of targeting marketing efforts, as information regarding individual hospital bed sizes is readily available through the American Hospital Association and other statistical references.

When examining the status of laboratory automation by hospital bed size, it can be seen that in 2016, the primary existing market for these automated systems is within the largest hospital bed size segments.

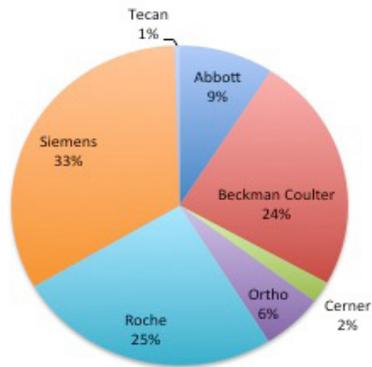
The greatest share of users of laboratory automation continues to be within hospitals having 400 beds or more. The majority of hospitals in this segment use some type of automation. Although the share of hospitals falling within the 200-399 bed size category using a laboratory automation system has still not reached the 50 percent mark, this segment has seen steady growth in use. It is apparent that the use of automation is finally beginning to filter down to those hospitals having 100-199 beds.

The share of hospitals in this category using automation has more than doubled since the 2012 edition of this report was published. Those hospitals falling into the under 100 bed category continue to be very limited users of automation.

The graph below illustrates the change in the share of hospitals using automation by bed size over the past six years.



Brand Shares Of Current Automation Systems



Brand Shares Of Current Automated Systems

Which manufacturers have made the most substantial inroads in laboratory automation?

Siemens leads the market with one-third of accounts using at least one of their systems.

Roche and Beckman Coulter follow with approximately one-quarter of total accounts using each of these brands of automated system, as is illustrated in the pie chart to the left.

Identifying The Next Segment Of Automation Adopters

The current status of the automation market data suggests that larger hospitals recognize the need for automation and many have already implemented such systems. The use of automation is also making some inroads within the mid sized hospital market (100-199 beds).

Four out of every five of the largest hospitals currently use some level of laboratory automation. The next question that needs to be addressed is which market segments will be the next most likely adopters of their first automated system?

Based on those hospitals that have not yet become “automated” the table below illustrates that the majority of those from all but the smallest bed size segment will eventually become automated.

	Total	Hospital Bed Size				
		<50 Beds	50-99 Beds	100-199 Beds	200-399 Beds	400+ Beds
Anticipated Year of First Acquisition	Share of Automation Non-Users					
Within Next 4 Years	22.6	10.6	19.4	35.7	40.8	33.3
Beyond 4 Years	37.6	31.8	54.8	33.3	30.3	50.0
Never	39.6	57.6	25.8	31.0	28.9	16.7
Total Current Non-Users	3,828	1,532	866	820	518	92

Acquisition Of Replacent And Additional Automation Systems

Nearly all of current automation users expect to eventually replace their current system. Three out of five users expect to replace their current system within the next four years. One-third expects replacement to occur beyond the next four years, while only three percent never expect to replace the current system. Regarding the acquisition of an additional system, slightly less than half of current users do not expect to expand their automation line beyond what they currently have.

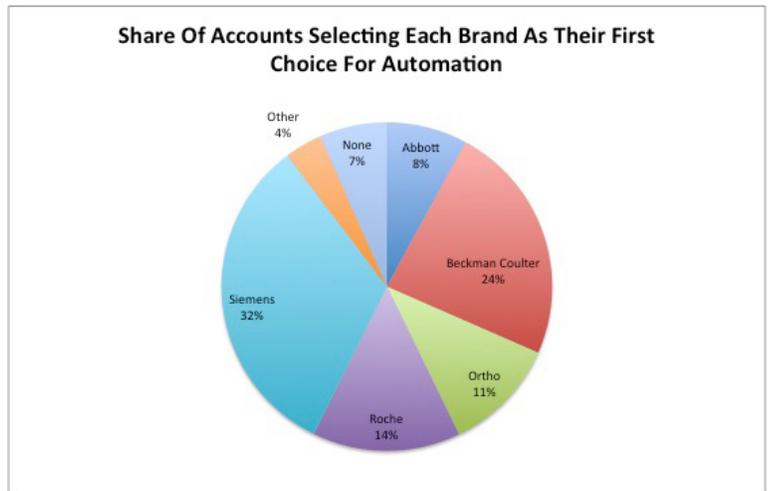
So what is the next most likely scenario for automation adoption in the near term? Based on the data as outlined above, the largest market for automation continues to be within the current non-user segment. If approximately one out of five hospital accounts intends to adopt automation for the first time in the next four years, that translates to more than 850 accounts acquiring an automated system. Adding to that the three out of five accounts that intend to replace their current system yields approximately 800 more automated systems. Finally, including those who intend to add another system equals approximately 340 additional systems. The most optimistic view therefore is that another 2,000 automated systems will be placed in both new and existing accounts within the next four years.

Which Brands Will Be Selected For The Next Automation System?

Approximately 32 percent of those accounts that are in the market for laboratory automation have selected Siemens as their first choice for automation, followed by Beckman Coulter, with 24 percent of anticipated adopters selecting this brand as number one. The pie chart to the right illustrates the share of potential accounts mentioning each brand as their first choice for automation.

Issues That Need To Be Addressed For Future Automation Adopters

What should manufacturers do to convince laboratorians from the next group of potential adopters that they need laboratory automation? Laboratory decision makers who are seeking automation mentioned several factors motivating this need. The three most widely recognized drivers of automation are to improve test result turnaround time, increase the productivity of the laboratory personnel and the desire to reduce errors.



Clinicians are constantly demanding quicker result reporting, and automation is viewed as a possible solution to these demands. In order to increase productivity, these laboratorians have a strong desire to increase the number of test results generated per skilled FTE. Laboratorians see increased productivity as the answer to the immediate problem of “doing more with less” and the continuing labor crisis faced in the laboratory. The discussion of the impact of error reduction should be viewed in the context of the laboratory process. Human errors are the everyday headaches of the laboratory and a recognized cause of serious disruptions in service to the clinical staff. Automation in the view of some laboratorians has the potential to significantly reduce these errors.

The most frequently mentioned drivers of the implementation of automation include:

- Improved result turnaround time
- Increased employee productivity
- Error reduction
- Reduced labor costs
- Accommodate growth without increasing workforce

Awareness of the features of automated systems among laboratorians has grown substantially since Information Dynamics' benchmark Laboratory Automation MARKET MONITOR™ was published in 2004. Most of the potential users are aware of some of the features that can be offered by automated systems. There are a number of features that both current users and those in the market consider as essential for any laboratory automation system. The following nine features were mentioned by the majority of this group as being essential components of any automated system:

- STAT Prioritization
- Re-run, dilution and reflex and/or add-on
- Specimen integrity check
- Linked interface
- Volume detection
- Decapping
- Pre-Analytical sorting
- STAT centrifugation
- Automated input/accessioning

Manufacturers would be wise to incorporate and promote as many of these features as possible in their automated systems in order to appeal to the widest range of potential customers.

Similarly, there are some negative perceptions about automation that need to be neutralized before optimum market penetration can occur. Among those not currently using automation, the space requirement/footprint and the cost of these systems are the most frequently mentioned perceived hindrances to adoption of automation. Similarly, where the views of non-users are in contrast to those of current users, non-users do not necessarily view automation as a solution to staffing problems, and this group also fears that significant remodeling, expansion and facility redesign would be necessary in order to implement automation. Manufacturers need to devise a promotional program and possibly offer different acquisition options to neutralize the objections of cost and the space requirement of the system. Additionally, the majority of current non-users do not see automation as a solution to staffing problems, so this often promoted feature may need to be downplayed in initial introductions of current non-users to the concept of automation.

The integration of automation within hospital laboratories is increasing steadily, and is slowly making an entrance in the small and mid-sized hospitals. Manufacturers need to offer solutions to the objection of the cost of such systems by illustrating a reduction in errors and improved turnaround time for testing. A feature/benefit package that addresses the issues of most importance to laboratorians could help in the decision to acquire automation.

INFORMATION DYNAMICS AT A GLANCE



a marketing information development company

Information Dynamics is a marketing information development company serving manufacturers within the healthcare device and diagnostic markets. Information Dynamics has been the major source of tracking data for the clinical diagnostics industry for more than three decades regarding behaviors and attitudes of clinical laboratorians.

MARKET MONITOR™ Reports prepared by Information Dynamics include in-depth knowledge of all areas of the US clinical laboratory marketplace. Reports include custom analysis of data provided free of charge by our expert staff. Customer service and data support from Information Dynamics is timely, accurate and second to none.

Types of Surveys Fielded

Traditional Surveys:

For over 30 years, Information Dynamics has been mailing out paper surveys to our panel of over 1,400 laboratorians from hospitals and commercial clinical laboratories nationwide. This steady cross-sample of labs has allowed us to consistently judge not only the size of the market and individual performance, but trending changes over time.

Paper surveys allow respondents to take time to look up precise data regarding analyte performance and volume.

Dynamic E-surveys

Allowing for a more efficient way to gather data from labs, Information Dynamics fields online surveys that not only allow for changes and survey restructuring from year to year, but also save participants time filling out the surveys by preloading choices and skipping past items that are not applicable to each participant with built in skip patterns. Surveys are constructed and coded by our experienced staff, fielded through a top websurvey software, and results are downloaded and analyzed in our traditional method using Excel software.

Types of Data Collected

Report Contents

Market Size Including:

- Market Size
- Demand
- Growth Rates
- Segment Contribution

Competitive Performance Including:

- Client Base
- Volume Share
- Revenue Share

Segmentation Including:

- Hospitals and Commercial Laboratories

Report Subjects

Annual:

- Clinical Chemistry MARKET MONITOR™ (CCMM)
- Coagulation MARKET MONITOR™
- Hematology MARKET MONITOR™
- Infectious Disease MARKET MONITOR™

Biennial:

- Hospital Decentralized Testing MARKET MONITOR™
- Laboratory Automation MARKET MONITOR™
- Laboratory Informatics MARKET MONITOR™
- Urinalysis MARKET MONITOR™

Location and Contact

Information Dynamics is located in West Chester, Pennsylvania and has been for over 30 years. You can contact us via telephone and email or learn more about us from our website listed below.

Contact Us: 610.692.5272 (t) • info@infodyn.net • www.informationdynamics.net