

## Spanish lab employs a unique solution to optimize immunoassay testing

**“The consolidation that the VersaCell system made possible for radically different specialty immunoassay testing areas like infectious disease testing, allergy testing, and maternal screening, is very unique and highly innovative.”**

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Hospital La Inmaculada de Huércal-Overa is one of the most modern hospitals in the Andalusian region of Spain, with 205 beds serving 135,000 people in northern Almería. The hospital's laboratory has seen its testing volume increase by 20 percent over the last two years, and the staff expects the growth to continue. Annually, the lab had performed three very different types of specialty testing in two separate departments: 25,000 infectious disease tests, 1,500 maternal screenings, and 3,000 allergy tests.

To manage the laboratory's growth, the staff decided in 2010 to consolidate the three disciplines into a single automated system that one technologist could easily operate. “It's difficult to increase staff to handle the growth we're experiencing,” says Jiménez. “We had to find a system that could do more work with the same people or even fewer.”

The VersaCell™ system has allowed the lab to consolidate specialty testing into a single platform, optimize resource utilization, and ultimately, unite their lab. **“One of the biggest benefits to consolidating three separate specialty areas into a single platform is consolidating departments that traditionally were separated and just getting people to work together.”**

### The VersaCell System: A case study

**Hospital La Inmaculada de Huércal-Overa**

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# Selecting the right instruments for automation

Before selecting the VersaCell system, the laboratory at Hospital La Inmaculada de Huércal-Overa had four analyzers in two separate areas. In one area, the facility had an AxSYM® system from Abbott for infectious disease testing. In the second area, they had the Delfia® microplate system from PerkinElmer for maternal screenings and two Phadia ImmunoCAP® systems for allergy testing.

To process the increasing volume without adding staff, the lab needed a system that could run mostly on its own. “Making the move to one fully automated system from the previous instruments, which were more semi-automated and required a lot of manual interaction, gave us more options in terms of how we run these tests,” Jiménez says.

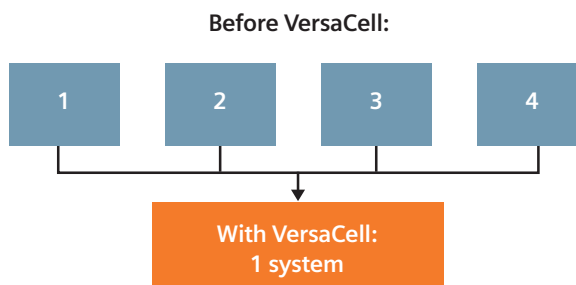
When investigating automation systems, the staff explored many offerings in the marketplace. They even considered staying with the vendors they had been using, but they didn’t have the single solution that would meet their needs. “The main reasons to purchase from Siemens,” Jiménez says, “were the versatility of the system and the unique ability to combine all these different testing disciplines, purely from a test menu perspective. We could not do that with any other vendor.”

There are also advantages to working with one provider instead of three different companies, as the lab had done before. “Having a single commercial interaction for service simplifies ordering versus having different part numbers or different vendors,” says Jiménez. “The ability to have all these tests on one single system can improve the pricing of all the operations.”

The lab installed the ADVIA Centaur® XP and IMMULITE® 2000 XPi analyzers as standalone instruments in February, 2010, and linked them to the VersaCell system in March. The staff found the new systems ideal for automation. “The systems do not require any sample pre-treatment,” says Maria Dolores Navarro, a microbiology specialist at Hospital La Inmaculada de Huércal-Overa. “So, they can run directly from the primary specimen. We can also load reagents and consumables on the fly, so even if you make a mistake, you can recover easily. That’s a big difference.” By July, they had implemented all their in-house, specialty immunoassay testing onto the system.

The laboratory also wanted to consolidate instruments to decrease hands-on interaction and instrument downtime. “With the previous systems, we had required a lot of hands-on and manual interaction,” says Navarro. “With the VersaCell system, there are not a lot of things we need to do with it — it is highly automated.”

## Consolidating 4 systems to 1 workstation simplifies sample processing



“There is limited interaction required in terms of preparing and maintaining the system,” Jiménez adds. “That simplifies our operations.”

## Improving workflow and redeploying staff

The simplicity of the automated system has enabled the lab to redeploy technologists to other areas of the lab without compromising productivity. Before consolidating, the lab employed two FTEs: one for allergy testing and maternal screening, and the other for infectious disease testing. “The number of people operating the system has been reduced,” says Jiménez, “and we’re doing more tests. We currently use between one and 1.5 FTEs while we are getting acclimated to our new system. However, our objective is to run the system with one person.”

Jiménez says that “consolidating the four analyzers into one system brings productivity benefits. That’s the financial rationale behind the decision to select the VersaCell system,” he says. “It has also enabled us to reduce the amount of maintenance and minimize instrument management time like QC, calibration, and troubleshooting. And it also allowed us to increase the menu offered to our clinicians and improve other areas of the lab.”

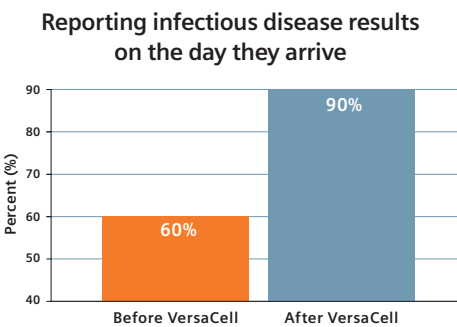
## Improving TAT, traceability, and patient care

Turnaround time has also improved. “We process 100 to 200 specimens through the VersaCell system on an average day, depending on the season,” Jiménez says. “We’ve been able to improve turnaround time by approximately 50 percent. Recognizing that we have moved from four systems to one, and reduced the hands-on time, we’ve managed our workflow more efficiently, and have been able to test more frequently.”

## Increased testing frequency reduces TAT by 50 percent

Type of test	Before VersaCell System	With VersaCell System
Allergy tests	Run every 7 to 10 days	Run every 3 days
Maternal screening	Run twice a week	Run every other day
Microbiology tests	Run in batch	Run in real time

Not only has the laboratory benefited from increased productivity, but so have the patients. **“How fast you get results makes a difference in terms of patient care,”** says Jiménez. **“Even for outpatients, when you get things going faster, it has a positive impact on patient care.”**



**“Before we installed the VersaCell system, we were doing up to three different aliquots of each sample per test in three different departments — infectious disease, maternal screening, and allergy. Now, we can use one primary sample.** That has made quite an impact because we have reduced the number of aliquots and the risk of potential errors,” notes Jiménez. **“Another problem we were experiencing rather frequently was running out of sample before all the testing was complete. By using the primary sample, we are able to reduce the number of draws required, which speeds turnaround, limits the amount of trauma to the patient and has a positive impact on our budget.”**

They have also improved sample traceability. **“The VersaCell system sends the tubes to the different instruments for sampling,”** Jiménez explains. **“The instruments pull the sample they need, and then the system releases the tubes so they can do other tests with that particular specimen. We no longer have to spend time looking for tubes.”**

### User-friendly system

The laboratory staff at Hospital La Inmaculada de Huércal-Overa is pleased that the instruments have been consolidated with the VersaCell system. **“The staff is very happy,”** Jiménez reports. **“Obviously, there has been a learning curve because the system is very sophisticated. A number of testing disciplines run on the VersaCell system at the same time. But overall, the staff is happy with the system because it is easy to use. It gets the work done very quickly. It can do a lot more work with less interaction.”**

Navarro also appreciates the VersaCell system’s ease of use. **“It’s easy to interact with, and the software makes it intuitive,”** she says. **“It’s very friendly in terms of loading specimens. We like the ability of putting up to 200 samples at a time on the VersaCell system. It provides sufficient capacity, allowing us to load and then walk away from the system and organize our work. We can also mix routine and urgent work very easily. We can interrupt the system and add samples at any time. We really like that capability.”**

### Staff satisfaction with training and support from Siemens

The same ease that the technologists have had working with the VersaCell system, they have also had working with Siemens themselves. **“We had approximately one week of training on the VersaCell system,”** Jiménez recalls. **“After that, we had the typical follow-up with Siemens just to keep learning.”** The system’s ease of use smoothed the learning curve for the instrument.

The laboratory has appreciated the service and support that Siemens has provided. **“We are very satisfied,”** Jiménez says. **“The team has been extremely supportive during the implementation process. It’s really been a good experience.”**

### Scalability allows for future growth

The staff believes that the VersaCell system has the capacity and scalability it needs to continue to grow. **“We can add more tests to the menu,”** says Jiménez, **“so we have the opportunity to keep consolidating tests. We anticipate our volume to continue to grow about 5 percent per year, mostly driven by demographic changes, so we can keep coping with growth in the future without any changes because of the capacity of the system.”**

The lab plans to use the VersaCell system to automate tests that currently have to be sent out or are performed manually in the lab. Of all the enhancements the lab has witnessed in its workflow since implementing the VersaCell system, the most relevant, Jiménez says, is the lab’s ability to run tests they weren’t able to run before. **“We may start testing for syphilis,”** he says. **“We can also do Epstein-Barr Virus serology tests, as well as hormone tests to look for Cortisol in urine. We are also looking at adopting autoimmunity tests and improving microbiology testing.”**

Jiménez looks forward to exploring more opportunities afforded by the new system. **“If a colleague expressed interest in getting an automation system for his or her lab, I would highly recommend the VersaCell system,”** he says. **“The consolidation that the VersaCell system made possible through radically different immunoassay testing areas, such as infectious disease testing, allergy testing and maternal screening — which are typically run in separate departments — is very unique. The VersaCell system is a very innovative way of consolidating the specialty immunoassay testing from different departments. We are quite satisfied with it. We have achieved the objectives we set, and we’re still learning. We expect to achieve even more in the future with the VersaCell system.”**

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