

Long-term partners in success

Continuous advances in medical understanding are leading to rapid growth in the demand for diagnostic testing, making automation essential for laboratories trying to address this increase in their workloads. Many providers are also centralizing and consolidating testing to reduce costs, relying on instruments with higher throughput capacities to meet the demands of large service laboratories. Spanish biotechnology company Vircell recently partnered with Tecan to create a high throughput automated system for its VirClia® assays, building on the success of the company's existing VirClia instrument.

Vircell, based in Granada, Spain, specializes in the development and production of ready-to-use reagents for clinical diagnostics. The company was founded in 1991 by two clinical microbiologists looking to accelerate hospital-based diagnostics for better patient outcomes, and has grown into a successful global player, with its products in use in over 80 countries across five continents. Vircell's assay portfolio employs a wide range of technologies – ranging from traditional cell culture to molecular diagnostics – and focuses on esoteric infectious diseases. Joan Anglés, Marketing Director at Vircell Spain, described the company's approach: "When Vircell was created, the aim was to produce assays that simplified clinical laboratory workflows. Quality and sensitivity were key considerations, which is why the company's founders chose to produce all the antigens needed for the development of our kits in house. This is still true today, and ensures that we can guarantee the quality of our products, as well as be more flexible to the demands of the market."

"Even in 1991, the demand for infectious disease testing was growing rapidly, and so automation was considered essential to help laboratories manage their workflow demands. Our first automated ELISA processor was based on the Tecan Minilyser, and

we have partnered with Tecan for the development of automated workstations ever since. Our latest system – the VirClia Plus, based on a Freedom EVO® platform – is a continuation of this relationship, offering infectious serology testing in a high throughput format."

Chemiluminescent immunoassay (CLIA) techniques provide an ultra-sensitive alternative to classical enzyme immunoassay formats, making them ideally suited to the detection of low abundance molecules, such as circulating biomarkers of infectious diseases. Vircell's VirClia assays rely on an indirect CLIA method for signal generation, with all the calibration and standards included in each test strip to create a 'monotest' format. There is no need to run separate calibrators or quality controls, and labs can avoid batch testing, allowing faster turnaround of results using the company's benchtop VirClia instrument.

The VirClia Plus system builds on the success of the VirClia, as Joan explained: "Our original VirClia system

is very popular, providing on-demand, automated testing for a wide range of infectious diseases not covered by the major diagnostics providers. This system is capable of processing 96 samples in 10 hours – which is sufficient to meet the clinical needs of most facilities – but very large laboratories can require two or three of these instruments to meet

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their throughput demands, and so we looked to develop a higher throughput instrument for the same monotest strips. Although we considered a number of laboratory automation suppliers to help us to develop this new platform, we have been working with Tecan for over 20 years, and so the company was our logical choice of partner. Tecan has an excellent reputation in the IVD market, and you can always be sure of the quality of its solutions. We first began discussing the project at the AACC exhibition in 2015, then worked closely with the Tecan team through to the instrument launch last spring."

The result of this collaboration is a CE-marked, fully automated system with an on-deck capacity of up to 216 tests. Using an eight-channel pipetting arm,



the VirClia Plus can process 96 tests in just three hours, with an integrated Infinite® 200 PRO multimode reader to allow fully automated measurement and reporting of results. It also offers automatic barcode scanning, custom assay set-up options and the ability to pipette directly from primary sample tubes, providing a flexible, reliable and effective solution for diagnostic labs and hospitals.

“As with any complex project – and especially any instrument intended for the IVD market – there were a number of technical challenges that needed to be overcome,” Joan continued.

“The support we have had from Tecan

has been excellent and, importantly, this didn't stop once the product was launched. Tecan's engineers worked with our staff to ensure that the first few instruments installed at customer sites performed exactly as expected, which was vital to long-term success. Now that our engineers have become more familiar with the system, we no longer require this kind of day-to-day support, but the company's service team is always there if we come across something unexpected, which is very helpful. We are also working with Tecan to add new features and capabilities to the system, so it's certainly an ongoing relationship.”

To find out more about Tecan's Partnering Business, visit partnering.tecan.com

To learn more about Vircell and the VirClia Plus system, go to www.vircell.com



The Freedom EVO-based VirClia Plus system offers walkaway processing of 96 samples in three hours