



Cerba Research
Your precision medicine partner

Changing the shape of clinical trials

Cerba Research is the Belgian division of the French Group Cerba Healthcare. The company facilitates clinical studies and lab tests, and supports the entire logistics chain. What are the developments in this market and what does the future bring? CIO Peter Vermeylen and Lab Manager Joachim Vandroemme explain.

Cerba Research may not be known to the general public, but the company does have reputable pharmaceutical companies as customers. Why do they join forces with Cerba Research, and which added value can the organization in Ghent offer? "Pharmaceutical companies may have testing capabilities, but the entire logistics process that surrounds it is our specialty", says Peter. "For example, how can you distribute sample kits quickly, efficiently and without issues? That's what we are perfectly suited to do. We gather all the materials needed to collect samples and deliver them neatly in kits. We also process and prepare all the patient data paperwork. Once all the data has been received, we order lab tests, in our own labs or through partners. The results are then made available to the client via PDF's and our electronic portal."

Moreover, Cerba Research can also provide scientific expertise, Joachim underlines. "While setting up the studies, we work closely together with our customers. How are we going to define the test? How are we going to set it up? Which markers are we going to detect? We play a role in that as well." The scope of these studies has become increasingly complex over the years, says Peter. "Five years ago, all patients in a study received the same tests. As we are evolving towards a 'personalized medicine', this has become almost a hundred individual courses. Based on the results, the tests are continuously adjusted which makes it far more challenging."

"The interaction between the lab tests and treatment has steadily increased," Joachim adds. "There is now a direct line of feedback between them. The patient used to be a homogeneous group for the industry. Nowadays it's different. Take the COVID-19 tests, for example, where a distinction is

made between different subpopulations. Not only by gender, but also whether someone has diabetes."

The role of Cerba Research itself is also changing, says Peter. "Depending on which technology is needed, we will outsource studies with tests to different parties. This will allow us to become a kind of "broker" of data. Like in many other industries, the importance of data and data processing took off in pharma. By definition, patient data is very sensitive. It is therefore of the utmost importance to handle it with care. Respecting patients' privacy is key to us."

As a result of the enormous amount of data that can be accessed nowadays, new applications that could only be dreamed of in the past have become possible. Notions such as Artificial Intelligence and Machine Learning quickly come to mind. "Right," says Peter, "that has caused an enormous revolution. In our lab in Montpellier, France, we work primarily with medical imaging. Until a few years ago, tissue samples were viewed on glass slats. Now they are processed digitally, which means you can make use of algorithms that will aid in diagnoses."

Despite the enormous leaps taken in IT and AI, the role of the laboratory technician is far from over, Joachim states resolutely. "Of course, technology will become more prominent, but primarily to support the physician. The role of the physician remains crucial in interpreting data. What if, as a patient, you are the exception of the rule that doesn't follow the set algorithm? It can have very undesirable consequences. That is why human verification will remain the norm for a while. At the same time, laboratories will look very different in the future than they do now. Think, for example, of all the developments in lab testing on chips or in Point of Care testing, in which doctors will increasingly carry out tests themselves. Finally, I also see an explosion of biomarkers in the future, on top of all the classic ones we already know. All this combined means that I, as a lab rat, don't feel threatened yet" (laughs).

