



## CeGaT: Frontrunner in gene sequencing

Even at outstanding medical faculties, the mills of progress sometimes grind slowly. Saskia Biskup, a human geneticist from Tübingen, found this out when she was a postdoc in Munich researching the genetic basis of Parkinson's disease. She had to sequence one gene at a time there, all the while knowing that elsewhere a much faster and cheaper technique called "next generation sequencing" (NGS) was already gaining ground. The journal *Nature Methods* chose NGS, which can be used to decode many different genes simultaneously, as its method of the year in 2007. Biskup seized the opportunity and began to write a business plan based on the invention of NGS, partnering with her husband Dirk, a business graduate who at the time was chief financial officer of the largest Bertelsmann printing company in the US.

This plan led to the founding of CeGaT GmbH in Tübingen in 2009. The name stands for *Center for Genomics and Transcriptomics*. The idea behind it was to develop the potential of the recently available high-throughput NGS platforms in disease-specific diagnostic panels for patients. All genes considered relevant for a disease could be analysed simultaneously in order to produce the most precise medical findings possible. CeGaT started with 18 such panels, each including around 400 genes. Many of these panels interrogated genes associated with rare inherited diseases, thus considerably facilitating their diagnosis. Even back then, CeGaT was able to offer the sequencing of a panel within one to two months for €3,000 – about 50 times cheaper and faster than was possible with conventional sequencing methods. In this way, CeGaT became the first biotech company worldwide to successfully introduce NGS into human genetic diagnostics. In its second financial year (2010), the company already reached the break-even point, thus crossing the profitability threshold. In 2011, CeGaT was awarded the German Entrepreneur Award for best start-up.

Since then, the company has firmly established itself as a leading international provider of genetic analyses for medical practice as well as for academic and industrial health research. It provides physicians with detailed findings and generates the genetic data required for numerous clinical trials, thus driving the development of personalised medicine. Its services in tumour diagnostics and characterisation are increasingly in demand. During the COVID pandemic, CeGaT was one of the first companies in Germany to carry out antibody tests and soon expanded its portfolio to include PCR and rapid tests.

In 2011, the owner-operated company had 14 employees. Today that number far exceeds 300. In line with the increasing demand for high-throughput sequencing, CeGaT will continue to grow, with a target of 500 employees. For this reason, CeGaT is currently adding a new building next to its headquarters in the Tübingen Technology Park. Scheduled to open at the end of 2023, it will triple CeGaT's previous office and laboratory space. At the same time, CeGaT is continuously investing in the acquisition of the latest sequencing technologies, whose performance now far exceeds that of the first NGS sequencers. In late September 2022, for example, CeGaT acquired the newest product from the world market leader Illumina, the Nova-Seq X Plus. It is capable of generating error-free sequences of more than two complete genomes with 3.2 billion base pairs each in one hour.

