



BioSpring: Putting life's building blocks into action

Spurred on by the biotech boom then taking hold in Germany, six students at Goethe University decided in the spring of 1997 to set up a company to manufacture nucleic acid sequences. There was an increasing demand for these so-called oligonucleotides in many academic and industrial laboratories. So the six founders pooled their savings and bought a DNA synthesis machine for DM 65,000. They signed a service agreement with Goethe University and initially ran their company, which they christened BioSpring, from laboratory space provided by their PhD adviser Joachim Engels, a pioneer in nucleic acid research who supported their idea from the start. The company grew steadily, and in 2000 it was able to move to its current location in the Fechenheim district of Frankfurt. At that time, only two of the founders were still on board: Hüseyin Aygün and Sylvia Wojczewski. Today, the two chemists still run BioSpring as a private company, which finances its growth from its own earnings – without relying on investors – and now employs almost 500 people.

BioSpring's extraordinarily successful track record shows that the founders' vision of how oligonucleotides would revolutionize medicine was more than correct. The two strands of the double helix of human DNA are complementary to each other, which enables oligonucleotide strands to transmit biological information as a kind of writing or mirror writing. By 1997, scientists knew that they could be used as primers for the polymerase chain reaction (PCR) or to develop antisense drugs that block functional gene segments. But other potential applications, such as RNA interference or CRISPR-Cas gene editing, had not even been invented or discovered at the time. Since then, the US Food and Drug Administration (FDA) has given the green light to nearly 20 oligonucleotide drugs based on the antisense or RNA interference principle. And gene-editing tools now rely on tailored oligonucleotides to successfully guide them to the target site. In recent years, BioSpring has become the global market leader in manufacturing such guide RNAs. The company is also Europe's leading manufacturer of synthetic DNA and RNA for therapeutic drug applications.

From the outset, the BioSpring founders focused on translating their vision into a mission to provide oligonucleotides of unparalleled high quality and purity, while offering outstanding service to their clients. It is this aspiration, which BioSpring consistently fulfilled even in the beginning when resources were limited, that has established the company's reputation around the world. In 2007, BioSpring

became the first European contract development and manufacturing organisation to be cGMP-certified by the German authorities for the manufacture and quality control of therapeutic oligonucleotides. In that same year, a client conducted the first clinical trial with a molecule supplied by BioSpring. In 2012, Wojczewski and Aygün set a new industry standard with the Next-Generation OligoProcess synthesiser platform, and two years later they successfully completed their first FDA inspection. Since 2020, BioSpring has been an active pharmaceutical ingredient (API) supplier for an approved oligonucleotide drug. With subsidiaries in the United States and a representative office in Japan, BioSpring has expanded its international footprint. The Rhine-Main region, though, remains its main base. In 2021, BioSpring was named Hesse Champion in the job engine category by the state government of Hesse. Shortly thereafter, the company announced that it was planning an extensive multiphase expansion in Frankfurt's neighbouring city of Offenbach. In the process, a dedicated campus and a total of 1,500 jobs are to be created over the next several years. "We are staunchly focused on the enormous potential of biotechnology to drive medical progress," say the founders. With mRNA production, new analytical services and drug formulation, they are making BioSpring a one-stop shop for nucleic acid-based drugs.



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THE NUCLEIC ACID COMPANY