

When proteins light up

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NH DyeAGNOSTICS GmbH in Halle /Saale develops proof processes on the basis of fluorescence dyes, thus conquering international niche markets

"My curiosity was always greater than my fear," says Jan Heise from Halle with reference to the venture of setting up business from science. His company, NH DyeAGNOSTICS GmbH, has now been on the market for nearly ten years. On the basis of special technologies for identifying proteins, NHD develops products for proof processes in research as well as in routine diagnostics, thus conquering international niche markets.

In the company name, NH DyeAGNOSTICS GmbH, "Dye" stands for very special fluorescence dyes. They were developed in Halle at the Leibniz Institute for Plant Biochemistry (IPB) in connection with a new analysis process that makes proteins visible at molecular level. At that time, molecular biologist Jan Heise worked as a post-doc at the IPB. However, it soon became clear to him that he would not find one-hundred per cent fulfilment in science alone. He says he saw major business potential in this new colouring technology at the time. "The technology makes it possible, for example, to carry out comparative protein analyses in the blood with the new fluorescence dyes. In this way, for instance, defence proteins against swine flu are identified that can then be the basis for a therapeutic agent," says Heise.

The NHD Managing Director stresses that up to now there has been only one similar process worldwide, offered by a global player. Establishing a first spin-off company from the Leibniz Institute for Plant Biochemistry with the alternative technology and taking on the competition was also a sporting challenge for the young scientist. Single-mindedness, endurance and perseverance are among his "virtues", which the banks also like to assess as outstanding characteristics of a business personality.

Jan Heise is a competitive sportsman, a passionate rower. In 2011, his quadruple sculls was victorious at the world championships in Poland. "The fact that the double Olympic champion in rowing, Thomas Lange, came from Halle was a motivation for me to go there to study in 1993," says Heise. A slight twinkle can be seen in his eye. It was, namely, above all his zest for action that moved the Flensburg-born scientist to go to Halle. With the urge to "do something" or to "make something happen", he was determined to go to the east at the time in order to participate in the development of a "whole Germany" in this part of the country. He had already had a lively interest in divided Germany, often visiting his relatives in Saxony-Anhalt as a school pupil in the 1980s.

Halle has since developed into an internationally important centre of protein research. NH DyeAGNOSTICS GmbH is also based there, at the Weinberg Campus Technology Park. The magazine *Wirtschaft+Markt* names the company as one of the 150 most innovative in East Germany. A small company without an internationally renowned brand must be highly innovative, comments Jan Heise on the rating. Half of NHD's staff are employed in research and development. This department is led by Heise's wife, Jana. In 2010, the doctor of biochemistry left Martin Luther University Halle Wittenberg to become part of their own company – also contributing the N of her maiden name to the company name NH DyeAGNOSTICS. "My wife is good at thinking out my ideas for new products and implementing them. So we complement each other well," says Jan Heise.

The head of the company himself spends a quarter of his working time monitoring and analysing the fast-moving biotechnology market. Marketing and sales are also largely part of his work, says Heise, who adds that a good relationship with the customer is developed mainly through personal contact.

The expertise of NH DyeAGNOSTICS GmbH is now acknowledged by many customers from the fields of science, industry and medicine. "We develop fast and reliable proof processes that are automated to such an extent that their result no longer depends on the quality of the manual work in the laboratory," says Heise. In addition to identifying new protein biomarkers for diagnosing diseases, characterising certain proteins in complex protein mixtures is also a special area of NHD, he says.

In 2016, the company received one of the sought-after Hugo Junkers awards for research and innovation from Saxony-Anhalt for special fluorescent polypeptides, or SEPO for short. Jan Heise explains that EPO doping plays a central role in endurance sport. Here, doping athletes inject themselves with synthetically produced EPO, which leads to the increased production of red blood cells in the body. This artificial EPO is usually injected in only very small quantities, but at regular intervals. Hence, it has so far not been proven. However, using the SEPO technology from NH DyeAGNOSTICS, this is now possible, says Heise.

"Since there are only 35 EPO laboratories worldwide, developing and marketing such a proof process is financially uninteresting to large companies. We, however, have thus tapped a niche market," says the head of the company, adding that this international positioning is of great value when it comes to profiling themselves as a supplier for the development of so-called blockbusters.

And "profiling" is what he next focuses on. Jan Heise knows from his own experience: "If a scientist wants to become an entrepreneur, he must also work a great deal on himself. For example, he must learn the rules of the game when it comes to dealing with representatives from industry and business." Heise speaks of the attribute of putting oneself in the role of the customer, the investor or the strategic partner. He says he needed several training courses to learn how to do this. Now, he himself gives seminars on the topics of "setting up business" and "marketing and sales for company founders". It corresponds to his sporting team spirit to pass on his valuable knowledge. After all, he says, it is only in association with good entrepreneurs and employers that one attracts corresponding attention to a strong business location.

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