Profile «venture leaders»

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Amaigo: Novel apparatus for routine medical diagnosis via blood microcirculation imaging

Industry: Medtech

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Biography

Alexandre Serov was born in Saratov, Russia. He received his M.Sc. in Physics from Saratov State University in 1996. He then moved to the Netherlands where he commenced Ph.D. studies at the Laboratory of Biomedical Optics at the University of Twente in Enschede. During his Ph.D. studies he developed an integrated optical-electronic probe for Laser Doppler blood flow measurements. At the same time, he also identified the need for a simple-to-use, yet fast and accurate imaging technique for blood flow measurements. Dr. Serov realized that this technology had the potential to be used for medical diagnosis of various diseases. After completing his Ph.D. in 2002, Dr. Serov joined the Laboratoire d'Optique Biomedicale at École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland, where he continued his previous work on imaging technology. In 2004, Dr. Serov developed a new system for Laser Doppler blood flow imaging that attracted great interst from physicians. In response to this interest (in 2005), Dr. Serov designed and built a prototype of his system and began testing it in different hospitals in Switzerland. These tests have demonstrated that Dr. Serov's new imaging system significantly outperforms all similar imaging devices currently in the market. In response to the success of the prototype, and in conjunction with his colleagues and friends, Dr. Serov launched AïMAGO, a start-up company with the objective of commercializing his new technology. Dr. Serov's work received further support from the scientific community in 2006, when the Laboratoire d'Optique Biomédicale (where Dr. Serov has worked since 2002), received a Swiss Technology Award specifically for Dr. Serov's imaging technology. Dr. Serov is firmly grounded in new medical product development, and his work to-date has demonstrated significant improvements over existing imaging technology. Dr. Serov is specifically seeking individuals with the professional competencies to assist him in bringing his technologies to market.

Company / project

AïMAGO targets the medical device market. Our first product is a system for high-speed imaging of blood microcirculation in skin. It is well-known that unusual changes in microcirculation can indicate severe health disorders, e.g. diabetes, skin diseases, peripheral vascular disorders, etc. Measuring blood microcirculation, our novel apparatus will allow physicians to diagnose the disease and to monitor efficiency of the treatment. Employing the latest CMOS image sensor technology, the new imaging apparatus uses Laser Doppler effect to measure the speed and concentration of moving blood cells in an extended area of biological tissue. Compared to existing commercial systems for Laser Doppler imaging, our instrument is more than 300 times faster. Utilizing a parallel detection concept, the new system generates high quality images of blood flow in only 1 second; compared to the 5 minutes required by alternative techniques. The superior speed advantage of our technology reduces patient discomfort and provides faster and more reliable diagnosis of the disease. Our business objective is to advance the Laser Doppler imaging technology (which is currently used only for medical research) towards everyday medical applications, such as the basic diagnoses performed by physicians.

Our target customers are physicians in private and public clinics and hospitals. We estimate our market potential is approximately 18,000 physicians (counting only Switzerland, Germany, France and Italy) working in the selected medical disciplines. According to our business forecast, we need to capture around 2% of this market to break even in 1.5 years.

We wish to capitalize the company by August 2006. AïMAGO currently employs 5 people. We are looking for partners and investors to fund and sustain the anticipated rapid growth of our business.