

# Interview with Szymon Ruta

Gene diagnostics, or analysis of biological markers to identify disease, detect risk, and plan individualized treatment, is a fast-growing segment of the healthcare market.

*CFO & board member at Scope Fluidics, Szymon Ruta has over 13 years of experience in managing medtech start-ups as well as large-scale heavy industry companies. Szymon has also worked for many years in M&A, restructuring, and investment projects.*



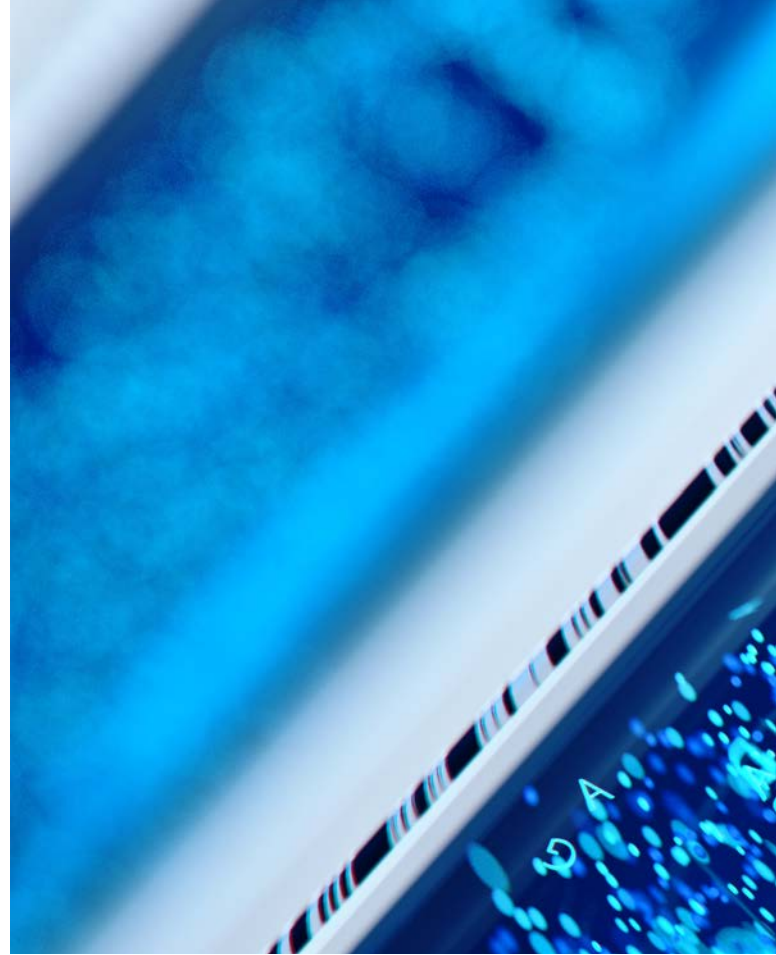
A research group at the Institute of Physical Chemistry of the Polish Academy of Sciences was established to investigate microfluidic solutions in medicine. The research proved so promising that the company Scope Fluidics was founded in 2010 with a view to commercializing the group's discoveries. The focus of Scope Fluidics was gene diagnostics – technology that revolutionized medicine in recent years with advances in the treatment of cancer, hereditary illnesses, and infectious diseases. Today, Scope Fluidics is a successful publicly-traded holding company on the Warsaw stock exchange (NewConnect:SCP). Through its wholly-owned subsidiaries, Curiosity Diagnostics and Bacteromic, it develops state-of-the-art biotech related medical devices. The company continues to work in close collaboration with academia. A clinical perspective ensures that Scope Fluidics devotes its resources on solutions that can be efficiently produced and that target specific and important healthcare needs.

Curiosity Diagnostics has developed the PCR|ONE system, a point-of-care rapid diagnostic apparatus that is capable of identifying up to 20 genetic markers at a time. Its first diagnostic panels can identify methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile* infections in under 15 minutes.

Bacteromic is developing an automated culturing system capable of delivering the most comprehensive information on bacteria susceptibility to all known antibiotics and the resistance mechanisms from which the optimal therapeutics may be administered to a patient.

**What trends are you currently seeing in gene diagnostics as it relates to infectious diseases?**

Infectious disease testing is the single largest segment of the medical diagnostics market. The molecular (gene) diagnostics



subsegment is growing the most rapidly with a CAGR consistently at the 10% level in the last several years and for the foreseeable future. This growth reflects the huge problem of antibiotic-resistant infections across the globe, which is threatening to become the number one cause of death. The majority of these infections are contracted in a healthcare setting. Both prevention and treatment rely on accessible, fast, and accurate diagnostics that can be delivered using innovations in molecular testing. The Nobel Prize-winning polymerase chain reaction (PCR) is the most reliable, yet time-consuming method of analysis.

**How does the Scope Fluidics PCR|ONE System address the problem of antibiotic-resistant infections?**

The PCR|ONE system is the first to deliver technology for amplification of multiple genetic targets via PCR, together with microfluidic solutions for rapid preparation of the sample and isolation of genetic material for analysis in minutes. The strength of the PCR|ONE system is in its speed combined with a high degree of multiplexing – allowing the system to identify multiple genes simultaneously for each sample tested – all to provide not only rapid answers, but also actionable ones. Speed is of the essence in identification and treatment, particularly considering the precipitous onset of major infectious diseases such as MRSA.

**Are these new approaches in rapid diagnostics at point-of-care cost-effective?**

We started the project in Poland, which, while being among the most developed countries, is still managing hardships in the accessibility of its healthcare system, so cost effectiveness has



# Healthcare Q&A

been a goal from the very start. We aim to deliver faster, higher-multiplexed diagnostics to the point-of-care at affordable levels all over the world.

## **How is gene diagnostics affected by technology trends such as big-data analysis, cloud computing, and automation?**

One of the strengths of the PCR|ONE system is that it allows the tested gene panel to be modified effectively and efficiently. This comes in response to the dynamics of epidemiology of infectious diseases. The progress in sequencing and in data analysis, while not being able to compete in terms of price and swiftness of the analysis with PCR, should support future adaptations of the PCR|ONE panels in response to evolving infection landscapes.

## **Is gene diagnostics for infectious diseases an international market?**

Infectious diseases know no boundaries, and while the quality of infection-control differs between countries, one of the key components of prevention is accessible and rapid diagnostics. Certainly, the PCR|ONE system targets a global need in healthcare systems and a corresponding international market.

## **What opportunities are there for consolidation? Is there international M&A activity yet in this very new technology?**

Scope Fluidics follows the “bubble-up” model for new technologies in high-growth, nascent sectors. We develop specific, defined technologies that fit into a larger paradigm, namely precision medicine. We find ourselves in the unique

position of not only developing novel gene diagnostic apparatus, but also being a part of the fast-paced transition to precision medicine.

This “bubble-up” model is one seen with other new technologies over the past 30 years, including mainframe architecture, software development, website development, e-commerce, big data analytics, and network security. These sectors were once populated with numerous small companies that, as they reached economy of scale, “bubbled up” into larger companies through rapid consolidation. In the healthcare world there are more exits through acquisitions than through IPOs. While itself being listed, Scope Fluidics develops the diagnostic systems as completely owned, special-purpose companies, each constituting an all-in-one package of IP rights, know-how, contracts and certifications, for them to be acquired, much in line with the business trend in our sector.

## **Why did Scope Fluidics choose Clairfield International to advise on the sale of its Curiosity Diagnostics subsidiary?**

When searching for an advisor to assist us in our partnership and commercialization efforts for our PCR|ONE system, we were impressed with Clairfield’s worldwide healthcare group and in particular with its depth of expertise in the gene diagnostic and gene therapeutic sectors spearheaded by Clairfield’s New York office. Clairfield had the foresight just a few years ago to recognize the nascent discoveries and advances in gene diagnostics, gene therapeutics, and synthetic biology to build its expertise in time for a company like ours. Under the direction of a team working seamlessly together in New York and Warsaw, and with the further assistance of global partners, Clairfield has been able to identify numerous opportunities so that Scope Fluidics can select the best solution for its PCR|ONE system. ■