Interview: Michael Tillmann – Founder & CEO, Vela Diagnostics, Singapore

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The founder and CEO of Vela Diagnostics, Michael Tillmann underscores the motivating drivers behind the establishment of the company and how their unique portfolio of automated PCR and NGS solutions have made clinical laboratory life easier for all companies across the molecular diagnostics value chain. He further highlights the crucial role that Singapore, as the global headquarters, has played in the company's development, especially in terms of quality talent and high-value manufacturing.

Vela Diagnostics is your first venture after an impressive and extensive experience in the pharmaceutical and diagnostics industry. As an introduction to our readers, please share the inspiration behind the company and how far it has grown since its establishment.

At the crux of the business model, Vela Diagnostics was established to make clinical laboratory life easier and better. The company was incorporated five years ago when the dynamics and data collection in diagnostics was very manual and the unconsolidated IT interface was purely in the life science sphere, except for a few tests like Hepatitis C and HIV. The intention was not to reinvent the wheel, but improve on the status quo through bringing technology into the molecular segment, which were already imminent in chemistry and immunology. Our goal was to minimize manual data transcription through monitoring IT interface, have a consolidated portfolio with bioinformatics behind it, while producing cost-efficient and user-friendly products to customers. Today we have

achieved an automated integrated IVD workflow combining 29 PCR tests and 7 NGS panels for Infectious Diseases and Oncology. We are essentially a turnkey solution provider.

At a personal level, the inspiration behind Vela Diagnostics was to drive things forward in this space. Having worked for numerous years in the pharmaceutical and diagnostics space, I realized that there were plenty of things that were difficult to accomplish in large bureaucratic corporate settings. My aim was to fulfill the gaps in the market and improve upon the pain points that I saw from my previous customers.

Why did you choose to set up the company in Singapore?

With our initial site in New Jersey, we struggled in acquiring good researchers and technicians as it was a tight job market. When we came to Singapore in 2011, it was coincidentally the same time when A*Star restructured its five-year plan, so there was a wealth of talent that was readily available to us immediately. At the onset of our operations, we were already equipped with 30 scientists and we had officially decided to move all the operations in Singapore, although we still have an oncology site and CLIA Lab in New Jersey.

Moreover, Singapore is also renowned in its manufacturing competencies, making the country an ideal location for a site outside of the US. It has become a strong logistics hub for us since, which was facilitated by the fact that there are financial incentives to stay in the country given the tax breaks. It made perfect sense to move to Singapore entirely and leverage on the country’s core strengths.

What role does a small country like Singapore play in the larger global portfolio? What are the core functions being done there?

One of the main challenge as a company is the disadvantage of being so distant from the markets we serve, as they are primarily in Western Europe, the US, where reimbursement and healthcare spending is high. However, these realities are outweighed by the fact that as a research-driven company wanting to drive innovation, Singapore is a strategic location given the gravity of talent available in the country. We boast a diverse and educated strong university network who are eager to bring ideas at the forefront of innovation. The quality that we produce as a Singapore-based company makes it worth the travel commitments.

In terms of manufacturing, given that there are plenty of other cost-effective options in the region – Malaysia, Indonesia, Vietnam – why did you choose Singapore?

Our goal was never to compete in the low-cost space, as our products boasts the highest quality FDA thresholds and are used in multiple FDA trials. We have no intention of competing with the local players as they are typically in a different segment only selling reagents. What we offer is a complete turnkey solution that ranges from hardware, software and reagents.

Singapore is an excellent engineering and microelectronics hub so the technology is of the best caliber here. At the early stage of the company, it would've been very disruptive to have the manufacturing site away from the research site as it was necessary to transfer the know-how in scalable manufacturing sizes. Especially for a small company, facilitating this tech transfer on a consistent basis is difficult.

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Therefore, we are happy to have our manufacturing hub in Singapore and we are willing to shoulder the slightly higher prices as it is to the benefit of the total output ultimately. The question is not rooted on the cost, but on the strength of the manufacturing talent to bring the level of quality to scale up the costs. Establishing a benchmark base here is essential in order to be able to build a secondary (or even tertiary) manufacturing sites in the years to come.

Now that the company has scaled up, with operations in the US and Germany, how would you evaluate the company's long-term commitment to Singapore as its global headquarters?

The future is unpredictable, whether looking into organic growth or inorganic growth. Both avenues are interesting prospects but for as long as we can manage out of Singapore, we will do so. For example, we have recently acquired a data company in California, which shows that we are willing to move accordingly to the needs of the business. For the moment, I am committed to Singapore both at a personal and professional level and we recognize the value of having our headquarters here. Nevertheless, should a move be necessary, I have no objections to moving outside of Singapore as well. Agility and flexibility is of utmost necessity. Our business is conducive to being mobile as long as our core scientific and management talent are intact.

Currently, Europe and the US are two of your primary drivers of the business, as they have the largest healthcare markets in the world. What are the opportunities you see in Asia Pacific? Are any of your market strategies transferrable to this region?

We see tremendous opportunity in Asia Pacific, however many of our tests are not conducive to the healthcare infrastructure in the region as they necessitate government financial support or out-of-

pocket spending from patients who can afford it. As we are more well-versed in the US and Europe, we have a better understanding of how to position ourselves there. It is a difficult competitive landscape in Asia Pacific as it is saturated with low-cost local players that are more suited to the consumer price points, even though they are not selling complete solutions. Moreover, it is also challenging for us as a new company because it is necessary to build brand awareness first in order to properly position ourselves in the Asia Pacific markets.

Nevertheless, we have plans to eventually enter other Asian markets. Currently, outside of Singapore, we are also present in Malaysia and Thailand. Most recently, we have also entered Vietnam through partners, as well as currently establishing a direct presence in Australia and China. The main problem we face is the reimbursement infrastructure in these markets, thus we are constantly in search for out-of-pocket payers within these environments. Though it is not a problem for our chemistry and immunology products as they are publicly funded, we aim to increase commercial value of our NGS (Next Generation Sequencing) platform. Apart from the reimbursement structures is the fact that neither public hospitals nor universities have adapted to the technology for clinical diagnostics yet. It is currently used for selected patients and cases, and our overarching vision is to make it the standard form of diagnostics for all patients.

What was the strategic rationale behind focusing on oncology and infectious diseases?

The portfolio was determined at the onset of our establishment to not focus on the top five tests, which were already relatively automated for the likes of HIV and hepatitis. Our goal was to look at the FDA-approved tests ranking from six to 35 and consolidate them on our portfolio. In the meantime, to drive innovation, we have also have tests that are differentiators in the market with new targets in the pipeline. Our goal is to consolidate what is already medically and clinically accepted, reimbursed and FDA-approved.

In the spirit of staying focused, we also intentionally did not want to enter into too many segments. Oncology and infectious diseases are already wide portfolios for a start-up company. We are confident in the robustness of our products because we have the skilled scientists that built our assays and sequencing libraries, and the next phase of the business is to build the network of medical experts for the business.

What type of relationship are you looking for with the pharmaceutical industry and how do they ultimately benefit from partnering with Vela?

We have a dedicated team specifically focused on fostering partnerships with the pharmaceutical industry. Although we are small, we are the only company in the world with an FDA-approved IVD

Next-Generation Sequencing and PCR workflow so we can go after both single-target and multiple-target biomarkers for companion diagnostics. We are the only company that really offers turnkey end-to-end solutions from extraction to bioinformatics.

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Our main value proposition to pharma is our development capabilities. We offer everything from biomarker stratification, companion diagnostic development to assistance in their clinical trials. We are basically a complete solution provider for pharma in the areas of oncology and infectious diseases.

Previously, you have partnered with Western firms such as Thermo Fisher and Swift BioSciences. Do you also have plans to partner with Asian players?

At the onset of the company, we ingrained it in our corporate values to do the best we can in our competencies, but the rest we either buy or license those functions that we cannot do. We do not have aspirations to build the next innovative PCR cycler, but we can license them. It is all within our control. We are the legal manufacturers and own the products, which means they are built according to our specifications. We embed our software into them and hook them up into our workflow to ensure IT connectivity.

We are looking at certain partnerships in Singapore due to the proximity and the manufacturing talent to help continuously improve our solutions offering.

The diagnostics industry is a competitive space with both large and small players active in this field. Who do identify as your main competitors and what are the differentiating factors for Vela?

We play across different segments – microbiology, transplant market, oncology and HIV/Aids genotyping field. Our main competitive advantage that differentiates us is on our workflow.

Today, efficiency is a given. It is expected that technologies work at the utmost medical specification – what customers are interested in today are the parameters within efficiency in the likes of turn-around time, cost-efficiency, etc.

Our value proposition as Vela Diagnostics is that, given that we are nimble, we bring our technologies into our clients' daily operations without them having to adjust their daily operations themselves. We design our solution according to existing needs through our turnkey solution. We also maintain the relationships with our clients so we can be at their service at any point of need

after the installation.

The company has grown impressively in the last 5 years, what is the expansion strategy for the next 5 years?

Firstly, geographically, we want to be stronger in our key markets, which are reimbursement based. We see a strong presence in the upcoming future for the US and China. We want to continue developing products on our existing workflow, but also develop new segments that are a good fit for our workflow.

Having maintained such a longstanding career within the industry, w**here does your passion for the diagnostics space come from?**

It’s the most complex industry to be in – it combines chemistry of reagent, engineering for instruments and software bioinformatics. We can’t just sell the product, but also the concept of your workflow and the IT connectivity associated with it. We also need to be conscientious of the payment frameworks and make sure we are selling in markets that are reimbursed. In general, diagnostic technology is at the forefront of advancing healthcare systems and patient-care models, so it’s certainly an exciting time to be in the industry.

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