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Swagene is considered as one of the top 10 startups of 2015, this Chennai-based company is in the business of personalized medicine. Swagene has won both the CII award the DST-Lockheed Martin Award and has also won the Conquest at BITS Pilani, Masterplan at IIM Ahmedabad and Empresario at IIT Kharagpur. In an interaction with Dr Sooraj Ratnakumar, Founder-Scientist of Swagene elaborates on his company's expertise and future plans.

**To begin with, could you outline what Swagene is all about and how is it different from other diagnostic and medical services company?**

Dr Vani and I started Swagene to bring advanced molecular diagnostics to Indian shores. Swagene is likely the first lab in India that is focused on personalized medicine through molecular diagnostics. Personalized medicine adds a paradigm shift to medical practice, putting the patient in the centre, rather than the disease. All doctors agree that every patient responds differently to both disease and drugs, and therefore we help tailor therapy to the patient to achieve maximum treatment outcomes.

Our mantra is 'excellence in science, excellence in service'. About 50% of our tests are first-in-market to South Asia, borne out of extensive research into modern clinical trials. Only those biomarkers that have clinching evidence of dramatic improvement in treatment come out of our R&D into the market.

We're a knowledge sharing lab, and in that effort, our website provides a lot of information on the tests and how they will be useful. Our Infertility and Cardiology tests can be ordered online ([www.swagene.com/order/](http://www.swagene.com/order/)) or over the phone and we'll send a mouthwash collection kit to the patient's home and arrange return courier too!

Being the first in developing tests for certain rare cancers such as sarcomas, we've been getting enquiries from several states even in Northern India before launch.

Could you describe the people behind the company's inception?

I'm a molecular scientist with over 10 years' experience in genetics and molecular biology from top institutions in the world such as the University of Cambridge. I went on to do three postdoctoral fellowships at Cambridge, University of Washington, Seattle, USA and EPFL, Switzerland. With over 10 years' experience in molecular biology and genetics, I've teamed up with Dr Vani, a medical doctor, to offer advanced molecular diagnostics at Swagene. Dr Vani is a Gynaecologist-obstetrician with over 35 years' experience in clinic and surgery in southern India and the Middle-East. Combining medical and scientific expertise, we aim to revolutionize patient-oriented care in South Asia.

### **You are bringing in the concept of personalized medicine? How is this achieved?**

Would you take a drug if you knew that it's going to be of no use to you, or that it's going to give you severe side-effects? We provide patient-centric care by putting patient at the centre and suggesting individualized therapy that will provide the highest benefit. Personalized medicine aims to bring down healthcare expenses by determining the drugs or procedures that are likely to improve the patient's condition while at the same time preventing severe side effects. In a short time we have developed novel and innovative tests in three medical specialties.

We have had to create the market in India. Top specialists in Cardiology, Gynecology and Oncology practicing anywhere from big corporate hospitals to NGOs use our services. This has also resulted in regularly receiving queries and requests from patients and doctors with regard to advanced molecular diagnostics. During this time, we've been recognized as thought leaders in molecular medicine, and have been invited to speak regularly at national and regional conferences, as well as at seminars, CMEs and hospitals. As a result we've reached various specialists in Chennai, Bangalore, Ahmedabad, Kochi and several smaller cities.

### **What are the significant advantages of diagnosis at molecular level and how does it aid prescription?**

Our infertility tests for women and men are used frequently by gynecologists and andrologists to decide which men will respond to invasive surgeries or hormone therapy to improve their sperm parameters, and how to treat women undergoing IVF for maximum outcome.

Our cardiology tests cater to patients with high cholesterol, high blood pressure and those on blood thinners, which is almost everyone who has had a heart attack or stroke. Here we test for the most appropriate medicine and dosage for the individual leading to long-term health benefits and cost savings.

Our cancer tests are highly sensitive and benefit oncologists and cancer patients in deciding which therapy to use, as well as monitor treatment response and detect relapse at a very early stage. We've started with certain uncommon cancers such as leukaemias and sarcomas.

### **Going through your education background reveals that your academic journey has been overseas. What made you chose India as a location to set-up Swagene?**

I did want to stay in Europe for a couple more years, I was done with US life and I didn't want to revisit it despite opportunities there. But India is brimming with hope and potential, and the gap in healthcare is so very wide here that any innovative and meaningful activity will have a substantially bigger impact.

### **Do you have any collaboration with other companies in India as well as abroad? How do these collaborations strengthen your business?**

We collaborate with labs and hospitals in India and abroad. For instance, we get ethically sourced validated samples for R&D. Our sarcomas panel in development has been specially requested by specialists at some of the top hospitals in India

accelerating the arrival of diagnostics for rare cancers to South Asia.

**Your organization is self-funded. Going down the years do you plan to raise funds through VCs. If yes, how would you deploy the fund?**

Yes we do plan to raise funds as biotech is a capital-intensive field with above average incubation. The returns will more than compensate for these though. So in order to accelerate our vision of being a leader in molecular diagnostics, we're looking for investment to spur rapid development, marketing, and achieving growth.

**As a startup there might have been several hiccups since inception. What were those challenges and what kind of success have you seen till date?**

Setting up an R&D business: The government in India has not awakened to the fact that startups originate with completely novel ideas. For instance, we have to pay high customs duties and other taxes in order to benefit our own population. Even after 'startup India', for DSIR recognition we need to be 'incubated' somewhere to avail benefits. This makes the government lose valuable foreign exchange as the advanced diagnostics are now getting exported to China, Europe and elsewhere.

Awareness: We've started with molecular diagnostics in personalized medicine. However, the awareness and importance of personalized medicine is severely lacking in our country. Creating the awareness and thereby creating a market has been a huge challenge. Nevertheless, we've been generating revenues in this difficult niche from the beginning. It has also helped establish ourselves as thought leaders in molecular diagnostics.

**Are your customers limited to Chennai or is your reach to other cities/countries accomplished?**

Having spoken at conferences and seminars in Hyderabad, Chennai, Kochi, Trichy etc., we have established trust and reliability among specialists practicing in these areas. While the majority of our patients come from Chennai, we cater to queries and orders from diverse states such as Gujarat, Punjab and Delhi. Our patients have included medical tourists from Sri Lanka, Africa and the Middle-East. Notably though, we also cater to the have-nots by supporting patients from NGOs and government hospitals.

We tremendously value our lab, hospital and doctor partners that include corporates, private hospitals, NGOs and public hospitals.

**How do you perceive Swagene's future? Do you have a road map planned for the next 2 years?**

Our future plans are two-fold. One is to make molecular diagnostics rapid, easy and affordable. How will this be useful? While advanced countries test for HIV by highly sensitive molecular assays, in India labs still follow serology, which is a much less sensitive and accurate technique. We will make molecular diagnostics available, accessible and affordable.

Two is to develop advanced molecular diagnostics in our lab and offer them here. Advanced technologies take several years to reach India, and even then samples are currently being shipped to Europe, USA and even China for these tests adding to both costs as well as turnaround time. We will have completely validated advanced tests in our lab thereby reducing both cost and turnaround time, while contributing to the 'make in India' program.

**Have you identified any medical technology that has been untapped? Do you believe that the technology can be implemented by Swagene?**

We're only at the beginning of technological disruption. Do wait and watch.

**Has Swagene identified a similar company and if acquiring that company is in your mind will it be a prospective buy?**

For the moment our plans are completely organic growth through partnerships and collaboration.