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Need To Create Better Ecosystem For Genomics In India: MedGenome Founder

The government's strategy is to increase India's total biotech revenues to $100 billion by 2025, which is more than tenfold since the biotech industry started up here about two decades ago

24 October, 2017
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India is more than excited about genomics, but what the country lacks the most in this front is a better ecosystem that can enable translation of this excitement into impactful projects. The scientific community, academia, government and even individual investors are equally optimistic about the potential and possibilities of genetic studies, but there aren't enough platforms that facilitate the stakeholders to come together and collaborate to take it to the next level making impacts in the society, says Sam Santhosh, serial entrepreneur and founder of MedGenome, one of India's most successful genomics-driven life science start-ups.

Genomics, the most promising area of biotechnology that can help bring revolutions in future healthcare and environment protection, has been actively pursued in India at the academic level at least for the last one decade. But, it hasn't yet produced significant outcomes as the country's contribution to the global genetic database is still minuscule despite its large and diverse human and other bio population. Genomic data generated through DNA sequencing of human, animals and plants, throws light on the varied genetic makeup of human races, plant and animal species to better understand the biological characteristics and their variations for development of more accurate healthcare or other protection solutions. Known as precision or personalised drugs or diagnostics, these solutions are developed in specific to those varied genotypes, ultimately resolving several issues associated with the current 'one-size-fits-all' treatment regimes. At the same time, the genetic approach for diagnostics as well as treatment can also significantly lower the healthcare cost, which is a key concern today.

While there are large genetic data already been generated on the western population (mainly the US and Europe), it is alarmingly low on Asian population at present, although the continent represents 40 per cent of the world's population.

"It is quite surprising that such a high potential area hasn't yet got the attention of many large and established corporates, especially from the healthcare and life sciences industry, in India," quipped Santhosh.

This San Francisco-based NRI entrepreneur, who is also the trustee of SciGenome Research Foundation, a not-for-profit organisation actively engaged in the promotion of genomic research and education, is quite upbeat about the scope of genetic research in India. Talking on the sidelines of the seventh annual international conference--NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) in Bubneshwar, he said that India, with its huge biodiversity and genetic pool, can contribute much more to the world's genomic database and to the growth of future medicine.

NGBT annual conferences in India, supported by SciGenome Foundation, have been trying to create the much-required platform for the academic, scientific and investor community in this area, had this time featured exciting developments in related technologies and their applications in life sciences, including human, plant and animals. Featuring accomplished national and international speakers, thinkers and thought leaders that shape the course of scientific discovery, the latest conference saw about 80 talks and 13 keynote lectures on drug discovery, cancer immunology, genome engineering using medical applications and personalized therapy.

"It's a great forum to connect, explore collaborations and discuss on exciting developments in the field of genomics. We are confident that the conversations on genomic applications in life sciences will go a long way in creating real value solutions," said Santhosh.
Santhosh's genomics-driven commercial venture MedGenome, which is also part of Genome Asia 100K, one of the marquee gene sequencing projects on Asian population, also had roped in this consortium in the latest NGBT conference as its knowledge partner.
"This event, as in the past, continued to be an ecosystem for scientists and students to share their work, build new connections and explore collaborations," said Santhosh.

MedGenome, which is into genomic research and development of NGS (next-generation sequencing)-based diagnostics, has already launched a couple of diagnostic tests, including OncoTrack, a non-invasive screening test (liquid biopsy) for identifying various forms of cancer as well as tracking the treatment response, and Claria, a non-invasive parental screening test (NIPT), in India.

Since these tests are based on NGS technology, they not only offer much higher accuracy but also better patient convenience as they are non-invasive. The liquid biopsy is set to transform the way physicians in India can identify genetic alterations, interpret, assess and treat various forms of cancer, says Santhosh.

"We are constantly striving to get the most advanced genetic testing technology at affordable prices to the patients," adds Santhosh, who is also excited about the company's next-to-launch precision diagnostics to screen tuberculosis and trace its treatment outcome.

Although current market for genetic testing is very small in India due to lack of awareness and cost challenges, the potential is huge in this market because of a large population and the huge burden of inherited diseases.

The government of India, through Department of Biotechnology, had also allocated the comparatively large amount of budget for the promotion genomic research in the last two Union Budgets. The strategy is to increase India's total biotech revenues to $100 billion by 2025, which is more than tenfold since the biotech industry started up here about two decades ago. Though the government looks towards replicating the success of information technology in the area of biotechnology, which the country has vast potential as well as skill sets, as well, there weren't any major investments from large private sector players, especially from the life sciences companies, yet happened in this area.

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