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Indian biotech's genetic re-engineering

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The $4-billion Indian biotechnology industry, which has largely failed to live up to its reputation as a sunrise industry, has now woken up to tackle its challenges head on. In an attempt to get themselves out of the rut, Indian biotech firms are chalking out a multi-pronged strategy aimed at bettering the quality of talent pool, raising funds and encouraging entrepreneurship in the sector.

The Association of Biotechnology Led Enterprises (ABLE) is putting together a "Vision Paper" to outline its investment needs amongst other details. It is also bringing industry stalwarts together to draw up courses and certification programmes to improve the quality of biotech engineering graduates alongside training entrepreneurial teams in the science of running a business in the sector.

According to investors, the biotech sector, which has long been attributed high growth rates and prospects, fails to attract funding due to its typically prolonged exit periods, lack of leadership and clarity in business models. While sectors such as clinical research, diagnostic and medical devices, healthcare services, healthcare find funding, research and development (R&D) finds capital hard to come by.

"Either due to lack of promising candidates for research or infeasibility of business models, investments have been limited in biotech R&D. Also, since biotech companies in India have mostly focused on developing biosimilar, or diagnostic tools, venture capitalists (VCs) and private equity (PE) players have not gained confidence on the long term innovative potential of these companies," says Dipta Chaudhury, pharma and biotech practice —programme manager, South Asia and Middle East, Frost and Sullivan.

The industry however feels that there exists a gap in communication between them and investors, and that there is a lack of understanding on the part of PEs and VCs of the nature of biotech companies.

"PEs usually lack an in-depth understanding of science and hence find it difficult to wait out the long gestation periods that are involved in R&D. There is definitely a lack of communication that needs to be bridged," says Villoo Morawala Patell, chairperson and managing director, Avesthagen.

"Valuation of a company is highly dependent upon its present capabilities as well as future growth plans. Mapping of the sector to understand it better and identify the growth pockets will significantly spur the capabilities of biotech companies in developing feasible business plans, which in turn would help them get funding," says Dipta Chaudhury.

While details of the vision paper are not available yet, Vijay Chandru, president of ABLE says that it will

outline investment needs of the sector amongst other things. “Typically, the industry will need $1 billion every year to sustain the growth momentum. The vision paper, which we are bringing out mid July will outline the needs of the sector and we will have more concrete numbers after that,” says Chandru.

Industry experts feel that the sector has been working at improving its chances at attracting funds through various summits and forums that aim to put investors and companies on the same page.

“At the recently concluded biotech summit—Bangalore India Bio, Orbi-Med, a large international healthcare fund had significant presence to show interest in funding the sector,” says Chaudhury.

Another sore point for the biotech sector has been the lack of entrepreneurship and leadership, which could be another roadblock in the sector’s realisation of itself, particularly in case of emerging segments such as bio-fuels.

“With sectors such as biofuels, funds are available and private equity players are looking to invest, but there is not enough entrepreneurial interest in it. Biotech requires a very deep understanding of science and it is not something that can be easily taken up as a business venture,” says Chandru, who is also the chief executive officer of Strand Life Sciences.

Biotech industry forum ABLE has been conducting Biotechnology Entrepreneurship Student Teams (BEST) which invites applications for innovative ideas for start ups, and selects the best amongst those applications to be trained by sector experts from across the world.

“This year, we have received 400 applications, and from these, we will select 20 applicants. These 20 teams will train with biotech biggies and trainers and learn about running biotech businesses, attracting funds and developing business plans,” says Chandru.

On the human resource front as well, the biotech sector has long found itself in doldrums, with inadequate supply of trained scientific talent in the country. With the industry projected to reach $10 billion in the next five years, globally, the Indian biotech sector has been ranked amongst the top three in terms of volume. However, it is no where close to the top players in terms of innovation and value. The lack of scientific talent has been a major roadblock to the sector’s transformation into an innovation based sector. While an entire generation of school kids were pushed into studying biotech engineering, a lack of understanding of deep science and mushrooming of low quality biotech institutes have been impacting the industry.

Says KK Narayanan, managing director, Metahelix Life Sciences, “The major challenge for talent in the biotech sector is the lack of it. The great paradox we are facing is that there is no dearth of qualified candidates, but employable ones are very rare. Candidates passing out of many of the institutions are not immediately prepared to take on practical responsibilities as they are found wanting in practical training and soft research skills like ability for structured analysis.”

The Karnataka Vision Group on Biotechnology, chaired by Kiran Mazumdar-Shaw along with ABLE to tackle this issue headlong, when it came up with the concept of “finishing schools” recently.

“To improve the employability of students graduating from biotech colleges, and to ensure that they can really take on the challenges of being a professional, we introduced the concept of ‘finishing schools’ for institutes, wherein colleges and universities can offer a one year course to its students that will teach high end skills and make students industry ready,” says Mazumdar-Shaw.

“India has emerged as an attractive market for the global pharma sector, as evident from increasing investment flows into the country. New challenges such as global warming, energy, health and food security offer huge opportunities for the biotech industry,” says Mazumdar-Shaw.

Chandru says that while it is being started as a pilot project in ten institutes of the state, the attempt would be to take it to other states as well. “The gap that is there between what the industry requires and what universities produce can be solved mainly through partnerships between industry and universities and we are trying to get that underway,” says Chandru.

ABLE is also working on a certification programme that will test and grade a biotech student and certify him accordingly. “We are working with Aspiring Minds, a Delhi-based assessment company, and we are looking at bringing out this kind of a certification programme which will immediately give an indication of the candidates competencies,” the ABLE president says.

An additional step that India may have to proactively take is bringing back several quality scientific brains that graduated from the top science institutes of the country were drained to the west.

“As India begins to enter a phase where it will really start innovating and discovering, bringing back a lot of this talent and experience would become vital. After the recession, a lot of scientists have been laid off, and several of Indian origin. This is a great time to capitalise on that and draw these scientists to India,” says Chandru. China has a structured programme for “returnees”, which focuses on attracting talent that has left China in favour of other countries back home. The Indian biotech sector would do well to emulate that in some manner.