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India lags behind Japan, Korea and China in IPR commercialization

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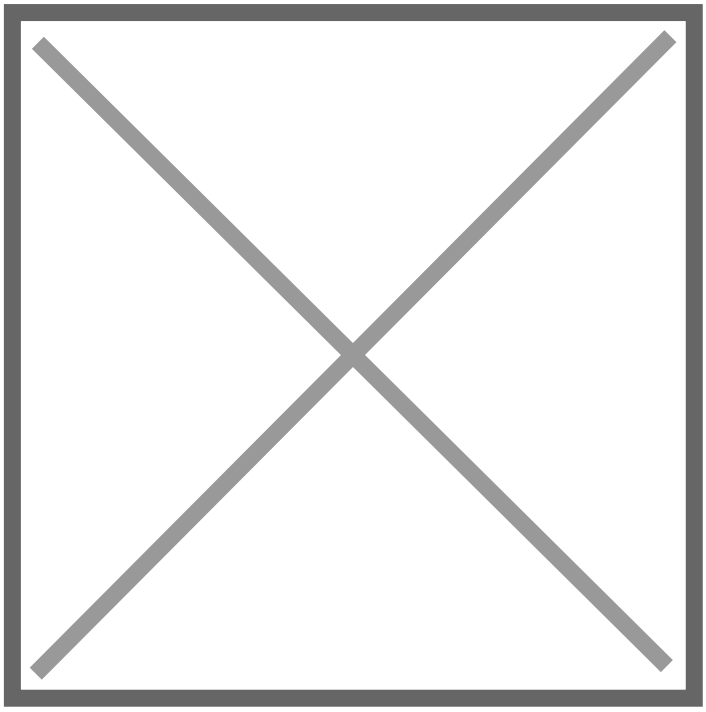

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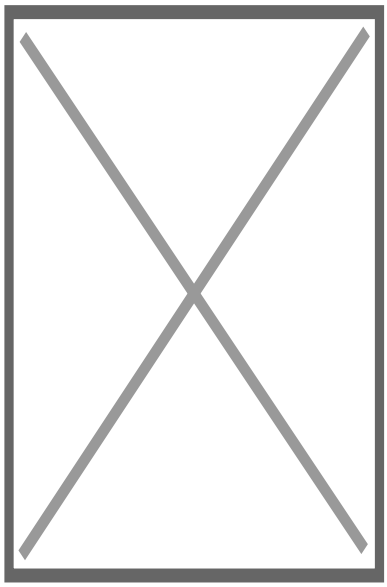

—Deepam Mishra, CEO, i2india Ventures, Bangalore

I2india Ventures, the Indian arm of Imperial Innovations, UK, the technology commercialization venture of Imperial College London, works in partnership with research and innovation centers, to create an ecosystem for early stage technology commercialization. In India, i2india has signed agreements and is working with leading institutions such as IITs, IISc, and has conducted over an year of field studies to understand the opportunities and challenges in this space.
In an exclusive interview with BioSpectrum, Deepam Mishra, CEO, i2india Ventures, speaks about the problems in intellectual property rights (IPR) commercialization in India.

What ails the Indian IPR commercialization?

The concept of risk taking is different in India and most government service companies are risk-averse in nature. Companies have to make a calculated bet before launching a new product in the market. The product-business strategy followed by the Indian companies are completely different and the mindset of major biotech companies are largely service-centric. They work on outsourced model which requires less investment. Indian biotech companies cannot afford huge investment that is needed for establishing a product manufacturing company.

Secondly, people who have not had any interaction with Indian scientists think that scientists work on pure sciences and they cannot develop anything that is important to the real world. Many scientists have interesting technology, but they are not sure about its relevance to the industry. The reason why our science is not often usable is because the industry that is quite often related does not provide any feedback to our scientists.

Thirdly, our science and research establishments have not had commercial focus for a very long time. If you look at the history of research in India, after

independence and until recently we have been doing only reverse engineering to reduce our dependence on imports and forex. Also, we had not signed any international patent laws deliberately because we wanted to do reverse engineering and provide technologies at a much lower cost to our population.

Now, fortunately we have integrated ourself in the global biotech industry and in order to generate 8-9 percent or higher growth, we have to generate our own intellectual property. We should have a capitalistic mindset which requires our scientists to think of profiting from IP.

How do you identify the technologies and what is your level of interaction with the labs and scientists?

At this point, we are putting in great efforts to convince scientists and labs to share their technology with us. However, things are not so easy. Some front office people are not aware of what is happening in their labs. Most research is not even databased—so it is difficult to know what is happening in Kolkata from Bangalore. I have spent the whole year and met several hundred scientists in about 20-30 institutes and understood what is happening at their research labs. Many a times, these government institutions do not share ideas because they are worried that a government funded technology might be stolen by a private agency and they get blamed for that. Our government is still taking risk-averse stance. Our scientists get penalized for making mistakes but not rewarded for taking risks. We promise scientists that we will not make any money unless you make money. Several leading scientists are part of our advisory board. We have good relationship with the Department of Biotechnology (DBT), Council for Scientific and Industrial Research (CSIR), and the Department of Science and Technology (DST); they help us to enhance our activities. Once we have access to the technologies, then the hard task is to identify the relevant technology. We have a very refined process which we have been doing in the UK for 10-15 years. We have a team of 45-50 people including experienced entrepreneurs, and patent and market research experts to guide our activities.

Are Indian scientists aware of IPR and do they worry about the government restrictions?

Indian scientists do worry about the government restrictions, however their awareness level is mixed. Good news is that everyone is aware about why they need to think about IPR. Scientists have realized the need of filing a patent as it has certain claims and they are given rights to those claims, which have value. Many scientists are not fully aware of the intricacies of what patent to file, when to file and what is the optimal way of filing. In many cases, without proper awareness scientists just publish the paper and the technology goes away. That is a big problem right now and the government recognizes that and the DBT is trying to plug the gap between awareness and understanding. It's not going to happen overnight but the good news is that scientists today care about commercializing their technologies.

How is the mindset of young scientists in India?

About 35-40 percent young scientists are aware of the process involved in getting IPR and ask us to conduct seminars so that they can learn more about IPR. They have a desire to see their technology being used by the industry. Other than publishing papers, the young scientists want to move on, they want to impact the world, gain recognition and look for higher financial returns.

What is the level of work happening in India in the last one year that you have been around?

The research works carried out in several institutions in India are better than any other country in the world. Scientists at the most institutions are doing world-class research. There are a few institutions in India that provide good work culture, and those institutes depend on the incentive system. Scientists are still rated on the number of papers published and not on the patents granted. They are also not rated on how their technology leads to downstream value in the industry. This is one area where the government needs to play a bigger role. Once we introduce performance-based incentive, we will start seeing the right kind of behavior. Most of our scientists are internally motivated rather than motivated by incentives, while most of the scientists are frustrated because they are under appreciated. Many Indian scientists are willing to return to India if they get the right kind of incentive.

Tell us about India's SWOT?

Strengths: We have few areas of science where India is the real leader— nanotechnology, micro-electro-mechanical systems (MEMS), enzyme technology, certain types of medical devices, biofuels and low-cost engineering.

Weaknesses: Much larger gap between industry and academic research, poor incentive structure for scientists, red-tapism and government bureaucracy.

Opportunities: We can create certain world-class IPR-driven product companies.

Threats: If these weaknesses are not addressed, we may become commoditized and be branded as low-cost providers. The service element may not sustain the industry alone. Unless we make ourself knowledge-based IPR-driven country, we may lose our competitive advantage in the biotech sector. Most of the hurdles are of self creation, there are no major structural issues that prevent us from doing what we want to do. We need to do away with internally imposed and culturally handed-down constraints, if India needs to become an IPR superpower.

What is the level of awareness about the venture capitalists (VCs) amongst the Indian scientists?

In India, VCs, with few exceptions, are not interacting with scientists, as very few scientists have industry experience. India is missing the ecosystem where entrepreneurs scout for ideas from research labs, hence the VCs are wary of talking to the scientists. The government has asked the DBT to explore a public-private model. The government is good in capacity building

and education but not in risk taking investments, which should be handled by the VCs.

How far is India lagging behind other Asian countries?

India is lagging behind Japan, South Korea and China in IPR. In China, the government has put unjustifiable amounts of money in creating and commercializing IPR. In India, there's a myth amongst scientists that they can't put science and commerce together. So often Indian scientists believe that they have to either publish or perish. However the current global economic conditions have shown that you can publish and prosper. There are examples to show that good science and good business can happen together without the scientists having to take time off from their job. You can do good business with partnership models. The government too has a huge role to play—in terms of incentive structure for the scientists. I'm sure things will change once we have a few success stories.

Sanjeev Jain