BioSpectrum the business of Bio & Health Sciences

adVenture of Strand Genomics

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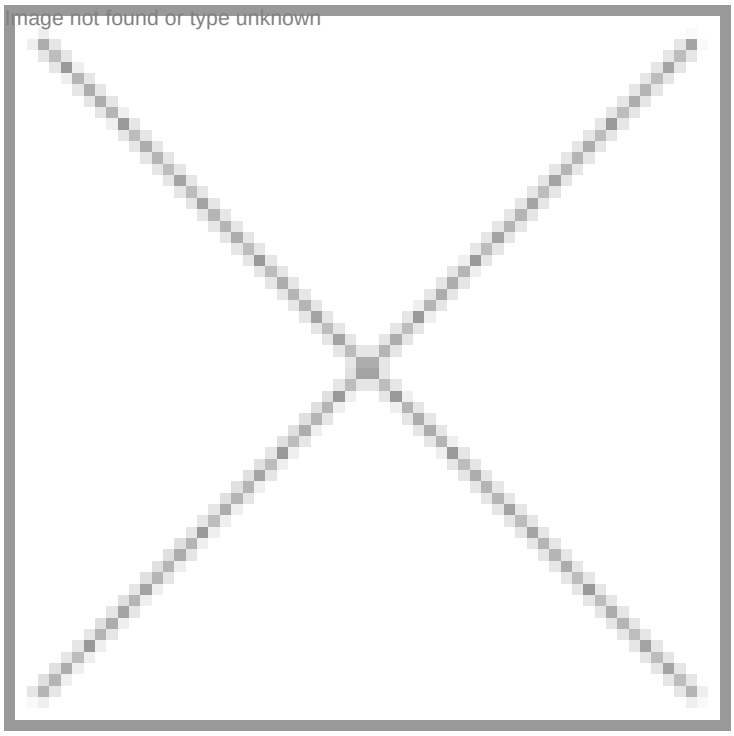


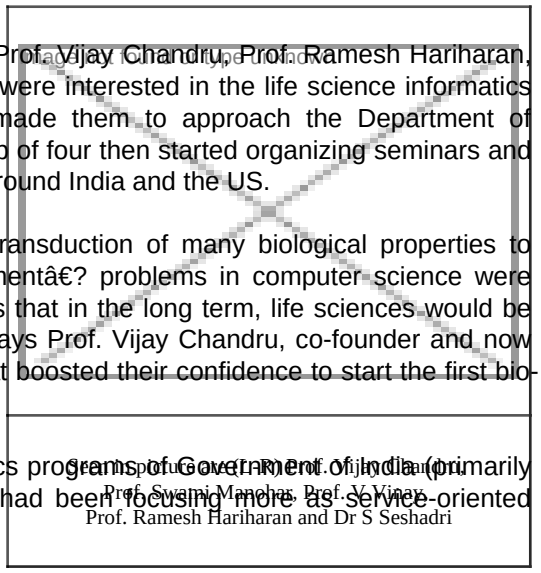
The 'four strands' of the prestigious Indian Institute of Science (IISc.), Bangalore, have varied interests in the fields like network protocols, combinatorial algorithms, computational biology, logic programming, sequence analysis, string algorithms, computational geometry, virtual reality and graphics. They joined hands for a project when the bio-informatics industry is taking negative path in USA and Europe. Even before the completion of the project the strands of IISc floated a new venture with Silicon Valley of India in the field of bio informatics.

Strand Genomics, the first bio-informatics company in India started in November 2000, is a biosciences knowledge management company. It was started with a serious commitment to develop innovative algorithms and solutions in the area of bio-informatics.

Strand's journey

As mainstream computer scientists, the founders of Strand Genomics namely Prof. Vijay Chandru, Prof. Ramesh Hariharan, Prof. Swami Manohar and Prof. V Vinay working on different projects at IISc., were interested in the life science informatics area during 1993-94. The zeal to learn and understand the subject has made them to approach the Department of Biotechnology(DBT), as an intellectual enterprise, in the mid Nineties. The group of four then started organizing seminars and workshops in computational biology where they interacted with biologists from around India and the US.

â€œIt is the excitement of the human genome project and in general the transduction of many biological properties to transform inferential thinking in the life sciences to â€œknowledge managementâ€? problems in computer science were perhaps motivated us to look keenly into this sector. And it became clear to us that in the long term, life sciences would be the driving application domain to push the frontiers of computer science,â€? says Prof. Vijay Chandru, co-founder and now the chairman of Strand Genomics, when asked about the motivation factors that boosted their confidence to start the first bio-informatics company in the country.



Seated (L to R) Prof. Vijay Chandru, Prof. Swami Manohar, Prof. V Vinay, Prof. Ramesh Hariharan and Dr S Seshadri

However this was really quite different from the motivation behind bio-informatics programs of Government of India (primarily DBT) that initiated the bio-informatics program way back in 1986. The DBT had been focusing more as service-oriented support for research biologists in the country.

The Strands' entrepreneurial interest in bio-informatics was sparked in 1999 when the group began working with Genomics Collaborative Inc.(GCI), a US based firm, on a funded project towards the perceptual computing laboratory(PCL)at IISc. It took another year for IISc to put together the framework for faculty entrepreneurship. Finally Strand Genomics started up in October 2000.

About the bonding among the four, Prof. Chandru, who is instrumental in Strand says, â€œI had collaborated with Vinay in the late 1980's (on problems in theoretical computer science) when I was working as a professor at Purdue University in the US and he was a PhD student at IISc. Manohar and I began collaboration (in geometric modeling and CAD/CAM) in 1992 when I returned from Purdue and took up a position at IISc. It was officially in 1994 that Vinay, Manohar and I started working together in the Virtual prototyping Lab at IISc. Hariharan joined us in late 1995 and the lab was reborn in 1996 at the PCL. In 1997-1998 we worked on a project with Satyam on natural language processing that gave the lab excellent initial momentum and from then on we haven't looked back.â€?

Dr S Seshadri, CEO , Strand Genomcis, too joined the founding team in March 2001 (five months after it was started). Buthe was in touch with Strand even before joining the team. Prof. Chandru says, â€œas a former professor of IIT-Powai, Dr Seshadri certainly shared our philosophy and vision. As an outstanding computer scientist, he added certain talents to the group that made us a more complete informatics company. As someone who had moved to industry and had served as chief technical officer of a large corporate like Lucent Network Management, he brought a certain professional management and corporate structuring into Strand at a very early stage.

With these things at the backdrop for all practical purposes he is also a founder of Strand. Even the share holders agreement officially lists him as a founder also.â€?

Hallucination of visionaries

The group had a clear focus when they became the part of Strand Genomics, as founder members. The vision was to design and construct the ultimate computing platform for life sciences. They all called this vision as Oyster. This vision fits well with in their business model of customized services and tools for global bio-pharma. The customized solutions helped the group to start putting together the tools that are the components of Oyster. As the toolkit expands, Strand is in a position to provide a variety of customized solutions.

The GCI funded project ended in December 2001. By then the group was already engaged in working with Syrrx, a San Diego based biotechnology company involved in shaping the drug discovery on image analysis. The work on data mining was also underway with a couple of customers. The micro-array suite was also being conceptualized and designed.

However the main challenges being faced during the initial stages were fund raising, learning the ropes as first time entrepreneurs, dealing with the challenge of addressing the domain of life sciences with a team that had unquestionable expertise in computing but unproven talent in the life sciences.

Strand's menology

1999	Strands' entrepreneurial interest in bio-informatics sparks off
November 2000	Strand Genomics became the first bio-informatics company in India
December 2001	The Strand team completes Genomics Collaborative Inc.(GCI), a US based company funded project Strand licenses Sphatika exclusively to Syrrx Inc.
April 2002	Strand launches Soochika, knowledge management tool
July 2002	Strand nominated as the technology pioneer of the World Economic Forum
September 2002	WestBridge capital partners completes first round of funding of $4.6 million

Realizing the dream

In a short span of just two years the Strand was able to stand on the top. Attracted by its activities, angel and venture capitalists like WestBridge Capital Partners, a US-India venture capital firm with $140 million under management, completed the first round of funding of $4.6 million. Without disappointing them, the Strand's team comprising of a blend of computer scientists and scientists with expertise in life sciences came out with three products. The products include Sphatika, Sarani and Soochika. Out of the three, Strand has already got the provisional patent for the first two products.

Sphatika is Strand's first product developed in three months. It is an image analysis software, which automates themonitoring of high throughput protein crystallization experiments. It will play a critical role in monitoring the industrial scale protein crystallization experiments without manual intervention. Strand licensed the Sphatika, software for image classification on an exclusive basis to San Diego based Syrrx Inc on 18 December 2001. In the last year Strand has launched two more products namely Sarani and Soochika.

Sarani is unique Oligo design software designed in collaboration with industry experts. The product allows for extensive modelling of cross hybridization and surface charge effects, thereby addressing some of the key issues facing the microarray industry. Besides, Strand has released 1.0 version of the Soochika. This knowledge management tool will allow researchers and scientists in the biotechnology and the pharmaceutical industry as well as university research labs to analyze complex microarray data and infer trends in gene expression. Soochika was short listed as a finalist for the industry's first life science technology 'Best of Show' awards in support application category announced by Bio-IT World magazine and international data group(IDG) World Expo in November 2002.

Besides these key products, the Strand has developed sequence analysis tools for mining deoxyribo nucleicacid (DNA) and protein sequences. Having the vision to accelerate the drug discovery and development cycle by developing Oyster, Prof. Vinay , lead the team that developed Manjara search engine, patented by Yale university.

Strand's business

Strand has established its brand in the market. This can be viewed from its clientele base, which include Syngene and Clinigene (both the subsidiaries of Biocon India Group), Syrrx Inc, Genomics USA, Abgenix and Sequenom. Prof. Chandru says, â€œDiscussions are under way for partnerships with global pharmaceutical and biotechnology companies. Besides, the company is also keen on working together on offshore services solutions from over 15 global pharmaceutical and biotechnology--product and tool--companies.â€?

On future of Strand

Speaking about the product market for the Strand, Prof. Chandru says, â€œThe markets for our solutions and products will be largely outside India in the next two to three years. Within India we will largely work on collaborations with companies, research labs and universities to validate hone our products and more importantly to collaboratively create intellectual property that realizes value in the global markets. â€?
Inspite of doing well in a brief stint of two years, Strand might struggle in near future as it has already completed the first round of funding of $4.6 million from West Bridge. Confidently Prof. Chandru says, â€œIn the next couple of years we have to generate revenue from our technology and skill base. Additional funding is not critical but opportunistic at this stage.â€?

This is mainly because 80 percent of the action in bio-pharma is in the US and its networks are primarily US centric as well. Prof. Chandru feels that Indian bio-pharma is still in an immature stage as far as data driven drug discovery and development

are concerned and the proposition that Strand has to offer to improve efficiencies of drug discovery and development are not valuable at this stage to Indian bio-pharma sector.
However, making use of the best talent, expertise and utilizing the opportunity at the right time, Strand has established itself in the new field of bio-informatics in India.

Narayan Kulkarni