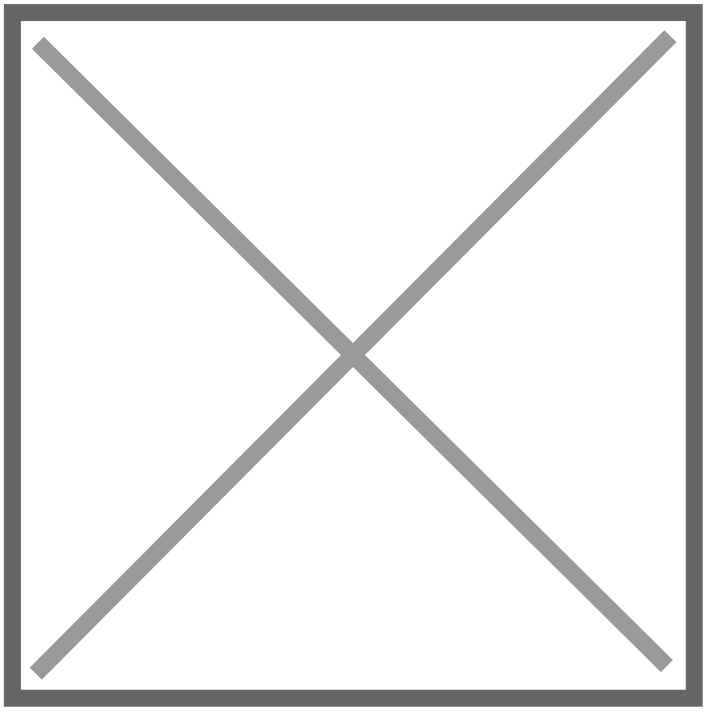
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An accidental entrepreneur

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Entrepreneuroftheyearadd

P1018394addition	**Mr Shrikumar Suryanarayan** chairman, Sea6 Energy

At 23, he joined Biocon and directed its R&D ethos and enzymes conquest spiritedly; At 52, with the same raft of energy and agility, he's etching a pioneering entrepreneurial story which has the potential to change the energy ecosystem. This craftsman, who permutes between the industry and academia with ease, is doing remarkable things in a remarkable way

Applied research was always his area of interest and he was fascinated by chemistry. In an era, when being a doctor or an engineer was the trend, he opted for chemical engineering at IIT Madras as the subject was close to his heart. He also did not flow with the tide of going and working abroad or pursing a career in established companies. He listened to his heart and chased his dreams-first with Biocon and now as chairman of Sea6 Energy.

Shrikumar Suryanarayan or Ã¢â?¬Å?ShriÃ¢â?¬?, as the world knows him, calls himself an accidental entrepreneur; but all his friends and colleagues say he is an entrepreneur at heart and his new venture, Sea6 Energy is pioneering and is potentially transformational in the alternate energy space. Ã¢â?¬Å?He has not lost his youthful exuberance and his zest for scientific innovation, both of which will steer him to success. I am sure he will not only make me proud but the country proud by realizing his dream of converting seaweed into bioenergy,Ã¢â?¬? stated Ms Kiran Mazumdar-Shaw, chairman and managing director, Biocon.

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His young colleagues at Sea6 Energy are moved by his exuberance and passion. Ã¢â?¬Å?A great quality about Shri which can never go unnoticed is his enthusiasm and passion for everything he does which makes interacting with him an amazing experience,Ã¢â?¬? says Ms Sowmya Balendiran, co-founder, manager, Operations, Sea6 Energy. His infectious energy inspires everyone around him to put in their best efforts. Ã¢â?¬Å?Coupled with this is his ability of getting together the right group of minds from diverse fields to solve any challenge, no matter how complex,Ã¢â?¬? tells Mr Nelson Vadassery, co-founder and manager, Technology and Engineering, Sea6 Energy.

Shri was always interested in the interface of biology and chemistry. He was drawn towards the plausible energy crisis as early as 1982 and explored projects in alternative energy. And it was during his undergraduate days at IIT Madras that Shri got introduced to Ms Shaw and Biocon in Bangalore, where his parents lived.

Shri has mastered the ability to understand people and their perspectives which makes him such a good leader.No matter how dreary the circumstances, Shri has always been able to focus on the brighter side of things and bounce back unfailingly. Knowing him has been one of the most enriching experiences of my life. He has been a great mentor, a good friend and a wonderful human being"

Ms Sowmya Balakrishnan,
co-founder, manager, Operations, Sea6 Energy

Ever since I've known Shri, I've seen him to be the very embodiment of enthusiasm. Working with him has been an enriching experience, both on a professional and personal level"

Mr Nelson Vadassery
co-founder and manager, Technology and Engineering, Sea6 Energy

Shrikumar embodies true spirit of an innovator and entrepreneur, and Sea6 Energy in pursuit of a bold, challenging idea describes him well"

Dr MK Bhan
secretary, Department of Biotechnology, Government of India

Sea6 Energy

Shri stepped down from his administrative role of president of R&D at Biocon in 2007 to pursue his personal interests in public health, bioenergy and education and taught at his alma matter, IIT Madras.

It is indeed remarkable that Shrikumar, after spending many years as the head of R&D in Biocon decided to enter the stormy world of a start-up venture. His idea of utilizing seaweeds as an energy crop is indeed a brilliant one as it does not place any demands on the ever diminishing arable land nor does it compete with food crops. However the technological challenges in developing the concept into a viable energy source for the world"

Dr RK Narayanan
managing director, Metahelix Life Sciences

The meeting was interesting relives Shri. Ã¢â?¬Å?The learning culture at IIT Madras was to observe and ask questions and be connected with the industry.Ã¢â?¬? He thoroughly cherished this process of knowledge acquisition. And during one of his visits to Bangalore, he saw enzymes on the shelves of Biocon. The company was operating out of Cunningham Road in Bangalore. He approached Ms Shaw to buy some enzymes for his project. Biocon was very small and Ms Shaw probably was hoping to bag a major order from IIT Madras where Shri was studying. On the contrary, he needed only a few grams of enzymes and told Ms Shaw that he would pay from his pocket. He thereafter left to IIT Madras and was surprised when he received a parcel at his hostel canteen. It was a parcel of enzymes sent by Ms Shaw and what struck him was a small, but magnanimous note from Ms Shaw stating that she was giving him the enzymes for his project and he needn't pay for the same. This action sowed the seed between Shri, Ms Shaw, and Biocon.

Soon after Shri completed his BTech, he went to do his masters in biochemical engineering at IIT Delhi. And he met Ms Shaw again during this period to seek her guidance and references for the next phase of his career. This was the time that Ms Shaw was planning to set up a R&D campus and she asked Shri to join Biocon. She took Shri to the new proposed site to acquaint him about the facility and convince him to join Biocon. What impressed Shri during the visit was Ms Shaw's impromptu instructions to the construction engineers at the site. He was attracted by her eye for detail and aesthetic approach to even minuscule things. Ã¢â?¬Å?I later joined Biocon because of the color of the tiles,Ã¢â?¬? recounts Shri on a lighter note.

Ã¢â?¬Å?R&D those days was for tax breaks. Yet it was fun. It was an era when microbiology wasn't fast and the computers were just coming in,Ã¢â?¬? says Shri. So he became an IT manager, built a payroll system, and did a lot of other things. Life was fun and exciting. He recollects how he borrowed money for buying a computer for Biocon on Ms Shaw's suggestion to raise loan from his grandfather to buy a computer. He was instrumental in developing several processes for production of industrial enzymes, invented novel bioreactor for Solid State Fermentation, alongst other things during his over two-decade association with Biocon. He was always the head of R&D. He says jokingly to Ms Shaw that he was never promoted.

Shri did his undergraduate in Chemical Engineering from IIT Madras and found that we shared a mutual passion to innovate in the realm of biotechnology. His highly creative bent of mind was most impressive and the moment he graduated from IIT, I persuaded him to lead our R&D efforts at Biocon in 1983. Shri played a strong leadership role in Biocon's innovation-led enzymes business evolution for over 25 years,Ã¢â?¬? says Ms Shaw.

Shri was intensely looking out for the next problem in the application of biotechnology to solve when some students at the institute reached out to him. They requested Shri to help them with their project on Ã¢â?¬Å?Stress KitÃ¢â?¬? to enter the the iGEM 2008 competition of the Massachusetts Institute of Technology (MIT) in the US. They were selected for the final round and had to go to MIT for making the presentation. But they couldn't go to the US as they were denied a visa. Yet they won a prize after making a video presentation from India. It was because of their passion, sheer persistence, enthusiasm, and dynamism that they won the iGEM 2008 competition. Ã¢â?¬Å?They were brilliant and passionate and I wanted to some how help them grow.Ã¢â?¬? Shri was working in the energy needs of,Ã¢â?¬? remarks Shri.

Shri strongly believes that we will always be short of land and we have to think for solutions that would not get caught on the food versus the fuel debate. Ã¢â?¬Å?We need to capture energy from the sea.Ã¢â?¬? Shrikumar got them interested in the area of algal biofuels. They attended several algal biofuel conferences and spent the last two years of their MTech investigating the potential of algae biofuel. Ã¢â?¬Å?The group spent more than 18 months working on the engineering framework of microalgae,Ã¢â?¬? explains Shri. They were almost about to abandon the project as they realized that they were going after an unmanageable idea. The challenge was that algae needs significant amounts of fresh water, large nutrient inputs and plenty of land and it would take several

years to crack the code to make it economically viable.

When they had finished their master's degree and were beginning to disperse, somebody from the group thought of seaweed (macroalgae) as an alternative. The seaweed, according to Shri, has inherent advantages and appears to be an attractive proposition as biofuel feedstock, as the seaweed grows in shallow ocean waters and doesn't need land, water or nutrients since the ocean itself provides them. There were about three labs working on macroalgal biofuel at that time-Bio Architecture Labs the Korean Institute of Industrial Technology and the Philippines government. Shri was able to convince several members of his prized iGEM 2008 team (Mr Nelson Vadassery, Mr Sayash Kumar, and Ms Sowmya Balendiran) to stay back to start Sea6 Energy and focus on macro algae and biofuels. Thus Sea6 Energy was incubated in July 2010 at IIT Madras campus. Shrikumar and the IIT Madras alumni contributed about ₹1 crore to get the company started.

Ever since the day Sea6 Energy was formed, the team has achieved several milestones. Starting with the scientific possibility of growing plants on sea and finding the right plants, the stage is now set for technical feasibility. It has also developed technology to allow farmers to grow seaweed in deep waters. They have built a 4,000 sqft farm to grow seaweed and convert seaweed to ethanol. The process for this has been identified. The company's next phase is to move from technical feasibility to commercial viability. It has identified the key enzymes. It plans to build 1sqkm of ocean farm and demonstrate that biofuel can be commercially produced. It plans to achieve this around 2015-2016. It has also entered into a tie up with Novozymes to explore enzymatic technology to produce fuel ethanol, fine chemicals, and protein from seaweed. Novozymes will research, develop and manufacture enzymes for the company process, while Sea6 Energy will contribute its offshore seaweed cultivation technology. It recently raised over ₹3 crore.

Shri is a passionate man and has a great support from his family. He has two daughters and both of them are pursuing their higher education abroad. His wife, a gynecologist, is today actively championing the cause of building value systems in children through Enfold Proactive Health Trust, an NGO. Ã¢â?¬Å?Team is the most important part of building a great organization,Ã¢â?¬? concludes Shrikumar.

Srinivas Rao Chandan and Nadaval Kulkarni

"Thanks to his infectious charm, we built a very creative team of scientists and engineers who helped Biocon build a strong global reputation in enzyme technology. Under his able stewardship, Biocon built an impressive patent portfolio which included a novel platform technology, the Pfactor, which received a worldwide patent for the production of both enzymes and pharmaceuticals. Shri also spearheaded a number of novel enzyme development programs, many of which were globally commercialized. The highly innovative and specialized enzyme portfolio and Shri and his R&D team developed translated into huge market value for Biocon which was realized when the enzymes business was divested to Novozymes, the Danish enzymes giant. Shri stepped down from his leadership role as the president and R&D from Biocon when the company decided to move its business orientation towards biopharmaceuticals.

Shri is an entrepreneur at heart and his new venture Sea6 Energy is pioneering and potentially transformational in the alternate energy space. I am very favorably inclined with Sea6 Energy's biofuels innovation model. I believe that this is very interesting renewable energy business model"

Ms Kiran Mazumdar-Shaw
chairman and managing director, Biocon