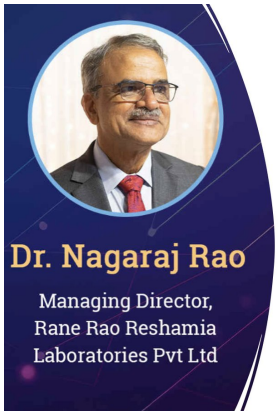
BioSpectrum the business of Bi
24 years of leveraging the business of Bio
www.biospectrumindia.co

Pioneering Sustainable Innovation: Dr. Nagaraj Rao on RRR Labs' Journey and Future Vision

05 February 2025 | Views | By Ankit Kankar | ankit.kankar@mmactiv.com

From pioneering circular economy solutions to fostering Indo-German collaborations, Dr. Nagaraj Rao shares how RRR Labs is driving niche innovations in biotech, life sciences, and surface coating technologies



BioSpectrum

"Focusing on niche innovations and global collaborations has been our key to sustainable growth." –
Dr. Nagaraj Rao

In an interview with **BioSpectrum India, Dr. rer. nat. Nagaraj Rao, Director of RANE RAO RESHAMIA LABORATORIES PVT LTD (RRR Labs),** delves into the company's inspiring journey—from its origins as a venture by three first-generation entrepreneurs to becoming a niche innovator in sustainability-driven biotech and industrial solutions. Dr. Rao discusses the company's groundbreaking work in platinum recovery, nanosilver applications, and industry collaborations, as well as the strategic vision for 2025, including the launch of a new facility in Navi Mumbai. He also reflects on the challenges of scaling a deep-tech enterprise and how Indo-German partnerships can bolster India's biotech ecosystem.

Can you share the story behind the founding of RRR Labs?

RRR Labs was founded by three first generation entrepreneurs, as our name suggests, who had studied together in Mumbai. Success in group activities such as inter-collegiate science exhibitions and rural camps inspired us to venture into industry.

What inspired you to venture into research and innovation?

I think there were several reasons. With backgrounds in chemistry and pharmaceutical and fine chemical technology, I got an opportunity to develop a stable, all-purpose skin cream in my very first job with a global FMCG company in Mumbai, which became a best-seller. During my years of study and research in Germany, I was keenly interested in various subjects including biochemical engineering and organic/medicinal chemistry. The large network of former students in the German University where I taught as well as friends and colleagues from my doctoral and post-doc Research Institute and in industry gave a sense of motivation assurance to venture into doing something different in India.

RRR Labs is known for its focus on sustainability and cutting-edge technologies. Could you elaborate on the unique solutions your company offers and how they stand out in the industry?

Circular economy is in fashion only now, although it is absolutely necessary in every industry. In the field of Surface Coating Technologies, we developed equipment and processes for recovering precious metals for reuse, with quick returns on investment. Platinum remains a critical raw material for certain anti-cancer drugs, apart from various other industrial applications. Our recently developed eco-friendly, non-hazardous process for onsite cleaning and recovery of platinum metals from caprolactam and nitric acid plants, which is awaiting patent approval, eliminates the use of mineral acids and is poised become a global game changer in the industry. In the field of Life Sciences, we have recently filed a patent application for medical use of nanosilver incorporated in natural textiles.

What challenges did you face in establishing and scaling RRR Labs?

The beginnings in the early 1990's after a long stay in Germany were quiet challenging, especially because while we had local experience in the service industry, we were new into the manufacturing business. Capital was scarce and we ploughed back all profits for the growth of business for several years. We used to manufacture a bulk drug for some years but had to give it up due to cheap imports from China. This made us realise that in certain fields of business, large capital investments and large-scale production are very critical. We had to choose between expanding our production capacities with large borrowings and remaining small and focussed. We consciously chose to focus on niche products and niche markets.

What helped you to overcome these challenges?

Doing business with customers in Europe in general was easier compared to doing business with local customers, though things have improved here since recent times. Since we are active in different areas of industry, ranging from Life Sciences to Defence Hardware and Surface Coating Technologies, technical employees have to be trained considerably and for a long time, before they can start thinking holistically. Consistent support and encouragement from the family helped in overcoming many of the challenges we faced over the years.

Collaboration is key in the biotech and healthcare industries. Can you discuss any notable partnerships or collaborations that have significantly impacted your company's growth?

Biotech and Healthcare being capital intensive industries and our focus being on niche products and niche markets, our collaborations are slightly different in nature. We have as yet not ventured into manufacturing. Working with small and mid-

size European biosciences companies and research institutes has been mutually beneficial. Personal contacts and long-standing relationships have helped us to forge partnership with reputed, innovative companies. I had the privilege of being a visiting faculty for bioprocess technology for the first Masters course, started in 1993 at the Institute of Chemical Technology, Mumbai (formerly UDCT), for fifteen years and many of those students occupy leading positions in industry today.

Although all fields of technology have always excited me, I have been focussing more on biotechnology since some years and the response of the Indian industry has been very positive, particularly from companies which manufacture Biosimilars and Vaccines in India. It is heartening to note here that we are getting encouraging signs from Indian research institutes and universities, at a time when the biotech industry's sentiments are a bit different than during the COVID-19 pandemic.

You seem to value your relationships in Germany a lot? How could it help the Indian biotech industry?

There are several innovative biotech companies and research institutes in Germany, whose offerings could be of great relevance to Indian companies. Although such companies meet potential partners from India, particularly at conferences and exhibitions, our field requires more than just sales and marketing inputs. Although English is becoming the language of communication, there are several cultural and communication gaps, which can lead to failures or delays, and which require to be addressed quickly and professionally.

As we look ahead to 2025, what are RRR Labs' strategic goals and priorities, and how do you plan to drive innovation and sustainability in the coming year?

We shall soon be inaugurating a 10,000 Sq ft facility in Navi Mumbai with continued emphasis on new product development. We shall also be strengthening our cold storage capacities to meet local requirements. Simultaneously, we are working on increasing our intellectual property bank with new patent applications.

(ankit.kankar@mmactiv.com)