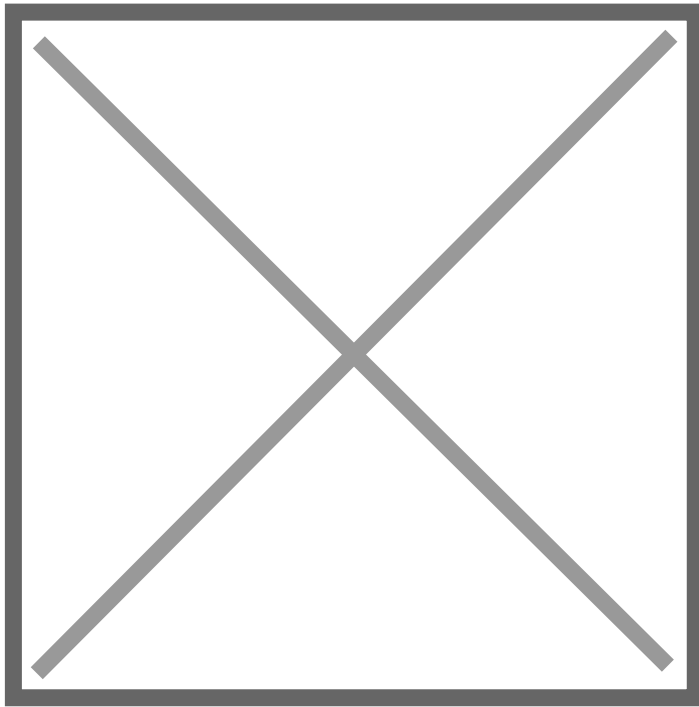


Driving Functional Food Innovation in India and Beyond

22 September 2025 | News

Dr Pavitra Kumar, Head of the Food Business Division at STEERLife



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India's functional food and nutraceutical sector is at a critical turning point. This is due to a rising consumer demand for healthier, cleaner, and more innovative products, while also facing challenges related to limited access to advanced ingredient technologies. STEERLife, the life sciences arm of STEER World, is addressing this gap by utilising proprietary platforms such as Hot Melt Extrusion and Continuous Granulation. These technologies allow for the creation of functionalized ingredients that are more bioavailable, stable, and ready for application.

In this interview with NUFFOODS Spectrum, Dr Pavitra Kumar, Head of the Food Business Division at STEERLife, shares insights on how the company is tackling key formulation challenges, innovating in taste masking and flavour stabilisation, incorporating sustainability into ingredient development, and shaping the future of functional food innovation in India and beyond.

What prompted the launch of this new platform for advanced ingredient solutions, and how does it align with the growing needs of the Indian functional food industry

The functional food industry in India is growing rapidly; however, it continues to face an unmet need: access to functionalized ingredients with enhanced performance. Today, technology is still underutilised in developing ingredients that are more

bioavailable, stable, and application-ready. At STEERLife, we saw this as both a challenge and an opportunity. Our platform is designed to unlock the full potential of ingredients by enhancing their functional properties, making them more suitable for diverse food and nutraceutical applications. In doing so, we are directly aligning with India's evolving consumer demand for cleaner, healthier, and more innovative food products.

Could you elaborate on how your proprietary technologies - like Hot Melt Extrusion and Continuous Granulation are helping overcome common formulation challenges in food and nutraceutical products?

Food and nutraceutical ingredients often suffer from issues such as poor solubility, weak dispersibility, low bulk density, bitter taste, etc. - factors that limit their application potential across product formats. Our proprietary technologies, like Hot Melt Extrusion and Continuous Granulation, address these challenges by enhancing the physical and functional properties of biomolecules. For example, improving solubility and dispersibility makes nutrients more bioavailable and easier to incorporate into foods, while densification and taste-masking improve stability and consumer acceptability. In short, these technologies expand the application potential of ingredients, enabling manufacturers to develop more effective, consumer-friendly products.

Taste masking and flavour stabilisation are major concerns for functional foods. How is STEERLife innovating in these areas, and what impact does this have on consumer experience?

Taste and flavour remain key barriers to consumer adoption of functional foods. Take the example of caffeine: its bitterness traditionally requires additives to mask the taste. Using our proprietary twin-screw granulation process, we developed a robust method that masks caffeine's bitterness through the process itself, without the need to add additives. This innovation allowed us to create both low-dose & high-dose taste-masked caffeine granules, enabling our customers to quickly launch new product applications for European markets and beyond. The result was two-fold: customers enjoyed a smoother experience without bitterness, and our customers gained the ability to scale rapidly and diversify product formats. This demonstrates how technology can enhance both consumer satisfaction and business value simultaneously.

With the Indian functional food market poised for rapid growth, what kinds of partnerships or collaborations is STEERLife currently exploring or engaging in?

We believe partnerships are critical to building a stronger innovation ecosystem for functional foods. At STEERLife, we are actively engaging with advisors, business representatives, technology consultants and distributors who can help us accelerate growth and market access. On the business side, we are already working through models such as contract research and development, co-development leading to contract manufacturing, and technology transfer. Each collaboration is designed not only to grow our presence but also to bring advanced, functionalized ingredients to a wider set of consumers in India and global markets.

How does STEERLife's solvent-free approach support sustainability goals while improving ingredient performance?

Sustainability is at the core of our innovation model, and our solvent-free processes exemplify this. By eliminating toxic solvents, we reduce emissions, energy use and EHS risks, resulting in cleaner and safer manufacturing plants. At the same time, this approach enhances ingredient performance: improved solubility and dispersibility, better densification, taste-masking, instantization and higher quality granules free from solvent residues. The business impact is equally strong: lower manufacturing costs due to fewer overheads, faster scale-up & tech transfer, a clean differentiator for brands seeking authentic clean label products. For our customers, it translates into sustainable, high-performing, and market-ready solutions.

Looking ahead, what role do you see STEERLife playing in shaping the future of functional food formulation and innovation in India and beyond?

We see STEERLife emerging as a next-generation, technology-driven partner for the global food and nutraceutical industry. Our role will be to enable novel ingredients with enhanced usability, expand product portfolio with unique applications and overcome physical limitations that restrict higher dosages or broader functionality today. By combining our proprietary technologies with a strong focus on sustainability and scalability, we aim to position India as a hub for functional food innovation while also serving global markets. In essence, we want to help shape a future where functional foods are not just effective, but also cleaner, more accessible, and more impactful for consumers everywhere.

Shraddha Warde

shraddha.warde@mmactiv.com