

Building India's Next-Generation Biologics Manufacturing Ecosystem

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CEO Sridevi Khambhampaty discusses building end-to-end ADC manufacturing, equity-linked partnerships and the talent, infrastructure and digital capabilities required to establish India as a preferred global hub for advanced biologics.



As antibody-drug conjugates (ADCs), bispecific antibodies and other advanced biologics redefine the global therapeutics landscape, contract development and manufacturing organisations (CDMOs) are under pressure to deliver integrated, high-containment and technically sophisticated manufacturing solutions. **Speaking with BioSpectrum Asia at the BIO International Convention 2026, Sridevi Khambhampaty explains how Shilpa Biologicals is expanding its end-to-end ADC capabilities**, leveraging equity-linked collaborations to support emerging biotechs, and positioning India as a trusted global manufacturing destination for next-generation biologics. She also highlights the critical role of specialised talent, digitalisation and policy support in strengthening India's competitive advantage.

ADCs and complex biologics are creating new expectations for manufacturing partners. What are the most significant technical and operational challenges CDMOs must overcome to remain competitive?

ADCs are complex because they bring together three very different areas: antibody development, high-potency payload chemistry and conjugation. Each has its own technical, analytical and containment requirements, so the real challenge is managing them as one connected programme.

The safe handling of highly potent payloads, consistent control of the drug-to-antibody ratio and reliable scale-up are all critical. Technology transfer can also become difficult when the antibody, payload and conjugation activities are handled by different partners, as every handover can introduce additional time and risk.

We bring more than 25 years of high-potency manufacturing experience to this area. At our Dharwad campus, we have antibody, payload, linker and bioconjugation capabilities, including a dedicated conjugation suite, which remains a

relatively rare capability in India. With our engineering batches now completed, we are ready to take on ADC projects from development through GMP manufacturing.

As emerging biotech companies seek capital-efficient pathways to development, what role can equity-linked and strategic collaborations play in accelerating innovation?

One of the biggest challenges for an early-stage biotech is funding the development and manufacturing work needed to reach the clinic. The science may be strong, but the company may not have enough capital to move the programme forward at the required pace.

For selected projects, equity-linked or co-development partnerships can offer an alternative route. In these cases, the CDMO shares some of the technical and development risk rather than working only on a fee-for-service basis.

Our family-owned structure is a quiet advantage here. It allows us to think beyond quarterly earnings cycles and act with conviction when we see the right opportunity, because it is our own capital and reputation on the line.

We use this approach selectively and have entered into such partnerships with companies including Gate2Brain, Alveolus Bio and Mabtree Biologics. Much like a biotech investor, we focus on programmes that are scientifically differentiated, address areas of significant unmet clinical need and align with our development and manufacturing capabilities.

This model is not suitable for every project, but for the right programme it offers more than immediate liquidity. The biotech gains a committed CDMO partner with a direct interest in its success, while a faster development pathway can help it stay ahead of competitors. Having a clearly mapped route from development to commercial manufacturing may also strengthen the company's position in future fundraising, licensing or acquisition discussions. We continue to use conventional fee-for-service models for many other programmes.

With growing global demand for biologics and ADC manufacturing capacity, where do you see the greatest opportunities for India to strengthen its position within the global supply chain?

India already has a strong foundation in chemistry, high-potency manufacturing and the commercial supply of mAbs and small molecules to regulated markets. The opportunity now is to build on that base and move further into complex biologics and newer modalities, including bispecific and trispecific antibodies, ADCs, peptides and peptide–drug conjugates.

More innovators are exploring these molecules, so demand for specialised development and manufacturing capabilities is growing. In ADCs particularly, qualified high-containment and conjugation capacity remains limited. India can play a larger role by investing in integrated facilities, specialised talent and quality systems that meet global regulatory expectations.

We believe India increasingly has both the scientific talent and the infrastructure to become a trusted partner in global ADC drug-substance manufacturing — not simply a low-cost alternative, but a first-choice destination.

Our licensing agreement with SteinCares in Latin America is one example of how Indian-developed and Indian-manufactured biologics can reach regulated markets on the strength of quality, not just price. We are also seeing more global companies diversify their supply chains beyond one or two traditional markets, and Indian CDMOs, including Shilpa, are beginning to benefit from that shift.

Government initiatives such as the Biopharma SHAKTI scheme and the BioE3 policy can further support this growth. The important next step is to translate those policy tailwinds into validated, globally aligned manufacturing capacity rather than capacity that exists only on paper.

What investments in talent, infrastructure and technology will be most critical for supporting the next generation of biologics and ADC programmes?

All three areas — talent, infrastructure and technology — need to develop together.

On talent, the industry needs people who understand protein development, conjugation chemistry, high-potency handling and regulatory requirements. These skills are specialised, so we are investing in building multidisciplinary teams rather than relying only on individual areas of expertise.

On infrastructure, ADC and complex biologics programmes require dedicated high-containment suites, conjugation capacity, cytotoxic fill-finish capabilities and flexible systems that can support both clinical and commercial production.

Digital systems are also becoming increasingly important. Clients want faster access to data and greater visibility into project progress. Our Partner Power™ platform is part of this effort and is intended to connect information across development and GMP manufacturing.