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• The N-FIS market is no longer emerging; it's aligning with where healthcare is headed •

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Once viewed as a niche innovation, Needle-Free Injection System (N-FIS) are now evolving into a multi-therapy drug delivery solution, with growing applications across paediatrics, vaccination, in vitro fertilisation (IVF), pain management, and the rapidly expanding GLP-1 therapy segment. This points to a larger healthcare focus on how a single patient-first drug delivery innovation is increasingly being adopted across treatment categories. During an exclusive interaction with BioSpectrum India, Sarvesh Mutha, Managing Director, IntegriMedical, a Pune-based healthcare startup behind India's first N-FIS, discusses the company's growth plans, and an industry perspective on the growing adoption of needle-free injections in India.



As N-FIS adoption grows across clinical practice, how do you see the company's growth trajectory evolving through March 2027?

We are in a strong growth phase right now, with revenues increasing as more doctors start using N-FIS in their everyday practice. A big part of this is our doctor-led model and growing on-ground presence; we have already administered N-FIS to over 1 lakh patients across 25 states and 200+ cities in India. As adoption builds, especially in areas like paediatric vaccination, we're also expanding into IVF, growth hormones, GLP-1, pulmonology, and general practice.

Our collaboration with Intas Pharmaceuticals in the IVF segment is another important step, helping us reach more clinics and scale usage in therapies that require frequent injections.

All of this gives us confidence that we'll continue to see strong year-on-year growth through March 2027. As more doctors integrate needle-free delivery into their treatment protocols, we expect revenues to grow meaningfully alongside that shift.

At a broader level, this isn't just about growth, it reflects a larger change in healthcare, where how a treatment is delivered is becoming just as important as the treatment itself. As a healthcare startup, N-FIS is witnessing exponential traction, with revenue projected to grow more than 6x in its second year and a further 4x in the following year, reflecting an exceptionally strong multi-year growth trajectory that remains rare even among high-growth startups.

What is your current production capacity, and how do you plan to scale manufacturing to meet future demand?

Our current production capacity stands at approximately three million cartridges annually. The N-FIS system has been built to support this scale efficiently, enabling us to meet growing market demand with consistency and reliability. As adoption continues to increase, our manufacturing infrastructure is also designed to scale further, ensuring uninterrupted supply and operational readiness for future expansion.

Our manufacturing strategy is designed to scale efficiently without compromising reliability or quality. We are building a modular, partnership-driven manufacturing ecosystem, where growth is supported not only through expanded production capacity, but also by strengthening supplier networks and aligning closely with pharmaceutical partners.

We are already witnessing early validation of this approach. Since the introduction of N-FIS, adoption has grown steadily, with close to 1,500 doctors using the system and over 100,000 administrations completed across India. The recent exclusive partnership with Intas Pharmaceuticals to introduce India's first needle-free IVF treatment further strengthens this momentum, while also opening a significant new avenue for adoption in fertility care. In parallel, we have initiated sales activities in Europe, extending demand beyond the Indian market.

A key advantage of N-FIS is that it integrates without requiring changes to existing drug formulations or pharmaceutical manufacturing processes. This significantly lowers adoption barriers for pharma companies and enables faster scale-up across therapeutic areas.

What are your strategic priorities and expansion plans over the next five years?

Over the next five years, our focus is on accelerating the transition of needle-free delivery from a promising innovation to a widely accepted standard of care, with N-FIS at the centre of this evolution. A key strategic priority is expanding into high-growth therapy areas such as paediatrics, IVF, growth hormones, GLP-1 therapies, and other chronic treatments where patients require frequent injections and where improving the delivery experience can meaningfully enhance adherence and treatment outcomes.

Paediatrics and IVF are already seeing strong adoption in India, with IVF in particular also gaining momentum across international markets, presenting significant opportunities for global expansion.

Equally important is our continued collaboration with pharmaceutical companies. By working closely with pharma partners, we aim to enable co-packaged solutions and large-scale deployment of N-FIS, ensuring that needle-free delivery integrates into existing drug ecosystems without requiring changes to formulations or manufacturing processes.

In parallel, we are focused on expanding into global markets where regulatory pathways are well-defined and demand for patient-centric drug delivery is accelerating.

What regulatory approvals have you secured so far? Which additional approvals are currently in progress or planned?

Our approach has always been to build a globally compliant and clinically robust platform. N-FIS, our Needle-free injection device, is backed by key certifications and approvals including the Central Drugs Standard Control Organisation (CDSCO) (India), CE (Conformité Européenne) (Europe), Medical Device Single Audit Program (MDSAP) and ISO 13485, along with granted patents in the US and EU.

These validations reflect adherence to stringent global safety and quality standards. Looking ahead, we are actively working to expand our regulatory footprint into additional international markets, particularly those where demand for patient-friendly and scalable drug delivery systems is accelerating.

What is the current global market size for N-FIS, and how is it expected to grow? Where does the Indian market fit here?

The N-FIS market is no longer emerging; it's aligning with where healthcare is headed. Valued at approximately \$1.3 billion in 2022, and projected to grow at a CAGR of 7.8 per cent through 2030, the trajectory reflects more than incremental adoption. It signals a shift in priorities.

Pain, needle anxiety, sharps-related risks, and disposal constraints, these aren't minor inconveniences; they influence whether treatment is followed through or abandoned. N-FIS addresses these gaps in a manner that is both practical and scalable.

India is not just a high-growth market for N-FIS, it's a market where the need is structurally different. Estimates place the market at around \$1.15 billion in 2024, with projections reaching \$4.34 billion by 2033. A CAGR of nearly 15.8 per cent tells one part of the story. The more important part is why that growth is happening.

India is seeing a sharp rise in therapies that are not occasional, but continuous, fertility treatments, hormonal therapies, and now newer segments like GLP-1-based interventions.

At the same time, healthcare delivery itself is decentralising. Growth is no longer confined to large urban centres. Tier II and Tier III markets are becoming active participants, and with that comes a different set of expectations, speed, consistency, ease of use. Not every setting has the bandwidth for complex handling or specialised training.

What are the key barriers to the adoption of N-FIS in India?

The barriers to adoption are primarily behavioural and systemic, rather than technological and they are steadily shifting in the right direction. While traditional needle-based delivery has been entrenched for decades, we're now seeing that clinical familiarity can evolve quickly once clinicians experience the advantages of N-FIS.

Perceptions around cost are also improving, especially as clinicians and healthcare systems realise that the cost of these systems is nominal compared to the long-term value it delivers through better adherence, fewer complications, and an enhanced patient experience.

Patient awareness is growing as well. Many patients are discovering needle-free options for the first time, and their positive experiences often drive wider interest and acceptance. In our experience, once the technology is introduced in a clinical setting, adoption accelerates naturally, creating a strong, self-reinforcing shift toward needle-free delivery.

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