



Optimizing Healthcare Value Chains

Streamlining Supply Chains for Better Patient Care

Presented by:

Team - **StarBytes**





Team Composition

Shivam Pratapwar – Team Lead (AI & Business Strategy)

- Experienced in AI/ML, backend development, and enterprise-grade applications.
- Led research on Explainable AI at NIT and built AI-driven assessment systems.
- Best suited to drive AI innovation and business strategy for scaling the solution.

Keshav Kumar – MedTech & Product Strategy

- 7+ years in MedTech, specializing in product R&D and marketing.
- Expertise in laparoscopic surgical instruments and healthcare market growth.
- Ensures product-market fit and strategic adoption in hospitals.

Srihari Srinivas – ML & Frontend Developer

- Strong background in ML model development and real-world applications.
- Built recommendation systems and contributed to a PhD thesis in AI.
- Brings deep expertise in predictive analytics for optimizing hospital operations.

Yash Pathak – Software Developer (Backend & NLP)

- 5.5 years of experience in Java, Spring Boot, and event-driven systems.
- Built scalable microservices and developed chatbots using Rasa.
- Ensures a robust, scalable backend to integrate AI-driven insights into hospital workflows.

Deepika Ambade – AI/ML Engineer

- Blends technical expertise in AI/ML with strong team and product management skills
- Experienced in managing product life cycles—from ideation to deployment—ensuring alignment between AI capabilities and healthcare needs.
- Drives collaboration between data scientists, developers, and medical experts to translate research into impactful, real-world applications..



Problem Statement

Critical Supply Chain
Inefficiencies in Mid-Sized
Hospitals

Inefficient Procurement:

- Manual processes cause up to 20% extra operational costs.

Inaccurate Demand Forecasting:

- Fragmented systems result in error rates exceeding 30%.

Poor Supplier Management:

- Disconnected digital tools lead to extended supplier wait times and suboptimal pricing.

Delayed Maintenance & Expiry Tracking:

- Ineffective scheduling causes increased downtime and high waste from expired inventory.

Case Study - A Tier 2 hospital in Karjat, Greater Mumbai and Shivalik hospital, Faridabad faced equipment shortages due to inaccurate forecasting, leading to delayed surgeries and increased patient dissatisfaction.

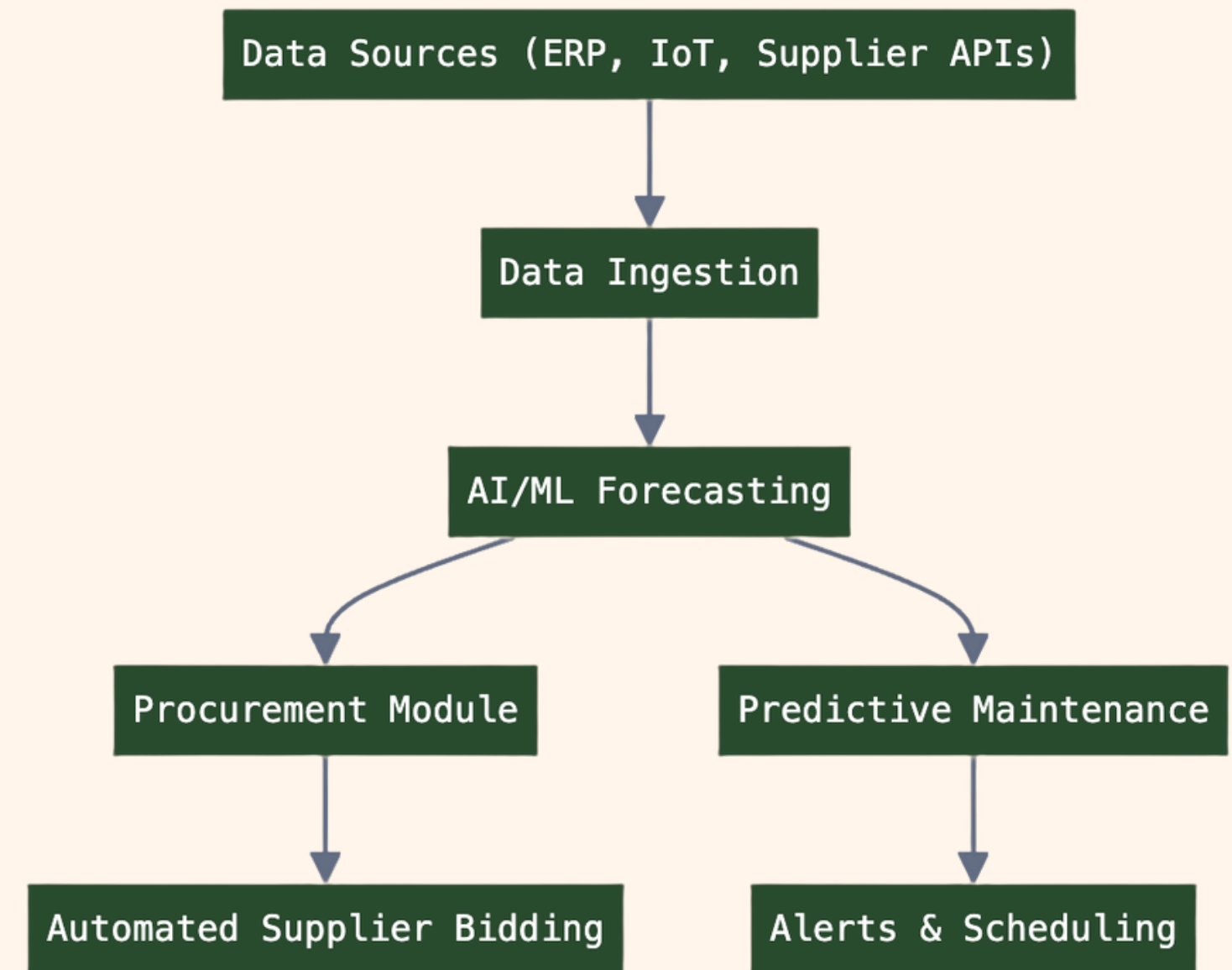


Innovation & Solution

AI-Powered Supply Chain Optimization

Key Features:

- **AI-Driven Demand Forecasting:** Utilizes predictive analytics to accurately anticipate inventory needs, reducing wastage and ensuring essential supplies are always available.
- **Automated Supplier Bidding:** Streamlines procurement by automating the supplier selection process, leading to cost reductions and improved supplier relationships.
- **Predictive Maintenance:** Employs AI to monitor equipment health and predict maintenance needs, preventing unexpected failures and extending equipment lifespan.
- **Real-Time Data Integration:** Seamlessly connects with existing ERP systems, IoT devices, and supplier networks to provide a unified, real-time view of the supply chain, enhancing decision-making and operational efficiency.



Robust Tech Infrastructure:

- **Built on AWS (cloud scalability), Java (backend APIs), React (intuitive frontend), and Python (AI/ML modules) with PostgreSQL and Kafka for reliable, real-time data processing.**



Market Assessment (Market Size/Potential)

Market Size:

- Global Healthcare ERP market: **USD 6.9B (2022) → USD 12.0B (2030), 6.2% CAGR**
- Indian market: Projected to reach **USD 815.62M by 2025, 9.14% CAGR (2025-2029)**
- TAM: **USD 815.62M** (Indian healthcare ERP market)
- SAM: **USD 326.25M** (40% – hospitals open to AI solutions)
- SOM: **USD 81.56M** (10% – achievable within 3 years)

Revenue Model:

- Setup Cost: One-time implementation fee
- Annual Licensing Fee: Core platform access
- Add-on Features: Additional charges for specific extra functionalities



Competitive Landscape

Feature	Manual Processes	Tally	Marq	Traditional ERPs
Real-Time Data Integration	✗	⚠	⚠	✅
AI-Driven Forecasting	✗	✗	✗	⚠
Automated Supplier Management	✗	✗	✗	⚠
Predictive Maintenance	✗	✗	✗	⚠

Legend:

- ✅ : Feature is fully available and optimized.
- ⚠ : Feature is partially available but may have limitations.
- ✗ : Feature is not available.

& Why Now?

Why Now?

- Post-COVID Digitization Push: Government incentives like Ayushman Bharat Digital Mission (ABDM) aim to modernize hospital infrastructure.
- AI Adoption in Cost Efficiency: AI-driven automation is projected to save hospitals \$100B annually globally (McKinsey).
- Regulatory Compliance & Supply Chain Transparency: The National Digital Health Blueprint (NDHB) encourages tech adoption in healthcare logistics.
- Hospitals Under Pressure: Rising costs and fragmented systems make AI-based efficiency solutions a necessity.

Why Us?

- Deep AI/ML, Cloud, and Healthcare Expertise: Our team has domain-specific expertise in hospital supply chain optimization.
- Early Traction & Industry Backing: Initial pilot discussions with mid-sized hospitals.
- Cost-Effective & Tailored for Mid-Sized Hospitals: Unlike expensive enterprise ERPs, we provide a plug-and-play, AI-powered solution.



Business Model

GTM & Revenue Model

Go-To-Market Strategy

Path 1: Integration Model (For Existing ERP Users)

- **Target:** Hospitals already using basic ERP systems
- **Offering:** AI-powered extensions and integrations for existing platforms
- **Value Proposition:** Enhance current systems with advanced capabilities without complete replacement
- **Approach:** Technical partnerships with established ERP vendors

Path 2: Full-Solution Model (For New Adopters)

- **Target:** Hospitals without existing ERP solutions
- **Offering:** Complete healthcare ERP platform with built-in AI capabilities
- **Value Proposition:** All-in-one solution with essential ERP features plus advanced AI functionalities
- **Approach:** Direct sales to healthcare facilities seeking first-time implementation



Financials

Measurable Benefits for All Stakeholders



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Year-wise Projections

- Year 2: 200 hospitals \times ₹20K = ₹4 Cr
- Year 5: 1,000 hospitals \times ₹30K = ₹30 Cr; with commissions, around ₹20 Cr/yr

Break-even & Funding Ask

- Not finely detailed, but outlines revenue milestones and minimum viable economics



Current Start-up Status

- **Product** MVP ready, looking for pilot testing
- **Traction:** Deployed in hospitals for test pilots; live feedback gathering
- **Recognition:** Presented at health-tech events; mentor/advisor engagement



Execution Go-forward Plan/ Strategy



Short-term

- Complete pilots, enhance features, expand hospital partnerships and advisor backing.



Mid-term

- Onboard 200+ hospitals; early revenue



Long-term

- Scale to 1,000+ hospitals, expand across India, begin Southeast Asia entry (by Y12)



Metrics

- Monthly dashboards, biannual reviews (onboarding, cost savings, uptime, user experience, policy review)



Social Impact Assessment & Measurement

Key Impact Metrics

- 20% reduction in hospital procurement costs
- 15% reduction in inventory wastage
- Reduced equipment downtime, increased transparency
- Improved patient care reliability and staff efficiency

Measurement

Impact tracked via regular dashboards, reviews, and stakeholder-specific benefits



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