



NAB-CCM

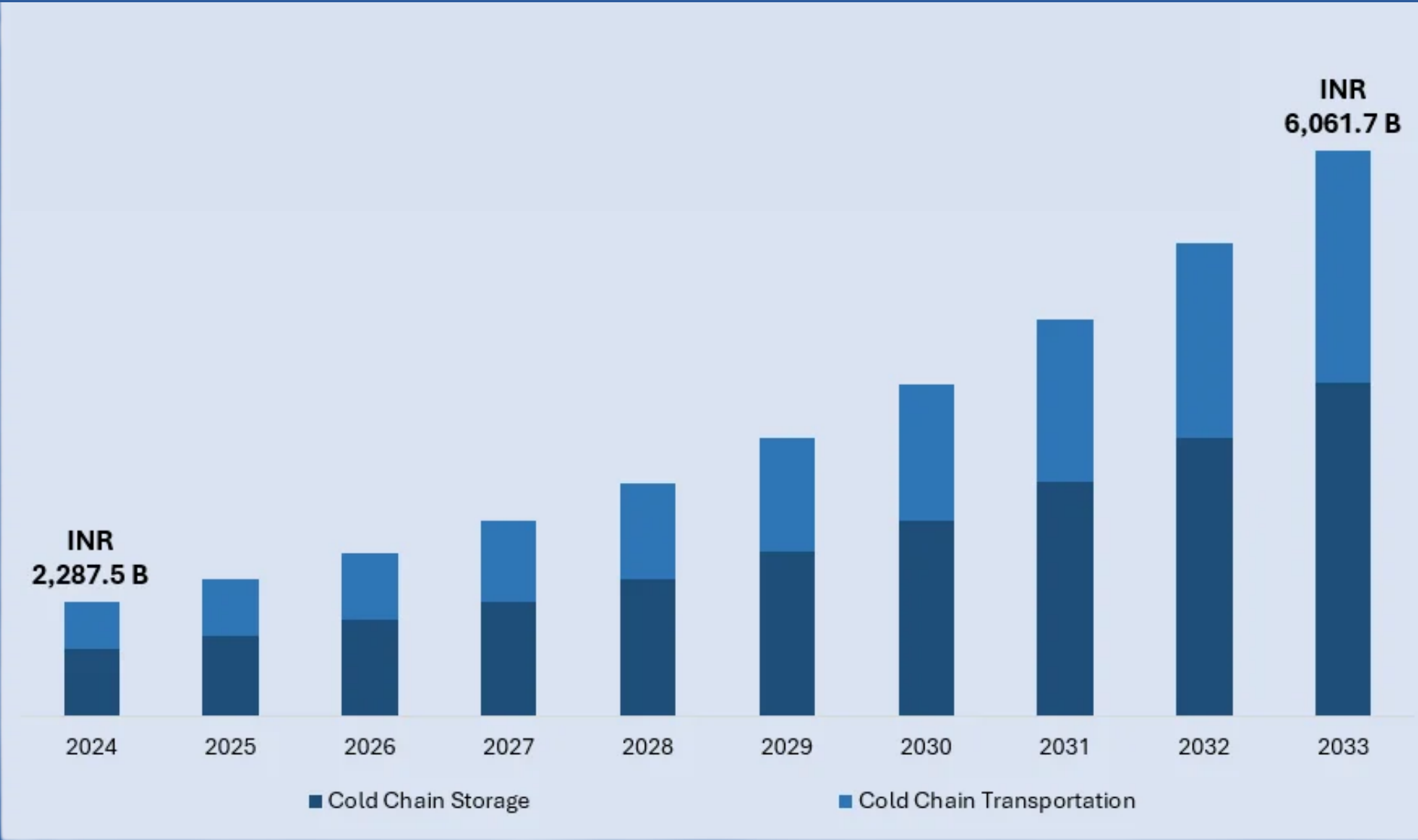
**COLD
CHAIN
COMMUNITY**



India's Cold Chain: A ₹6 Trillion Growth Engine (2024–2033) Backbone of Pharma & Food Logistics

**2024–2033 | POWERED BY DEMAND | BACKED BY
TECHNOLOGY | POISED FOR GROWTH**

India's cold chain sector has witnessed significant growth, reaching ₹2,287.5 billion (≈ USD 27 billion) in 2024, with forecasts projecting a rise to ₹6,061.7 billion by 2033 –implying a compound annual growth rate (CAGR) of about 10.9 % between 2025 and 2033.

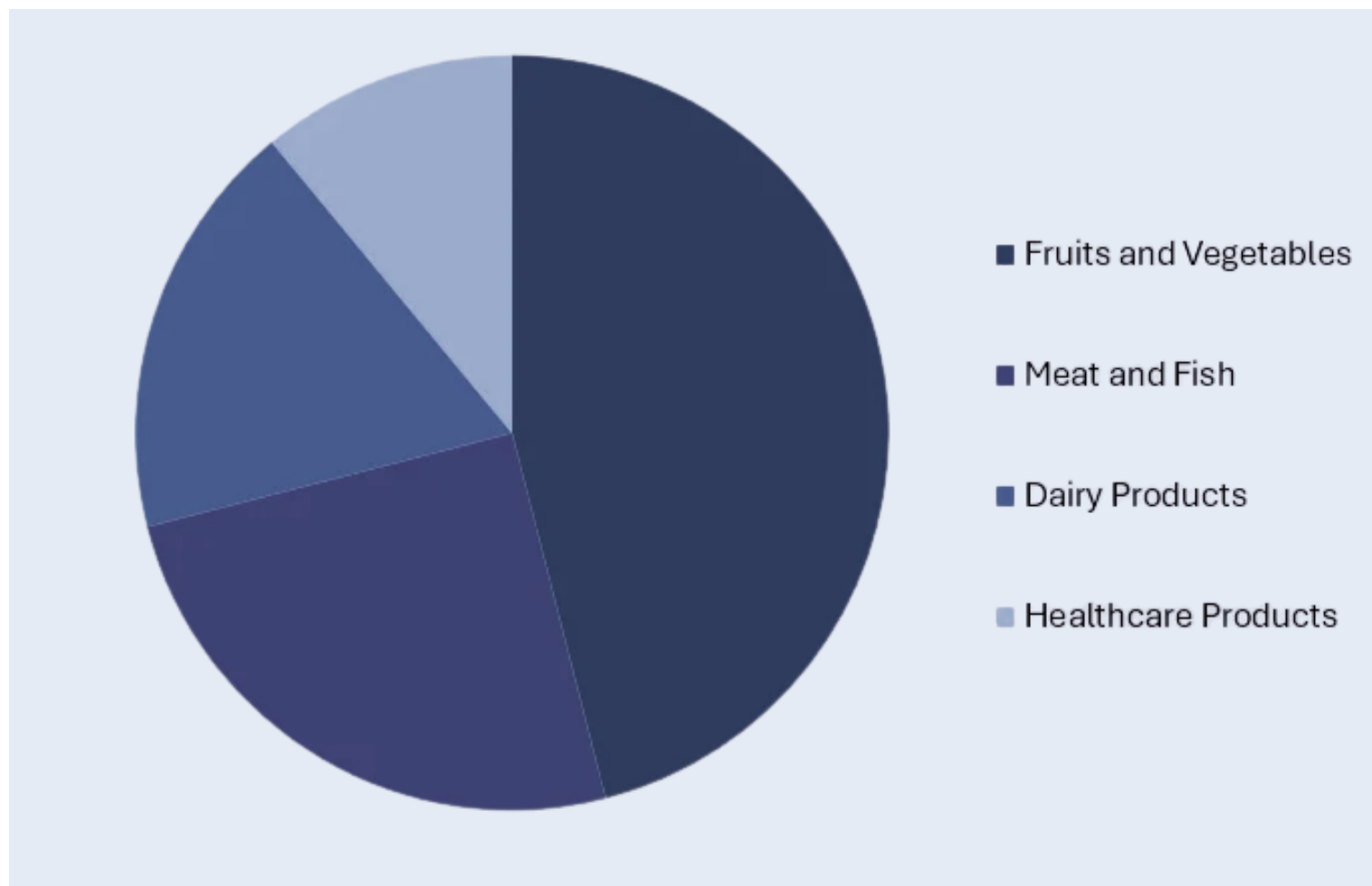


MARKET SIZE & GROWTH

India is one of the fastest-growing cold chain markets globally.

By Product:

- Fruits & Vegetables (largest)
- Dairy
- Meat & Fish
- Pharmaceuticals & Healthcare Products



COLD CHAIN IS NOW INDIA'S MULTI-SECTOR EDGE!

By Ownership & Structure:

- Private sector dominates, followed by cooperative and public entities.
- The unorganized segment still accounts for over 90% of the cold storage market, while organized players hold just 8–10 %.

Need for quality compliance & national accreditation is rising!!

1. Pharma & Vaccines Storage and Distribution

Temperature-sensitive drugs and vaccines need reliable cold supply chains (11% pharma growth).

2. Agriculture & Loss Reduction

India loses ~30% of its perishables yearly – driving demand for better cold infra.

3. E-Commerce & Last-Mile Push

Online grocery and medicine delivery need fast, reliable cold transport.

4. Rise in Frozen & Processed Food

Urbanization and changing diets are pushing frozen food growth (5% CAGR till 2030).

5. Ecosystem Backing & Policy Push

Supportive policies, funding incentives and technical frameworks are enabling faster adoption of cold chain solutions.

- **IoT & Real-Time Tracking:**
24×7 temperature, humidity, door, GPS logs
- **AI & Predictive Analytics:**
Route optimization & spoilage reduction
- **Automation in Warehousing:**
AGVs, robotic picking, ASRS systems
- **Multi-Temp & Modular Storage:**
One site, many product zones
- **Blockchain for Traceability:**
Tamper-proof supply logs (esp. pharma)
- **Energy Efficiency with PCMs:**
Cooling with less electricity
- **Green Tech & Solar Cooling:**
Solar chillers, clean refrigerants
- **Cold Chain as a Service (CCaaS):**
Infra + storage + delivery on-demand
- **Last-Mile Innovations:**
EV reefers, mobile cold boxes, drones
- **Skill Development :**
Trained talent for modern infra

- **Lack of Standard, Regulatory and Policy framework**

Inadequate regulatory and policy guidance for effective cold chain management

- **Shortage of Skilled manpower**

Limited expertise in managing cold chain operations

- **Absence of Standardized Education**

Lack of a defined curriculum for life sciences and healthcare graduates to prepare them for cold chain roles

- **Lack of Certification Body**

Absence of an authoritative organization for certification and accreditation in cold chain management

- **Lack of Monitoring Systems**

Ineffective tracking and training mechanisms lead to broken cold chains

- **Low Awareness**

Limited understanding within the community about the critical role of the cold chain in safety and efficacy

- **Unsustainable Infrastructure**

Insufficient emphasis on creating sustainable and efficient cold chain solutions

Indicator	Forecast by 2033
Total Market Value (INR)	₹6,061.7 billion (~USD 75 bn)
Cold Chain Logistics (USD)	USD 27 billion
Equipment Market (USD)	USD 10.9 billion (CAGR ~19.8 %)

Cold chain logistics to grow at ~8.9 % annually (2025–2033).
Equipment segment (refrigeration technology) poised for explosive expansion, driven by pharma and frozen food demand.

India's Cold Chain: Ready for Transformation

India's cold chain sector is entering a powerful growth phase — driven by better farming practices, rising demand in healthcare, booming e-commerce and strong policy support.

While gaps still exist in storage and logistics, the path ahead is clear.

With the right focus on technology, collaboration and sustainability.

India is building a cold chain that's smarter, stronger and future-ready.

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