

# Key Challenges in Cold Chain Logistics

## Regulatory Compliance & Traceability

Strict food, pharma, and cross-border regulations require digital traceability; paper-based systems fall short.



## Temperature Control & Monitoring Gaps

Even minor temperature fluctuations at handoff points can cause spoilage without visible signs.



## High Operational Costs & Infrastructure

Specialized facilities, labor, and energy drive costs; aging equipment and fuel worsen margins.

## Supply Chain Visibility & Data Silos

Fragmented data leads to delayed issue detection—often only after spoilage.



## Demand Volatility & Capacity Planning

Demand swings from seasonality, weather, or disruption make capacity planning complex.

## Environmental & Sustainability Pressures

Regulations and customer demand push for greener refrigerants, reduced emissions, and energy efficiency.

