Cold Chain and Batch Traceability in ERP Training Course

Professional Development Training Course Outline

Category	Enterprise Resource Planning (ERP)	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's globalized economy, the cold chain logistics sector is a critical pillar for industries dealing with temperature-sensitive products, most notably pharmaceuticals and perishable food. Maintaining product integrity and public safety hinges on unbroken temperature control from farm-to-fork or manufacturer-to-patient. Failures in the cold chain known as temperature excursions can lead to massive financial losses, product spoilage, and severe regulatory compliance penalties, especially concerning stringent global standards like Good Distribution Practice (GDP). Cold Chain and Batch Traceability in ERP Training Course addresses the imperative for a resilient supply chain through the strategic integration of technology, providing the end-to-end visibility necessary for proactive risk mitigation and ensuring quality assurance.

Effective cold chain management is inextricably linked with robust batch traceability and lot tracking, a mandatory requirement for regulated industries. An Enterprise Resource Planning (ERP) system serves as the central digital backbone for achieving this full product provenance. By integrating real-time monitoring data from IoT sensors and data loggers with core inventory and quality management functions, the ERP ensures that every single batch or lot number is tracked from raw materials through manufacturing, storage, and final distribution. Mastering the ERP's capabilities for compliance reporting and recall management is no longer optional; it is essential for operational efficiency, protecting brand reputation, and adhering to the principle of 'one-up, one-down' traceability. This training provides the practical skills to configure and utilize the ERP for maximum supply chain transparency.

Programme Curriculum

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Course Duration

5 days

Course Objectives

Upon completion of this course, participants will be able to:

1. Implement and audit cold chain processes according to Good Distribution Practice (GDP) and other global regulatory standards.
2. Define, monitor, and manage product-specific temperature ranges ($+2^{\circ}\text{C}$ to $+8^{\circ}\text{C}$, Ambient, Frozen) using advanced technology.
3. Architect the ERP system for granular batch/lot management and serial number tracking across all modules.
4. Integrate IoT sensors, RFID, and GPS tracking with the ERP for real-time cold chain monitoring and alerts.
5. Design and execute swift, targeted product recall and withdrawal procedures using ERP lot tracing functionality.
6. Configure the ERP's inventory module to enforce FEFO and FIFO inventory strategies for perishable goods.
7. Identify critical control points and develop a robust temperature excursion risk and contingency plan.
8. Manage the secure collection, storage, and reporting of immutable cold chain data and audit trails.
9. Understand the process of system validation and qualification for ERP cold chain features
10. Utilize ERP analytics to measure Cold Chain Key Performance Indicators (KPIs) and optimize logistics performance.
11. Select appropriate thermal packaging and refrigerated container technologies for various transport modes.
12. Assess the future role of Blockchain technology in enhancing cold chain transparency and trust.
13. Apply ERP functionality to reduce product spoilage and minimize waste, improving overall supply chain resilience.

Target Audience

1. Supply Chain Managers and Logistics Directors
2. Quality Assurance (QA) and Quality Control (QC) Officers
3. IT/ERP System Analysts and Consultants
4. Warehouse and Distribution Managers
5. Regulatory Affairs and Compliance Specialists
6. Manufacturing and Production Planners
7. Professionals in Pharmaceutical, Biotech, and Food/Beverage industries
8. Auditors and Validation Engineers

Course Modules

Module 1: Cold Chain Fundamentals and Regulatory Compliance

- Introduction to Temperature-Sensitive Goods.
- Defining Ambient, Chilled, Frozen, and Ultra-Low Temperature requirements.
- Key Global Standards.
- The concept of temperature excursion and its impact on product stability.
- Case Study: Analyzing the impact of a cold storage power outage on a vaccine batch, focusing on the resulting GDP non-compliance.

Module 2: Core Batch & Lot Traceability in ERP

- Batch Number and Serial Number assignment strategies and best practices.
- Configuring the ERP's Inventory Management and Warehouse Management System (WMS) for batch control.
- Backward and Forward Traceability Reports
- Managing Expiration Dates and configuring Shelf-Life Tracking in the ERP.
- Case Study: Tracing a contaminated food ingredient batch back to the original supplier and forward to affected retail customers using ERP lot queries.

Module 3: ERP Integration with Monitoring Technology

- Overview of IoT Sensors, Data Loggers, and RFID for cold chain data capture.
- Setting up real-time temperature monitoring alerts within the ERP system.
- Automating data flow from tracking devices into the ERP's quality and inventory records.
- Implementing geofencing and GPS tracking for in-transit visibility.
- Case Study: Configuring the ERP to trigger an immediate SMS alert and quarantine status for a shipment that breaches its maximum temperature threshold.

Module 4: ERP for Cold Storage and Warehouse Operations

- Designing Cold Storage Facilities and mapping temperature-controlled zones.
- ERP-driven inventory sequencing.
- Optimizing put-away and picking processes using mobile/handheld devices integrated with the ERP.
- Managing Cold Chain Packaging inventory.
- Case Study: Simulating a FEFO-optimized outbound shipment process in the ERP to prevent the loss of high-value, near-expired biologics.

Module 5: Product Recalls and Regulatory Reporting

- Developing an ERP-supported Product Recall Plan and workflow.
- Executing a mock recall to test the speed and accuracy of ERP tracing data.
- Generating mandatory Audit Trail and compliance reports for regulatory bodies.
- The role of the ERP in documenting Corrective and Preventive Actions.
- Case Study: A high-stakes pharmaceutical recall scenario: Participants use the ERP's recall module to identify and isolate all affected product within 4 hours.

Module 6: ERP Quality Management and Validation

- Linking Quality Control (QC) inspection points directly to batch receipts in the ERP.
- Managing Hold/Release Statuses for batches based on quality test results.
- Introduction to ERP system validation and qualification for GxP environments.
- Understanding the technical requirements of 21 CFR Part 11 for electronic records and signatures.
- Case Study: Validating an ERP system's electronic record-keeping process to ensure compliance with digital signature requirements for batch release.

Module 7: Advanced Technologies and Future Trends

- The potential of Blockchain technology for tamper-proof cold chain data and $\text{end-to-end transparency}$.
- Using AI and Predictive Analytics on ERP data to anticipate temperature excursions or equipment failure.
- Integrating ERP with external Control Towers for centralized supply chain oversight.
- The rise of Sustainable Cold Chain practices and how ERP can track CO_2 emissions.
- Case Study: Evaluating a proposal to adopt Blockchain for tracking the provenance and temperature history of a high-value cell therapy product.

Module 8: Project Implementation and Change Management

- Phases of an ERP Cold Chain and Traceability Module Implementation Project.
- Conducting a Gap Analysis between current processes and ERP best practices.
- Strategies for effective Data Migration and system cutover.
- Change Management best practices for training and user adoption across the organization.
- Case Study: Developing a user-training plan and communication strategy for warehouse staff transitioning from paper-based to ERP-driven lot tracking.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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