Barcode / RFID Implementation with 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

The integration of Automatic Identification and Data Capture (AIDC) technologies, specifically Barcode and Radio Frequency Identification (RFID), with modern Enterprise Resource Planning (ERP) systems is a paramount strategy for achieving digital transformation and operational excellence. Traditional manual data entry and standalone inventory tracking processes are prone to human error, delays, and poor inventory visibility, leading to significant financial losses and operational inefficiencies. Barcode / RFID Implementation with ERP Training Course is designed to equip professionals with the practical skills and strategic knowledge required to successfully design, implement, and manage a seamless AIDC-to-ERP solution, ensuring real-time data synchronization and unlocking the full potential of their enterprise software investment.

This course focuses on transforming business processes by leveraging the power of automated data capture. By mastering the principles of supply chain optimization, asset tracking, and warehouse automation through Barcode/RFID, participants will learn how to drive operational efficiency, improve data integrity, and deliver measurable Return on Investment (ROI). The curriculum delves into system architecture, middleware configuration, and best practices for ERP module integration across major platforms, providing a comprehensive, future-proof foundation for managing a smart factory and a truly connected supply chain.

Programme Curriculum

Barcode / RFID Implementation with ERP Training Course

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Course Objectives

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

1. Strategically evaluate the business case for Barcode and RFID adoption within a corporate ERP ecosystem.
2. Design a robust, future-proof AIDC solution architecture.
3. Master the principles of real-time data synchronization between auto-ID devices and ERP modules.
4. Configure and troubleshoot RFID tags, readers, and antennas for optimal performance in diverse industrial environments.
5. Implement GS1 standards for global item identification and traceability.
6. Drive warehouse automation by integrating auto-ID with WMS and MES.
7. Calculate the definitive Return on Investment (ROI) for AIDC projects.
8. Formulate a comprehensive change management and user training strategy.
9. Mitigate data security and privacy risks in RFID deployments.
10. Optimize inventory management through accurate, automated cycle counting.
11. Successfully manage the phased implementation roadmap and system cutover.
12. Leverage data from auto-ID systems for Predictive Analytics and Business Intelligence (BI).
13. Select appropriate middleware for seamless ERP integration

Target Audience

1. Supply Chain Managers
2. IT/ERP System Administrators
3. Logistics and Warehouse Managers
4. Process Improvement Analysts
5. Inventory Control Specialists
6. Project Managers (Digital Transformation)
7. Manufacturing Engineers
8. IT/OT Integration Specialists

Course Modules

1. Fundamentals of AIDC and ERP Integration

- Barcode and RFID.
- ERP Foundation.
- Understanding the AIDC-to-ERP Data Flow and Transaction Mapping.
- Introduction to Global Standards.
- Middleware and Connectivity: The role of translators and APIs
- Case Study: Retail Giant Inventory Accuracy Improvement.

2. Barcode System Implementation and Optimization

- Choosing the Right Barcode Type
- Hardware Selection.
- Barcode Symbology and Print Quality Verification.
- Configuring Barcode Scanners for ERP Data Entry
- Best Practices for Label Placement and Durability in harsh environments.
- Case Study: Manufacturing Quality Control.

3. RFID Technology Deep Dive

- RFID Physics.
- Hardware Architecture.
- Site Survey and Environmental Factors.
- Tag Selection and Encoding Strategies
- Read Zone Configuration and Anti-Collision Techniques.
- Case Study: Automotive Asset Tracking.

4. ERP-Specific Integration Strategies

- Mapping AIDC Data to Core ERP Transactions
- Integration Techniques
- Developing Mobile Applications for Data Capture
- Error Handling and Data Validation Logic between AIDC and ERP.
- Post-Implementation System Monitoring and Health Checks.
- Case Study: Pharmaceutical Traceability.

5. Warehouse and Logistics Automation

- Using AIDC for Automated Receiving and Put-away Processes.
- Cycle Counting and Physical Inventory using Handheld Readers and Fixed Portals.
- Automating Shipping and Load Verification with RFID Gates.
- Integrating AIDC with Automated Guided Vehicles and Conveyor Systems.
- Optimizing Picking/Packing Workflows with Scan/Confirm processes.
- Case Study: Distribution Center Throughput.

6. Implementation Project Management and ROI

- Developing a Phased Implementation Roadmap and Project Charter.
- Cost-Benefit Analysis.
- Vendor Selection, RFQ Process, and Service Level Agreements.

- Pilot Testing, User Acceptance Testing, and Go-Live Strategy.
- Risk Management and Mitigation Planning.
- Case Study: Retail Shrinkage Reduction.

7. Change Management and Training

- Assessing Organizational Readiness and Identifying Stakeholder Resistance.
- Designing Role-Specific Training Programs
- Developing Standard Operating Procedures (SOPs) for new AIDC Workflows.
- Post-Go-Live Support Structure and Continuous Improvement Loops.
- Communication Strategy for Phased Rollouts.
- Case Study: Global Rollout of Mobile Scanning.

8. Advanced Topics and Future Trends

- IoT Convergence.
- Blockchain for Supply Chain Transparency and Traceability.
- Machine Learning/AI for optimizing tag read rates and predictive inventory.
- Security, Encryption, and Data Privacy in RFID Systems.
- The Future of AIDC.
- Case Study: Cold Chain Monitoring.

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

Ready to enroll or request a customized program? Book online or contact us:

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