ERP for the Automotive Industry: Traceability and Parts 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 modern Automotive Industry is undergoing a profound digital transformation, making Enterprise Resource Planning (ERP) systems indispensable tools for maintaining a competitive edge. The core challenge for manufacturers, suppliers, and distributors today is achieving End-to-End Traceability. Regulatory mandates like IATF 16949 and escalating consumer safety demands necessitate a granular, real-time view of every component's journey from raw material to final vehicle VIN linkage. A robust, industry-specific ERP solution is the central digital backbone that consolidates disparate data, automates complex quality checks, and enables Proactive Recall Management. ERP for the Automotive Industry: Traceability and Parts Training Course is designed to empower your workforce with the essential knowledge and practical skills to fully leverage your ERP for superior Supply Chain Visibility and absolute Part Genealogy tracking.

This focused training is crucial for mitigating significant operational and financial risks associated with defective parts, compliance failures, and inefficient production processes. By mastering the ERP's traceability and parts management modules, participants will learn how to implement Real-Time Inventory Tracking, optimize Material Requirements Planning (MRP), and ensure rigorous Quality Assurance. Ultimately, this program translates technical ERP utilization into direct business value: reduced scrap, faster non-conformance closure, minimized Warranty Claims, and a demonstrably compliant operation that enhances Customer Trust and supports global scaling. Master the ERP, master the modern automotive supply chain.

Programme Curriculum

ERP for the Automotive Industry: Traceability and Parts Training Course

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Course Duration

5 days

Course Objectives

The participant will be able to:

1. Implement and manage Part Genealogy using ERP for full component lifecycle tracking.
2. Achieve IATF 16949 Compliance through automated ERP documentation and audit trails.
3. Execute Forward and Backward Traceability for rapid isolation and containment of defective lots.
4. Optimize Real-Time Inventory visibility and movement across multi-site operations.
5. Configure Lot and Serial Number Tracking policies for critical safety parts and assemblies.
6. Master Material Requirements Planning (MRP) functions for just-in-time (JIT) delivery precision.
7. Streamline the Production Part Approval Process (PPAP) documentation within the ERP environment.
8. Utilize ERP analytics for Predictive Quality insights and early warning defect detection.
9. Manage and reconcile Warranty Claims by linking failed parts back to the original production event.
10. Integrate IoT and Shop Floor Data from MES/SCADA systems directly into the ERP for true end-to-end data flow.
11. Design and generate custom Compliance Reports for regulatory bodies and OEM customers.
12. Conduct efficient Quarantine and Non-Conformance material handling procedures in the system.
13. Drive Operational Excellence by standardizing parts management workflows globally.

Target Audience

- Quality Assurance Managers
- Production Planners/Schedulers
- ERP Power Users & System Administrators
- Supply Chain & Logistics Specialists
- Warehouse and Inventory Control Supervisors
- Compliance & Regulatory Affairs Personnel

- Manufacturing Engineers
- IT/Business Process Analysts

Course Modules

1. Fundamentals of Automotive Traceability and ERP

- Defining End-to-End Traceability
- Regulatory landscape.
- The ERP's role as the Single Source of Truth for Part Genealogy.
- Differentiating Lot and Serial Number tracking and application rules.
- Case Study: Analyzing a major automotive recall where lack of traceability ballooned costs.

2. ERP Inventory and Warehouse Management

- Configuring Material Master Data for traceability attributes.
- Implementing WMS (Warehouse Management System) integration with ERP.
- Managing multi-site and global Real-Time Stock visibility.
- Best practices for Barcode/RFID data capture on the shop floor.
- Case Study: Optimizing a Tier 1 supplier's Kanban system using ERP-driven inventory signals.

3. Production Planning & Shop Floor Execution (MES Integration)

- Linking Bill of Materials (BOM) to component traceability attributes.
- Executing and documenting work orders with automatic part consumption/traceability capture.
- Integrating ERP with Manufacturing Execution Systems (MES) for shop floor control.
- Managing Work-in-Process (WIP) traceability and sub-assembly linking.
- Case Study: Tracking a complex EV battery pack assembly's component history from cell to final product.

4. Quality Control and Non-Conformance Management

- Setting up Quality Gates and inspection points within the ERP workflow.
- Processing and documenting Non-Conforming Material and quarantine procedures.
- Utilizing ERP for Corrective and Preventive Actions (CAPA) initiation and tracking.
- Electronic sign-offs and audit trails for PPAP and First Article Inspection.
- Case Study: Automating a FMEA (Failure Mode and Effects Analysis) using data pulled from the ERP's quality module.

5. Supplier and Customer Traceability

- Managing Supplier Traceability Records and performance metrics.
- Implementing Vendor Portals for external data exchange and certification upload.
- Processing customer orders and linking final vehicle information.
- Executing efficient Reverse Logistics and return authorization processes.
- Case Study: Establishing a secure, traceable material flow with a high-risk global supplier using EDI and ERP.

6. Recall & Warranty Management

- Developing an ERP-driven Recall Simulation and Execution Plan.
- Using forward and backward trace functions to Isolate Affected Population

- Tracking Warranty Claim history, replacement parts, and root cause analysis.
- Financial posting and cost calculation for recall events using the ERP's finance module.
- Case Study: Reducing the cost and scope of a potential recall by $5M through pinpoint ERP isolation.

7. Regulatory Reporting and Audits

- Generating compliant Audit Reports on demand for IATF 16949.
- Configuring and running standard Traceability Reports
- Data security, user access controls, and maintaining the integrity of traceability data.
- Preparing for internal and external audits using ERP's digital trail.
- Case Study: Successfully navigating an OEM's on-site quality audit by presenting real-time ERP data.

8. ERP Analytics and Continuous Improvement

- Leveraging Business Intelligence (BI) tools integrated with the ERP.
- Developing Key Performance Indicators for traceability and inventory accuracy.
- Analyzing traceability data to identify Supply Chain Bottlenecks.
- Using data to drive Continuous Process Improvement
- Case Study: Implementing a dashboard that reduced Part Shortages by 15% through predictive analytics.

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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