Blockchain in Manufacturing Supply Chains Training Course

Professional Development Training Course Outline

Category	Manufacturing	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The Blockchain in Manufacturing Supply Chains Training Course is a cutting-edge program designed to transform traditional industrial operations into transparent, secure, and decentralized supply chain ecosystems. With the rise of Industry 4.0, smart manufacturing, digital twins, IoT integration, and decentralized ledger technology (DLT), organizations are rapidly adopting blockchain to eliminate inefficiencies, reduce fraud, and enhance end-to-end traceability. Blockchain in Manufacturing Supply Chains Training Course provides a deep dive into how blockchain is revolutionizing procurement, production tracking, logistics optimization, and supplier verification in global manufacturing networks.

As manufacturing becomes increasingly globalized and data-driven, blockchain emerges as a critical enabler of real-time traceability, smart contracts automation, ESG compliance, anti-counterfeit systems, and predictive supply chain analytics. Participants will learn how to design and implement blockchain-based systems that improve operational resilience, supply chain visibility, cost efficiency, and regulatory compliance. The course bridges the gap between theoretical blockchain architecture and real-world industrial deployment, empowering professionals to lead digital transformation initiatives in manufacturing ecosystems.

Programme Curriculum

Blockchain in Manufacturing Supply Chains Training Course

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Course Duration

10 days

Course Objectives

1. Understand blockchain architecture in supply chain digitization
2. Apply smart contracts in manufacturing automation workflows
3. Implement end-to-end product traceability systems
4. Enhance supply chain transparency using distributed ledger technology (DLT)
5. Integrate IoT + blockchain for real-time asset tracking
6. Improve anti-counterfeit and product authentication systems
7. Develop decentralized procurement and vendor management systems
8. Optimize logistics and warehousing using blockchain analytics
9. Enable ESG and sustainability reporting via blockchain records
10. Strengthen cybersecurity in industrial supply chains
11. Deploy tokenization of manufacturing assets and materials
12. Design blockchain-based compliance and audit systems
13. Build resilient and intelligent Industry 4.0 supply networks

Target Audience

- Supply Chain Managers & Logistics Professionals
- Manufacturing Engineers & Operations Managers
- Blockchain Developers & Solution Architects
- Procurement & Vendor Management Teams
- Industry 4.0 Transformation Leaders
- IT & Digital Transformation Specialists
- Quality Assurance & Compliance Officers
- Business Analysts in Manufacturing Sector

Course Modules

Module 1: Blockchain Fundamentals in Manufacturing

- Distributed ledger concepts
- Blockchain types (public, private, consortium)
- Manufacturing data flows
- Security principles
- Consensus mechanisms

- **Case Study:** Automotive supply chain transparency improvement using blockchain

Module 2: Industry 4.0 & Blockchain Integration

- Smart factories overview
- IoT + blockchain synergy
- Cyber-physical systems
- Real-time data synchronization
- Digital transformation frameworks
- **Case Study:** Smart factory implementation in electronics manufacturing

Module 3: Smart Contracts in Supply Chains

- Smart contract architecture
- Automation of procurement
- Conditional execution logic
- Vendor agreements digitization
- Cost reduction strategies
- **Case Study:** Automated supplier payments in textile industry

Module 4: Product Traceability Systems

- End-to-end tracking
- Serialization techniques
- QR/RFID + blockchain
- Lifecycle monitoring
- Recall management systems
- **Case Study:** Food manufacturing traceability using blockchain

Module 5: Anti-Counterfeit Solutions

- Product authentication layers
- Digital identity systems
- Tamper-proof records
- Brand protection strategies
- Consumer verification tools
- **Case Study:** Pharmaceutical counterfeit prevention system

Module 6: Supply Chain Transparency Models

- Data sharing frameworks
- Permissioned access systems
- Audit trails
- Stakeholder visibility
- Governance structures
- **Case Study:** Aerospace supply chain transparency enhancement

Module 7: IoT + Blockchain Integration

- Sensor data capture
- Edge computing integration
- Real-time tracking

- Data immutability
- Predictive analytics
- **Case Study:** Cold chain logistics monitoring system

Module 8: Procurement Automation

- Smart procurement workflows
- Supplier onboarding systems
- Digital contracts
- Procurement analytics
- Fraud reduction mechanisms
- **Case Study:** Manufacturing procurement digitization in automotive sector

Module 9: Logistics Optimization

- Route optimization
- Shipment verification
- Real-time tracking dashboards
- Delay prediction systems
- Carrier performance tracking
- **Case Study:** Global shipping logistics optimization platform

Module 10: Blockchain Security in Manufacturing

- Cryptographic principles
- Identity management
- Data protection layers
- Attack prevention strategies
- Secure node architecture
- **Case Study:** Cyberattack prevention in industrial supply chain

Module 11: ESG & Sustainability Tracking

- Carbon footprint tracking
- Ethical sourcing verification
- Sustainability dashboards
- Compliance reporting
- Green supply chains
- **Case Study:** Sustainable apparel manufacturing tracking system

Module 12: Tokenization of Assets

- Digital asset representation
- Material tokenization
- Inventory digitization
- Ownership tracking
- Trade facilitation
- **Case Study:** Raw material tokenization in steel industry

Module 13: Compliance & Audit Systems

- Regulatory frameworks

- Blockchain audit trails
- Reporting automation
- Risk management
- Governance protocols
- **Case Study:** Compliance automation in pharmaceutical manufacturing

Module 14: Blockchain Analytics

- Predictive analytics models
- Supply chain KPIs
- Data visualization
- Performance benchmarking
- Decision intelligence
- **Case Study:** AI-driven supply chain forecasting system

Module 15: Future of Blockchain in Manufacturing

- Web3 integration
- AI + blockchain convergence
- Autonomous supply chains
- Decentralized ecosystems
- Future industrial models
- **Case Study:** Fully autonomous smart manufacturing ecosystem

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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

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