Strategic MRO Supply Chain and Inventory Control Training Course



19 - 23 Oct 2026

Barcelona

5900 € (Per Person)

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Course Introduction / Overview:

Effective management of Maintenance, Repair, and Operations (MRO) inventory is the bedrock of operational excellence and asset reliability in any capital-intensive industry. This specialized domain goes beyond standard inventory practices, directly impacting production uptime, maintenance efficiency, and overall profitability. The Strategic MRO Supply Chain and Inventory Control Training Course offered by BIG BEN Training Center provides a comprehensive, A-to-Z exploration of the principles and best practices that govern this critical function. This program is meticulously designed to transform MRO from a reactive cost center into a proactive, value-adding strategic asset. Drawing upon established frameworks in operations management, such as those discussed by academic author Joel D. Wisner in his work "Principles of Supply Chain Management: A Balanced Approach," this course delves into the unique challenges of MRO, including demand unpredictability, critical spares management, and obsolescence risk. Participants will gain a deep understanding of how to optimize inventory levels, streamline procurement processes, and leverage technology to build a resilient and cost-effective MRO supply chain that directly supports organizational goals for reliability and performance.

Target Audience / This training course is suitable for:

- MRO Managers and Supervisors.
- Inventory Planners and Analysts.
- Supply Chain and Logistics Professionals.
- Procurement and Sourcing Specialists.
- Maintenance and Reliability Engineers.
- Operations Managers.
- Storeroom and Warehouse Managers.
- Asset Management Professionals.
- Finance Professionals involved in inventory costing.
- Planners and Schedulers.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Oil and Gas Exploration and Refining.
- Aviation and Aerospace Maintenance.
- Power Generation and Utilities.
- Mining and Heavy Equipment Operations.
- Pharmaceuticals and Process Industries.
- Transportation and Fleet Management.
- Facilities Management and Real Estate.
- Governmental agencies and public sector utilities.
- Telecommunications and Infrastructure.

Target Organizations Departments:

- Supply Chain Management.
- Maintenance and Engineering.
- Procurement and Purchasing.
- Operations and Production.
- Logistics and Warehousing.
- Finance and Accounting.
- Asset Management.
- Planning and Scheduling.
- Quality Assurance.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop a strategic framework for MRO inventory management aligned with corporate objectives.
- Implement advanced inventory classification techniques like ABC and critical spares analysis.
- Calculate and optimize safety stock levels and reorder points for MRO items.
- Master cycle counting and physical inventory processes to ensure high inventory accuracy.
- Formulate effective MRO procurement and sourcing strategies to reduce total cost of ownership.
- Evaluate and manage supplier performance for MRO goods and services.
- Design and manage an efficient MRO storeroom and warehousing operation.
- Utilize key performance indicators (KPIs) to measure and improve MRO supply chain performance.
- Mitigate risks associated with inventory obsolescence and supply chain disruptions.
- Leverage CMMS/EAM systems and emerging technologies for better MRO data management.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, practical, and highly interactive, ensuring that participants can immediately apply the concepts learned to their professional roles. This course moves beyond traditional lectures by integrating a dynamic blend of expert-led presentations, real-world case studies from diverse industries, and collaborative group workshops. Participants will engage in hands-on exercises, such as calculating optimal inventory levels, developing a supplier evaluation matrix, and designing a storeroom layout. Interactive sessions, facilitated discussions, and peer-to-peer knowledge sharing are central to the learning experience, allowing attendees to explore common MRO challenges and benchmark their practices against industry standards. The instructor provides continuous feedback and guidance, fostering a supportive environment where complex problems are analyzed and practical solutions are co-created. This applied learning approach ensures a deep and lasting understanding of strategic MRO supply chain and inventory control principles, empowering participants with both the knowledge and the confidence to drive tangible improvements within their organizations.

Course Agenda (Course Units):

Unit One: Foundations of MRO Supply Chain Management

- The Strategic Role of MRO in Operational Reliability.
- Defining the MRO Ecosystem and Its Components.
- Key Differences Between MRO and Production Inventory.
- Common Challenges in MRO Supply Chain Management.
- The Financial Impact of Inefficient MRO Management.
- Integrating MRO Strategy with Asset Management and Maintenance Goals.
- Understanding the Total Cost of Ownership (TCO) in MRO.

Unit Two: Advanced MRO Inventory Control Techniques

- Inventory Classification Methods (ABC, XYZ, FSN Analysis).
- Managing Critical and Insurance Spares.
- Calculating Economic Order Quantity (EOQ) for MRO Items.
- Setting and Managing Safety Stock and Reorder Points.
- Strategies for Managing Slow-Moving and Obsolete Stock (SLOB).
- Implementing a Robust Cycle Counting Program.
- Mastering Inventory Record Accuracy and Root Cause Analysis.

Unit Three: Strategic MRO Procurement and Supplier Management

- Developing a Strategic Sourcing Plan for MRO Categories.
- Supplier Identification, Evaluation, and Selection Criteria.
- Negotiating Contracts and Service Level Agreements (SLAs).
- Building Effective Supplier Relationship Management (SRM) Programs.
- Vendor-Managed Inventory (VMI) and Consignment Stock Models.
- Ethical Considerations and Risk Management in MRO Procurement.
- Measuring and Improving Supplier Performance.

Unit Four: MRO Warehousing and Storeroom Operations

- Best Practices in MRO Storeroom Layout and Design.
- Optimizing Storage and Material Handling Processes.
- Standardizing Receiving, Inspection, and Put-Away Procedures.
- Implementing Efficient Kitting and Issuing Processes.
- Health, Safety, and Security in the MRO Warehouse.
- Managing Returns, Repairs, and Reverse Logistics.
- The Role of Bills of Materials (BOMs) in MRO Management.

Unit Five: Performance, Technology, and Continuous Improvement

- Establishing Key Performance Indicators (KPIs) for the MRO Supply Chain.
- Leveraging Data Analytics for MRO Decision-Making.
- The Role of CMMS and EAM Systems in Inventory Control.
- Exploring Digital Transformation: IoT, AI, and Predictive Analytics in MRO.
- Implementing Lean Principles in the MRO Storeroom.
- Developing a Roadmap for Continuous Improvement in MRO Operations.
- Future Trends and Innovations in MRO Supply Chain Management.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How might the principles of a circular economy reshape traditional MRO supply chain strategies, particularly concerning spare parts refurbishment and end-of-life management?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by adopting a holistic, strategic perspective on MRO management, positioning it not merely as a logistical function but as a critical driver of asset reliability and overall business performance. Unlike programs that focus narrowly on software tools or basic inventory formulas, this training provides a comprehensive framework that integrates inventory control, procurement, and storeroom operations with the broader goals of maintenance and engineering. It emphasizes the "why" behind the "how," empowering participants with the critical thinking skills needed to design and implement MRO strategies tailored to their specific operational context. The curriculum, informed by established academic principles like those from Joel D. Wisner, is brought to life through practical case studies that span multiple industries, from manufacturing to aviation. This approach ensures that the learning is not just theoretical but deeply rooted in real-world challenges and solutions. The focus on linking MRO KPIs directly to financial outcomes and operational uptime provides participants with the language and tools to champion MRO excellence and demonstrate its value to senior leadership.