Aviation Logistics Warehouse and Inventory Management Training Course

02 - 06 Nov 2026

Lisbon

4500 € (Per Person)

Ref: #IM4033_161023

Course Introduction / Overview:

The aviation industry operates on principles of precision, safety, and timeliness, where the efficiency of logistics and warehouse management is not just a competitive advantage but a regulatory necessity. This course provides a comprehensive exploration of warehouse and inventory management specifically tailored for the high-stakes environment of aviation logistics. We delve into the unique challenges of managing aircraft parts, from high-value rotables to time-sensitive consumables, ensuring operational readiness and minimizing aircraft on ground (AOG) situations. Drawing upon foundational principles from experts like John Mangan in works such as "Global Logistics and Supply Chain Management," this program translates broad supply chain theories into actionable strategies for the aerospace sector. Participants will navigate the complexities of aviation regulations, advanced inventory control techniques, and state-of-the-art warehouse technologies. BIG BEN Training Center has designed this curriculum to empower professionals with the specialized knowledge required to optimize storage, reduce costs, and enhance the overall resilience of the aviation supply chain, ensuring that the right part is in the right place at the right time, every time. This is a deep dive into the critical infrastructure that keeps the global aviation network flying safely and efficiently.

Target Audience / This training course is suitable for:

- Warehouse Managers and Supervisors.
- Inventory Planners and Controllers.
- Aviation Logistics Coordinators.
- Supply Chain Analysts in the aviation sector.
- MRO (Maintenance, Repair, and Overhaul) Planners.
- Procurement and Purchasing Officers for aircraft parts.
- Air Cargo Operations Staff.
- Aviation Material Managers.
- Ground Handling Logistics Personnel.
- Aspiring professionals seeking a career in aviation logistics.

Target Sectors and Industries:

- Commercial and Cargo Airlines.
- Maintenance, Repair, and Overhaul (MRO) Organizations.
- Aerospace and Defense Manufacturing Companies.
- Third-Party Logistics (3PL) Providers specializing in aviation.
- Airport Authorities and Ground Handling Agents.
- Aviation Spare Parts Distributors and Suppliers.
- Government, Military, and Civil Aviation Authorities.
- Business and Private Jet Operators.

Target Organizations Departments:

- Logistics and Supply Chain Management.
- Warehouse and Stores Operations.
- Inventory Management and Control.
- Procurement and Purchasing.
- Maintenance Planning and Control.
- Technical Services and Engineering.
- Ground Operations and Ramp Services.
- Quality Assurance and Compliance.
- Finance and Asset Management.

Course Offerings:

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

- Develop and implement strategic inventory control models for aviation parts.
- Design an efficient and compliant aviation warehouse layout.
- Manage the complete lifecycle of aircraft components, including rotables and repairables.
- Apply international regulations (IATA, EASA, FAA) to warehouse operations.
- Utilize modern Warehouse Management Systems (WMS) and technologies like RFID.
- Master techniques for handling and storing dangerous goods in an aviation context.
- Implement effective Key Performance Indicators (KPIs) to measure logistics performance.
- Formulate rapid response strategies for critical AOG (Aircraft on Ground) situations.
- Conduct effective stock-taking, cycle counting, and discrepancy management.
- Integrate lean management principles to eliminate waste in the aviation supply chain.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and directly applicable to the professional challenges faced in aviation logistics. We move beyond traditional lecture-based formats to create a dynamic learning environment where participants actively engage with the material. The course is built upon a foundation of real-world case studies drawn from leading airlines, MROs, and cargo operators, allowing for in-depth analysis of both successes and failures in the industry. Collaborative group workshops and problem-solving sessions encourage participants to share experiences and develop innovative solutions to complex inventory and warehousing challenges. Interactive simulations will place attendees in high-pressure scenarios, such as managing an AOG event or redesigning a warehouse for optimal flow. Our expert facilitators foster an environment of continuous feedback and open discussion, ensuring that theoretical concepts are firmly linked to practical, on-the-job application. This hands-on approach guarantees that participants leave not just with knowledge, but with the confidence and skills to implement positive change within their organizations.

Course Agenda (Course Units):

Unit One: Foundations of Aviation Logistics and Warehousing

- Introduction to the aviation supply chain ecosystem.
- The strategic role of warehousing in aviation operations.
- Unique characteristics of aircraft parts inventory (rotables, consumables, expendables).
- Global regulatory frameworks: IATA, FAA, EASA, and local civil aviation authorities.
- Understanding airworthiness and the importance of component traceability.
- Safety and security protocols specific to aviation warehouses.
- The financial impact of inventory and warehousing on airline profitability.

Unit Two: Strategic Inventory Management for Aviation

- Demand forecasting techniques for aircraft spare parts.
- ABC and XYZ analysis for aviation inventory segmentation.
- Establishing optimal stock levels, reorder points, and safety stock.
- Managing the repair cycle and logistics for rotable components.
- Strategies for managing slow-moving and obsolete stock.
- Supplier relationship management and performance evaluation in aviation.
- Implementing effective cycle counting and physical inventory programs.

Unit Three: Advanced Aviation Warehouse Operations

- Best practices for receiving, inspection, and quarantine of aircraft parts.
- Advanced storage solutions: from shelving and racking to automated systems.
- Kitting and component management for scheduled maintenance checks.
- Order picking strategies to minimize turnaround time (TAT).
- Efficient packing, preservation, and shipping procedures for aircraft components.
- Reverse logistics and managing returns in the aviation sector.
- Warehouse layout and design for optimal material flow and safety.

Unit Four: Technology, Automation, and Dangerous Goods

- Role of Warehouse Management Systems (WMS) in aviation.
- Implementing barcoding, RFID, and other auto-ID technologies.
- Exploring warehouse automation: robotics, AGVs, and automated storage/retrieval systems (AS/RS).
- Introduction to IATA Dangerous Goods Regulations (DGR).
- Classification, packing, marking, and labeling of dangerous goods.
- Documentation and handling procedures for hazardous materials.
- Digitalization trends in aviation logistics and the paperless warehouse.

Unit Five: Performance, Optimization, and Future Trends

- Defining and tracking Key Performance Indicators (KPIs) for warehouse and inventory.
- Applying lean principles and continuous improvement (Kaizen) in the warehouse.
- Managing and responding to Aircraft on Ground (AOG) logistics.
- Sustainability and green logistics practices in aviation.
- The impact of predictive maintenance on spare parts inventory.
- Preparing for future challenges: drones, 3D printing, and AI in logistics.
- Course review, final assessment, and action planning workshop.

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 integration of predictive analytics and AI transform traditional demand forecasting for aircraft spare parts, and what are the primary barriers to its widespread adoption in the aviation industry?

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

This course distinguishes itself by moving beyond generic warehousing principles to offer a specialized, in-depth focus exclusively on the aviation logistics sector. Unlike general supply chain programs, every module is framed within the context of aviation's stringent regulatory, safety, and operational demands. We place significant emphasis on the unique challenges of the industry, such as the management of the rotable repair cycle, the critical importance of component traceability for airworthiness, and the high-stakes pressure of AOG situations. The curriculum integrates a practical understanding of international aviation regulations from bodies like IATA and EASA directly into operational best practices. Furthermore, the course fosters a strategic mindset, encouraging participants to analyze the financial and operational impact of inventory decisions on an airline or MRO's bottom line. By blending advanced academic concepts with real-world aviation case studies and simulations, it provides a level of contextual relevance and practical depth that is unparalleled, equipping professionals not just with skills, but with the specialized expertise required to excel in this demanding field.