Automated Warehousing and Smart Inventory Systems Training Course

28 Dec 2026 - 01 Jan 2027

Cape town

4600 € (Per Person)

Ref: #IM8448_288468

Course Introduction / Overview:

This course provides a comprehensive exploration of the transition to automated warehousing and intelligent inventory management, a cornerstone of modern Logistics 4.0. In an era where supply chain efficiency dictates market leadership, mastering these technologies is no longer optional but essential for survival and growth. This program delves into the strategic implementation of automation, from robotic systems to data-driven inventory control. As discussed by leading academic Yossi Sheffi in works like "The Magic Conveyor: Seeking Value in a Fast-Forward World," the future of logistics lies in the seamless integration of technology and strategy. This course moves beyond theoretical concepts to offer a practical roadmap for designing, implementing, and managing a smart warehouse ecosystem. Participants will learn to leverage technologies such as ASRS, AGVs, and IoT to achieve unprecedented levels of accuracy, speed, and cost-efficiency. BIG BEN Training Center has designed this curriculum to empower professionals to lead digital transformation within their logistics operations, ensuring they can build resilient and agile supply chains capable of meeting the demands of a rapidly evolving global market.

Target Audience / This training course is suitable for:

- Warehouse Managers and Supervisors.
- Supply Chain and Logistics Directors.
- Inventory Control Managers and Planners.
- Operations Managers.
- Procurement and Sourcing Professionals.
- IT Managers and Specialists involved in logistics systems.
- Logistics Consultants and Analysts.
- Distribution Center Managers.
- E-commerce Operations Leaders.

Target Sectors and Industries:

- Retail and E-commerce.
- Third-Party Logistics (3PL) and Fourth-Party Logistics (4PL) Providers.
- Manufacturing and Industrial Production.
- Pharmaceuticals and Healthcare.
- Food and Beverage Distribution.
- Automotive and Aerospace.
- Consumer Packaged Goods (CPG).
- Government, Defense, and Public Sector Logistics.

Target Organizations Departments:

- Supply Chain Management.
- Logistics and Distribution.
- Warehouse Operations.
- Inventory Management and Control.
- Procurement and Purchasing.
- Information Technology (IT).
- Operations and Production.
- Strategic Planning and Business Development.

Course Offerings:

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

- Develop a strategic roadmap for implementing warehouse automation technologies.
- Evaluate and select appropriate automation hardware like ASRS, AGVs, and AMRs.
- Integrate smart inventory systems using WMS, RFID, and IoT sensors.
- Utilize data analytics for predictive inventory management and demand forecasting.
- Optimize warehouse layout and workflows for automated processes.
- Calculate the return on investment (ROI) for automation projects.
- Manage the human-centric aspects of transitioning to an automated environment.
- Implement best practices for safety and maintenance in a smart warehouse.
- Analyze key performance indicators (KPIs) to measure warehouse efficiency.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, immersive, and practical, ensuring that participants can translate theoretical knowledge into actionable skills. This course utilizes a blended learning approach that combines expert-led presentations with collaborative workshops and real-world case study analysis. Participants will engage in group discussions to dissect the challenges and successes of automation projects in various industries, fostering a deep understanding of strategic decision-making. Interactive sessions will focus on problem-solving, where attendees will work together to design automation solutions for hypothetical warehouse scenarios. The curriculum emphasizes hands-on learning through simulations of inventory management software and process mapping exercises. Our expert instructors facilitate a dynamic learning environment, encouraging active participation and providing continuous, constructive feedback. This approach ensures that every participant leaves with not only a comprehensive understanding of warehouse automation and smart inventory systems but also the confidence to lead implementation within their own organizations.

Course Agenda (Course Units):

Unit One: Foundations of the Modern Smart Warehouse

- Introduction to Logistics 4.0 and the smart supply chain.
- Evolution from traditional to automated warehousing.
- Core components of a smart warehouse ecosystem.
- Key performance indicators (KPIs) for warehouse performance.
- Understanding the business case for automation.
- Initial assessment of warehouse processes for automation potential.
- The role of a Warehouse Management System (WMS) as the digital core.

Unit Two: Key Warehouse Automation Technologies

- Automated Storage and Retrieval Systems (ASRS).
- Automated Guided Vehicles (AGVs) vs. Autonomous Mobile Robots (AMRs).
- Robotic picking systems (goods-to-person and person-to-goods).
- Automated sorting systems and conveyor technologies.
- The application of drones in inventory management.
- Wearable technology for warehouse staff.
- Selecting the right automation hardware for specific needs.

Unit Three: Intelligent Inventory Tracking and Control

- Principles of smart inventory management.
- Radio-Frequency Identification (RFID) systems and applications.
- Advanced barcode and QR code technologies.
- Internet of Things (IoT) sensors for real-time monitoring.
- Integrating tracking systems with the Warehouse Management System (WMS).
- Ensuring data accuracy and integrity for inventory control.
- Cycle counting and physical inventory in an automated environment.

Unit Four: Data Analytics and Process Optimization

- Leveraging big data in warehouse operations.
- Predictive analytics for demand forecasting and inventory optimization.
- Using data to optimize warehouse layout and slotting.
- Digital twin technology for warehouse simulation and modeling.
- Root cause analysis for operational inefficiencies.
- Developing a data-driven culture in the warehouse.
- Reporting and visualization of warehouse performance metrics.

Unit Five: Implementation Strategy and Future Trends

- Developing a phased implementation roadmap for automation.
- Calculating Return on Investment (ROI) and building a business case.
- Change management and training the workforce for new technologies.
- Safety protocols and risk management in an automated warehouse.
- System integration and interoperability challenges.
- The future of warehousing: AI, machine learning, and hyper-automation.
- Sustainability in smart warehouse design and operations.

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:

As automation replaces manual tasks in warehouses, what is the evolving role of the human workforce in ensuring operational resilience and innovation?

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

This course distinguishes itself by offering a holistic, strategic perspective on warehouse automation, moving beyond a mere technical overview of available hardware. While other programs may focus narrowly on specific technologies, this curriculum integrates the critical pillars of technology, data analytics, process optimization, and human capital management. It uniquely addresses the practical challenges of implementation, providing a clear framework for developing a business case, managing organizational change, and calculating a tangible return on investment. The content is built around a strategic-first approach, teaching participants not just what the technologies are, but how to think critically about which solutions fit their specific operational context. By incorporating concepts like digital twin modeling and predictive analytics, the course equips leaders to be proactive rather than reactive. It bridges the crucial gap between IT, operations, and strategic management, fostering a comprehensive skill set that is essential for leading successful digital transformation projects in the modern supply chain.