



## **External Training Course**

# **Warehouse Intelligence & Inventory Optimization**

**From 26 May To 30 May 2025**

**From 28 Jul. To 01 Aug. 2025**

**From 06 Oct. To 10 Oct. 2025**

**Hilton Garden Inn Shanghai Caoyang Hotel  
Shanghai, China**

**Mr. Ghanem F. Al-Otaibi**

**GM & Institute Owner**

**Tel.: 00965 22248901**

**Fax: 00965 22204999**

**Mob.: 00965 65548855**

**Mob.: 00965 97273712**

**Email: admin@agi-kw.com**

**Email: agi-kw@hotmail.com**

**W/SITE: WWW.AGI-KW.COM**

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**Fees: 1850 KD**

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## **Course Introduction**

In today's highly competitive and dynamic supply chain environment, the role of the warehouse has evolved from a basic storage facility to a critical hub for efficiency, customer satisfaction, and strategic advantage. As supply chains grow more complex, organizations must leverage advanced technologies, intelligent systems, and data-driven inventory management to stay ahead. The Warehouse Intelligence & Inventory Optimization training course offers a comprehensive approach to transforming warehouse operations through smart automation, advanced analytics, and proven inventory strategies. Participants will gain the knowledge and tools necessary to streamline storage, improve order accuracy, reduce waste, and enhance service levels — all while controlling costs. This course blends theoretical insights with real-world applications, including case studies, simulations, and interactive workshops. It is ideal for professionals responsible for warehousing, inventory planning, and supply chain operations who seek to modernize their practices and deliver measurable performance improvements.

## **Course Objectives**

This course is designed to equip participants with the essential knowledge, tools, and strategies required to modernize and optimize warehouse and inventory operations. By the end of the course, participants will be able to:

- Understand the strategic role of warehousing in the overall supply chain and its impact on customer satisfaction and cost efficiency.
- Identify key warehouse performance indicators (KPIs) and use them to assess and improve operational effectiveness.
- Leverage warehouse intelligence technologies such as WMS, barcoding, RFID, and IoT for enhanced visibility and control.
- Apply modern inventory optimization techniques including forecasting, EOQ, safety stock calculations, and ABC analysis.
- Design efficient storage layouts and picking systems to streamline operations and reduce lead times.
- Integrate intelligent inventory management with business systems such as ERP for seamless coordination across departments.
- Develop action-oriented plans for implementing warehouse improvements and inventory strategies in their own organizations.

## **Key Takeaways**

**Participants will gain:**

- A complete framework for optimizing inventory and warehouse operations.
- Practical exposure to tools and digital platforms used in modern warehouse environments.
- Methods to cut operational costs, improve inventory accuracy, and enhance supply reliability.
- Confidence to lead inventory improvement initiatives.

## **Training Methodology**

**The training is highly interactive, blending:**

- Expert-led presentations.
- Case study analysis.
- Real-life petroleum industry scenarios.
- Hands-on exercises and planning workshops.
- Group discussions and team activities.
- Digital inventory planning demonstrations.

## **Course Content**

### **Day 1: Foundations of Warehouse Operations**

- Role of warehouses in the supply chain.
- Types of warehousing (public, private, bonded, etc.).
- Warehouse KPIs: Space utilization, order cycle time, picking accuracy.
- Inventory classifications (ABC/XYZ analysis, FSN, VED).
- Common warehouse challenges and cost drivers.

### **Day 2: Warehouse Intelligence and Automation**

- Introduction to Warehouse Management Systems (WMS).
- Barcode, RFID, and IoT applications.
- Real-time tracking and dashboard reporting.
- Robotics, conveyor systems, and automated storage/retrieval systems (AS/RS).
- Data-driven decision-making and warehouse analytics.

### **Day 3: Inventory Optimization Techniques**

- Economic Order Quantity (EOQ), Reorder Points.
- Safety stock & lead time analysis.
- Demand forecasting models: Moving average, exponential smoothing, seasonal indexing.
- Inventory turnover and stock aging.
- Avoiding overstocking and stockouts.

## **Day 4: Integrated Warehouse & Inventory Strategies**

- Just-In-Time (JIT), Lean Inventory, and Kanban principles.
- Vendor Managed Inventory (VMI).
- Cross-docking and flow-through strategies.
- Multi-echelon inventory optimization.
- Integrating warehouse planning with ERP systems.

## **Day 5: Case Studies & Practical Workshop**

- Hands-on exercises using Excel and WMS simulators.
- Industry case studies on warehouse improvement and inventory optimization.
- Interactive group discussions and performance review.
- Action plan development for participants' organizations.
- Final Q&A and wrap-up.

## **Learning Outcomes**

### **By the end of this training course, participants will be able to:**

- Describe the evolving role of warehousing in modern supply chain management and its contribution to organizational efficiency.
- Analyze warehouse performance using key metrics such as order accuracy, inventory turnover, and space utilization.
- Implement smart warehousing technologies including Warehouse Management Systems (WMS), barcoding, RFID, and automation solutions.
- Apply inventory optimization models such as Economic Order Quantity (EOQ), safety stock calculation, and ABC/XYZ classification.
- Forecast demand accurately using various techniques (e.g., moving averages, exponential smoothing, seasonal analysis).
- Design effective warehouse layouts and workflows to improve storage, picking, and shipping operations.
- Integrate inventory planning with enterprise resource planning (ERP) systems for real-time inventory visibility.
- Develop and present a warehouse improvement plan tailored to their organization's needs, based on data analysis and best practices.

## **Course Agenda:**

### **(1<sup>st</sup> Day) Agenda**

8.30	9.00	Opening Remarks (30 Min.).
9.00	11.30	<u>DISCUSS COURSE OBJECTIVES:</u> <ul style="list-style-type: none"> <li>• Foundations of Warehouse Operations.</li> <li>• Warehouse Intelligence and Automation.</li> <li>• Inventory Optimization Techniques.</li> <li>• Integrated Warehouse &amp; Inventory Strategies.</li> <li>• Case Studies &amp; Practical Workshop.</li> </ul>
11.30	12.00	Coffee Break
12.00	14.00	<u>Foundations of Warehouse Operations:</u> <ul style="list-style-type: none"> <li>• Role of warehouses in the supply chain.</li> <li>• Types of warehousing (public, private, bonded, etc.).</li> <li>• Warehouse KPIs: Space utilization, order cycle time, picking accuracy.</li> <li>• Inventory classifications (ABC/XYZ analysis, FSN, VED).</li> <li>• Common warehouse challenges and cost drivers.</li> </ul>
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

### **(2<sup>nd</sup> Day) Agenda**

9.00	11.30	<u>Warehouse Intelligence and Automation</u> <ul style="list-style-type: none"> <li>• Introduction to Warehouse Management Systems (WMS).</li> <li>• Barcode, RFID, and IoT applications.</li> <li>• Real-time tracking and dashboard reporting.</li> </ul>
11.30	12.00	Coffee Break
12.00	14.00	<u>Warehouse Intelligence and Automation</u> <ul style="list-style-type: none"> <li>• Robotics, conveyor systems, and automated storage/retrieval systems (AS/RS).</li> <li>• Data-driven decision-making and warehouse analytics.</li> </ul>
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

## (3<sup>rd</sup> Day) Agenda

9.00	11.30	<u>Inventory Optimization Techniques:</u> <ul style="list-style-type: none"> <li>• Economic Order Quantity (EOQ), Reorder Points.</li> <li>• Safety stock &amp; lead time analysis.</li> <li>• Demand forecasting models: Moving average, exponential smoothing, seasonal indexing.</li> </ul>
11.30	12.00	Coffee Break
12.00	14.00	<u>Inventory Optimization Techniques:</u> <ul style="list-style-type: none"> <li>• Inventory turnover and stock aging.</li> <li>• Avoiding overstocking and stockouts.</li> </ul>
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

## (4<sup>th</sup> Day) Agenda

9.00	11.30	<u>Integrated Warehouse &amp; Inventory Strategies:</u> <ul style="list-style-type: none"> <li>• Just-In-Time (JIT), Lean Inventory, and Kanban principles.</li> <li>• Vendor Managed Inventory (VMI).</li> <li>• Cross-docking and flow-through strategies.</li> </ul>
11.30	12.00	Coffee Break
12.00	14.00	<u>Integrated Warehouse &amp; Inventory Strategies:</u> <ul style="list-style-type: none"> <li>• Multi-echelon inventory optimization.</li> <li>• Integrating warehouse planning with ERP systems.</li> </ul>
14.00	14.30	Questions and Discussion
14.30		Buffet Lunch

## (5<sup>th</sup> Day) Agenda

9.00	11.30	<u>Case Studies &amp; Practical Workshop:</u> <ul style="list-style-type: none"> <li>• Hands-on exercises using Excel and WMS simulators.</li> <li>• Industry case studies on warehouse improvement and inventory optimization.</li> <li>• Interactive group discussions and performance review.</li> </ul>
11.30	12.00	Coffee Break
12.00	14.00	<u>Case Studies &amp; Practical Workshop:</u> <ul style="list-style-type: none"> <li>• Action plan development for participants' organizations.</li> <li>• Final Q&amp;A and wrap-up.</li> </ul>
14.00	14.30	Questions, Discussion & Conclusion Training Course.
14.30		Buffet Lunch