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Intelligent order picking route optimization

This workflow automatically generates optimized picking routes when new orders arrive, reducing travel time and increasing warehouse efficiency through real-time inventory analysis and route calculation.

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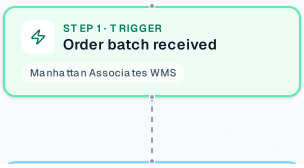
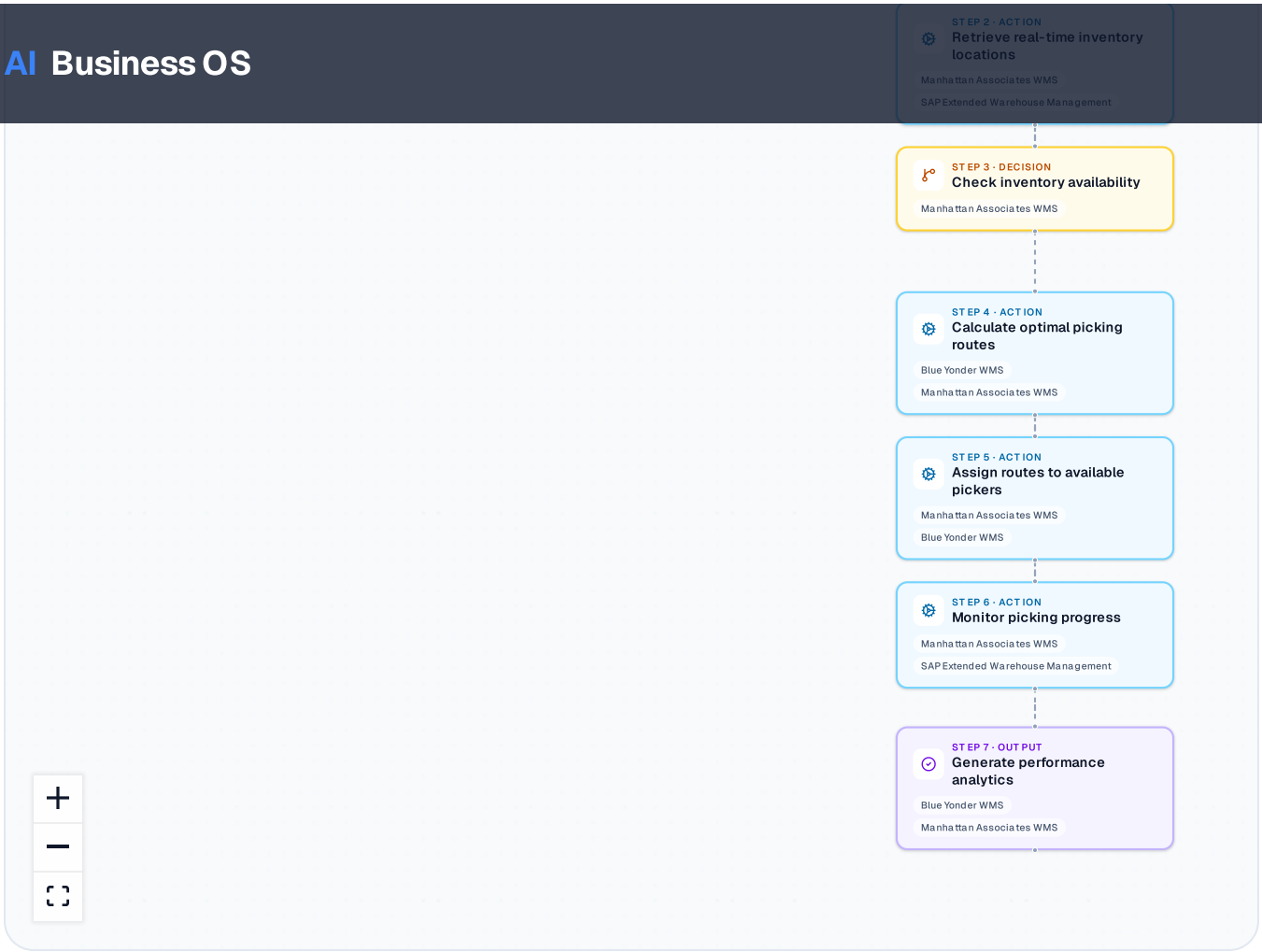
WORKFLOW TRIGGER

New batch of customer orders received in warehouse management system

Visual Flow

Each node represents an automated step. Connections show how data and decisions move through the workflow.





Step-by-Step Breakdown

Detailed explanation of each automated stage in the workflow.

1

TRIGGER

Order batch received

New customer orders are imported into the warehouse management system and queued for processing. The system captures order details including SKUs, quantities, and delivery priorities.

2

ACTION

Retrieve real-time inventory locations

System queries current inventory positions across all warehouse zones and bin locations. Real-time stock levels and item coordinates are pulled for route calculation.

Manhattan Associates WMS | SAP Extended Warehouse Management

3

DECISION

Check inventory availability

System validates if all ordered items are available in sufficient quantities. Orders with stock shortages are flagged for backorder processing while complete orders proceed to route optimization.

Manhattan Associates WMS

4

ACTION

Calculate optimal picking routes

AI algorithm generates the most efficient picking paths considering warehouse layout, item locations, picker capacity, and order priorities. Multiple routes are calculated for different picker assignments.

Blue Yonder WMS | Manhattan Associates WMS

5

ACTION

Assign routes to available pickers

System allocates optimized routes to warehouse staff based on their current location, workload, and equipment type. Pick lists are automatically generated and sent to mobile devices.

Manhattan Associates WMS | Blue Yonder WMS

6

ACTION

Monitor picking progress

Real-time tracking of picker locations and completion status updates route assignments dynamically. System adjusts remaining routes if delays or issues occur.

Manhattan Associates WMS | SAP Extended Warehouse Management

7

OUTPUT

Generate performance analytics

System produces detailed reports on route efficiency, picking times, and warehouse productivity metrics. Performance data is stored for continuous optimization improvements.

Blue Yonder WMS | Manhattan Associates WMS

Outputs

- Optimized picking routes sent to mobile devices

- Real-time picker assignment notifications
- Route performance analytics dashboard

Key Metrics

- Average picking time per order
- Route optimization percentage improvement
- Picker productivity rate

Tools & Integrations

- Manhattan Associates WMS
- SAP Extended Warehouse Management
- Blue Yonder WMS

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