

# Warehouse Automation Analytics

## Performance metrics and automation optimization insights

Generated by: Vanguard Warehouse Controller  
Date: 8/3/2025, 8:07:24 AM  
Use Case: warehouse-automation

### Automation Overview

Total Warehouses: 5  
Total Robots: 40  
Average Utilization: 85.8%  
Throughput Increase: 34.2%  
Labor Cost Reduction: 28.5%  
ROI Period: 2.3 years

### Warehouse Performance

| Warehouse Location    |                 | Capacity Used | Inbound/Day | Outbound/Day | Picking Accuracy | Automation Level | Status             |
|-----------------------|-----------------|---------------|-------------|--------------|------------------|------------------|--------------------|
| Distribution Center A | Chicago, IL     | 80.0%         | 1,050       | 2,224        | 96.8%            | 88.2%            | Optimized          |
|                       | Dallas, TX      | 55.9%         | 2,229       | 1,548        | 96.2%            | 94.2%            | Optimized          |
| Distribution Center B | Atlanta, GA     | 98.1%         | 2,759       | 2,620        | 99.0%            | 68.7%            | Improvement Needed |
| Distribution Center C | Los Angeles, CA | 49.5%         | 1,852       | 2,432        | 96.8%            | 94.8%            | Optimized          |
| Distribution Center D | Newark, NJ      | 63.8%         | 1,628       | 1,761        | 97.8%            | 83.1%            | Optimized          |
| Distribution Center E |                 |               |             |              |                  |                  |                    |

### Optimization Opportunities

- Deploy 5 additional AGVs in Warehouse 3 to increase throughput by 20%
- Implement voice-picking

system to  
improve  
accuracy to  
99.8%

- Upgrade WMS integration for real-time inventory visibility

- Add automated sortation system for small package handling

- Implement predictive analytics for demand-based staffing

- Consider AS/RS system for high-velocity SKUs