



ProVision WMS
By Ahearn & Soper Inc

TRANSFORMING WINDOW AND DOOR MANUFACTURING WITH PROVISION WMS

HOW THE RIGHT WAREHOUSE MANAGEMENT SYSTEM CREATES COMPETITIVE ADVANTAGE

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EXECUTIVE SUMMARY

The window and door manufacturing industry faces unique challenges including complex inventory management, custom product configurations, regulatory compliance, and increasing competition. This eBook demonstrates how ProVision WMS (Warehouse Management System) delivers measurable advantages to manufacturers in this sector through enhanced inventory control, streamlined workflows, improved quality management, and data-driven decision making.

Manufacturers who implement ProVision WMS can expect significant improvements in operational efficiency, cost reduction, quality control, and customer satisfaction. The system's specialized features address industry-specific challenges while providing the flexibility to adapt to each manufacturer's unique requirements. This guide details how window and door manufacturers can leverage ProVision WMS to create sustainable competitive advantages in today's challenging market.

“ WHAT COULD YOUR BUSINESS ACHIEVE WITH 30% LESS INVENTORY AND 20% MORE EFFICIENCY? ”

INTRODUCTION

TO THE WINDOW AND DOOR MANUFACTURING INDUSTRY CHALLENGES

THE COMPLEX NATURE OF WINDOW AND DOOR MANUFACTURING

WINDOW AND DOOR
MANUFACTURING COMBINES
PRECISION ENGINEERING WITH
CUSTOMIZATION AT SCALE.
UNLIKE MANY MANUFACTURING
OPERATIONS, THIS INDUSTRY
MUST BALANCE:

- **High customization levels** - Nearly every order may have unique specifications
- **Material variation** - Managing diverse materials including glass, aluminum, vinyl, wood, and hardware
- **Complex assembly** processes - Multiple components requiring precise assembly
- **Strict quality standards** - For energy efficiency, security, and durability
- **Regulatory compliance** - Meeting building codes and energy efficiency requirements



CURRENT INDUSTRY PAIN POINTS

INVENTORY MANAGEMENT COMPLEXITY

- Tracking thousands of SKUs including raw materials, components, and finished products
- Managing specialty items with long lead times
- Balancing just-in-time inventory needs with material availability
- Accounting for material waste and remnant management

PRODUCTION EFFICIENCY

- Coordinating production for custom orders
- Minimizing changeover times between different product types
- Scheduling production to maximize throughput while maintaining quality
- Managing bottlenecks in multi-stage manufacturing processes

These challenges create significant operational pressures that impact profitability, customer satisfaction, and competitive positioning. The right warehouse management system can address these pain points directly, transforming challenges into opportunities for differentiation.

QUALITY CONTROL

- Ensuring consistent quality across custom products
- Documenting compliance with building codes and standards
- Managing returns and warranty claims effectively
- Tracing materials through the production process

CUSTOMER SERVICE

- Meeting tight delivery windows
- Providing accurate lead times for custom products
- Enabling visibility into order status
- Managing change orders efficiently

RESOURCE OPTIMIZATION

- Minimizing waste of expensive materials
- Optimizing labor allocation across production lines
- Managing space efficiently in production and warehouse facilities
- Reducing energy consumption and environmental impact

UNDERSTANDING PROVISION WMS

WHAT MAKES PROVISION WMS DIFFERENT?

PROVISION WMS IS A COMPREHENSIVE WAREHOUSE MANAGEMENT SYSTEM SPECIFICALLY DESIGNED TO ADDRESS THE UNIQUE CHALLENGES OF CUSTOM MANUFACTURING ENVIRONMENTS LIKE WINDOW AND DOOR PRODUCTION. UNLIKE GENERIC WMS SOLUTIONS, PROVISION OFFERS:

- Industry-specific functionality tailored to window and door manufacturing workflows
- Configurability that adapts to each manufacturer's unique processes without extensive customization
- End-to-end visibility from raw material receipt through finished goods delivery
- Integration capabilities with ERP, CRM, and production systems
- Scalability to grow with your business needs



CORE CAPABILITIES OF PROVISION WMS

01

INVENTORY MANAGEMENT:

- Multi-location inventory tracking with bin-level precision
- Lot, batch, and serial number traceability
- Automated replenishment based on production schedules
- FIFO/LIFO/FEFO inventory management
- Dimensional inventory tracking for sheet material

02

PRODUCTION SUPPORT:

- Work order management
- Material allocation and reservation
- Labor tracking and efficiency metrics
- Production stage visibility
- Digital work instructions

03

QUALITY CONTROL:

- Inspection checklists and quality gates
- Non-conformance tracking
- Corrective action management
- Compliance documentation
- Audit trail for all quality events

04

WAREHOUSE OPERATIONS:

- Directed put away and picking
- Optimized picking routes
- Cross-docking capabilities
- Cycle counting without operational disruption
- Advanced shipping notifications

05

ANALYTICS AND REPORTING:

- Real-time dashboards
- Custom report creation
- KPI tracking
- Predictive analytics
- Historical performance analysis
- Digital work instructions

06

TECHNOLOGY FOUNDATION:

ProVision WMS is built on a modern technology stack that provides:

- Cloud-based deployment with on-premises options
- Mobile-first design for warehouse floor operations
- API-centric architecture for seamless integrations
- Robust security with role-based access controls
- Disaster recovery and business continuity features
- Compliance documentation
- Audit trail for all quality events

THIS FOUNDATION ENSURES THAT PROVISION WMS CAN DELIVER IMMEDIATE VALUE WHILE CONTINUING TO EVOLVE WITH EMERGING TECHNOLOGIES AND CHANGING BUSINESS REQUIREMENTS.

KEY BENEFITS OF PROVISION WMS IMPLEMENTATION



COST REDUCTION

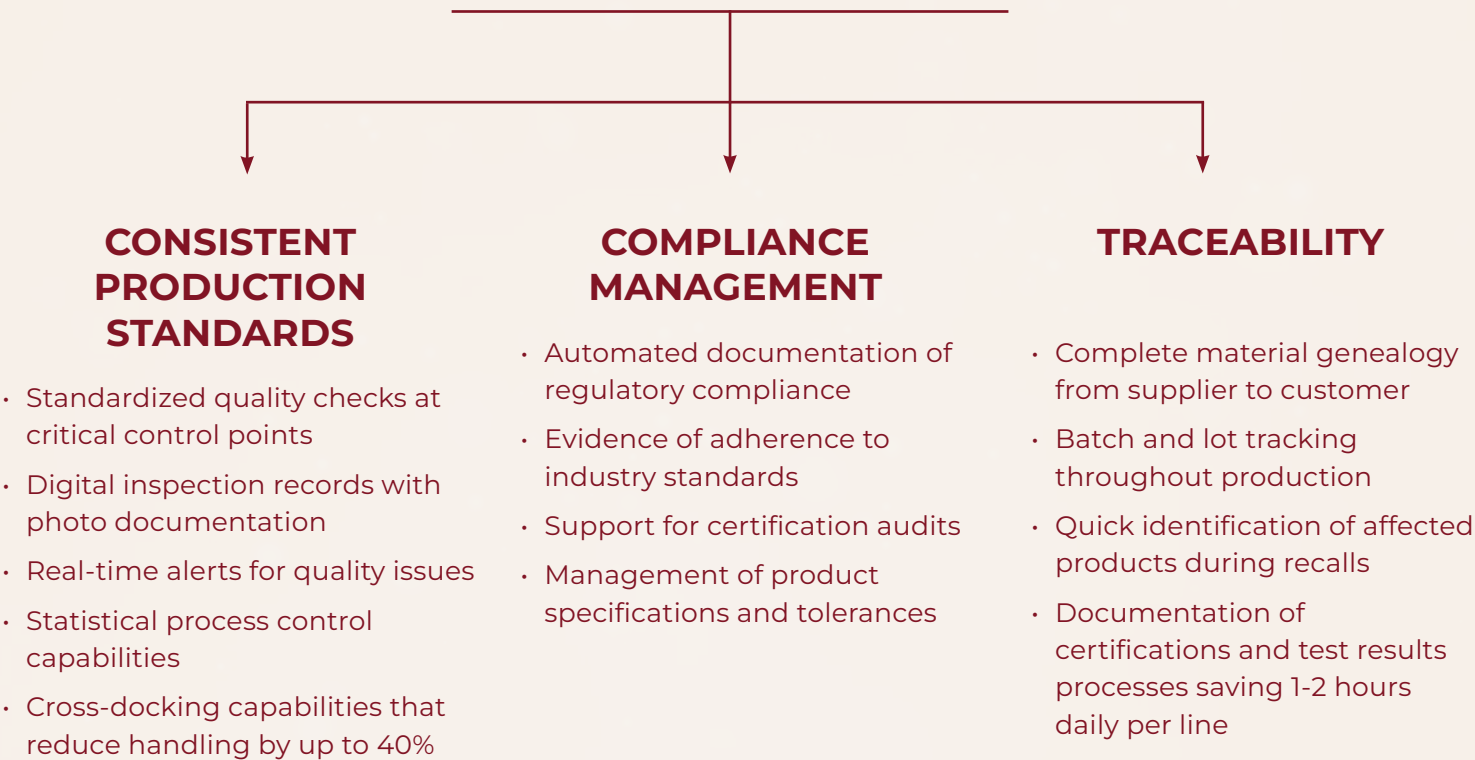
INVENTORY OPTIMIZATION • 15-30% reduction in overall inventory levels • 40-60% decrease in stock-outs of critical materials • 25-35% reduction in excess and obsolete inventory • Better forecasting and demand planning	SPACE UTILIZATION • 20-30% improvement in warehouse space utilization • Dynamic slotting based on demand patterns • Better organization of work-in-progress areas • Optimized storage of bulky and irregular items
WASTE REDUCTION • 10-20% reduction in material waste through better planning • Improved remnant management and reuse • Reduced damage from improper handling • Better cycle counting preventing inventory discrepancies	LABOR COST CONTROL • Reduction in overtime through better scheduling • More efficient use of specialized labor • Reduced administrative overhead • Fewer error correction activities

PROVISION WMS CUTS MATERIAL SEARCH TIME BY UP TO 50% AND BOOSTS ON-TIME DELIVERY BY 50%

- THAT'S OPERATIONAL EFFICIENCY YOU CAN MEASURE.

FROM FEWER STOCK-OUTS TO FASTER SHIPPING, PROVISION WMS TURNS CHAOS INTO CLARITY; EVERY STEP OF THE WAY.

QUALITY MANAGEMENT



CUSTOMER SATISFACTION



*KNOW WHAT'S HAPPENING AT EVERY STAGE;
FROM SUPPLIER TO SHIPMENT
WITH END-TO-END TRACEABILITY AND
REAL-TIME QUALITY ALERTS.*

COMPETITIVE ADVANTAGES CREATED BY PROVISION WMS



01 SPEED-TO-MARKET ADVANTAGE:

ProVision WMS creates a demonstrable speed advantage through:

- **Faster order-to-delivery cycles** - Reducing overall lead times by 20-40%
- **Quicker response to market trends** - Inventory visibility enabling fast pivots
- **Accelerated new product introduction** - Better component management
- **Rapid scaling capabilities** - Systems that grow with demand spikes

THIS SPEED ADVANTAGE TRANSFORMS OPERATIONAL EFFICIENCY INTO MARKET RESPONSIVENESS, ALLOWING MANUFACTURERS TO WIN BUSINESS BY PROMISING AND DELIVERING SHORTER LEAD TIMES THAN COMPETITORS.

02 COST LEADERSHIP ADVANTAGE:

By optimizing operations at multiple levels, ProVision WMS enables:

- **Lower production costs** - Through reduced waste and improved labor efficiency
- **Better inventory carrying costs** - Requiring less working capital
- **Reduced overhead** - With fewer administrative and error correction activities
- **Optimized transportation spending** - Through better consolidation and planning

THESE COST ADVANTAGES CAN EITHER INCREASE PROFIT MARGINS OR ENABLE MORE COMPETITIVE PRICING STRATEGIES, CREATING FLEXIBILITY IN HOW MANUFACTURERS POSITION THEMSELVES IN THE MARKET.

03 QUALITY DIFFERENTIATION ADVANTAGE:

ProVision WMS helps manufacturers build a reputation for superior quality through:

- **Consistent product excellence** - Reduced variation in outputs
- **Lower defect rates** - Early detection and prevention
- **Better durability and performance** - Through material traceability and selection
- **Enhanced customization precision** - Ensuring specifications are met exactly

IN AN INDUSTRY WHERE QUALITY DIRECTLY IMPACTS BOTH AESTHETICS AND BUILDING PERFORMANCE, THESE ADVANTAGES CREATE SIGNIFICANT DIFFERENTIATION OPPORTUNITIES.

04 SERVICE EXCELLENCE ADVANTAGE:

Customer experience becomes a key differentiator with:

- **Reliable delivery promises** - Building customer trust
- **Responsive issue resolution** - Through better information availability
- **Proactive communication** - Setting proper expectations
- **Flexibility to accommodate changes** - Even late in the production process

THIS SERVICE ADVANTAGE IS PARTICULARLY VALUABLE IN CONTRACTOR AND BUILDER RELATIONSHIPS, WHERE SCHEDULE COORDINATION IS CRITICAL TO PROJECT SUCCESS.

05 DATA-DRIVEN INNOVATION ADVANTAGE:

ProVision WMS creates a foundation for continuous innovation through:

- **Actionable operational insights** - Identifying improvement opportunities
- **Customer preference analysis** - Spotting emerging trends
- **Predictive maintenance** - Preventing costly downtime
- **Scenario planning capabilities** - Testing new strategies virtually

THIS INNOVATION ADVANTAGE ENSURES MANUFACTURERS CAN STAY AHEAD OF MARKET TRENDS RATHER THAN SIMPLY REACTING TO THEM.

06 SUSTAINABILITY ADVANTAGE:

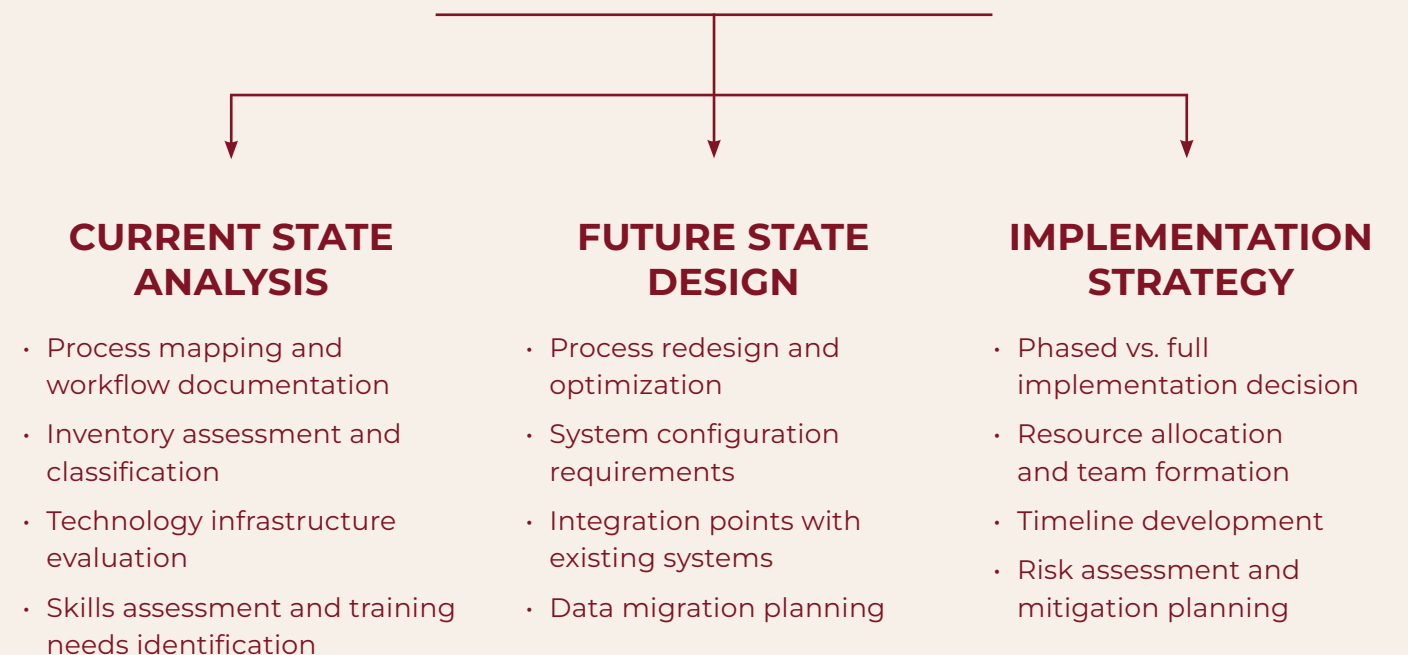
Increasingly important to customers and regulations, ProVision WMS supports:

- **Reduced material waste** - Through better planning and remnant management
- **Lower energy consumption** - With optimized processes
- **Decreased transportation emissions** - Through consolidated shipments
- **Improved recycling capabilities** - With better material tracking

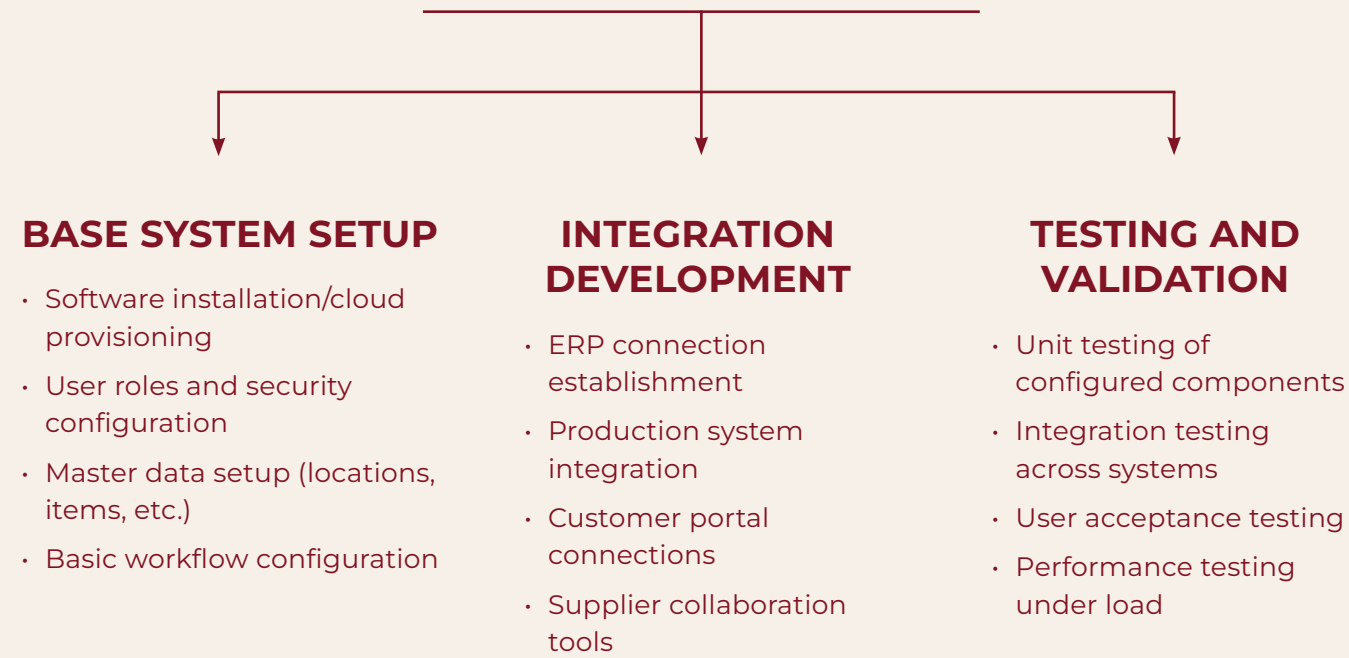
THESE SUSTAINABILITY ADVANTAGES ADDRESS GROWING CUSTOMER CONCERNS WHILE POTENTIALLY REDUCING COSTS AND ENSURING REGULATORY COMPLIANCE.

IMPLEMENTATION ROADMAP

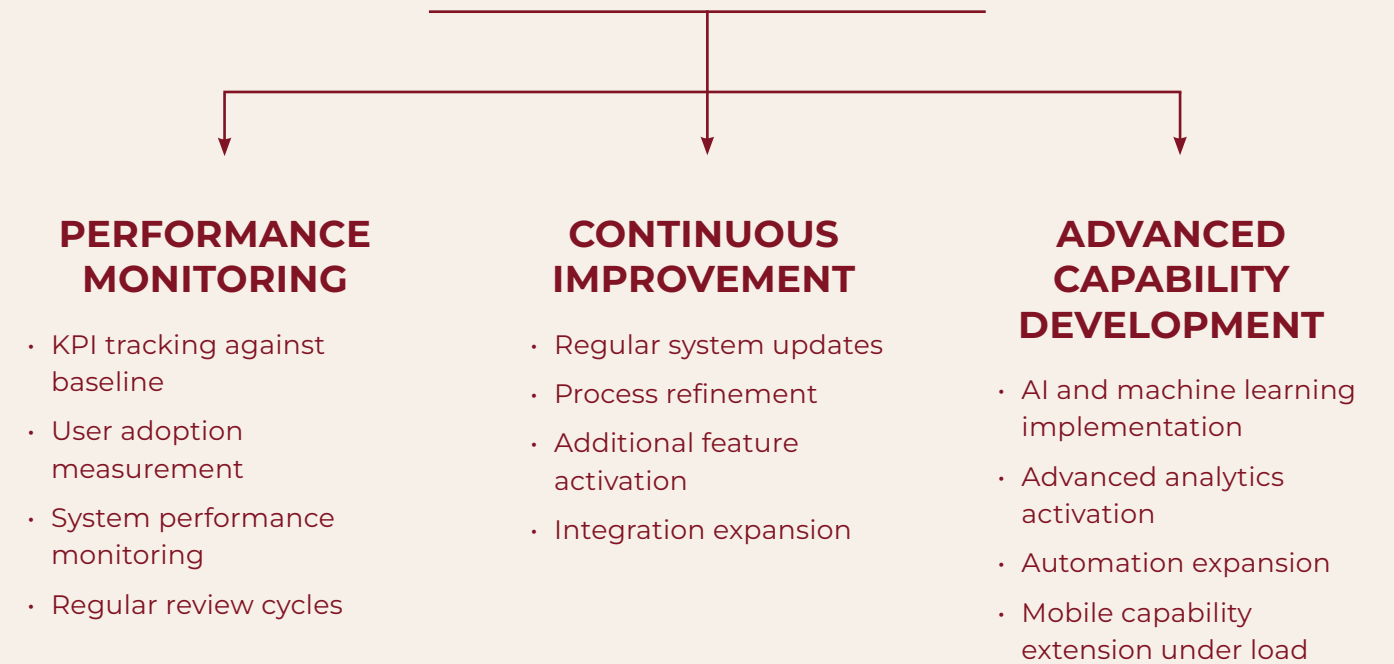
PHASE 1: ASSESSMENT AND PLANNING (1-2 MONTHS)



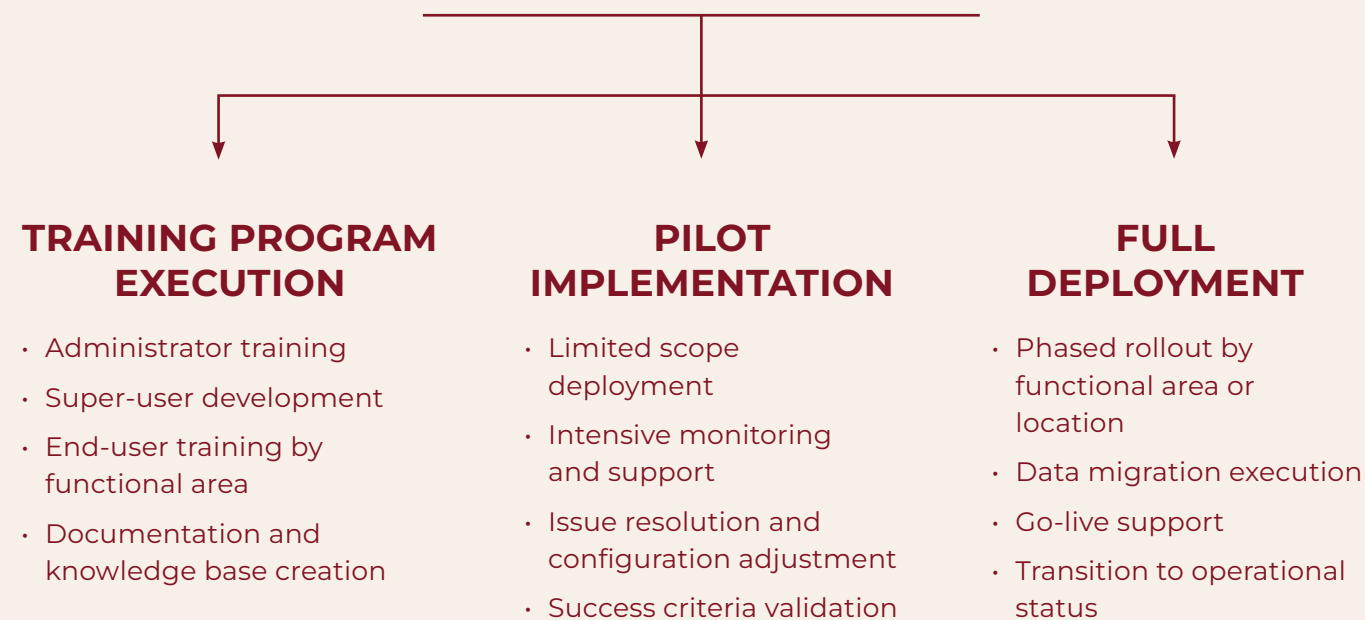
PHASE 2: SYSTEM CONFIGURATION AND TESTING (2-3 MONTHS)



PHASE 4: OPTIMIZATION AND EVOLUTION (ONGOING)



PHASE 3: TRAINING AND DEPLOYMENT (1-2 MONTHS)



IMPLEMENTATION SUCCESS FACTORS

- **Executive Sponsorship** - Visible leadership support
- **Cross-Functional Team** - Representation from all affected departments
- **Clear Success Metrics** - Defined before implementation begins
- **Change Management Focus** - Addressing cultural and process changes
- **Adequate Training Resources** - Ensuring user competence and confidence
- **Post-Implementation Support** - Dedicated resources during transition

ROI ANALYSIS AND BUSINESS CASE

INVESTMENT COMPONENTS

- **Software Licensing/Subscription** - Based on user count and modules
- **Implementation Services** - Configuration, integration, and deployment
- **Hardware Investments** - Mobile devices, scanners, printers, and network upgrades
- **Internal Resource Allocation** - Staff time for implementation and training
- **Ongoing Support Costs** - Maintenance, updates, and technical support

BENEFIT CATEGORIES

HARD BENEFITS (EASILY QUANTIFIABLE)

- **Inventory Reduction - 15-30% decrease in overall inventory levels**
 - » Calculation: $(\text{Average Inventory Value} \times \text{Reduction Percentage}) \times \text{Carrying Cost Rate}$
 - » Example: $(\$2,000,000 \times 20\%) \times 25\% = \$100,000$ annual savings
- **Labor Efficiency - 15-25% increase in productivity**
 - » Calculation: $(\text{Total Warehouse Labor Cost} \times \text{Efficiency Gain})$
 - » Example: $(\$800,000 \times 20\%) = \$160,000$ annual savings
- **Error Reduction - 50-70% decrease in picking and shipping errors**
 - » Calculation: $(\text{Annual Error Count} \times \text{Average Cost Per Error} \times \text{Reduction Percentage})$
 - » Example: $(500 \text{ errors} \times \$250 \text{ per error} \times 60\%) = \$75,000$ annual savings
- **Space Utilization - 20-30% improvement in warehouse space usage**
 - » Calculation: $(\text{Square Footage} \times \text{Monthly Cost per SqFt} \times 12 \text{ months} \times \text{Improvement \%})$
 - » Example: $(20,000 \text{ sqft} \times \$0.75 \text{ per sqft} \times 12 \text{ months} \times 25\%) = \$45,000$ annual savings

SOFT BENEFITS (MORE DIFFICULT TO QUANTIFY)

- **Customer Satisfaction Improvements**
 - » Increased repeat business and referrals
 - » Reduced customer service costs
 - » Premium pricing opportunities for reliable service
- **Competitive Positioning**
 - » Ability to win contracts requiring sophisticated tracking
 - » Reputation enhancement
 - » Market share growth opportunities
- **Compliance and Risk Management**
 - » Reduced liability exposure
 - » Better insurance terms
 - » Easier certification maintenance
- **Employee Satisfaction**
 - » Reduced frustration from manual processes
 - » Clear performance expectations
 - » Data-driven recognition opportunities



WHERE EFFICIENCY MEETS ECONOMICS:
ROI UP TO 300%

TYPICAL ROI TIMELINE



ROI CALCULATION EXAMPLE

For a medium-sized window and door manufacturer with \$20 million in annual revenue:

INVESTMENT CATEGORY	COST
SOFTWARE LICENSING (ANNUAL)	\$60,000
IMPLEMENTATION SERVICES (ONE-TIME)	\$120,000
HARDWARE INVESTMENT (ONE-TIME)	\$40,000
INTERNAL RESOURCES (ONE-TIME)	\$80,000
TOTAL FIRST YEAR INVESTMENT	\$300,000
ANNUAL RECURRING COSTS	\$80,000

BENEFIT CATEGORY	ANNUAL VALUE
INVENTORY REDUCTION	\$125,000
LABOR EFFICIENCY	\$160,000
ERROR REDUCTION	\$75,000
SPACE UTILIZATION	\$45,000
QUANTIFIABLE SOFT BENEFITS	\$90,000
TOTAL ANNUAL BENEFITS	\$495,000

FIRST YEAR ROI:

First Year ROI: 65% $(\$495,000 - \$300,000 = \$195,000 \text{ return on } \$300,000 \text{ investment})$ Three-Year

ROI: 305% $((\$495,000 \times 3) - (\$300,000 + (\$80,000 \times 2)) = \$1,025,000 \text{ return on } \$300,000 \text{ initial investment} + \$160,000 \text{ recurring costs})$

BUSINESS CASE DEVELOPMENT FRAMEWORK

Current State Assessment

- Document existing operational metrics
- Identify specific pain points and their costs
- Establish performance baselines

Expected Benefits Calculation

- Apply industry benchmarks to your specific operation
- Conduct sensitivity analysis for conservative/aggressive scenarios
- Prioritize benefits by confidence level

Investment Requirements

- Get detailed quotes from Provision WMS
- Assess internal resource requirements realistically
- Include contingency funding for unexpected challenges

Risk Assessment

- Identify potential implementation obstacles
- Develop mitigation strategies
- Create alternative scenarios for ROI calculation

Approval Documentation

- Executive summary with key financial metrics
- Detailed analysis with assumptions clearly stated
- Implementation timeline with key milestones



CASE STUDIES

PREMIUM WINDOWS AND DOORS, INC.

COMPANY PROFILE	CHALLENGES
• \$30 million annual revenue • 120 employees • High-end custom window and door manufacturer • Specializing in architectural wood products	• Lengthy lead times affecting customer satisfaction • High inventory costs for specialty materials • Quality inconsistencies creating warranty issues • Limited visibility into production status
PROVISION WMS IMPLEMENTATION:	RESULTS:
• Focus on quality tracking and material traceability • Integration with custom design software • Mobile quality inspection implementation • Vendor-managed inventory for key suppliers	• 35% reduction in lead times • 28% decrease in warranty claims • 22% reduction in inventory carrying costs • 15% increase in production capacity without adding staff

ROI ACHIEVEMENT:

- Investment recovered within 14 months
- 245% ROI over three years

CASE STUDIES

VALUCRAFT WINDOWS

COMPANY PROFILE	CHALLENGES
• \$15 million annual revenue • 80 employees • Value-oriented vinyl window manufacturer • Regional distribution to contractors and home centers	• Intense price competition requiring cost efficiency • High volume with thin margins • Seasonal demand fluctuations • Labor shortages during peak seasons
PROVISION WMS IMPLEMENTATION:	RESULTS:
• Streamlined picking and assembly processes • Labor optimization and performance tracking • Automated material replenishment • Integration with home center EDI systems	• 18% reduction in direct labor costs • 32% improvement in on-time delivery performance • 25% reduction in overtime during peak season • 40% faster training for new hires

ROI ACHIEVEMENT:

- Investment recovered within 11 months
- 310% ROI over three years

CASE STUDIES

ARCHITECTURAL GLAZING SYSTEMS

COMPANY PROFILE • \$45 million annual revenue • 150 employees • Commercial curtain wall and window systems • Project-based manufacturing model	CHALLENGES • Complex project coordination • Regulatory compliance documentation • Material staging for large projects • Change order management
PROVISION WMS IMPLEMENTATION: • Project-based inventory management • Digital quality documentation • Integration with project management system • Mobile deployment for on-site coordination	RESULTS: • 30% reduction in project completion time • 45% decrease in change order processing time • 35% improvement in material utilization • Zero compliance documentation failures

ROI ACHIEVEMENT:

- Investment recovered within 16 months
- 280% ROI over three years

CONCLUSION AND NEXT STEPS

KEY TAKEAWAYS

- Provision WMS delivers measurable competitive advantages through operational excellence, cost reduction, quality improvement, and enhanced customer service.
- Industry-specific functionality addresses the unique challenges of window and door manufacturing more effectively than generic WMS solutions.
- ROI is typically achieved within 12-18 months, with ongoing benefits continuing to accumulate for years afterward.
- Successful implementation requires careful planning, executive sponsorship, and a focus on change management alongside technical configuration.
- The window and door manufacturing landscape is evolving, with companies that embrace digital transformation gaining significant advantages over those that maintain traditional approaches.

TAKING ACTION

IMMEDIATE STEPS

1. Conduct an internal assessment of your current operations to identify specific pain points and opportunities.
2. Request a personalized demonstration of Provision WMS focused on your unique manufacturing environment.
3. Develop a preliminary business case using the framework provided in this guide, adjusted for your specific circumstances.
4. Identify potential implementation team members who would be involved in the project.

MEDIUM-TERM ACTIONS

1. Visit a current Provision WMS user in the window and door industry to see the system in action.
2. Engage key stakeholders across departments to build consensus and gather requirements.
3. Evaluate integration requirements with your existing systems.
4. Develop a phased implementation plan that minimizes operational disruption.

LONG-TERM VISION

1. Create a digital transformation roadmap with Provision WMS as a foundation.
2. Identify advanced capabilities to activate after core functionality is established.
3. Develop metrics for continuous improvement to ensure ongoing value creation.
4. Build a culture of data-driven decision making supported by Provision WMS analytics.



CONTACT INFORMATION

TO LEARN MORE ABOUT HOW **PROVISION WMS** CAN TRANSFORM YOUR WINDOW AND DOOR MANUFACTURING OPERATION:

- Website: www.provisionwms.com
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