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AutomataNexus SBOM System - End User Guide

Quick Start Guide

AutomataNexus SBOM System is your comprehensive HVAC business management platform. This guide will help you navigate and utilize all features effectively to optimize your business operations, track profitability, and deliver exceptional customer service.

Table of Contents

- 1. [System Access & Login](#)
 - 2. [Dashboard Overview](#)
 - 3. [Inventory Management](#)
 - 4. [Bill of Materials \(BOM\) Management](#)
 - 5. [Project Management](#)
 - 6. [Reports & Analytics](#)
 - 7. [Service Quality Tracking](#)
 - 8. [Time & Labor Management](#)
 - 9. [Business Workflows](#)
 - 10. [Troubleshooting & Support](#)
-

System Access & Login

Accessing the System

Web Access: - **URL:** `http://localhost:3000` (or your configured domain) - **Browser Requirements:** Chrome, Firefox, Safari, or Edge (latest versions) - **Mobile Support:** Responsive design works on tablets and smartphones

System Requirements: - **Internet Connection:** Required for real-time updates - **Screen Resolution:** Minimum 1024x768 recommended - **JavaScript:** Must be enabled in browser

Navigation Overview

Main Navigation Menu (Left Sidebar): - **Dashboard:** Business overview and key metrics - **Analytics:** Detailed business performance analysis - **Inventory:** Component and materials management - **BOM:** Bill of Materials creation and management - **Projects:** Project tracking and management - **Reports:** Report generation and documentation - **Calendar:** Project scheduling and deadlines - **Database:** Data management and export tools - **Settings:** System configuration and preferences

Dashboard Overview

Main Dashboard Features

The Dashboard is your central command center, providing real-time insights into your business performance.

Key Metrics Display

Business Health Indicators: - **Total Revenue:** Current month revenue with trend indicator - **Active Projects:** Number of projects currently in progress - **Inventory Value:** Total value of current inventory - **Low Stock Alerts:** Components requiring immediate attention

Visual Indicators: - **Green:** Positive performance/healthy status - **Yellow:** Warning/attention required - **Red:** Critical issues requiring immediate action - **Blue:** Informational/neutral status

Recent Activity Feed

Activity Types: - **New BOMs Created:** Recent BOM additions with timestamps - **Project Updates:** Status changes and milestone completions - **Inventory Changes:** Stock updates and new item additions - **Reports Generated:** Recent report creation and distribution

Quick Actions Panel

One-Click Operations: - **+ New Inventory Item:** Add components quickly - **+ Create BOM:** Start new Bill of Materials - **+ New Project:** Launch new project tracking - **Generate Report:** Access reporting tools

Auto-Refresh Feature

The dashboard automatically refreshes every 30 seconds to ensure you always see current information. Look for the subtle loading indicator to know when data is updating.

Inventory Management

Inventory Overview

The Inventory module is designed to help you manage your HVAC components, track stock levels, and optimize procurement processes.

Inventory Categories

Main Categories with Color Coding: - **Sensors & Controls** (Purple): Temperature, pressure, flow sensors - **Valves & Actuators** (Blue): Control valves, motorized actuators - **Electrical Components** (Orange): Contactors, relays, control panels - **Mechanical Components** (Green): Pumps, fans, motors - **Refrigeration** (Cyan): Compressors, condensers, evaporators - **Piping & Fittings** (Teal): Pipes,

fittings, insulation - **Fasteners & Hardware** (Gray): Bolts, screws, mounting hardware - **Safety Equipment** (Red): PPE, safety systems - **Tools & Equipment** (Purple): Installation and maintenance tools - **Consumables** (Yellow): Filters, gaskets, disposables

Using Inventory Management

Adding New Inventory Items

Step 1: Access Inventory - Click "Inventory" in the left navigation menu - Click the "+ Add Item" button (top right)

Step 2: Enter Item Details - **SKU/Part Number**: Unique identifier for the component - **Name**: Descriptive name for easy identification - **Description**: Detailed description including specifications - **Category**: Select from dropdown menu of predefined categories - **Manufacturer**: Brand name (e.g., Honeywell, Johnson Controls) - **Manufacturer Part Number**: Original part number from manufacturer

Step 3: Financial Information - **Standard Cost**: Your typical purchase price - **Last Purchase Price**: Most recent purchase price - **Selling Price**: Customer-facing price (if applicable)

Step 4: Stock Management - **Current Stock**: Current quantity on hand - **Minimum Stock**: Reorder point threshold - **Maximum Stock**: Maximum inventory level - **Reorder Quantity**: Standard reorder amount

Step 5: Location Information - **Warehouse Location**: Zone, aisle, shelf, bin location - **Supplier Information**: Primary supplier and alternates

Stock Status Understanding

Stock Status Colors: - **Green - In Stock**: Adequate inventory (above minimum threshold) - **Yellow - Low Stock**: Below minimum threshold, reorder recommended - **Red - Out of Stock**: Zero inventory, immediate reorder required - **Blue - Excess Stock**: Above maximum threshold, consider usage analysis

Inventory Search and Filtering

Search Capabilities: - **Text Search**: Search by SKU, name, description, or manufacturer part number - **Category Filter**: Click category buttons for quick filtering - **Advanced Filters**: Stock status, supplier, location filters

Quick Filter Buttons: Click any category button at the top to instantly filter inventory. The active filter is highlighted in the category's color.

Inventory Actions

Bulk Operations: - **Export Data**: Download inventory list as CSV for external analysis - **Import Data**: Bulk upload inventory updates via CSV template - **Print Lists**: Generate printable inventory lists

Individual Item Actions: - **Edit Item**: Update any item information - **View History**: See transaction history for stock changes - **Adjust Stock**: Make stock level adjustments with reason codes

Bill of Materials (BOM) Management

BOM Overview

The BOM module helps you create detailed component lists for HVAC equipment installations, with automatic cost calculations and project integration.

Equipment Types Supported

Primary HVAC Equipment: - **Air Handlers:** Central air handling units with controls - **Boilers:** Steam and hot water boilers with safety systems - **Chillers:** Air-cooled and water-cooled refrigeration systems - **Cooling Towers:** Evaporative cooling systems with water treatment - **Pumps:** Circulation pumps and specialty pumping systems - **RTU (Roof Top Units):** Package air conditioning units - **DOAS:** Dedicated Outdoor Air Systems with energy recovery - **VAV Boxes:** Variable Air Volume terminal units - **Fan Coils:** Terminal heating/cooling units - **Steam Systems:** Steam distribution and control systems - **Greenhouse Controls:** Environmental control systems - **Geothermal Systems:** Ground source heat pump systems

Creating a New BOM

Step 1: BOM Header Information

Access BOM Creation: - Click "BOM" in the left navigation menu - Click "+ Create BOM" button

Enter Basic Information: - **Equipment Type:** Select from dropdown of supported equipment - **Location:** Choose customer location (auto-populates customer info) - **Project Number:** Assigned automatically or enter custom number - **Work Order:** Select from predefined work order types - **Description:** Detailed description of the BOM purpose

Automatic BOM ID Generation: The system automatically creates a unique BOM ID using the format: LOCATION_CODE-PROJECT_NUMBER-BOM-YEAR

Example: H0P-2024-001-BOM-2024 (Hopkins location, project 1, 2024)

Step 2: Adding Components

Add Components to BOM: - Click "+ Add Component" button - Search for components by SKU, name, or part number - Select component from search results

Component Information: - **Quantity:** Number of units required - **Unit Cost:** Cost per unit (pulled from inventory) - **Extended Cost:** Automatically calculated (Quantity × Unit Cost) - **Notes:** Special installation notes or specifications

Real-Time Cost Calculation: As you add components, the system automatically calculates: - **Material Total:** Sum of all component costs - **Labor Cost:** Based on estimated hours × \$179/hour - **Markup:** Applied to components based on cost tiers - **Total BOM Cost:** Material + Labor + Overhead

Component Markup Structure

The system applies automatic markup based on component cost:

Markup Tiers: - **\$0-\$25:** 3.5× markup (250% profit) - **\$26-\$100:** 3.25× markup (225% profit) - **\$101-\$500:** 2.75× markup (175% profit) - **\$501-\$1000:** 2.5× markup (150% profit) - **\$1001-\$1500:** 2.25× markup (125% profit) - **Over \$1500:** 1.75× markup (75% profit)

BOM Cost Analysis

Understanding Cost Breakdown

Cost Components: - **Material Cost:** Raw cost of all components - **Material Markup:** Profit margin on components - **Labor Hours:** Estimated installation time (default 8.74 hours) - **Labor Revenue:** Labor hours × \$179/hour (customer billing) - **Labor Cost:** Labor hours × \$79/hour (internal cost) - **Overhead:** Additional business overhead allocation - **Total Revenue:** Complete project revenue - **Gross Profit:** Revenue minus all costs

Profitability Analysis: The system displays real-time profit calculations: - **Gross Margin %:** Percentage profit on total revenue - **Component Profit:** Markup profit on materials - **Labor Profit:** Difference between billing and cost rates

BOM Status Management

BOM Status Options: - **Draft:** BOM under development, not yet finalized - **Active:** Approved BOM ready for use - **Inactive:** Temporarily suspended BOM - **Obsolete:** Outdated BOM no longer in use

Status Workflow: 1. Create BOM in "Draft" status 2. Review and finalize all components 3. Change status to "Active" when ready for use 4. Use "Inactive" for temporary suspension 5. Mark "Obsolete" when superseded by newer version

BOM Templates

Creating Templates: For frequently used equipment configurations, you can save BOMs as templates: - Complete a standard BOM for specific equipment - Save as template with descriptive name - Use template to quickly create similar BOMs - Modify template BOMs as needed for specific projects

Project Management

Project Overview

The Project Management module helps you track HVAC projects from initial planning through completion, with integrated BOM management and financial tracking.

Customer Locations

The system includes 14 predefined customer locations with complete information:

Location Information Includes: - **Customer Name:** Business or individual name - **Contact Information:** Phone, email, billing contact - **Service Address:** Complete service location address - **Site Notes:** Access requirements, equipment notes, special instructions - **Service History:** Previous projects and service calls

Creating a New Project

Step 1: Project Setup

Access Project Creation: - Click "Projects" in the left navigation menu - Click "+ New Project" button

Basic Project Information: - **Project Name:** Descriptive name for easy identification - **Customer Location:** Select from predefined locations - **Start Date:** Project start date - **Target Completion:** Expected completion date - **Priority Level:** Critical, High, Medium, or Low

Project Classification: - **Project Type:** Installation, Maintenance, Repair, Emergency - **Work Order:** Select from predefined work order types - **Complexity:** Simple, Standard, Complex project classification

Step 2: Financial Setup

Budget Information: - **Total Budget:** Overall project financial allocation - **Material Budget:** Budget for components and materials - **Labor Budget:** Budget for labor hours and costs - **Overhead Allocation:** Administrative and overhead costs

Financial Tracking: - **Actual Costs:** Real-time tracking of incurred costs - **Budget Variance:** Automatic calculation of over/under budget - **Profit Projection:** Estimated profit based on current costs

Step 3: Project Status Management

Status Options: - **Planning:** Initial project setup and preparation - **Active:** Project work in progress - **On Hold:** Temporarily suspended (specify reason) - **Completed:** Project successfully finished - **Cancelled:** Project terminated before completion

Progress Tracking: - **Percentage Complete:** Estimated project completion percentage - **Milestone Tracking:** Key project milestones and deadlines - **Issue Tracking:** Problems and resolution status

Assigning BOMs to Projects

Project-BOM Integration

Adding BOMs to Projects: - Open existing project or create new project - Click "+ Add BOM" button - Select from existing BOMs or create new BOM - Multiple BOMs can be assigned to single project

Cost Integration: - BOM costs automatically roll up to project totals - Material costs from BOMs update project material budget - Labor estimates from BOMs update project labor requirements

Progress Tracking: - Mark BOMs as "Started," "In Progress," or "Completed" - Project completion percentage updates based on BOM progress - Material allocation tracking shows component usage

Project Monitoring

Daily Project Management

Project Dashboard View: - **Active Projects:** All current projects with status - **Overdue Projects:** Projects past target completion date - **Budget Alerts:** Projects approaching or exceeding budget - **Resource Allocation:** Technician assignments and availability

Project Details View: - **Financial Summary:** Budget vs actual costs with variance - **BOM Status:** Progress of all assigned BOMs - **Schedule Status:** Timeline and milestone progress - **Issue Tracking:** Open issues requiring attention

Communication & Documentation

Project Notes: - **Progress Notes:** Daily progress updates and observations - **Issue Notes:** Problem documentation and resolution plans - **Customer Communications:** Record of customer interactions - **Technical Notes:** Installation specifications and modifications

File Attachments: - **Photos:** Before/after photos, progress documentation - **Documents:** Permits, specifications, warranty information - **Drawings:** Equipment layouts and technical drawings

Reports & Analytics

Analytics Dashboard

The Analytics module provides comprehensive business intelligence with multiple view options for detailed analysis.

Analytics Tabs

Tab 1: Overview - Key Performance Indicators: Revenue, projects, inventory metrics - **Performance Trends:** Historical performance with trend analysis - **Quick Stats:** High-level business health indicators

Tab 2: Financial Performance - Revenue Analysis: Monthly and quarterly revenue trends - **Profit Margin Tracking:** Gross and net margin analysis - **Cost Breakdown:** Material vs labor vs overhead analysis - **Project Profitability:** Individual project margin analysis

Tab 3: Operations Analytics - Project Performance: Completion rates and timeline analysis - **Inventory Metrics:** Stock levels, turnover, and valuation - **Service Quality:** First-Time Fix Rate and customer satisfaction - **Resource Utilization:** Technician productivity and capacity analysis

Key Performance Indicators (KPIs)

Financial KPIs: - **Monthly Revenue:** Current month revenue with year-over-year comparison - **Gross Profit Margin:** Target 45-60% (industry benchmark) - **Revenue per Technician:** Target \$250K-\$450K annually - **Average Ticket Size:** Revenue per project analysis

Operational KPIs: - **Project Completion Rate:** Percentage of projects completed on time - **First-Time Fix Rate:** Target >85% (based on callbacks within 30 days) - **Inventory Turnover:** Target 6-8 turns per year - **Technician Productivity:** Target >75% billable hours

Customer KPIs: - **Customer Lifetime Value:** Approximately 15% of monthly revenue - **Callback Rate:** Inverse of First-Time Fix Rate - **Customer Satisfaction:** Based on repeat business and referrals - **Service Response Time:** Average time to respond to service calls

Report Generation

Available Report Types

Financial Reports: - **Revenue Analysis:** Detailed revenue breakdown by time period - **Profit & Loss:** Project profitability with cost analysis - **Budget Variance:** Actual vs budgeted performance - **Cost Center Analysis:** Department and resource cost breakdown

Operational Reports: - **Project Status Reports:** Current project portfolio status - **Inventory Reports:** Stock levels, valuation, reorder requirements - **BOM Analysis:** Component usage and cost optimization - **Service Quality Reports:** Customer satisfaction and performance metrics

Management Reports: - **Executive Dashboard:** High-level business performance summary - **Performance Metrics:** KPI tracking and trend analysis - **Resource Utilization:** Technician and equipment utilization - **Compliance Reports:** Safety, quality, and regulatory compliance

Generating Reports

Step 1: Access Reports - Click "Reports" in the left navigation menu - Select report type from available options

Step 2: Configure Report Parameters - **Date Range:** Select specific date range for analysis - **Filters:** Apply location, project, or category filters - **Format Options:** Choose PDF, HTML, or data export format

Step 3: Generate and Distribute - **Preview:** Review report before final generation - **Generate:** Create final report in selected format - **Email:** Automatically email report to stakeholders - **Archive:** Save report for future reference

Interactive PDF Features

Professional Formatting: - **Company Branding:** Automatic logo and company information - **Chart Integration:** Plotly.js charts embedded in PDF - **Data Tables:** Formatted data with professional layout - **Executive Summary:** Key findings and recommendations

Distribution Options: - **Email Integration:** Automatic distribution via Resend API - **Scheduled Reports:** Daily, weekly, monthly automatic generation - **Stakeholder Lists:** Role-based distribution to appropriate personnel - **Archive Management:** Organized storage of historical reports

Service Quality Tracking

Callback Management

Service quality is critical for HVAC businesses. The system provides comprehensive tracking to maintain high customer satisfaction.

Recording Service Callbacks

When to Record a Callback: - Customer reports equipment malfunction within 30 days of service - Return visit required due to initial service not resolving issue - Warranty claims on recent installations - Customer complaints requiring additional service

Callback Information to Record: - **Original Work Order:** Link to initial service call - **Date of Callback:** When customer reported issue - **Problem Description:** Detailed description of reported problem - **Company Cost:** Internal cost of return service - **Customer Billing:** Whether customer was charged for callback - **Root Cause:** Analysis of why callback was necessary - **Resolution:** How the problem was ultimately resolved

First-Time Fix Rate Calculation

Understanding FTFR: The First-Time Fix Rate measures service quality by tracking how often you resolve customer issues on the first visit.

Calculation Method:
$$\text{FTFR} = (\text{Total Service Calls} - \text{Callbacks in 30 Days}) / \text{Total Service Calls} \times 100\%$$

Industry Standards: - **Excellent:** >90% FTFR - **Good:** 85-90% FTFR - **Needs Improvement:** <85% FTFR

Improving FTFR: - **Technician Training:** Comprehensive diagnostic training - **Equipment Quality:** Use reliable, tested components - **Diagnostic Tools:** Proper testing equipment and procedures - **Follow-up:** Proactive follow-up calls to verify satisfaction

Warranty Tracking

Equipment Warranties

Manufacturer Warranties: - **Equipment Registration:** Register all equipment installations - **Warranty Periods:** Track warranty expiration dates - **Claim Process:** Document warranty claims and resolutions - **Parts Coverage:** Track which components are covered

Service Warranties: - **Company Guarantees:** Track company-provided service warranties - **Labor Warranties:** Guarantee on installation and service work - **Parts Warranties:** Company warranty on parts and components - **Extended Warranties:** Optional extended coverage offerings

Cost Impact Analysis

Callback Cost Tracking: - **Direct Costs:** Technician time, travel, additional parts - **Indirect Costs:** Scheduling disruption, customer relationships - **Opportunity Cost:** Lost time that could be spent on billable work - **Reputation Cost:** Impact on customer satisfaction and referrals

Financial Impact: The system tracks how callbacks affect project profitability: - **Original Project Profit:** Initial project margin - **Callback Costs:** Additional costs due to callbacks - **Net Project Profit:** Final project profitability including callbacks - **Impact Analysis:** How callbacks affect overall business performance

Time & Labor Management

Work Order Time Tracking

Accurate time tracking is essential for profitability analysis and proper customer billing.

Recording Work Order Hours

Access Time Tracking: - Navigate to specific project or work order - Click "Record Time" or access through main navigation - Select technician and work order for time entry

Time Entry Information: - **Date:** Date work was performed - **Start/End Time:** Actual work hours - **Technician:** Who performed the work - **Work Order:** Specific work order being performed - **Location:** Customer location where work occurred - **Activity Type:** Installation, maintenance, repair, travel, etc.

Billable vs. Unbillable Time

Billable Time Categories: - **Installation Work:** Equipment installation and setup - **Maintenance:** Scheduled maintenance activities - **Repair Work:** Emergency and scheduled repairs - **Diagnostic:** Problem diagnosis and testing - **Travel Time:** Customer-billable travel (when applicable)

Unbillable Time Categories: - **Internal Meetings:** Staff meetings and training - **Administrative:** Paperwork and office tasks - **Shop Time:** Equipment preparation and maintenance - **Training:** Professional development activities - **Non-billable Travel:** Internal travel between jobs

Productivity Analysis

Key Productivity Metrics:

Individual Technician Metrics: - **Billable Percentage:** Billable hours ÷ Total hours - **Revenue Generation:** Billable hours × \$179/hour - **Efficiency Rating:** Actual time vs estimated time for tasks - **Customer Satisfaction:** Based on callback rates and feedback

Target Productivity Standards: - **Billable Hours:** >75% of total work time - **Revenue per Technician:** \$250K-\$450K annually - **Efficiency Rating:** Actual time within 10% of estimates - **First-Time Fix Rate:** >85% for service calls

Labor Cost Management

Cost Structure Understanding

Customer Billing Rate: \$179/hour - **Industry-competitive rate for skilled HVAC technicians** - Includes expertise premium for complex installations - **Covers customer service and warranty support**

Internal Labor Cost: \$79/hour (fully loaded) - **Base wages:** Technician hourly wage - **Benefits:** Health insurance, retirement, vacation time - **Payroll Taxes:** Employer portion of taxes and insurance - **Training Costs:** Ongoing professional development - **Equipment:** Tools and safety equipment costs

Gross Labor Margin: \$100/hour (56% margin) - **Healthy margin supporting business operations** - Funds administrative overhead and business growth - **Industry-competitive profit margin for HVAC services**

Overtime Management

Overtime Tracking: - **Regular Hours:** Standard 40-hour work week - **Overtime Hours:** Hours worked beyond standard week - **Emergency Overtime:** After-hours emergency calls - **Holiday Work:** Premium rate holiday service

Cost Impact: - **Overtime Pay:** Time-and-a-half for overtime hours - **Customer Billing:** Higher rates for after-hours service - **Profit Impact:** Reduced margins on overtime work - **Efficiency:** Overtime planning to maintain profitability

Business Workflows

Daily Operations Workflow

Morning Startup Routine

Daily System Check: 1. **Access Dashboard:** Review overnight alerts and updates 2. **Check Active Projects:** Verify project status and priorities 3. **Review Inventory:** Check low stock alerts and reorder needs 4. **Confirm Appointments:** Verify technician schedules and locations

Priority Task Management: 1. **Critical Alerts:** Address any red-flagged items immediately 2. **Project Updates:** Update project status from previous day 3. **Customer Communications:** Respond to pending customer inquiries 4. **Resource Planning:** Confirm technician assignments and availability

Project Workflow

New Project Process: 1. **Customer Contact:** Initial customer inquiry and assessment 2. **Site Survey:** On-site evaluation and requirements assessment 3. **BOM Creation:** Develop detailed component list with costs 4. **Project Setup:** Create project with timeline and budget 5. **Schedule Work:** Assign technicians and coordinate timing 6. **Execute Project:** Track progress and update status 7. **Quality Check:** Verify completion and customer satisfaction 8. **Documentation:** Complete final documentation and invoicing

BOM Development Process: 1. **Equipment Selection:** Identify required HVAC equipment 2. **Component Research:** Select appropriate components from inventory 3. **Cost Calculation:** Review markup and ensure profitability 4. **Technical Review:** Verify technical compatibility and codes 5. **Customer Approval:** Present BOM and obtain approval 6. **Final BOM:** Lock approved BOM for project execution

Inventory Management Workflow

Weekly Inventory Review: 1. **Stock Level Analysis:** Review current stock levels vs minimums 2. **Reorder Processing:** Create purchase orders for low stock items 3. **Supplier Communication:** Confirm delivery schedules and pricing 4. **Receiving Planning:** Prepare for incoming inventory deliveries

Monthly Inventory Analysis: 1. **Turnover Analysis:** Review inventory turnover rates 2. **Dead Stock Review:** Identify slow-moving or obsolete items 3. **Supplier Performance:** Evaluate supplier reliability and pricing 4. **Cost Analysis:** Review inventory carrying costs and optimization

Customer Service Workflow

Service Call Process

Initial Customer Contact: 1. **Problem Assessment:** Understand customer's issue description 2. **Urgency Evaluation:** Determine emergency vs scheduled service 3. **Technician Assignment:** Assign appropriate technician based on skills 4. **Schedule Coordination:** Coordinate customer and technician availability

On-Site Service Process: 1. **Problem Diagnosis:** Thorough system evaluation and testing 2. **Customer Communication:** Explain findings and recommend solutions 3. **Work Authorization:** Obtain approval for recommended work 4. **Service Execution:** Perform necessary repairs or maintenance 5. **Quality Verification:** Test system operation and customer approval 6. **Documentation:** Record work performed and any recommendations

Post-Service Follow-up: 1. **Customer Satisfaction:** Follow up within 24-48 hours 2. **Callback Monitoring:** Track any issues in 30-day period 3. **Warranty Registration:** Register any new equipment warranties 4. **Future Scheduling:** Schedule any required follow-up service

Quality Assurance Process

Service Quality Monitoring: 1. **Work Documentation:** Ensure complete work order documentation 2. **Technical Review:** Verify work meets industry standards 3. **Customer Feedback:** Monitor customer satisfaction indicators 4. **Callback Analysis:** Investigate any service callbacks for root causes

Continuous Improvement: 1. **Technician Training:** Address any identified skill gaps 2. **Process Improvement:** Update procedures based on lessons learned 3. **Equipment Evaluation:** Assess component reliability and performance 4. **Customer Education:** Provide preventive maintenance guidance

Financial Management Workflow

Monthly Financial Review

Revenue Analysis: 1. **Monthly Revenue:** Calculate total revenue from completed projects 2. **Margin Analysis:** Review profit margins by project and overall 3. **Cost Analysis:** Analyze material, labor, and overhead costs 4. **Variance Review:** Compare actual vs budgeted performance

Cash Flow Management: 1. **Accounts Receivable:** Review outstanding customer invoices 2. **Payment Processing:** Process customer payments and deposits 3. **Vendor Payments:** Manage supplier payments and terms 4. **Cash Projections:** Forecast cash flow for upcoming months

Profitability Optimization

Cost Control: 1. **Material Costs:** Monitor supplier pricing and negotiate better terms 2. **Labor Efficiency:** Track technician productivity and training needs 3. **Overhead Management:** Control administrative and facility costs 4. **Technology Investment:** Evaluate ROI on system improvements

Revenue Enhancement: 1. **Service Pricing:** Regular review of pricing vs market rates 2. **Upselling Opportunities:** Identify additional service opportunities 3. **Customer Retention:** Focus on repeat customers and referrals 4. **Market Expansion:** Evaluate opportunities for growth

Troubleshooting & Support

Common Issues & Solutions

Login and Access Issues

Problem: Cannot access system - **Check Internet Connection:** Ensure stable internet connectivity - **Verify URL:** Confirm you're using correct system URL - **Clear Browser Cache:** Clear browser cookies and cache - **Try Different Browser:** Test with Chrome, Firefox, or Safari

Problem: Page loads slowly - **Check Network Speed:** Verify adequate internet bandwidth - **Close Other Applications:** Free up system resources - **Refresh Page:** Use Ctrl+F5 or Cmd+Shift+R for hard refresh - **Contact Support:** If problems persist

Data Entry Issues

Problem: Cannot save inventory item - **Required Fields:** Ensure all required fields are completed - **SKU Uniqueness:** Verify SKU doesn't already exist in system - **Field Validation:** Check that all values are in correct format - **Browser Compatibility:** Ensure browser supports system features

Problem: BOM calculations appear incorrect - **Component Prices:** Verify component costs are current - **Markup Settings:** Confirm markup tiers are configured correctly - **Labor Hours:** Check that labor hours are entered correctly - **Refresh Data:** Reload page to ensure current calculations

Report Generation Issues

Problem: Reports not generating - **Date Range:** Ensure valid date range is selected - **Data Availability:** Confirm data exists for selected parameters - **Browser Pop-ups:** Enable pop-ups for PDF generation - **Network Connection:** Verify stable connection for report processing

Problem: Email reports not sending - **Email Configuration:** Verify email settings are configured - **Recipient Addresses:** Check email addresses are valid - **Spam Filters:** Ask recipients to check spam folders - **Service Status:** Confirm email service is operational

Performance Optimization Tips

System Performance

Browser Optimization: - **Use Latest Browser:** Keep browser updated to latest version - **Clear Cache Regularly:** Clear browser cache weekly - **Close Unused Tabs:** Limit open browser tabs for better performance - **Disable Extensions:** Temporarily disable browser extensions if needed

Data Management: - **Regular Cleanup:** Archive old projects and BOMs periodically - **Optimize Images:** Use compressed images for faster loading - **Batch Operations:** Use bulk operations for large data changes - **Monitor Usage:** Track system usage patterns for optimization

Workflow Efficiency

Daily Habits: - **Dashboard Review:** Start each day with dashboard overview - **Priority Management:** Focus on critical items first - **Regular Updates:** Update project status throughout the day - **End-of-Day Review:** Complete any pending data entry before closing

Best Practices: - **Consistent Data Entry:** Use standardized naming conventions - **Complete Documentation:** Fill in all relevant fields thoroughly - **Regular Backups:** Ensure data is properly backed up - **Training Updates:** Stay current with system features and updates

Getting Help

Built-in Help Resources

Context-Sensitive Help: - **Tooltips:** Hover over fields and buttons for quick help - **Field Validation:** Error messages provide guidance for corrections - **Status Indicators:** Visual cues indicate system status and health

Navigation Assistance: - **Breadcrumbs:** Track your location within the system - **Search Functions:** Use search to quickly find specific items - **Quick Actions:** Use shortcut buttons for common operations

Support Contacts

System Administration: - **Technical Issues:** Contact system administrator for technical problems - **Access Issues:** Contact administrator for login or permission problems - **Feature Requests:** Submit enhancement requests through proper channels

Training and Documentation: - **User Training:** Regular training sessions on new features - **Documentation Updates:** System documentation is updated regularly - **Best Practices:** Ongoing best practice sharing and development

Emergency Procedures

System Downtime: - **Backup Procedures:** Maintain manual backup procedures for critical operations - **Communication Plan:** Notify all users of system status updates - **Recovery Process:** Follow established recovery procedures - **Business Continuity:** Maintain essential operations during downtime

Data Recovery: - **Backup Restoration:** Contact administrator for data recovery needs - **Transaction Recovery:** Document any lost transactions for recreation - **Verification Process:** Verify data integrity after any recovery process

Appendices

Appendix A: Keyboard Shortcuts

Navigation Shortcuts: - **Ctrl + D:** Dashboard - **Ctrl + I:** Inventory - **Ctrl + B:** BOM - **Ctrl + P:** Projects - **Ctrl + R:** Reports

Data Entry Shortcuts: - **Tab:** Move to next field - **Shift + Tab:** Move to previous field - **Enter:** Save form (when applicable) - **Esc:** Cancel current operation

Appendix B: Industry Standards & Benchmarks

HVAC Business Metrics: - **Gross Profit Margin:** 45-60% (industry standard) - **First-Time Fix Rate:** >85% (excellent service) - **Technician Productivity:** >75% billable hours - **Customer Lifetime Value:** 15% of annual revenue - **Inventory Turnover:** 6-8 times per year

Financial Benchmarks: - **Labor Rate:** \$179/hour (competitive market rate) - **Internal Labor Cost:** \$79/hour (fully loaded) - **Revenue per Technician:** \$250K-\$450K annually - **Average Ticket Size:** \$350-\$600 per service call

Appendix C: Glossary of Terms

BOM: Bill of Materials - detailed list of components required for equipment installation

FTFR: First-Time Fix Rate - percentage of service calls resolved on first visit

SKU: Stock Keeping Unit - unique identifier for inventory items

CLV: Customer Lifetime Value - total revenue expected from customer relationship

HVAC: Heating, Ventilation, and Air Conditioning

RTU: Roof Top Unit - packaged air conditioning unit

VAV: Variable Air Volume - air flow control system

DOAS: Dedicated Outdoor Air System - specialized ventilation system

Markup: Price increase from cost to selling price

Overhead: Indirect business costs not directly attributable to specific projects

Document Information: - **Version:** 1.0.0 - **Last Updated:** December 2024 - **Target Audience:** End users of AutomataNexus SBOM System - **Support:** Comprehensive user support and training available

This guide provides comprehensive instructions for using all features of the AutomataNexus SBOM System effectively. Regular updates ensure the guide stays current with system enhancements and user feedback.