# Acceptance Criteria for Key Features of ERP/IMS

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**Prepared By:** [Your Name]  
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## 1 Purpose and Scope

This document defines the acceptance criteria for the key features of PineCone Pro Supplies’ ERP/Inventory Management System (ERP/IMS). Acceptance criteria specify the conditions that must be met for a feature to be considered complete and ready for deployment. They are clear, testable statements based on the requirements captured in the product specification【719911587995344†L135-L145】【719911587995344†L172-L181】. These criteria apply to the Minimum Viable Product (MVP) scope and the Phase 2 enhancements.

## 2 Approach to Acceptance Criteria

Each feature’s acceptance criteria are derived from functional requirements and industry best practices. Criteria are written in the format “Given/When/Then” where appropriate and focus on measurable outcomes such as data integrity, performance, user interaction and integration completeness. Where quantitative targets exist (e.g., 98 % inventory accuracy), those values are included to enable objective testing【719911587995344†L172-L181】. The criteria ensure the system supports business objectives like eliminating oversells, meeting service‑level agreements (SLAs) and ensuring regulatory compliance【719911587995344†L207-L213】【719911587995344†L348-L352】.

## 3 Acceptance Criteria by Feature

### 3.1 Product Information Management (PIM)

The PIM module provides a single source of truth for SKU data across all channels【91221083353783†L4-L7】. Acceptance criteria ensure accuracy, consistency and timely propagation of product information:

* **Unique and complete records:** Each SKU must have a unique identifier and all required attributes (name, description, category, unit of measure, hazard class, expiry period, price)【719911587995344†L135-L144】. Validation errors occur if required fields are missing.
* **Hazardous and expiry data:** Hazard classifications and expiry periods must be recorded and exportable for compliance with shipping regulations【719911587995344†L135-L145】.
* **Kit and bundle support:** The system must allow creation and maintenance of kits/bundles with dynamic component quantities and versioned bills of material (BOM)【719911587995344†L141-L144】. When a kit BOM is updated, the change must take effect for new orders while maintaining historical BOMs for past orders.
* **Unit conversions:** The system must automatically convert units (e.g., quart to gallon) during order processing and pricing【719911587995344†L143-L144】. Test by placing orders in different units and verifying correct conversion and pricing.
* **Channel synchronisation:** Product updates must be propagated to all sales channels (web store, Amazon, POS, B2B portal) within **15 minutes**【719911587995344†L135-L145】. Test by modifying a product and verifying that changes appear across channels within the time window.
* **Audit trail and data governance:** All product modifications must be logged with user, timestamp and change details. Only authorised roles may create or edit products, as defined in the RBAC matrix.

### 3.2 Inventory & Warehouse Management

This module ensures real‑time inventory visibility and accurate stock levels across multiple locations【91221083353783†L9-L12】. Acceptance criteria focus on accuracy, timeliness and proper handling of lot/serial controls:

* **Inventory accuracy:** Cycle count variance must be **≤ 2 %**, yielding overall inventory accuracy ≥ 98 %【719911587995344†L172-L175】. Cycle counts should detect and correct discrepancies automatically.
* **Timely updates:** Inventory transactions performed via RF scanning (receiving, put‑away, picking, cycle count, returns) must update inventory records within **1 minute**【719911587995344†L174-L178】.
* **Lot and serial capture:** Lot numbers, manufacture dates and expiry dates must be recorded at receiving for regulated products; serial numbers must be captured for high‑value tools and available during picking and RMA【719911587995344†L176-L178】.
* **Cross‑dock/3PL feeds:** Transfers through cross‑dock facilities or third‑party logistics (3PL) providers must update inventory within **15 minutes** of receipt【719911587995344†L178-L179】.
* **ATP recalculation:** Available‑to‑promise (ATP) quantities must be recalculated upon order entry to reflect on‑hand, reserved and incoming stock【719911587995344†L180-L181】. Test by placing orders and verifying correct ATP values.

### 3.3 Order Management & Payments/Fraud

Order management orchestrates sales across channels, processes payments and handles fraud screening【91221083353783†L14-L17】.

* **Unified order queue:** Orders from all channels (web, B2B portal, POS, Amazon) must appear in a single order queue【719911587995344†L205-L211】. Test by submitting orders from each channel and verifying central visibility.
* **Payment processing:** Payments must be authorised or captured at order entry and recorded in the accounting integration【719911587995344†L207-L210】. Failed payments must trigger appropriate error messages and statuses.
* **Fraud screening:** Fraud check results must be recorded; orders flagged by the fraud service require CSR or managerial approval before fulfilment【719911587995344†L208-L211】.
* **Fulfilment SLA:** **95 %** of orders must be shipped within **24 hours** of receipt during business days【719911587995344†L207-L213】. Test by measuring processing times over a sample of orders.
* **Order modifications:** CSRs must be able to modify orders (address changes, item swaps, cancellations) prior to picking. Modifications must update pricing, taxes and availability accordingly【719911587995344†L212-L213】.

### 3.4 Purchasing & Vendor Management

This module automates procurement and monitors vendor performance【91221083353783†L19-L23】.

* **Reorder configuration:** Reorder points and EOQ must be defined for all stocked SKUs. When on‑hand plus on‑order quantity drops below reorder point, the system generates a draft purchase order (PO)【719911587995344†L240-L241】.
* **Approval workflows:** Purchase orders exceeding defined monetary thresholds must require approval. Approvals and rejections must be logged with user and timestamp【719911587995344†L241-L243】.
* **ASN matching:** Received quantities must be matched against supplier Advance Shipping Notices (ASNs); variances must trigger discrepancy reports【719911587995344†L242-L244】.
* **Vendor scorecards:** Delivery performance metrics (on‑time, complete, quality) must be updated with every receipt and available for reporting【719911587995344†L244-L245】.
* **Drop‑ship accuracy:** For drop‑ship orders, vendor shipments must update cost, revenue and inventory records within **24 hours**.

### 3.5 Lot/Expiry & Serial Tracking

Lot and serial tracking enables compliance and recall management【91221083353783†L25-L27】.

* **Lot capture:** For each lot‑controlled item, the system must capture lot number, manufacture date and expiry date at receiving【719911587995344†L264-L266】. FIFO/FEFO rules must enforce proper picking sequence.
* **Serial capture:** Serial numbers must be recorded at receipt and shipment for high‑value tools; scanning ensures the correct serial is shipped【719911587995344†L266-L268】.
* **Recall reporting:** The system must generate a recall report within **30 minutes** identifying all shipments and customers associated with a specified lot or serial number【719911587995344†L269-L270】. Test by creating a lot and verifying recall results.
* **Warranty integration:** Serial numbers must link to warranty status and service history; warranty expirations must trigger notifications.

### 3.6 Shipping & Rate Shopping

Shipping functionality handles carrier integration, hazmat compliance and cost optimisation【91221083353783†L29-L31】.

* **Label & document generation:** Shipping labels, packing slips and hazmat documents must be generated for all orders where applicable【719911587995344†L293-L297】. Hazmat paperwork must include required placards and classification codes.
* **Rate shopping:** The system must provide configurable options to choose the lowest cost or fastest service; selected rates must be logged for audit【719911587995344†L293-L297】.
* **3PL integration:** For shipments handled by 3PL providers, tracking information and inventory status must be updated within **30 minutes**【719911587995344†L296-L299】.
* **Hazmat selection:** Carriers that do not support hazmat shipments must be filtered out automatically when the order contains hazardous items【719911587995344†L293-L297】.

### 3.7 Returns/RMA Workflow

Returns management standardises the process of handling returned goods and refunds【91221083353783†L32-L34】.

* **RMA initiation:** The system must generate a unique RMA number for every return request and send return instructions to the customer【719911587995344†L320-L325】.
* **Inspection recording:** Returned items must be inspected, and their condition, lot/serial numbers and reason codes recorded【719911587995344†L320-L325】.
* **Disposition handling:** Returned items must be processed according to disposition codes (restock, refurbish or scrap); inventory movements must reflect disposition【719911587995344†L322-L325】.
* **Refund processing:** Refunds or credits must be posted automatically in the accounting system and visible in the customer’s account【719911587995344†L325-L326】. Replacement orders must be linked to the original RMA.
* **Return reporting:** RMA volumes, reasons and dispositions must be reported and used to identify quality issues and reduce returns【719911587995344†L317-L318】.

### 3.8 Tax Calculation & Reporting

Tax functionality must ensure accurate tax assessment and compliance across jurisdictions【91221083353783†L36-L38】.

* **Accurate calculation:** Tax must be calculated correctly for each order based on shipping address and product taxability【719911587995344†L348-L352】. Test by placing orders with different tax jurisdictions and verifying calculations.
* **Multi‑state compliance:** The system must support nexus rules and tax registrations for each state; tax‑exempt customers must be handled via certificate management【719911587995344†L336-L340】.
* **Reporting:** Users must be able to generate tax reports showing tax collected per jurisdiction (city, county, state)【719911587995344†L348-L352】.
* **Hazmat documentation:** For hazardous shipments, required shipping papers must be included and flagged for compliance【719911587995344†L348-L352】.
* **Audit trail:** All tax calculations and filings must be logged for audit purposes; adjustments must be traceable.

### 3.9 Basic Accounting Integration

Accounting integration synchronises financial transactions and ensures accurate reporting【91221083353783†L40-L41】.

* **Journal entries:** Journal entries must be generated automatically for all sales invoices, purchase orders, returns, AP bills and inventory adjustments【719911587995344†L374-L375】. Each entry must map to the appropriate GL account.
* **AP/AR synchronisation:** Accounts payable and accounts receivable data must be synchronised daily without manual intervention【719911587995344†L374-L377】. Failed synchronisations must raise alerts.
* **Timely integration:** Sales orders and purchase orders must be reflected in the accounting system within **24 hours**【719911587995344†L377-L378】.
* **Bank reconciliation:** The system must allow import of bank statements and automatic matching of deposits and payments. Unmatched transactions must be flagged for review【719911587995344†L366-L368】.
* **COGS and revenue recognition:** COGS must be calculated based on the configured inventory valuation method (e.g., FIFO, average cost). Revenue must be recognised at the time of shipment【719911587995344†L368-L369】.
* **Audit logs:** Detailed logs must record every financial transaction for audit and compliance【719911587995344†L370-L371】.

### 3.10 Operational Analytics & Alerts

This module provides dashboards, alerts and reporting across the system【91221083353783†L44-L45】.

* **Real‑time dashboards:** Dashboards must display up‑to‑date KPIs tailored to each persona (GM, Ops Manager, Purchasing Lead, CSR, etc.)【719911587995344†L399-L402】.
* **Alert notifications:** When thresholds (e.g., low stock, order delays, vendor lead time variance, tax liability) are exceeded, alerts must be sent to the appropriate users and logged for audit【719911587995344†L399-L403】.
* **Ad‑hoc reporting:** Users must be able to build, save and run reports without technical assistance【719911587995344†L399-L404】. Export to CSV or PDF must be supported.
* **Data warehouse integration:** An API or ETL interface must allow extraction of data for advanced analytics tools【719911587995344†L393-L396】.

## 4 Acceptance Criteria for Phase 2 Enhancements

The following criteria apply to enhancements planned for Phase 2 of the ERP/IMS【719911587995344†L412-L456】:

### 4.1 Demand Forecasting & EOQ Optimisation

* **Forecast accuracy:** Forecasts must be accurate within ±10 % for the top 100 SKUs【719911587995344†L414-L417】. Test by comparing forecasted demand with actual sales over a defined period.
* **Automated recommendations:** The system must generate EOQ and reorder point suggestions monthly for all stocked SKUs. Users must be able to override forecasts and suggestions.
* **Scenario simulation:** Users must be able to adjust parameters (lead times, safety stock) and run “what‑if” simulations to see impacts on inventory levels and cash flow.

### 4.2 Promotion Engine & Contract Pricing (B2B)

* **Automatic application:** Promotions and contract prices must be applied automatically during order entry based on customer, product and promotion rules【719911587995344†L421-L425】.
* **Stacking & exclusivity:** The engine must support stacking multiple promotions when allowed and enforce exclusivity when not. Test overlapping promotions for correct stacking or rejection.
* **Contract tiers:** Contract pricing tiers for B2B customers must override standard prices; expired contracts must not apply.
* **Audit & reporting:** Promotion usage and contract pricing applications must be logged for reporting and audit.

### 4.3 Light Manufacturing/Kitting with BOM Versioning

* **Assembly & disassembly:** Users must be able to assemble and disassemble kits; component quantities must decrement/increment inventory accordingly【719911587995344†L430-L433】.
* **BOM version control:** The system must support multiple BOM versions with effective dates; inventory consumption must reflect the active BOM for the production date【719911587995344†L431-L433】.
* **Backflushing:** When a kit is built, component inventory must backflush automatically to the correct locations. Scrap rates must be recorded.
* **Work orders:** A work order must link assembly/disassembly operations to sales orders or stock replenishment, capturing labor and overhead costs when configured.

### 4.4 3PL Bidirectional Integration

* **Inventory alignment:** Quantities reported by 3PL providers must align with the ERP within acceptable tolerance; discrepancies must trigger alerts【719911587995344†L439-L441】.
* **Automatic updates:** Shipments created by 3PL must update ERP order statuses and provide tracking numbers automatically【719911587995344†L439-L441】.
* **Return handling:** Returns processed at 3PL must update ERP inventory and return status within **24 hours**【719911587995344†L439-L441】.
* **Error handling:** Integration errors (e.g., failed API calls) must be logged; retry mechanisms must attempt recovery; persistent errors must alert support teams.

### 4.5 Customer Service Console with SLA Timers

* **Ticket logging:** All customer service interactions (emails, phone calls, chat) must be logged as tickets with unique IDs【719911587995344†L445-L449】.
* **SLA timers:** Each ticket must display response and resolution timers based on SLA definitions. Escalations must trigger when thresholds are exceeded【719911587995344†L445-L449】.
* **Unified view:** CSRs must see order history, returns, promotions and customer communications in one console. Cross‑module links must provide context.
* **Analytics:** Reports must show average response times, resolution times and SLA adherence rates for CSRs and teams.

### 4.6 EDI with Large Vendors

* **Transmission & acknowledgement:** EDI purchase orders, invoices, ASNs and other documents must be transmitted automatically and acknowledged by trading partners【719911587995344†L453-L456】.
* **Error alerts:** Failures (e.g., missing acknowledgment, schema errors) must generate alerts and log details【719911587995344†L455-L456】.
* **Trading partner configuration:** Users must be able to configure trading partner profiles (document types, endpoints, validation rules) without code changes【719911587995344†L455-L456】.
* **Audit reporting:** EDI transactions must be logged for audit, including timestamps, document IDs and statuses.

## 5 Acceptance and Verification Process

1. **Test planning:** For each feature, tests will be designed to verify all acceptance criteria. Functional tests, integration tests and performance tests will be included.
2. **Test execution:** Tests will be executed in a staging environment that mirrors production. Automated test suites will be used where possible; manual tests will validate user interactions and edge cases.
3. **Criteria evaluation:** A feature is accepted when all criteria are met and test results are documented. Failures will be logged and must be resolved before go‑live.
4. **Stakeholder sign‑off:** Product owners or business stakeholders must sign off on accepted features, confirming that the system meets business needs and compliance requirements.
5. **Regression and non‑functional tests:** Acceptance will also consider non‑functional requirements such as performance, availability, security and usability to ensure the overall system remains stable.

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