ENTERPRISE RESOURCE PLANNING · PRODUCT SPECIFICATION · v2026

PRISM ERP

Manufacturing Module

13	3	7
Core Modules	ISO Standards	Best Practices

An end-to-end production management platform covering shop floor execution, quality control, infrastructure maintenance, and real-time costing — built to ISO 9001, 14001, and 45001 standards. This document provides a comprehensive specification of all modules, operational best practices, ISO compliance clauses, and technical architecture layers.

PRODUCTION LIFECYCLE

BOM	Route	MO	Material Issue	Shop Floor	QC	Costing
Define materials & scrap factors	Set operational sequences	Plan & link to Sales Orders	Issue stock to production order	Log real-time execution data	Inspect & record pass/fail	Post to GL & calculate COGS

CORE FUNCTIONALITY — 13 MODULES

Bill of Materials
Multi-level BOM with versioning, component tracking, standard quantities, and scrap factor allocation per line item.

Work Center Management
Configure production floors with daily capacity, hourly labor rates, and overhead cost mapping per facility.

Production Routes
Define operational sequences with work center assignments, setup times, and per-unit run times.

Manufacturing Orders
Plan production in Mass, Job, or JIT modes. Track MO numbers and link directly to Sales Orders (SOID).

Shop Floor Execution
Real-time MfgProductionLogs capturing employee activity, quantity produced vs. scrapped, and downtime minutes.

Equipment Registry
Track machinery serial numbers, acquisition data, and hourly operating costs per registered asset.

Infrastructure Maintenance
Automated preventive and corrective scheduling via time-based or usage-based (hours) intervals.

Quality Control
Integrated inspection checkpoints within Routes. Track Pending/Completed status and passed/failed quantities.

Non-Conformance Reports
Document root causes, corrective actions, and preventive actions for failed production batches.

Material Issue
Automated issuance of raw materials from warehouses and bins to specific production orders for stock accuracy.

Energy Tracking
Capture kWh consumption per production log to support operational efficiency and carbon footprint analysis.

Integrated Costing
Real-time financial posting to General Ledger via ProductionClearing account mappings for precise COGS.

MRP Shortage Analysis System-wide checks identify raw material shortages before production commences to prevent delays.	

OPERATIONAL BEST PRACTICES

01 Real-time Digital Shop Floor
Require direct entry into MfgProductionLogs to eliminate paper-based logs and maintain live visibility into production throughput and variances.

02 Usage-Based Maintenance
Schedule maintenance by IntervalUnit: Hours rather than calendar dates, optimizing uptime based on actual machinery wear and tear.

03 Lean Waste Reduction
Continuously monitor scrap factors and waste categories to identify Lean Six Sigma opportunities for process optimization and material savings.

04 Quality-at-Source
Integrate mandatory inspection points at critical operations within the Route definition to prevent defect propagation and reduce rework costs.

05 JIT Alignment via SOID Linkage
Link Manufacturing Orders directly to Sales Orders to maintain a pull-based system, minimizing WIP and finished goods inventory.

06 Granular COGS Costing
Map equipment hourly operating costs and work center rates to production logs to calculate true cost of goods sold with high precision.

07 Full Traceability
Every production run must be linked to a specific BOM version and Route, maintaining complete historical traceability for auditing purposes.

ISO STANDARDS COMPLIANCE

ISO 9001:2015
Quality Management System
8.5.1 Production control via digitized Routes and real-time execution logs.

8.7 Non-conforming outputs managed via NCR and QC inspection workflows.

7.1.3 Infrastructure maintained through equipment maintenance sub-modules.

ISO 14001:2015
Environmental Management
Waste Tracking — BOM line items support waste categorization: Recyclable, Hazardous, and General.

Energy Efficiency — kWh capture at operation level enables granular carbon footprint analysis.

ISO 45001:2018
Occupational Health & Safety
Hazard Communication — Product master flags hazardous raw materials with direct SDS URL integration for shop floor accessibility.

TECHNICAL ARCHITECTURE LAYERS

PLANNING	EXECUTION	QUALITY
BOM & Route Engine Multi-level BOM versioning with operational sequences and work center mapping.	**Shop Floor & MO** Real-time production logs, material issuance, and MO lifecycle tracking.	**QC & NCR** Inspection checkpoints, pass/fail recording, and full non-conformance workflow.

FINANCE **Costing & GL** Automated ProductionClearing postings and COGS calculation from shop floor data.	MAINTENANCE **Equipment & Schedule** Usage-based and time-based maintenance scheduling with equipment registry.	COMPLIANCE **ISO & Traceability** Audit trails, SDS links, waste categorization, and energy consumption logs.