

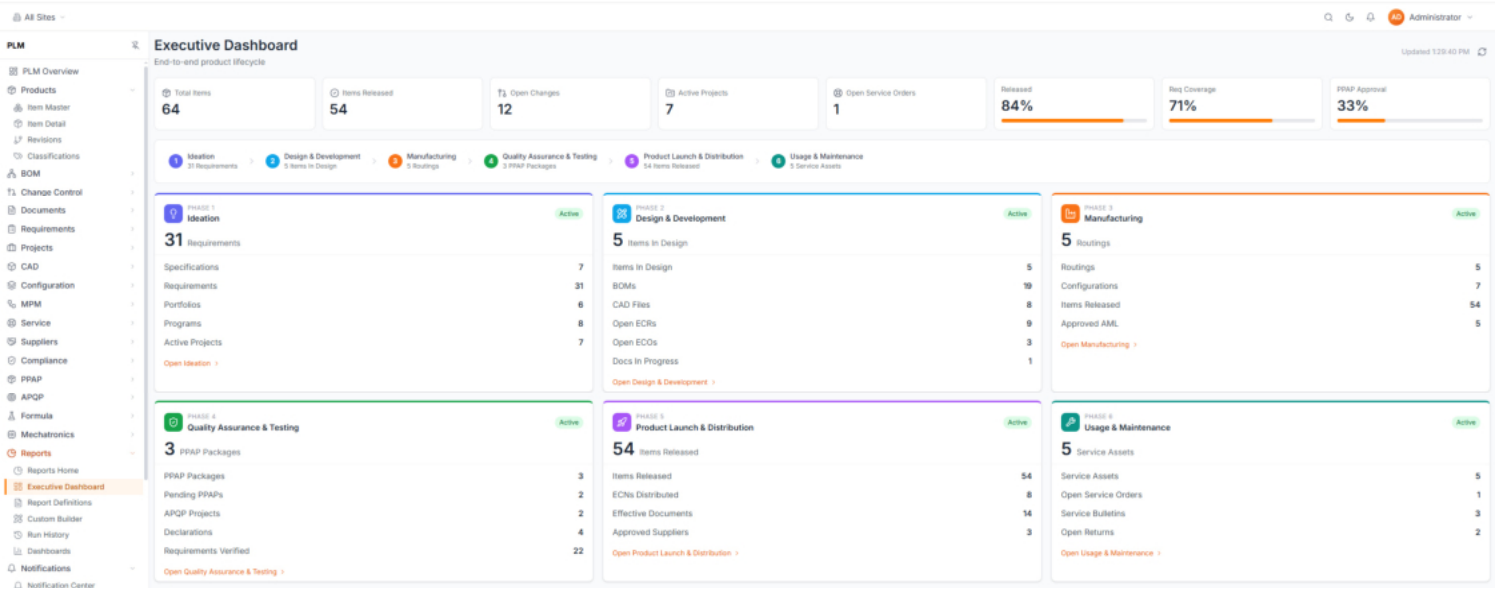
DATASHEET

Product Lifecycle Management

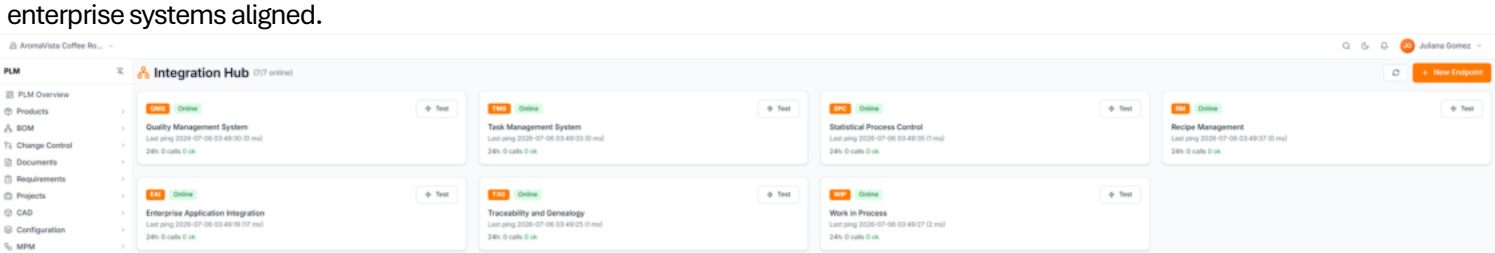
Concept to Customer. Product Data Connected to the Plant Floor.

Product data in manufacturing has long been scattered where item masters live in spreadsheets, BOMs in the ERP, CAD files on network shares, change control in email threads, and compliance evidence in binders, with no connection to the plant floor where products are actually made. This fragmentation breeds revision mistakes, slows engineering changes, and turns audits and product launches into resource-intensive exercises. The LOGICAL SYSTEMS Product Lifecycle Management (PLM) module unifies item master and revision control, multi-view BOM management, engineering change control (ECR/ECO/ECN), document control, requirements, project and portfolio management, CAD data management, configuration management, manufacturing process management, service data, supplier and AML management, and product compliance into a single plant-floor-connected platform.

Built on the Inductive Automation® Ignition platform as a native Perspective module, PLM runs where manufacturing runs, on the Ignition gateway at the plant. Released BOMs are immutable and revised only through controlled change orders. Approvals carry electronic signatures and a full audit trail. Effectivity dates propagate changes automatically. Unlike cloud-only PLM suites that sit disconnected from operations, LOGICAL SYSTEMS PLM bridges engineering, manufacturing, quality, and service on the same platform that can run the plant, turning product data into live manufacturing intelligence.



PLM operates as part of the LS application ecosystem alongside the LS Quality Management System (QMS), Task Management System (TMS), and Statistical Process Control (SPC) modules. The built-in Integration Hub publishes PLM events to QMS, TMS, SPC, Recipe Management, Traceability & Genealogy, and Work-in-Process endpoints, while ERP Sync and CAD connectors keep enterprise systems aligned.



Core Capabilities

Item Master & BOM Management

- Item master with revisions, lifecycle states, and classifications
- EBOM / MBOM / SBOM / PBOM views
- Released BOMs immutable - revise by cloning through change control
- BOM compare, where-used, and substitutes
- Lifecycle control from Concept through Prototype and Pilot to Released and Obsolete

Engineering Change Control

- Linked ECR → ECO → ECN chain
- Impact matrix across items, BOMs, and documents
- Approvals with e-signatures and effectivity dates
- ECN distribution with acknowledgment tracking

Documents & Requirements

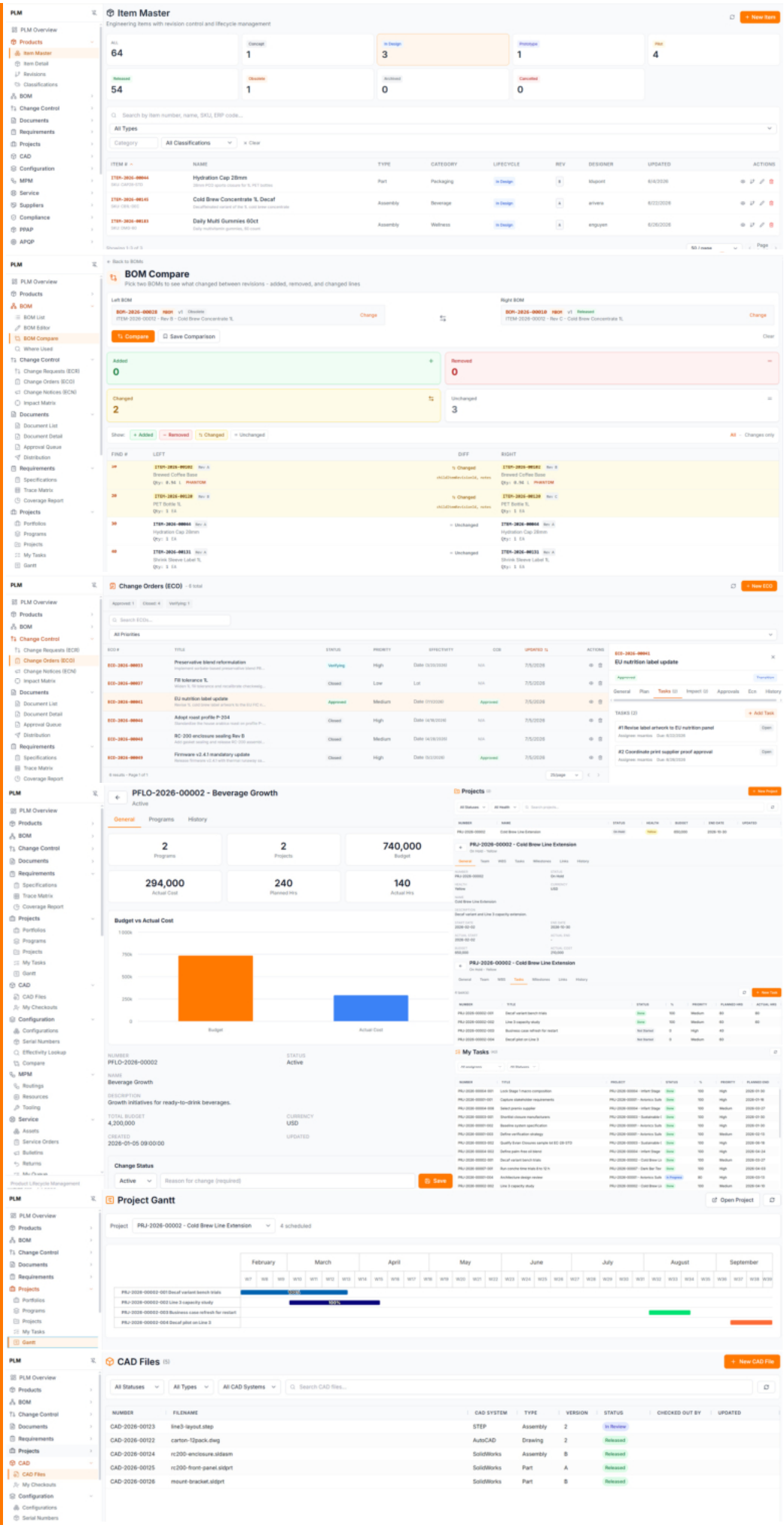
- Controlled documents: versions, approvals, distribution, watermarking, retention
- Specifications with structured requirements and verification status
- Trace links and coverage reporting
- Check-out/check-in editing with full version history

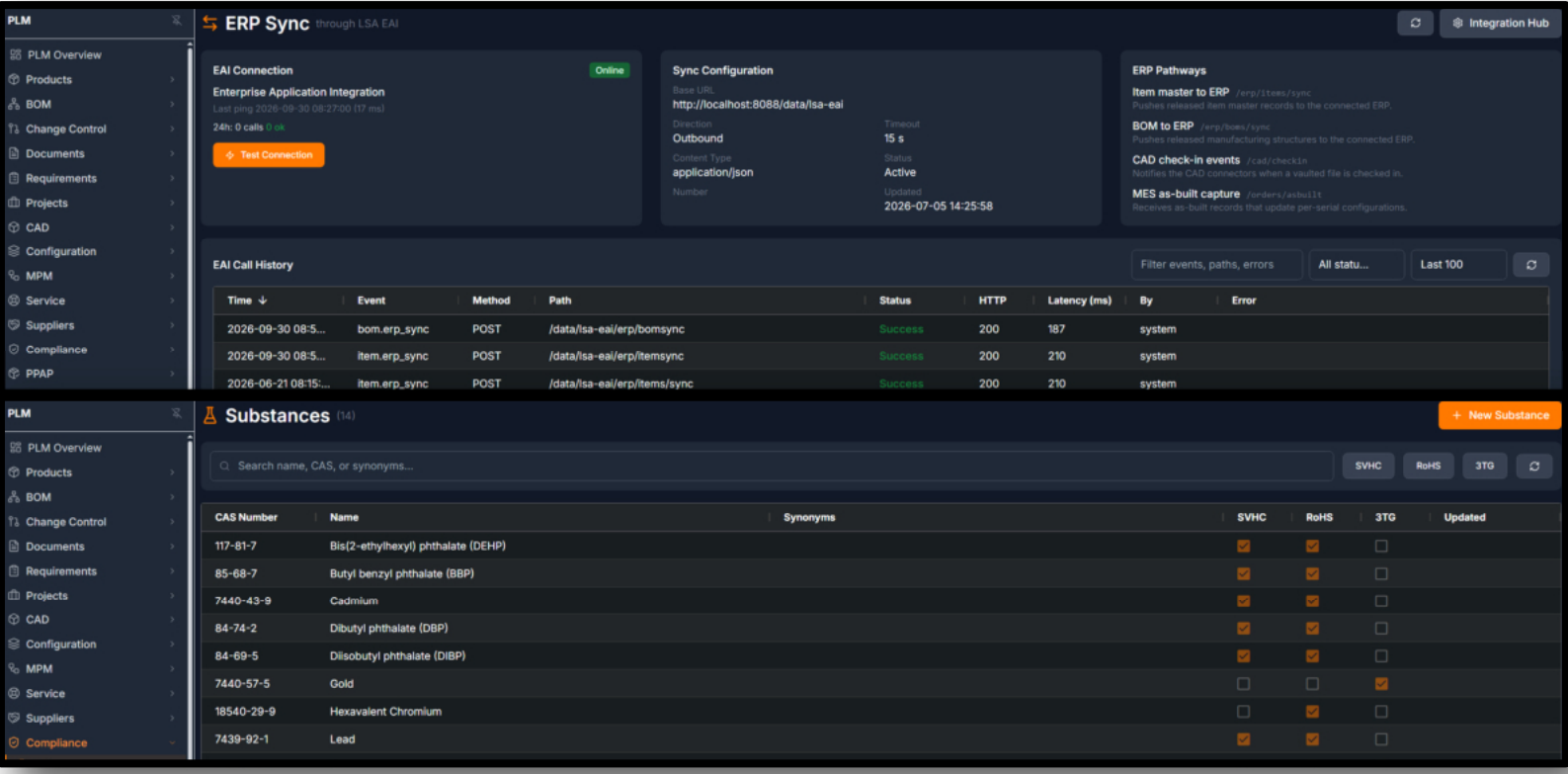
Projects & Portfolios

- Portfolio → Program → Project with budget vs. actual cost
- WBS, tasks, milestones, and Gantt scheduling
- Health status and lifecycle transitions
- Project links to items, documents, and changes

CAD & Configuration Management

- CAD vault with check-out/check-in, versioning, and item links to SolidWorks, Siemens NX, PTC Creo, Inventor, CATIA, AutoCAD, Fusion360
- Configuration views: As-Designed, As-Planned, As-Built, As-Maintained
- Serial number tracking with lifecycle events and effectivity lookup





Integration & Intelligence

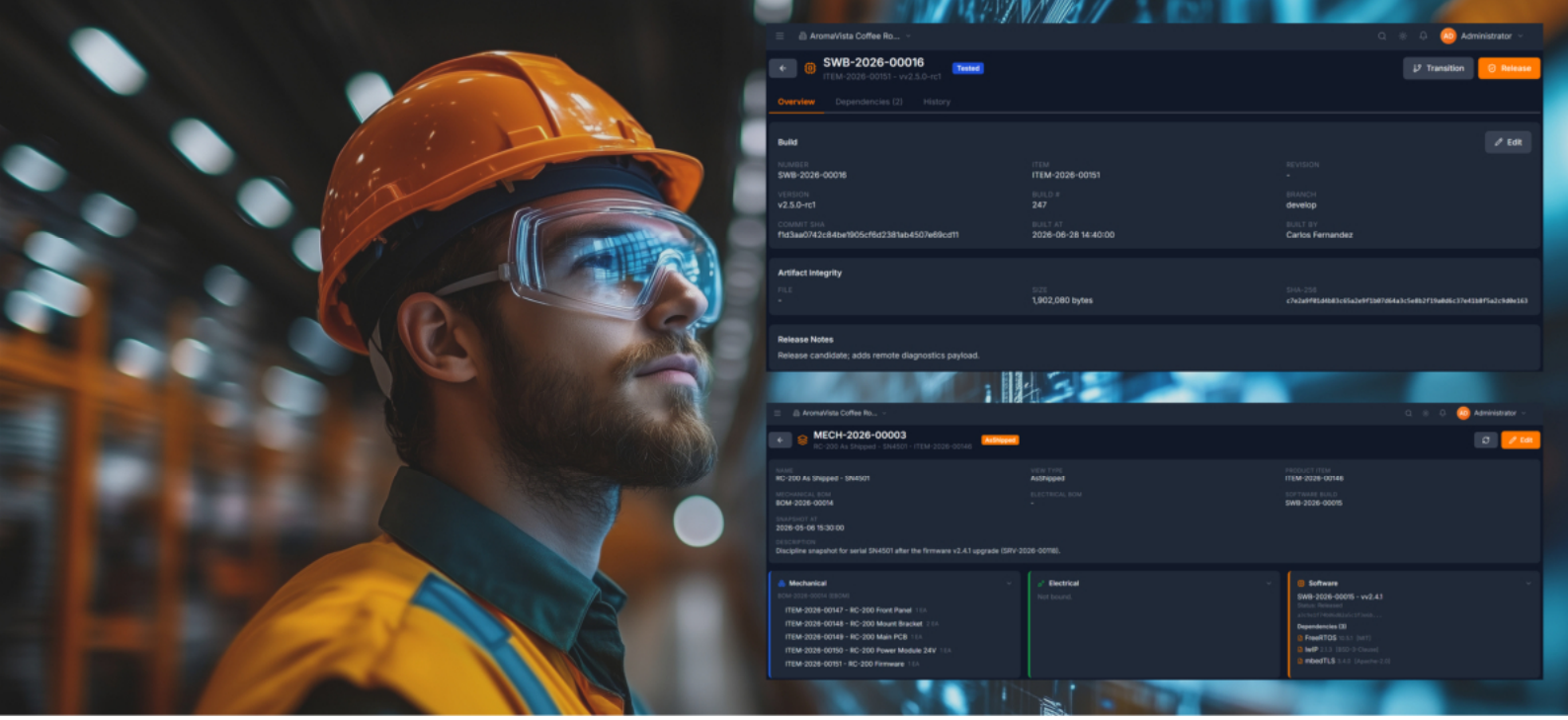
Connecting Product Data to the Plant Floor and Beyond

Cross-module integration connects product lifecycle processes with the LOGICAL SYSTEMS application suite, enabling automated event publication on releases, change effectivity, and compliance status - while the built-in workflow engine, automation rules, and Integration Hub keep engineering, manufacturing, suppliers, and enterprise systems synchronized from a single source of product truth.

- Integration Hub: Managed endpoints to LS QMS, TMS, SPC, Recipe Management, Traceability & Genealogy, and WIP with health monitoring.
- ERP Sync: Item master and BOM push to ERP on release, with full call history.
- CAD Connectors: Vault check-in events and JT/STEP/PDF derivatives for viewing and exchange.
- Automation: SVHC roll-up raises an ECR, firmware release issues a service notice and documents automatically distribute on release.

Analytics & Compliance

- Compliance: Substance register (SVHC/RoHS/3TG), supplier declarations, and one-click RoHS, REACH, and CMRT roll-up reports per item.
- Quality Gates: PPAP with an 18-element checklist and PSW, APQP with five phase gates.
- Reports: Executive dashboards across six lifecycle phases, custom report builder, KPIs, and dashboard.
- Process & Formula: Allergen tracking, batch scaling, software builds, mechatronic views.



Key Features and Benefits

Features

- Item master, revisions, and classifications in a single Ignition module
- EBOM/MBOM/SBOM/PBOM with immutable released versions and BOM compare
- ECR/ECO/ECN change chain with impact analysis, e-signatures, and effectivity
- Controlled documents and requirements with trace links and verification
- Portfolio, program, and project management with Gantt and budget tracking
- CAD vault with multi-CAD connectors for As-Designed → As-Maintained configurations
- Routings, tooling, and work instructions (MPM)
- Supplier, AML, and RFQ management
- REACH, RoHS, and conflict minerals compliance; PPAP and APQP gates
- Role-based access, audit trail, and workflow automation

Benefits

- One product backbone from concept through service - no integration gaps
- Faster, error-free engineering changes through the linked ECR/ECO/ECN chain
- Revision mistakes eliminated by immutable released BOMs
- Audit-ready compliance evidence generated from live BOM data
- Launch readiness visible through PPAP/APQP gates and the executive dashboard
- Engineering connected to the plant floor on the platform already running it

Technical Requirements

System Requirements
Ignition® (8.1.+) Core Modules, Quad-core processor, 16 GB RAM, 10 GB free disk space

Supported Operating Systems
Windows Server 2019/2022/2025, Windows 10/11, macOS (X, 10.16+), Linux (Ubuntu, CentOS, RHEL)

Supported Protocols
MQTT, OPC UA / OPC DA, REST API (JSON Payloads)
Kafka (via connector), Snowflake (via pipeline, data bridge)

Supported Databases
Microsoft SQL Server, Oracle, MySQL, MariaDB, PostgreSQL, any database with JDBC driver

Supported Browsers
Chrome, Firefox, Safari, Microsoft Edge



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