



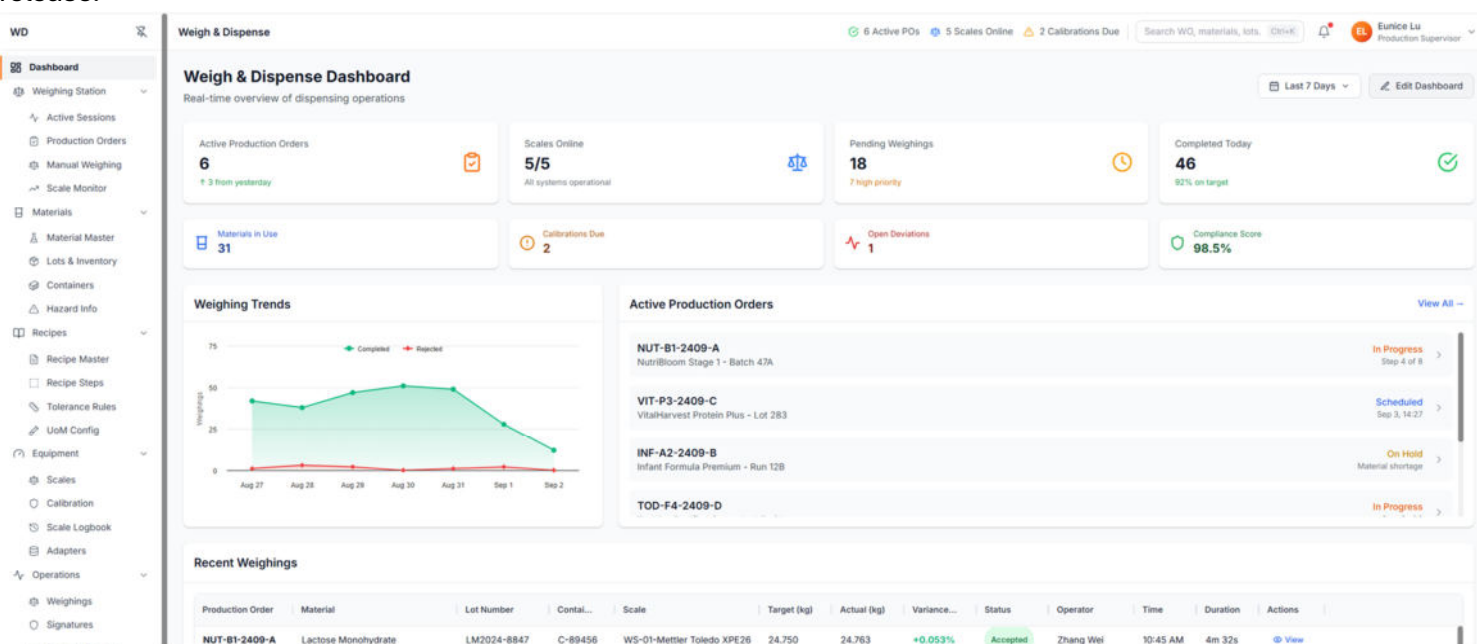
DATASHEET

Weigh & Dispense

Digitize Recipes. Weigh Right. Release Faster.

Weigh rooms are where batches are won or lost. Misidentifications, out-of-tolerance additions, and missing documentation lead to deviations, rework, and release delays. The LOGICAL SYSTEMS Weigh & Dispense (WD) application transforms weighing into a governed, right-first-time operation providing guidance at every step, validating every scan, and capturing every decision with electronic records and signatures.

Purpose-built for Inductive Automation® Ignition ecosystem and the wider suite of LOGICAL SYSTEMS apps, WD connects materials, scales, operators, and approvals in real time. Barcode plausibility checks confirm the right material, lot, container, and scale before weighing begins. Scale compliance gates (calibration, range, precision) prevent bad data at the source. Live guidance with tolerance windows and trend visualization drives accurate weighings on the first attempt. On accept, the WD app generates a vendor-neutral label payload and posts inventory transactions. On reject or override, it records reasons, signatures, and launches follow-up tasks. Operators get a clear, handheld-friendly experience that moves from scan → verify → tare → weigh → accept with minimal clicks. Supervisors gain immediate visibility into pending and completed weighings, exceptions, and calibration due dates. Quality teams benefit from immutable audit trails, double-sign controls for critical steps, and review-by-exception that shortens batch release.



Unlike point tools that live in isolation, the WD app integrates across the LOGICAL SYSTEMS suite to close the loop: WFM orchestrates dispensing steps, TMS assigns follow-up actions, CMMS manages scale maintenance, OEE correlates cycle time and RFT, WMS/EAI reconciles inventory, and UNS enables publishing events enterprise-wide. From pilot lines to GMP suites, WD standardizes dispensing at scale allowing you to turn grams into guaranteed outcomes and your weigh room into a competitive advantage.

Core Capabilities

Weighing Execution

- Guided recipe-step execution with targets, tolerance windows, and positive/negative weighing modes
- Precheck banner (Material, Lot, Scale, Hazards, Signers) must be green before tare/accept
- Live trend with real-time tolerance status; quick Accept/Reject/Override actions
- Auto-advance steps and batch logic on successful weighings

Materials, Lots & Hazards

- Barcode/QR plausibility checks for material, lot, container with error-proofing gates
- Lot availability validation and safe decrement on accept; prevent negative inventory
- Hazard prompts with GHS pictograms, SDS links, and PPE acknowledgments
- Full genealogy for batch, kit, and containerization

Scale Compliance & Calibration

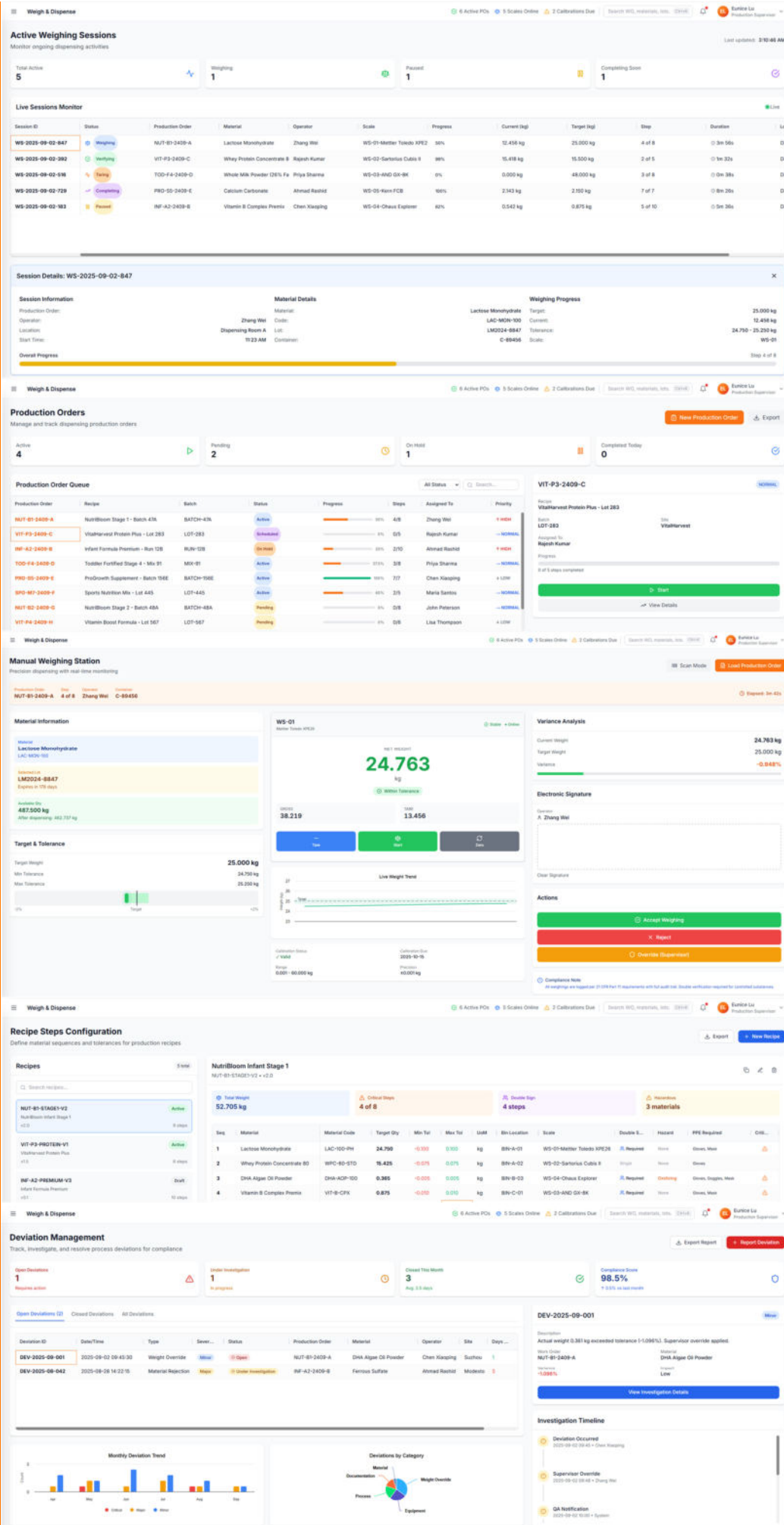
- Enforce calibration due date, range/precision fit, and status before first read
- Digital tare/target with entries written to a scale logbook
Real-time compliance badges and calibration due counters on the dashboard
- Pluggable adapters (simulator, Ignition Tag/WebDev, OPC UA, serial) for any scale fleet

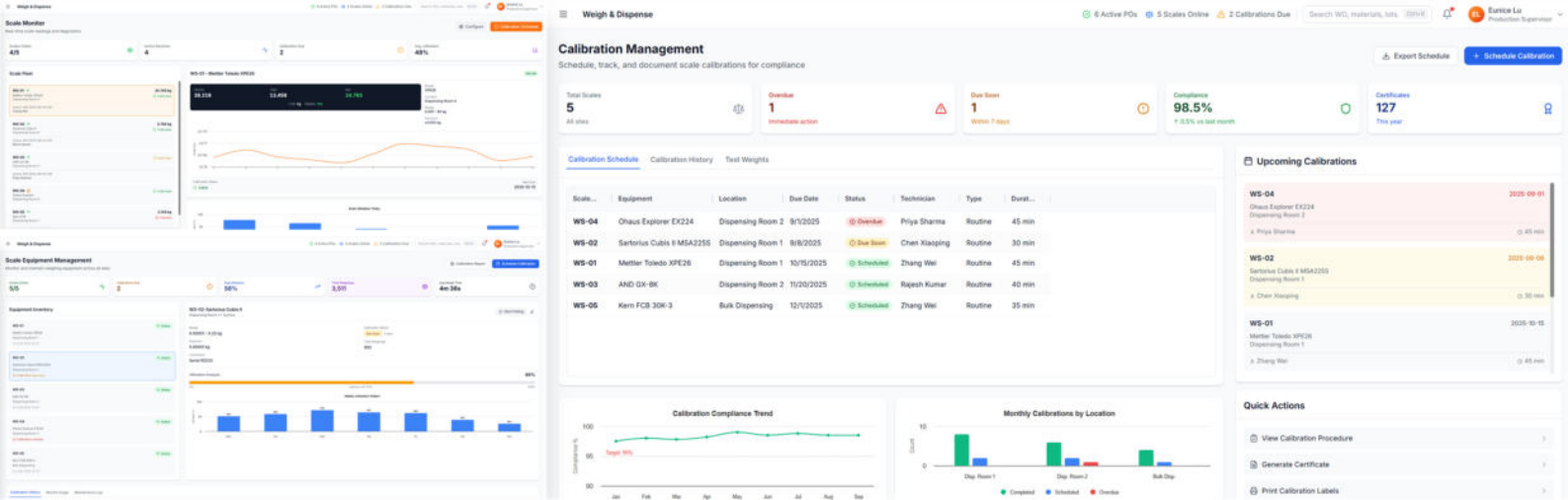
Electronic Records & Labels

- 21 CFR Part 11-style eSignatures (single/double) with immutable audit trail
- Review-by-exception: reasons captured for rejects/overrides; fast QA release
- Vendor-neutral label payloads (material, lot, net, UoM, WO, step, hazards)
- Time-stamped, tamper-evident weighing records ready for audits

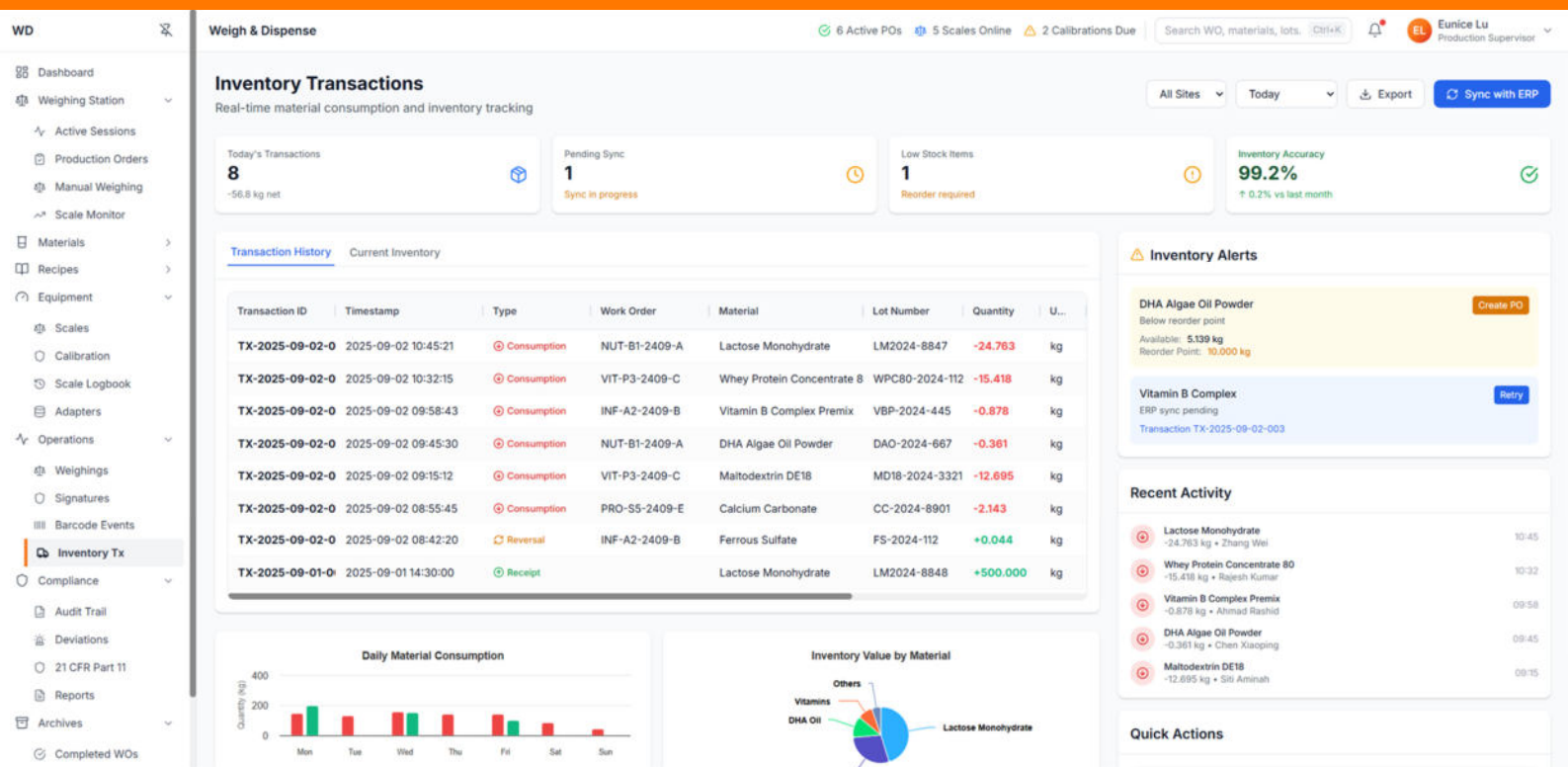
Mobile & Handheld

- Scanner-first, thumb-reachable UI with large controls for weigh rooms
- Offline-tolerant queueing for scans and actions during Wi-Fi blips
- One-tap tare/accept and label request; quick photo/notes attachments
- Role-aware views for operators, supervisors, and QA reviewers





Pharma & Biotech	Cosmetics & Personal Care	Chemicals & Coatings	Lab & Quality	Food, Beverage, & Nutrition
Potent API dispensing with double sign and review-by-exception. Pre-weighed kit preparation with full genealogy.	Small-batch R&D to scaled production with the same controlled flow. High-mix fragrance and colorant additions with tight tolerances.	Multi-stage additions with calibration/range gates per step. Barcoded container verification to prevent cross-contamination.	Sample prep and standard solution making with audit-ready records. Deviation management with documented CAPA.	Multi-ingredient formulations with positive or negative weighing. Allergen-sensitive dispensing with hazard prompts and label enrichment.



Governed Weighing with Real-Time Results

Compliance & Data Integrity

- 21 CFR Part 11-style e-records and signatures, Annex 11 alignment, ALCOA+ data principles.
- Immutable audit trail for all critical actions; tamper-evident record hashing.
- Role-based access, double-sign controls for critical steps, and electronic logbooks for scales.

Cost & Value Transparency

- Rework and scrap cost from mis-dispenses avoided by prechecks.
- Labor minutes per weighing and batch release lead-time impact.
- Scale downtime due to calibration/maintenance and its production cost.
- Material loss by reason code (mismatch, out-of-tolerance, label failure).

Analytics & Reporting

- Batch packet with weighing logs, signatures, label payloads, and barcode events.
- Calibration/scale logbook dashboards with due-date alerts.
- Genealogy reports (material, lot, container, and kit lineage).
- Export-ready CSV/PDF for audits and customer/regulatory submissions.



Key Features and Benefits

Features

- Guided recipe-step execution with tolerance gates and positive/negative weighing modes
- Barcode/QR plausibility checks for material, lot, container, and scale with error-proofing lockouts
- Scale compliance enforcement (calibration due, range/precision fit) with electronic logbook entries
- Single/double e-signatures with immutable audit trail aligned to ALCOA+ data integrity
- Vendor-neutral label payloads (material, lot, net, UoM, WO, step, hazards) ready for any print system
- Inventory transactions on accept with lot decrement and genealogy hooks for kits/containers
- Orchestrated by WFM; automatic TMS tasking for rejects/overrides and CMMS tickets for scale issues
- Handheld, scanner-first UI with offline-tolerant action queue; glove-friendly controls
- Pluggable adapters: simulator, Ignition Tag/WebDev, OPC UA, serial; label drivers added as needed

Benefits

- Improved schedule adherence by removing weigh-room bottlenecks and automating follow-ups
- 30-60% fewer mis-dispense incidents via barcode checks and tolerance gating
- 15-25% faster batch turnaround from guided steps and paperless records
- 50-80% reduction in QA review time using review-by-exception and e-signatures
- 20-40% drop in deviations tied to materials, lots, or scales through compliance gates
- 10-20% reduction in material waste from overfills and rework
- Near-100% calibration compliance by blocking out-of-cal/ range scale usage
- 25-35% faster onboarding with clear scan→tare→weigh→accept flow for operators

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

Serial/Ethernet TCP, OPC UA/OPC DA
ZPL/SBPL, REST API, JSON/XML, S/FTP

Supported Databases

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

Supported Browsers

Chrome, Firefox, Safari, Microsoft Edge

LOGICAL SYSTEMS WD

**Complete Right-First-Time
Weigh & Dispense
Solution.**

**Weigh. Verify. Release.
Proof in Every Step.**



LOGICAL SYSTEMS
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Specialists in Automation & Digitalization for Manufacturing Industries

www.logicalsistemas.io | info@logicalsystems.io

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