The ECOAT Core User Guide

Everything you need to work in Core — production, quality, inventory, lab, maintenance, and more — in one place, for every facility.

Core v1.75.4

Guide edition July 07, 2026

Seminole · Tulsa · Cleveland · Mission

Contents

01

👋 CHAPTER 1

Getting Started & Home

Getting Started & Home

Welcome to **ECOAT Core** — the single platform your plant and office run on every day. This chapter gets you signed in, gives you the lay of the land on the Home dashboard, and shows you the handful of tools that work the same on every page: the facility selector, the menu, quick search, Help, and the Feedback button.

Signing In

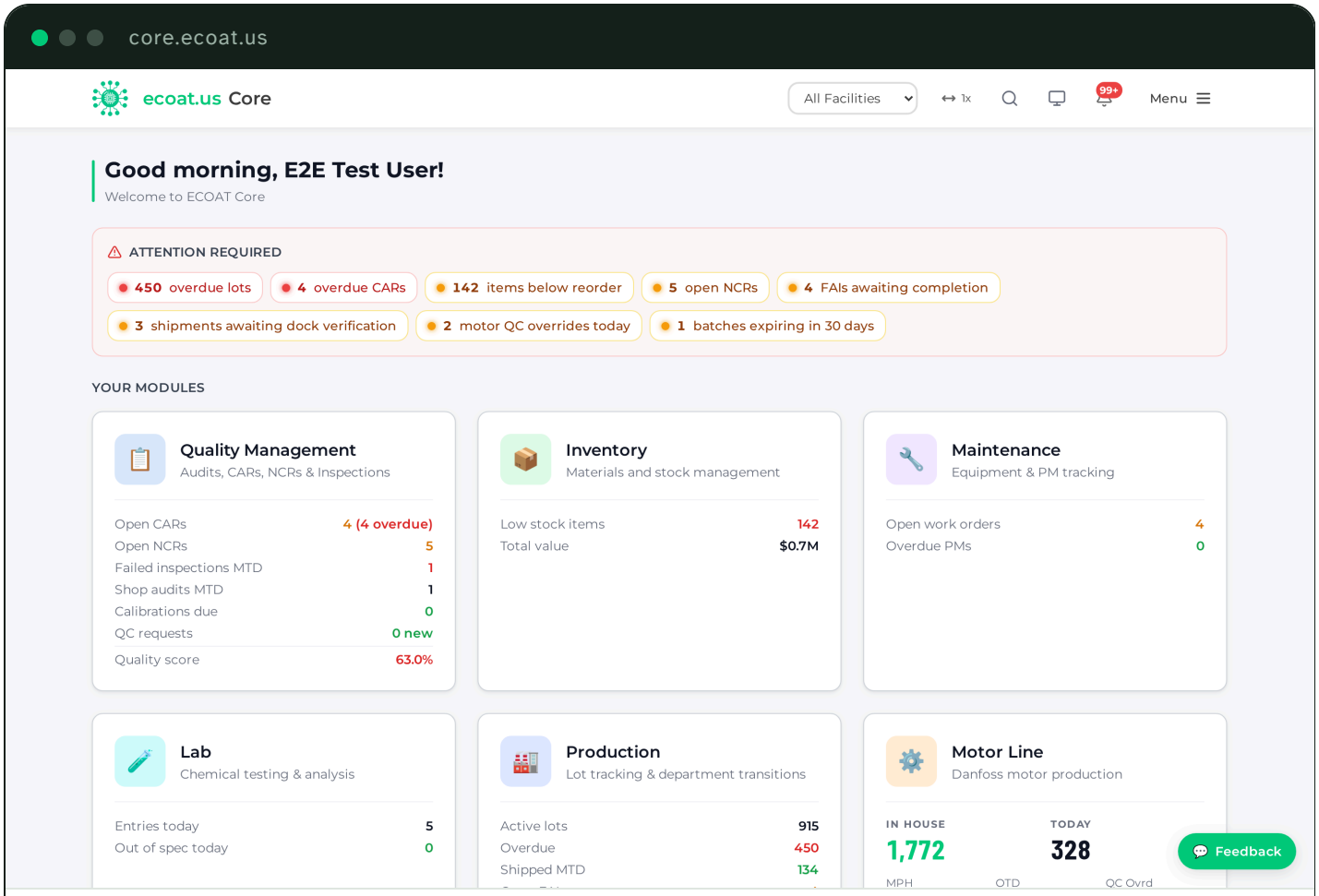
Core uses your my.ecoat.us account — the same login you use for other ecoat.us tools. There's no separate password to remember.

1. Go to the Core web address (bookmark it, or ask IT for the link).
2. Click **Sign in with my.ecoat.us**.
3. Enter your my.ecoat.us email and password if prompted.
4. You'll land on the **Home** dashboard.

> **Tip:** Core remembers you between visits, so you usually won't have to sign in every time on the same device. If a page ever looks empty or "logged out," refresh and sign in again.
>
> **Permissions:** What you can see is tied to your account. Two people can open the same app and see different menus — that's normal. Modules you don't have access to simply don't appear. If you're missing something you need, send Feedback (see below) or ask IT.

The Home Dashboard

Home is your morning starting point. It greets you by name, surfaces anything that needs a human right now, and gives you a card for each module you have access to. It refreshes automatically when you switch facilities.



The Home dashboard with the attention rail and module cards

From top to bottom, Home shows:

- **Greeting** — "Good morning/afternoon/evening, [your name]."
- **Attention rail** — the page's headline. A row of numbered call-outs for things that need action: overdue CARs, open NCRs, calibrations overdue or due soon, new QC requests, lab readings out of spec, items below reorder, batches expiring soon, overdue PMs, overdue lots, and more. Red means urgent, amber means soon. Click any item to jump straight to it.
- **IT Announcements** — messages from IT (see below). Dismiss one with the × and it stays dismissed on that device.

- **Your Modules** — a card per module (Quality, Inventory, Maintenance, Lab, Production, and so on). Each card shows a few live numbers and links to that module.
- **System Status** — API health, the current Core version, and running totals like items tracked and equipment count.
- **Quick Actions** — shortcuts to the things you do most, tailored to your role.

> **Tip:** If the attention rail is empty, there's nothing urgent for you right now — that's a good thing. Skim it first each morning before diving into a module.

Announcements

Announcements are how IT tells everyone about planned maintenance, outages, or important changes. They appear at the top of Home, colour-coded by type (info, warning, critical, maintenance). Dismissing one only hides it for you — it doesn't remove it for anyone else.

The Facility Selector

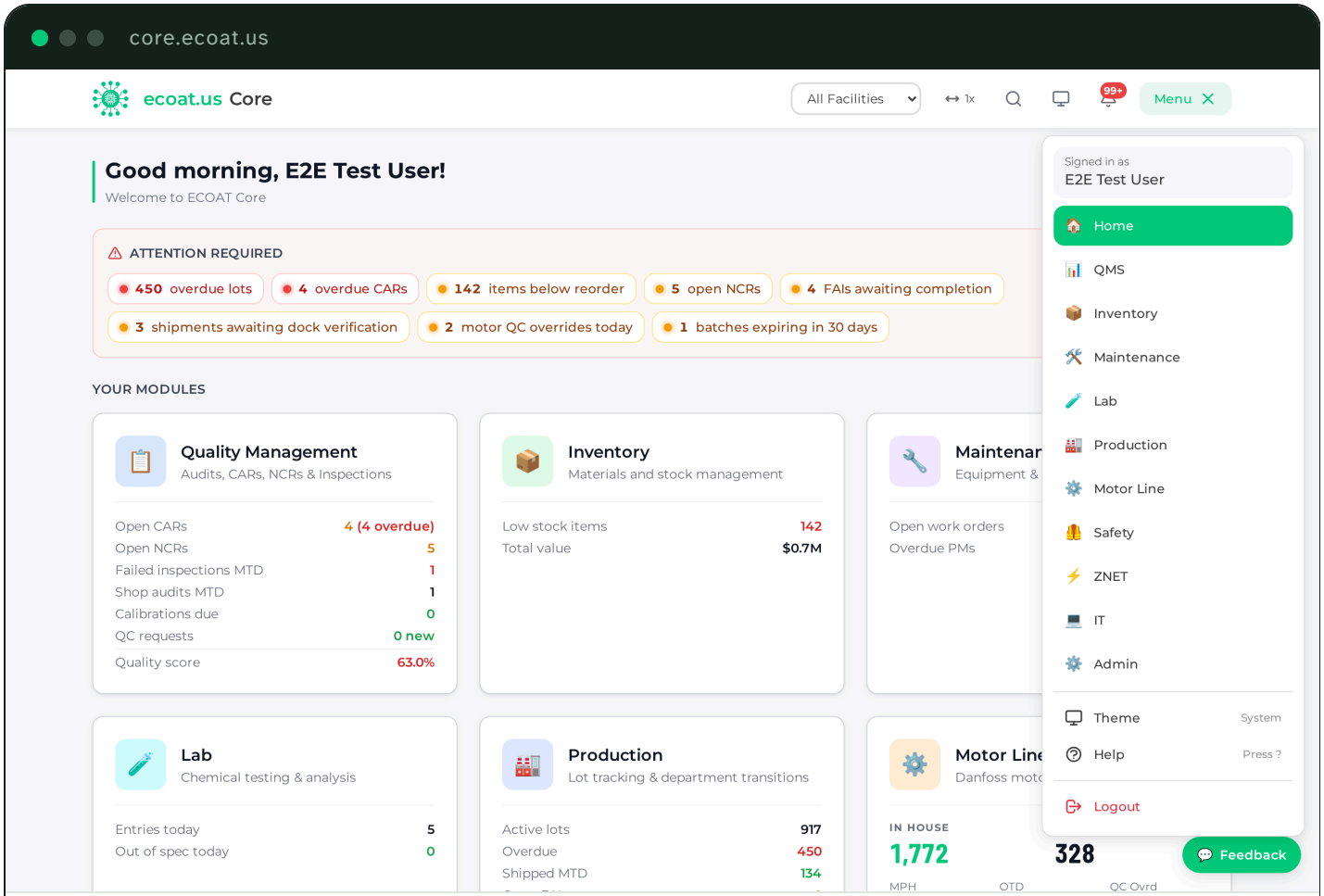
Core serves four facilities — Seminole, Tulsa, Cleveland, and Mission — and most screens are scoped to one at a time. The facility dropdown sits in the top bar and is always visible.

- Pick a facility to see only its data.
- If your account covers more than one site, you'll also have an **All Facilities** option.
- Your choice follows you as you move between pages, and Home re-loads its numbers to match.

> **Tip:** If a list looks empty or a number seems wrong, check the facility dropdown first — you may be looking at a different site than you expected. When a specific facility is selected, Core also hides modules that facility doesn't use.

Getting Around: the Menu

The Menu button in the top-right corner opens the main navigation. It lists every module you have access to — Home, QMS, Inventory, Maintenance, Lab, Production, and any others. Your signed-in name and the Logout button live here too.



The main navigation menu

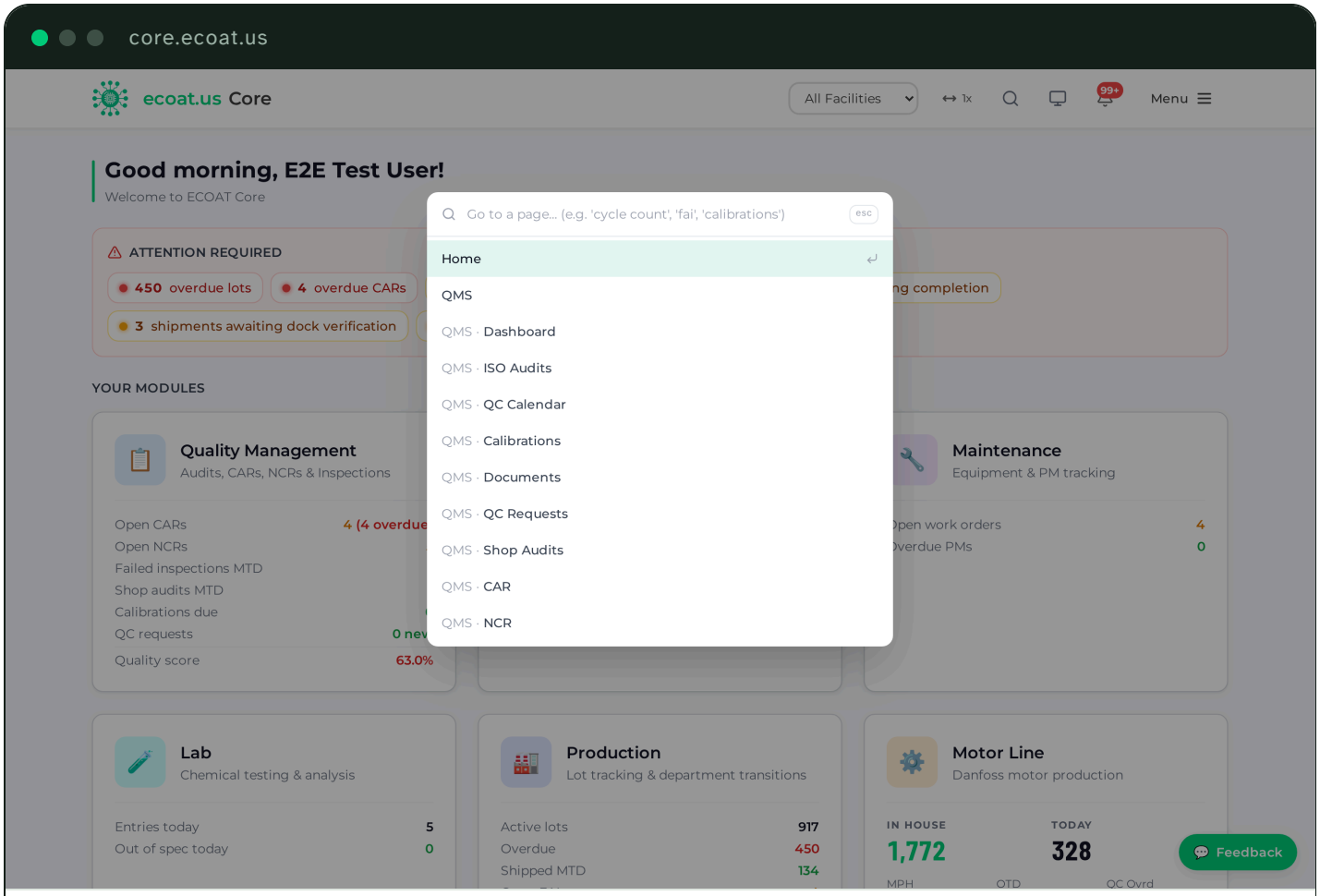
1. Click **Menu** (top-right).
2. Pick a module.
3. Inside a module, a **sub-navigation bar** appears under the header with that module's pages (for example, QMS shows Dashboard, ISO Audits, Calibrations, CAR, NCR, and so on).

Some modules tuck their setup pages into a ⚙ **Configure** dropdown at the end of the sub-nav to keep the bar tidy. A sub-nav link with an outward arrow (↗) opens in a new tab.

The **theme toggle** (light / dark / match your system) also lives in the menu on phones, and in the top bar on larger screens.

Jump to Any Page: Quick Search (Ctrl+K)

Core has around 90 pages. Instead of hunting through menus, press `Ctrl+K` (or `⌘K` on a Mac) to jump straight to any of them. You can also click the magnifying-glass icon in the top bar.



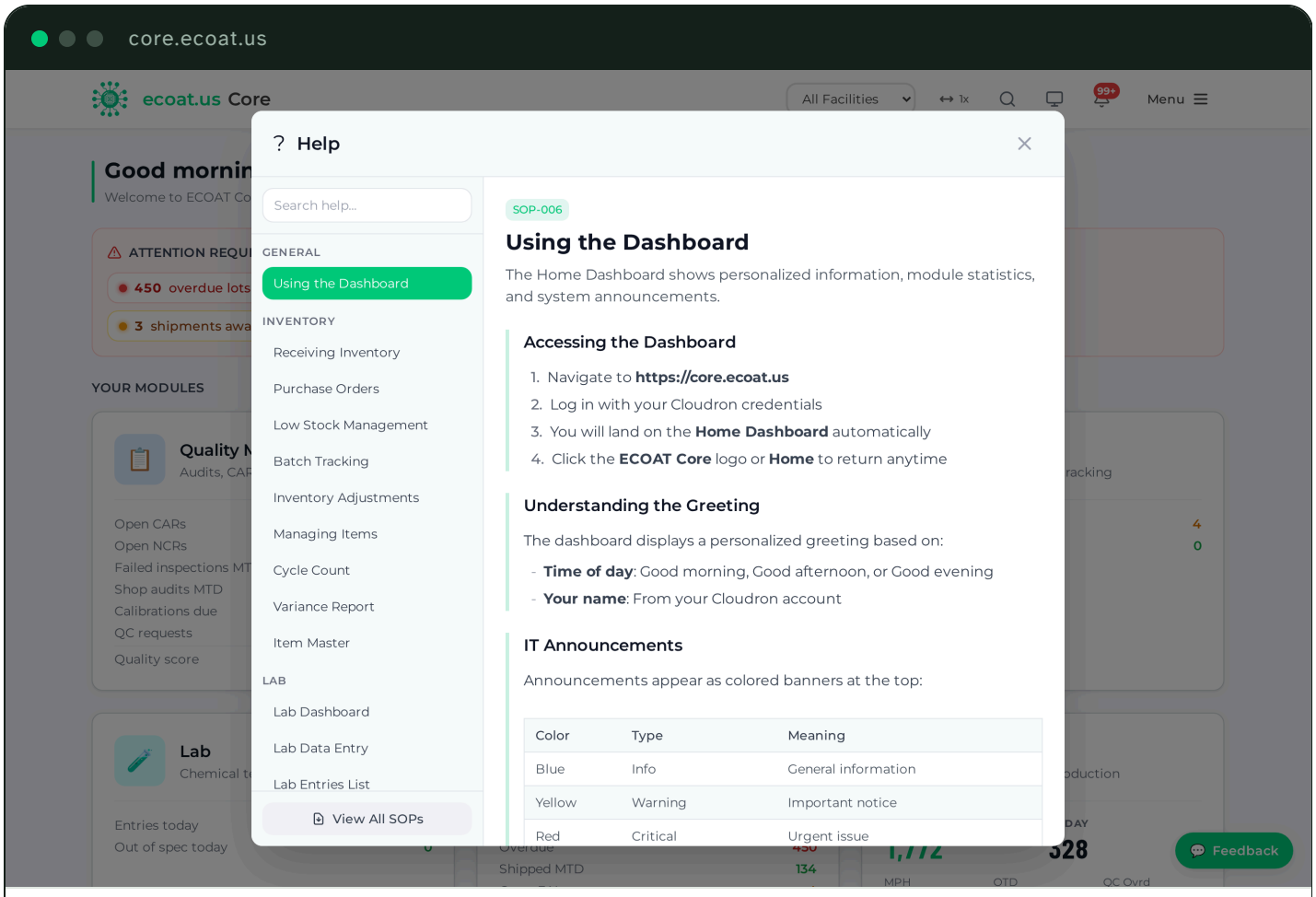
The Ctrl+K quick-search palette

1. Press **Ctrl+K**.
2. Start typing — a page name, or part of one (e.g. "cycle count", "fai", "calibrations").
3. Use the **arrow keys** to move up and down the results.
4. Press **Enter** to go there. Press **Esc** to close.

> **Tip:** Quick search only ever offers pages you're allowed to open, so if you can't find something here, you probably don't have access to it — send Feedback or ask IT.

Getting Help: Press ?

Every page has built-in help. Press the ? key anytime to open it (or choose **Help** from the Menu). The Help window has step-by-step guides organized by module, with a search box.



The in-app Help window

1. Press **?** on your keyboard (this works everywhere except while you're typing in a box).
2. Browse topics in the left sidebar, or type in **Search help** to filter them.
3. Some topics link to the full written **SOP** — click **View All SOPs** at the bottom of the sidebar.

> **Tip:** Help opens to the topic that matches the page you're on, so pressing **?** while you're stuck usually lands you on the right instructions immediately.

Sending Feedback

The green Feedback button floats in the bottom-right corner of every page. Use it any time you have a question, hit a problem, or have an idea — it's the fastest way to reach the team building Core, and it automatically records which page you were on.

1. Click the 💬 **Feedback** button.
2. Pick a category: **Question**, **Issue**, **Idea**, **Praise**, or **Other**.
3. Type your message. If it's a problem, say what you were trying to do.
4. Click **Send**.

Seeing replies to your feedback

The team reads every submission and often replies. To see your past feedback and any responses, open the Feedback button and click **View my feedback & replies →**, or go to **/feedback/mine**.

> **Tip:** For an issue, a single sentence about what you expected versus what happened is worth more than "it's broken." The more specific you are, the faster it gets fixed.

02

📊 CHAPTER 2

Quality (QMS)

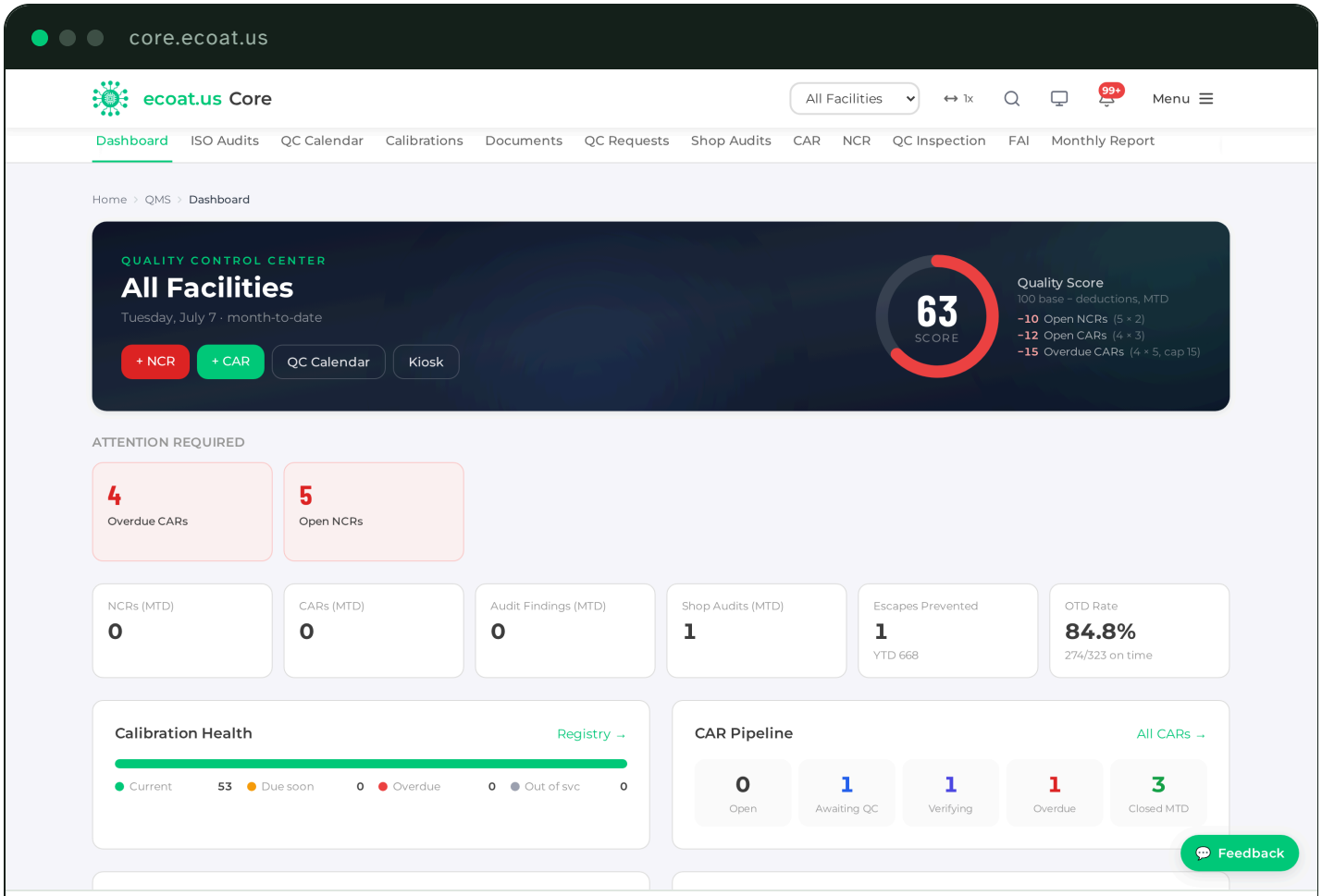
Quality (QMS)

The **Quality Management System** is where the quality team runs the ISO 9001 program and where the whole plant reports quality issues. It covers audits, calibrations, controlled documents, inspections, corrective actions, and the monthly report — all scoped to the facility you pick in the top bar.

Open it from **Menu** → **QMS**. The sub-navigation bar lists every page in this chapter: Dashboard, ISO Audits, QC Calendar, Calibrations, Documents, QC Requests, Shop Audits, CAR, NCR, QC Inspection, FAI, and Monthly Report.

QMS Dashboard

The dashboard is the quality team's command center. It pulls the whole facility's quality picture onto one screen and gives you one-click buttons to start the most common actions.



The QMS dashboard

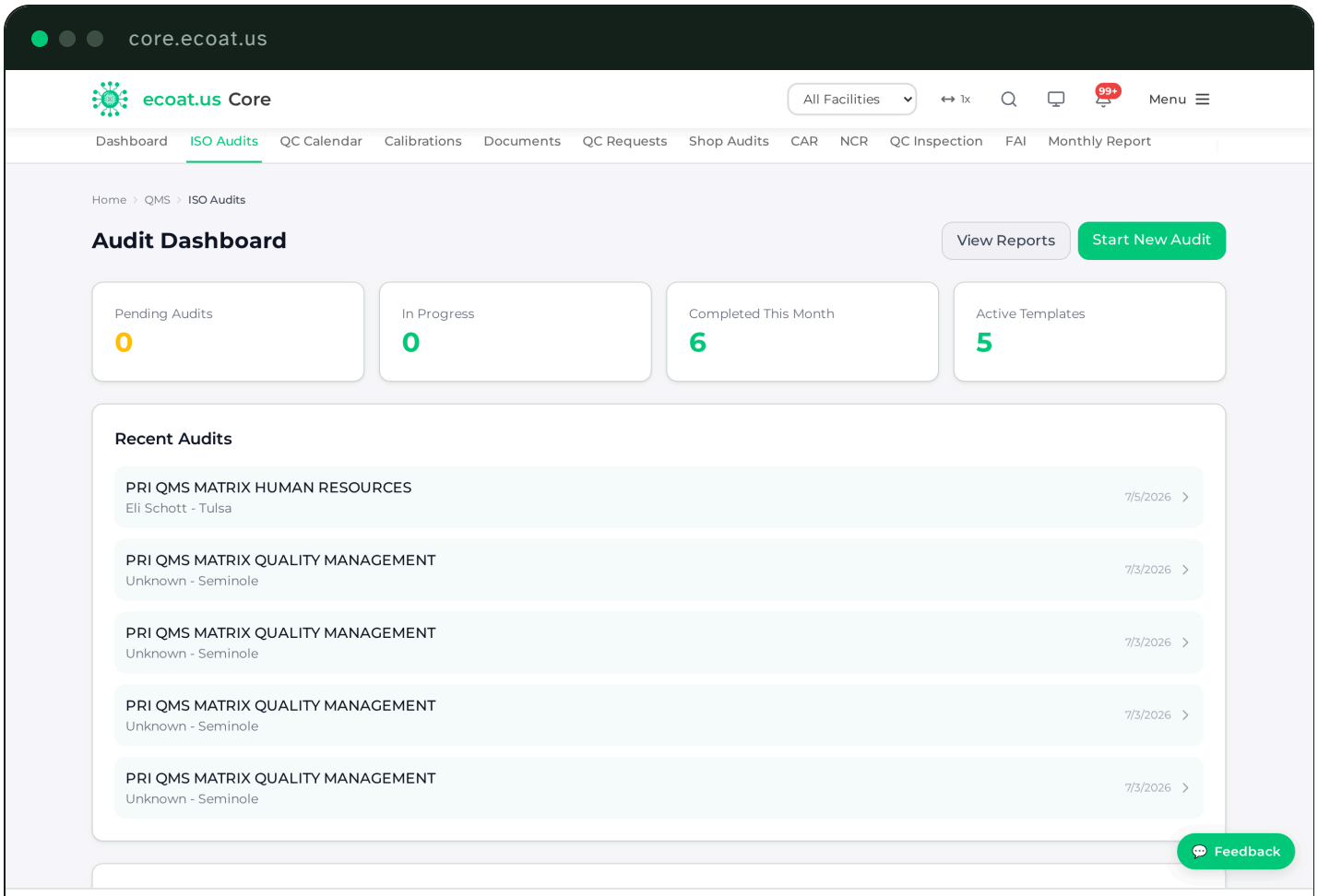
At the top, action buttons let you jump straight into **+ NCR**, **+ CAR**, the **QC Calendar**, and the **Kiosk**. Below that you'll find:

- **Attention tiles** — overdue calibrations, shop audits pending, calibrations due soon.
- **Calibration Health** — a snapshot of gauge status across the facility.
- **CAR Pipeline** — open corrective actions by stage.
- **QC Requests inbox** — the newest items waiting on the quality team.
- **NCR Dispositions (MTD)** and **Film Thickness Averages (MTD)**.
- **Upcoming on the QC Calendar** — the next scheduled audit and events.

> **Tip:** Start your day here. The tiles are the same numbers that feed the Home attention rail, but organized by quality topic.

ISO Audits

ISO Audits are the yearly ISO 9001 certification audits, run from standardized templates. Each facility completes all five audits every year, and each finishes with a legally binding digital signature.



ISO Audits

Run an audit

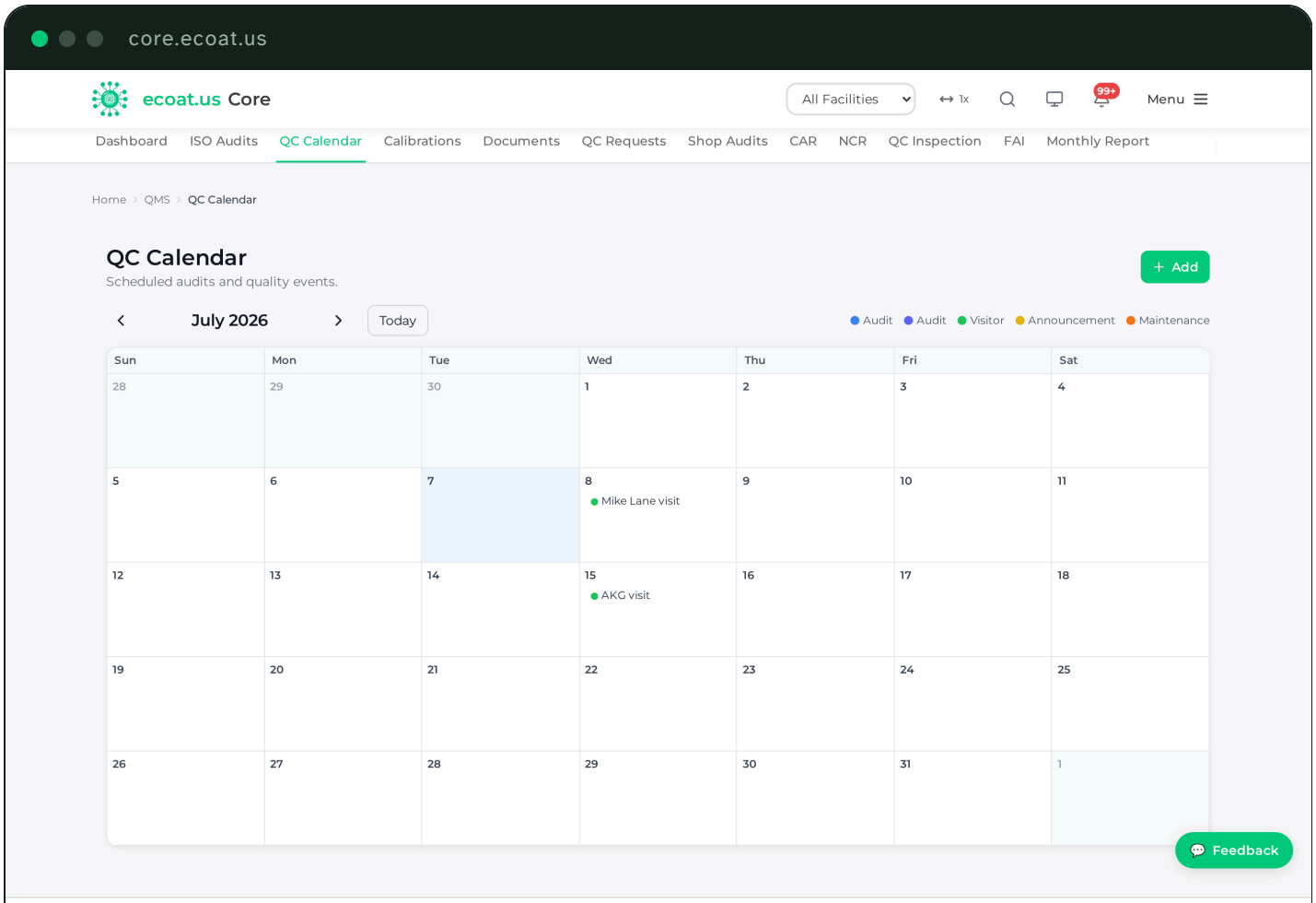
1. Go to **QMS** → **ISO Audits** and click **Start New Audit**.
2. Choose an **audit template** (Quality Management, Production & Shipping, Human Resources, Purchasing & Receiving, or Sales).
3. For each question, read the clause text, then mark **Conforming**, **Non-Conforming**, or **N/A**.
4. Add **notes** explaining your finding, and upload **evidence** photos or documents where helpful.
5. When every question is answered, review the summary and click **Sign Audit** to finish.

The signature captures your name, email, IP address, and timestamp, and is E-SIGN Act compliant.

> **Tip:** Download any completed audit as a PDF from **ISO Audits** → **Reports**, where you can filter by time range, type, and status.

QC Calendar

The QC Calendar is one month-grid view of everything scheduled — planned ISO audits and general quality events together, colour-coded so you can tell them apart at a glance.



The QC Calendar

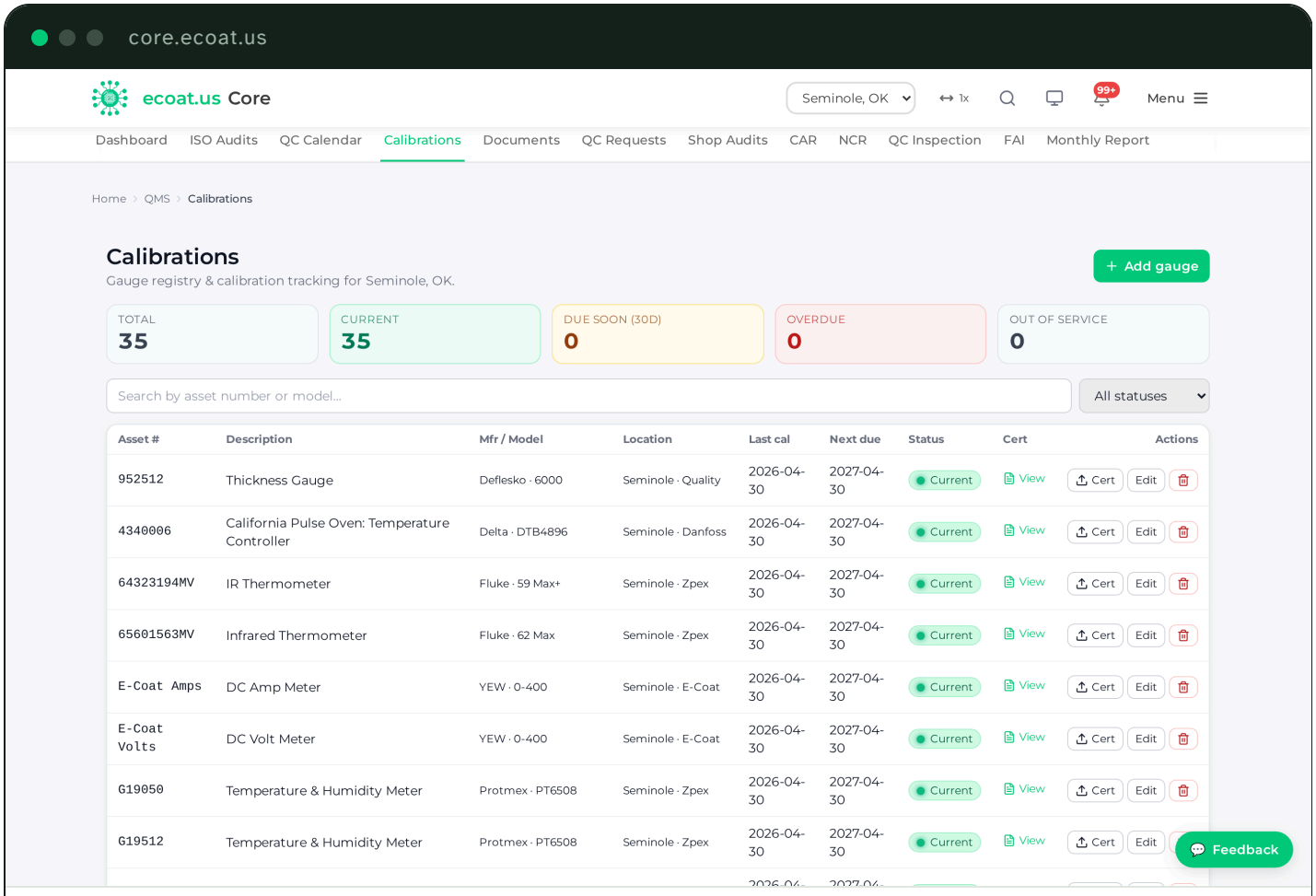
1. Go to **QMS** → **QC Calendar**.

2. Click a day, or the **+ Add** button, to open the chooser.
3. Pick **Schedule audit** (to plan an ISO audit) or **Add event** (for any other quality event).
4. Click an existing chip to open its details.

> **Permissions:** Anyone can view the calendar. Scheduling audits and adding events requires quality write access.

Calibrations

Calibrations is the gauge registry. Every measuring instrument the facility relies on lives here with its calibration due date, and the system colours each one by how close it is to expiring.



The calibration registry

Each gauge shows one of four statuses:

STATUS	MEANING
Current (green)	In calibration, nothing due
Due Soon (amber)	Calibration due within 30 days
Overdue (red)	Past its calibration date — do not rely on it
Out of Service (grey)	Pulled from use

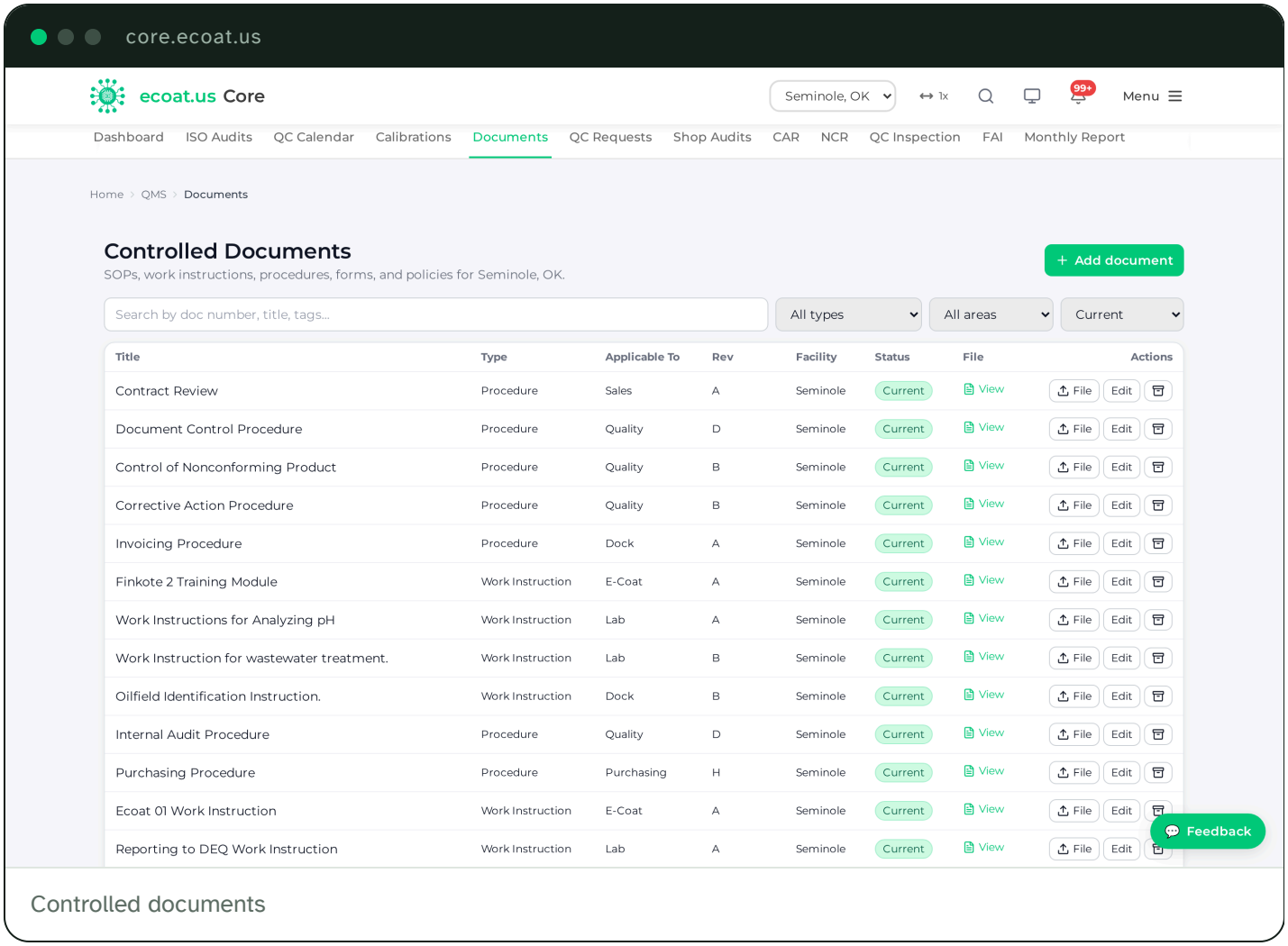
Add a gauge or log a calibration

1. Click **Add gauge** to register a new instrument.
2. To record a completed calibration, open the gauge and use **Log Calibration** — this stamps the new date and moves the status back to Current.
3. Filter the list by status (All, Due Soon, Overdue, and so on) or search by name.

> **Tip:** Overdue and due-soon counts feed both this page and the Home attention rail, so nothing quietly slips past its date.

Documents

Controlled Documents is the document control library — SOPs, work instructions, forms, and the like, each with revision history and a review interval.



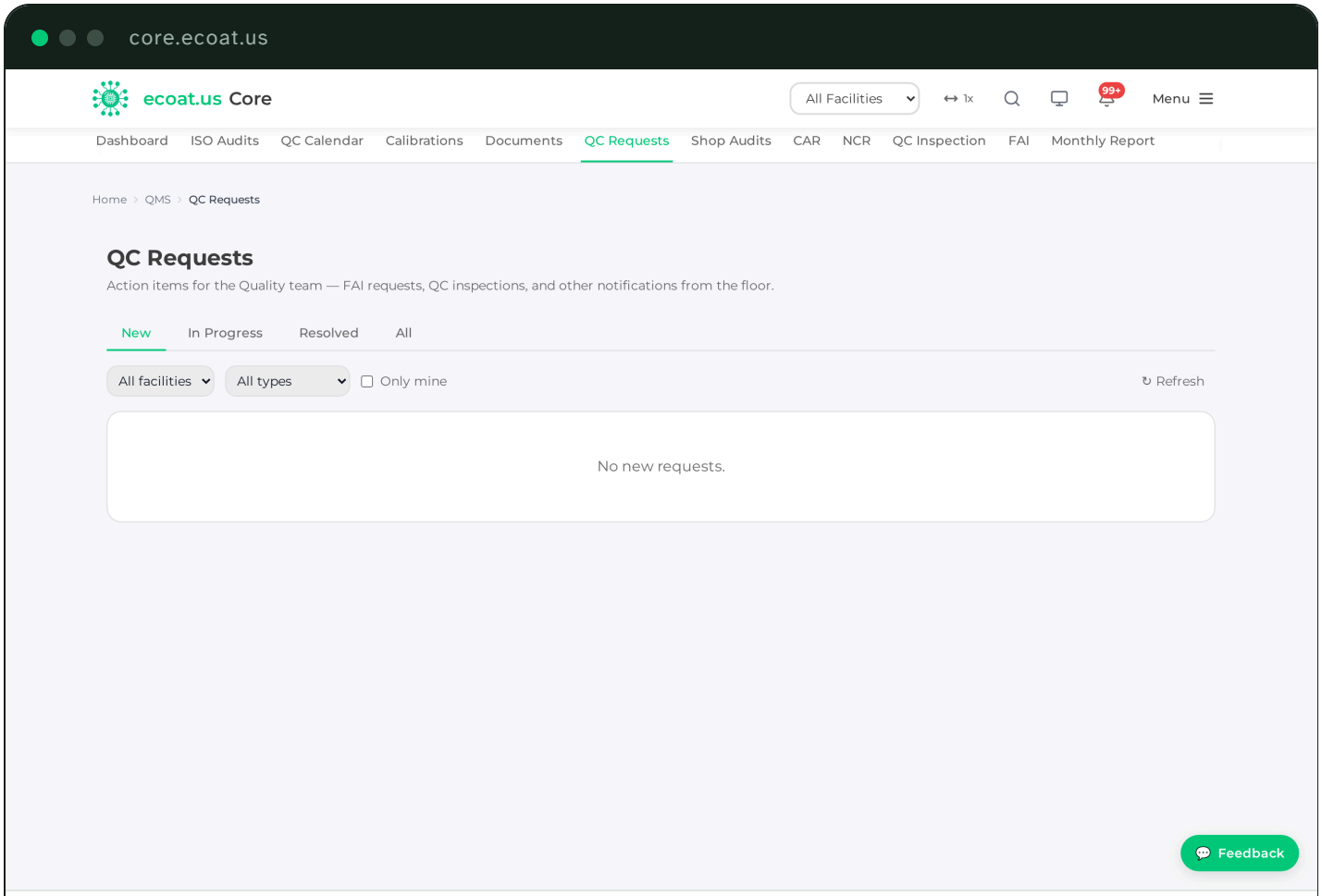
Controlled documents

Documents carry a status of **Current**, **Under Review**, **Superseded**, or **Archived**. Filter the list by type, applicability, status, or search, and click **File** on a row to open the attached document.

> **Permissions:** Only **document control** users can add or edit documents. Everyone else — including auditors and general quality staff — has read-only access so they can always find the current revision.

QC Requests

QC Requests is the quality team's inbox — action items and notifications routed from the floor, such as FAI requests and QC inspections that need attention.



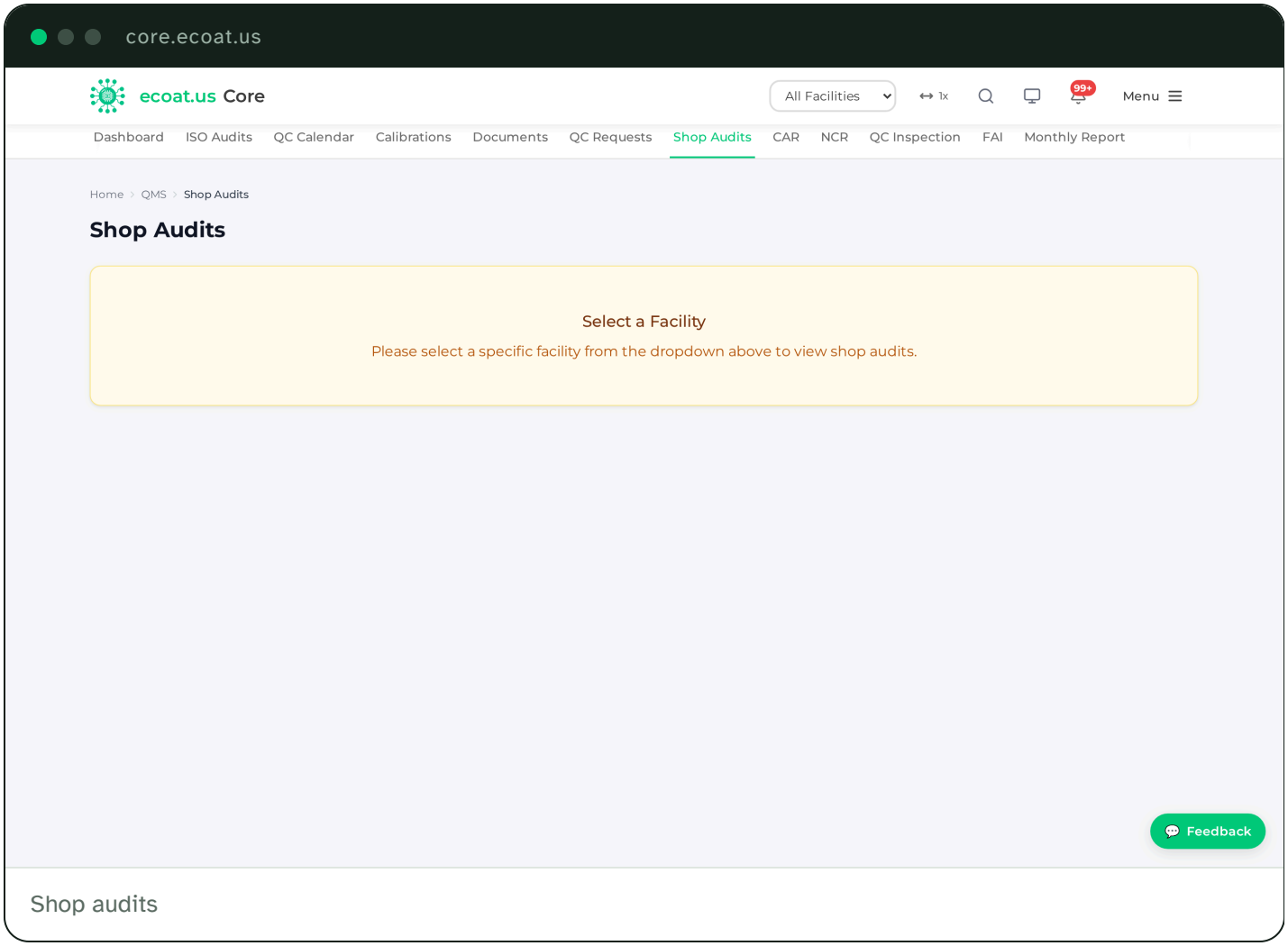
The QC Requests board

- Requests are grouped into tabs: **New**, **In Progress**, and **Resolved**, with a red count badge on New.
- Each request shows its type (FAI, QC Inspection, or Other), who it came from, and any notes.
- The quality team moves a request along by changing its status as they work it.

> **Permissions:** The quality team sees every request and can change its status. Other users see the requests they submitted.

Shop Audits

Shop Audits are the recurring daily and weekly walk-throughs of the shop floor — quick GO / NO GO checks that keep operations honest between the big ISO audits.



Complete a section

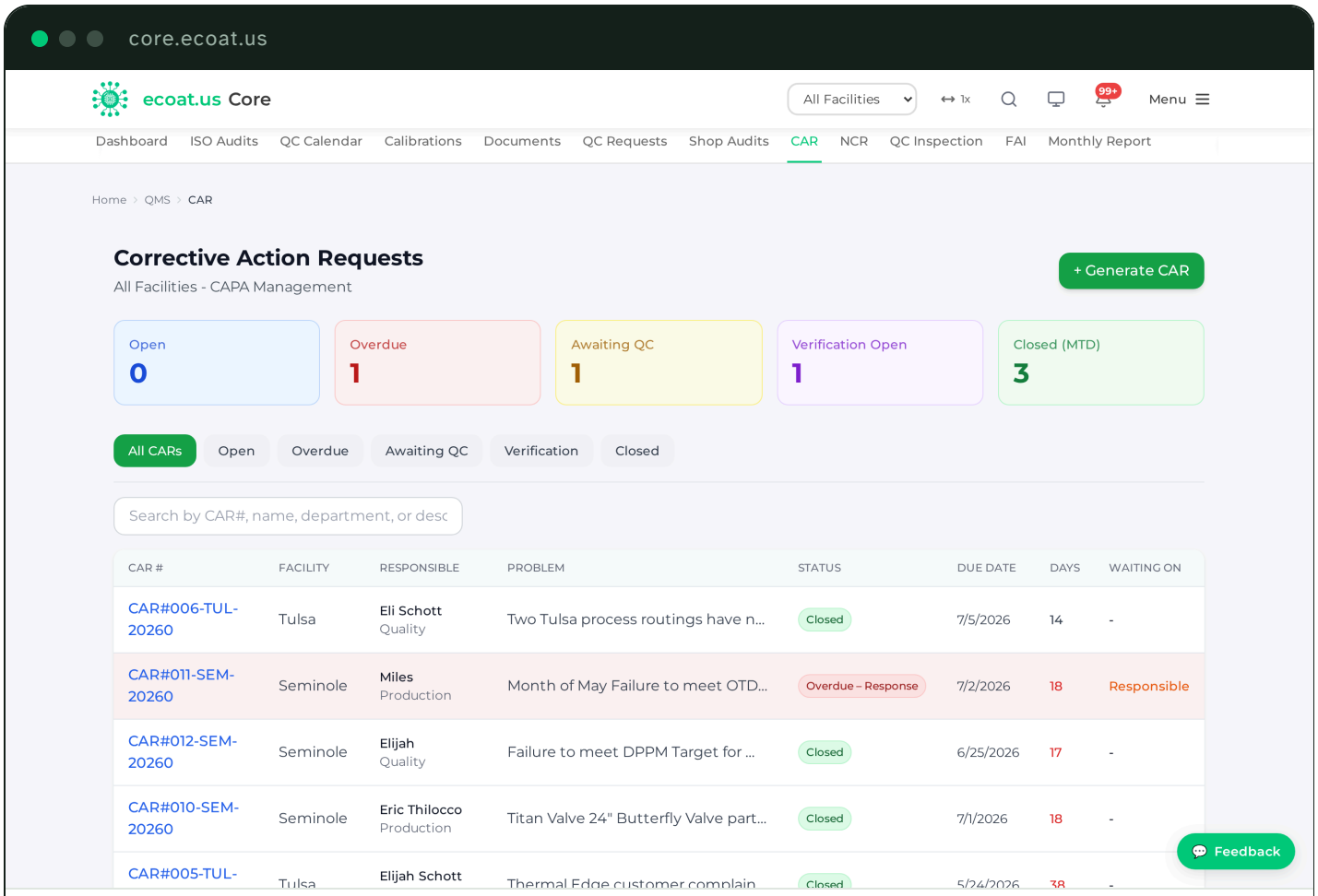
1. Go to **QMS** → **Shop Audits** and pick a section that's due (e.g. "Zpex", "Ecoat").
2. For each question, tap **GO** (green) if it's compliant or **NO GO** (red) if it isn't.
3. Add notes for every **NO GO** to explain the issue and what needs to happen.
4. Add section observations and upload evidence photos as needed.
5. Click **Submit Section**.

You can reopen a completed section to make changes — your previous answers pre-load, and saving updates the existing record rather than creating a duplicate. The **Reports** tab summarizes total, completed, incomplete, and overdue audits, with PDF download.

> **Tip:** Always write a note on a NO GO. A bare red mark tells the next person nothing; a one-line note tells them exactly what to fix.

CAR — Corrective Action Requests

A CAR is the formal process for fixing a problem at its root, following the 8D methodology with a 5-Why root-cause analysis. It's about correcting the *process*, and it moves through eight tracked statuses from creation to closure.



Corrective Action Requests

Who creates CARs

> **Permissions:** Only **Quality** (and admins) can create a CAR — look for the **Generate CAR** / **+ CAR** button. The department assigned to a CAR responds to it, but they don't open it.

The 8-status workflow

STATUS	WHO ACTS	WHAT IT MEANS
Open-Issued	Quality	CAR created, responsible party notified
Open-In Progress	Responsible	They clicked "Start Work"
Submitted-Awaiting QC	Quality	8D response submitted for review
Rejected-Action Required	Responsible	Quality sent it back for revision
Accepted-Verification Open	Quality	Response accepted; 30-day verification begins
Closed	Quality	Effectiveness verified

(The remaining transitions are re-submit after a rejection, return from verification, and reopen — see below.)

Responding to a CAR (assigned department)

1. Open the CAR and click **Start Work**.
2. Complete the 8D sections. **D3 Containment**, **D4 Root Cause** (the 5-Why), and **D5 Corrective Actions** are required; D6 Validation, D7 Prevent Recurrence, and D8 Closure Notes are optional.
3. Your work **auto-saves every 60 seconds**, and you can click **Save Draft** anytime — a draft does *not* submit the CAR.
4. When it's complete, click **Submit to QC**.

> **Tip:** Click the **Ask Skippy** button for AI-assisted suggestions while you fill in the 8D response.

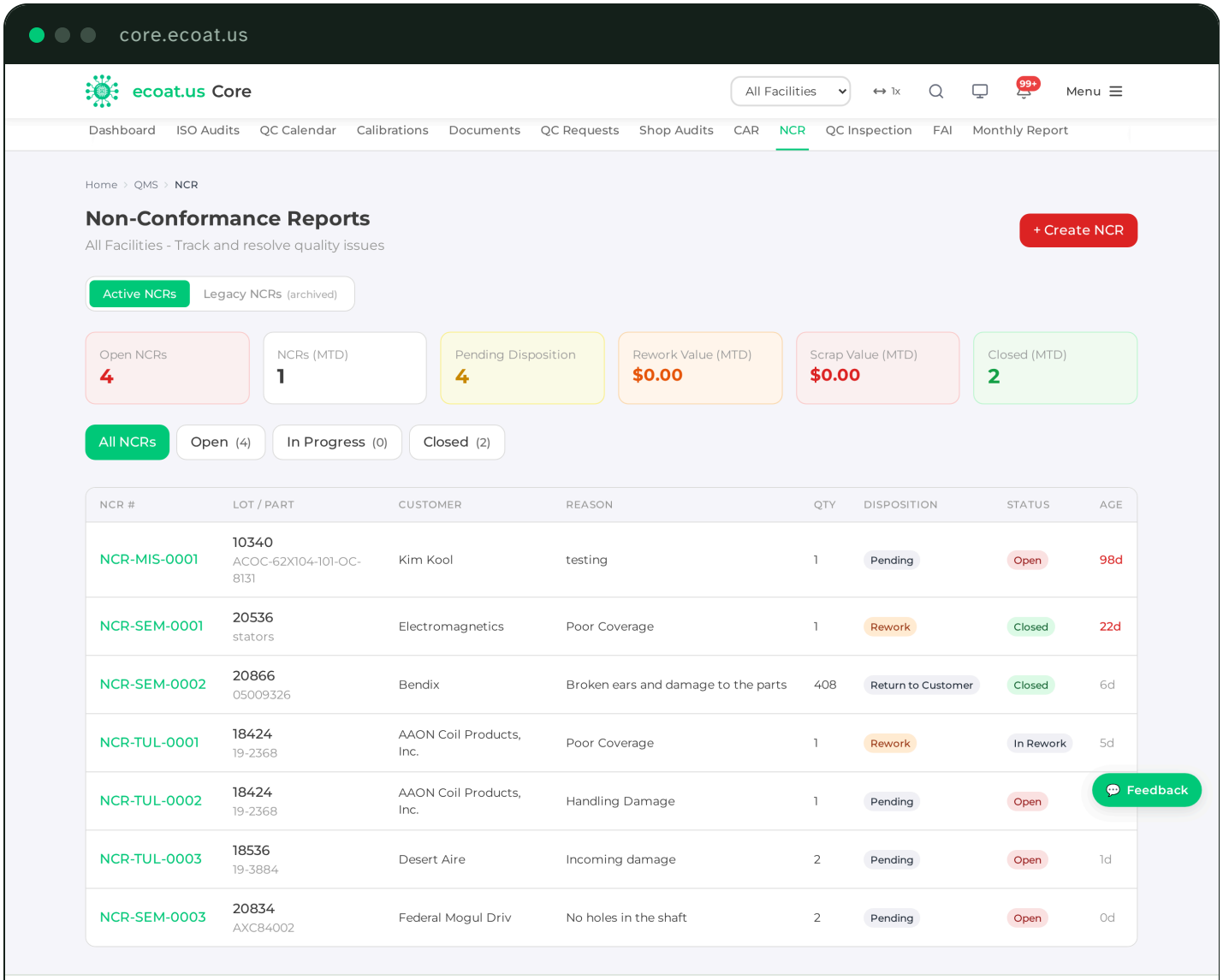
Extensions, verification, and reopening

- **Need more time?** Click **Request Extension**, pick a new date, and give a specific reason. Request it *before* the due date passes — Quality approves or denies it.
- **Quality review:** Quality accepts a submitted 8D (moving it to a 30-day verification period) or rejects it back with feedback. After verification, **Verify & Close** closes the CAR.
- **Reopen:** Quality can reopen a closed CAR if the issue recurs; it returns to Open-In Progress with a fresh due date.

Overdue CARs escalate automatically — a manager is notified at 7 days overdue, a director at 14. CAR numbers look like **CAR#001-FAC-2026** (sequence-facility-year).

NCR — Non-Conformance Reports

An NCR documents non-conforming material and decides what to do with it. Where a CAR fixes the process, an NCR handles the physical parts — return, scrap, or rework — and records the cost.



Non-Conformance Reports

The workflow

Open → Disposition → Closed. Anyone can open an NCR; Quality decides the disposition; the system closes it with the cost recorded.

Create an NCR

1. Go to **QMS → NCR** and click **+ Create NCR**.
2. Search for and select the affected **lot number**.
3. Fill in the **defect type**, **reason**, **quantity affected**, and a description.
4. Attach evidence photos and click **Submit NCR**.

Disposition types

TYPE	MEANING
RTC	Return to Customer
Scrap	Destroy / discard
Rework	Fix and use (cost = hours × $75/hr × 1.20 overhead)

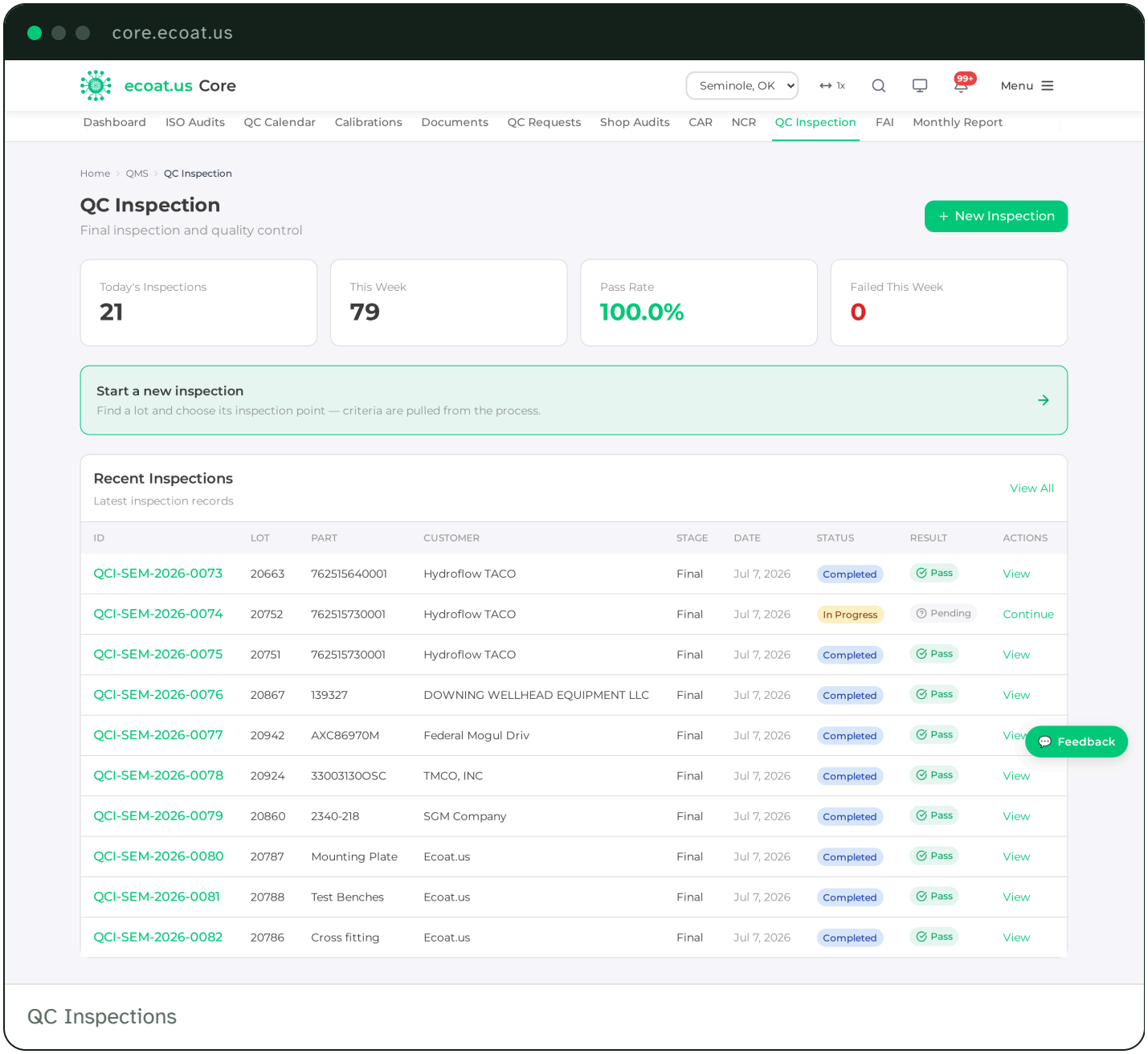
Adding photos after creation

You don't have to attach everything up front. Open an existing NCR and use the **evidence upload** on the detail page to add photos later. Core can even run an AI defect-classification pass on uploaded photos to suggest the defect type.

NCR numbers look like **NCR-SEMINOLE-2026-0015** (facility-year-sequence).

QC Inspection

A QC Inspection is a formal quality check on coated parts, driven by a template that carries the parameters for each coating type. It replaces the old Cognito Forms workflow, flags out-of-spec readings live, and can open an NCR automatically when an inspection fails.



QC Inspections

Run an inspection

1. Go to **QMS** → **QC Inspection** and click **New Inspection**.
2. Choose the **inspection template** (coating type) and enter the lot, part number, customer, and quantity.
3. Enter each reading. Numeric fields show a **green border** within spec and a **red border** out of spec; you'll also see Yes/No and free-text parameters.
4. Choose an overall result — **Pass**, **Fail**, or **Conditional** — add notes, and click **Complete Inspection**.

A **Failed** inspection automatically creates a linked NCR. The quality team can fully edit past inspections (this closed an ISO 9001 finding). Inspection IDs look like **QCI-SEM-2026-0001**.

In-process vs. final inspections

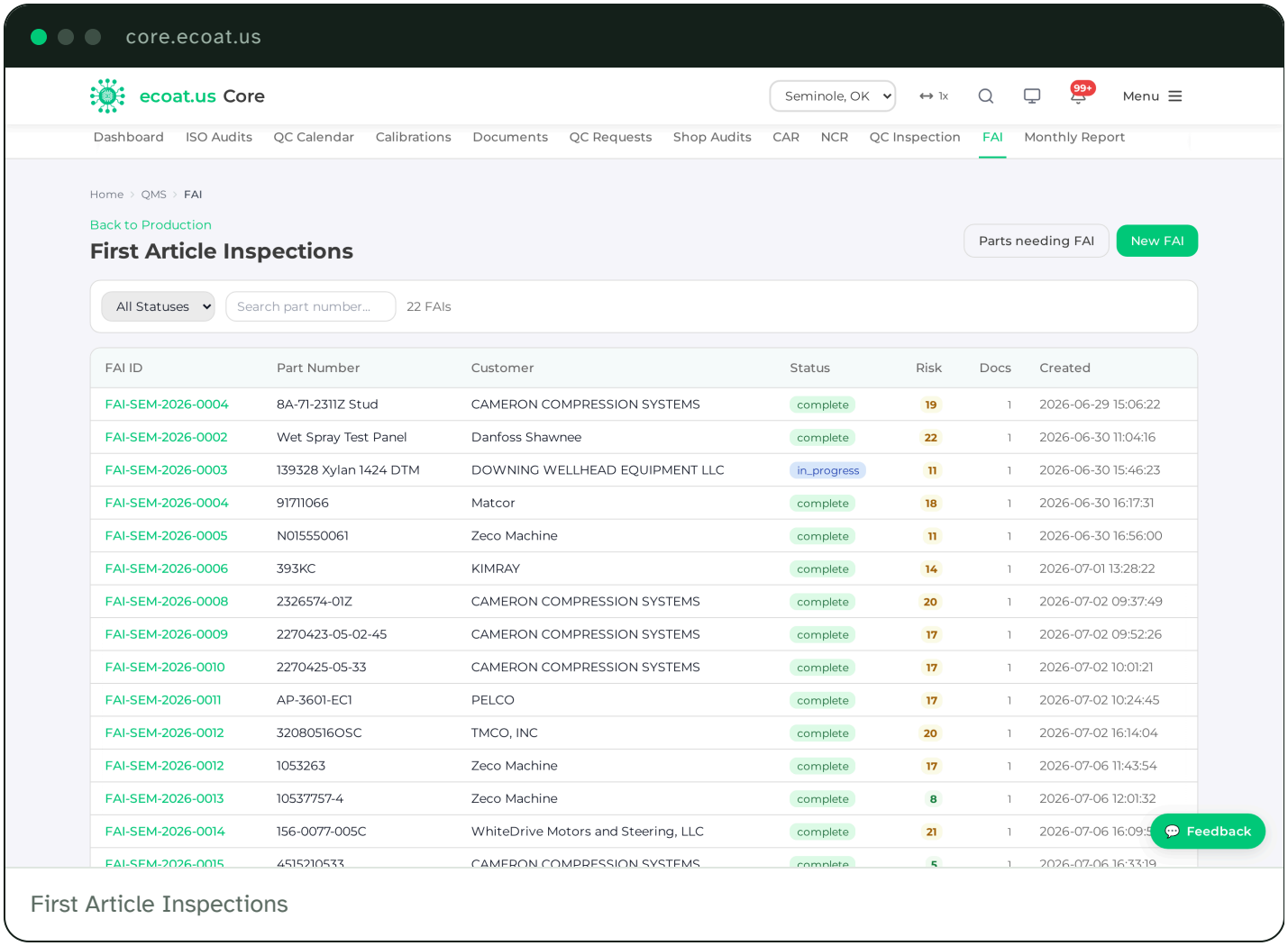
Each inspection carries a **Final inspection** toggle, and the list shows a badge for it:

- **Final** (indigo badge) — on a **Pass**, the lot is finished and its on-time-delivery (OTD) is calculated.
- **In-Process** (grey badge) — results are recorded and the lot can advance, but it stays open for OTD.

> **Tip:** Leave the toggle on **In-process** for a mid-run check; only switch it to **Final** when this inspection is the one that finishes the lot. Getting this right keeps OTD numbers accurate.

FAI — First Article Inspection

An FAI is the up-front inspection you do on the first article of a part to confirm the process is set up correctly before a full run. Core builds it as a short wizard and includes a risk assessment.



First Article Inspections

Create an FAI

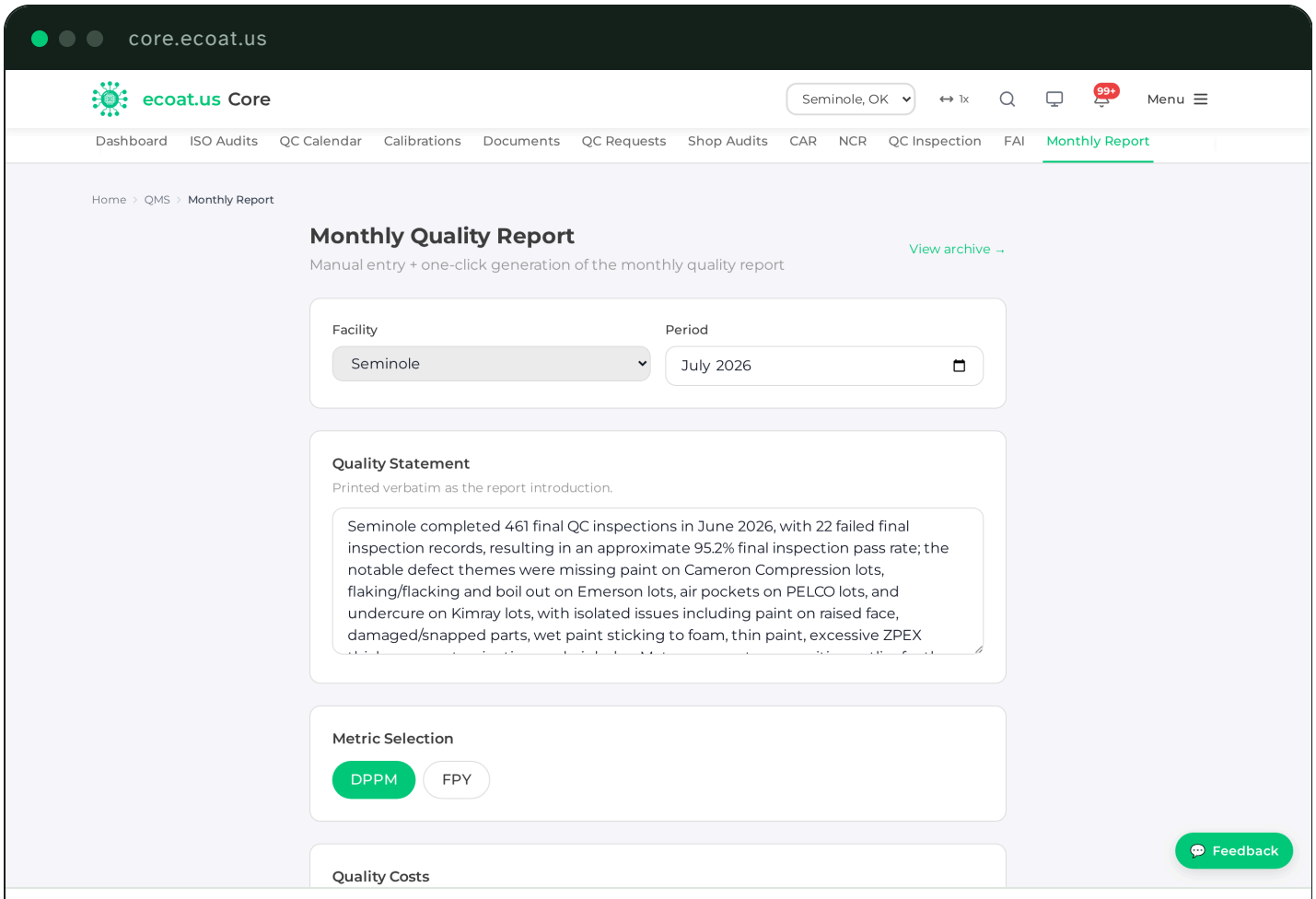
1. Go to **QMS** → **FAI** and click **New Inspection**. (The **Parts needing FAI** list, at FAI → Needed, flags parts that don't have one yet — click **Create FAI** next to any of them.)
2. **Step 1 — Part & Product:** search for the part number. If it's brand new, click to enter **new-product mode** and set its product type (Coil, ZPEX, Powder, Gen. Industrial, CARC, ZPEX II) plus a customer.
3. **Step 2 — Design:** build the process across its stages (substrate, pre-treatment, coating, masking, preservation).
4. **Step 3 — Risk:** complete the risk assessment and sign off. Any area flagged **high risk** requires a mitigation before the FAI can be completed.
5. Click **Mark Complete** — enabled once every checklist item is done.

A completed FAI can be reopened with **Reopen to Edit** if you need to change something.

> **Tip:** If **Mark Complete** is greyed out, a "Still needed to complete this FAI" panel lists exactly what's missing — usually an unfinished checklist item or an un-mitigated high-risk area.

Monthly Report

The Monthly Quality Report pulls the month's quality metrics into one document with a bit of manual narrative, then generates the finished report in one click.



The Monthly Quality Report form

1. Go to **QMS** → **Monthly Report** and choose the **period** (month) at the top.
2. Write the **Quality Statement** — a short summary of the month.
3. Choose which **metrics** to include and fill in the **Quality Costs**.

4. Click **Save & Generate** to produce the report.

Past reports live under **Monthly Report** → **Archive**.

> **Tip:** Fill in the quality statement while the month is fresh in your mind — the numbers generate themselves, but the narrative is the part only you can write.

03

📦 CHAPTER 3

Inventory

Inventory

The Inventory module is where you track everything ECOAT buys, stores, and consumes — from paint and pretreatment chemicals to shop supplies. It keeps on-hand quantities accurate across all four facilities (Seminole, Tulsa, Cleveland, and Mission), tracks material batches for traceability, and drives purchasing so you never run out of a critical item.

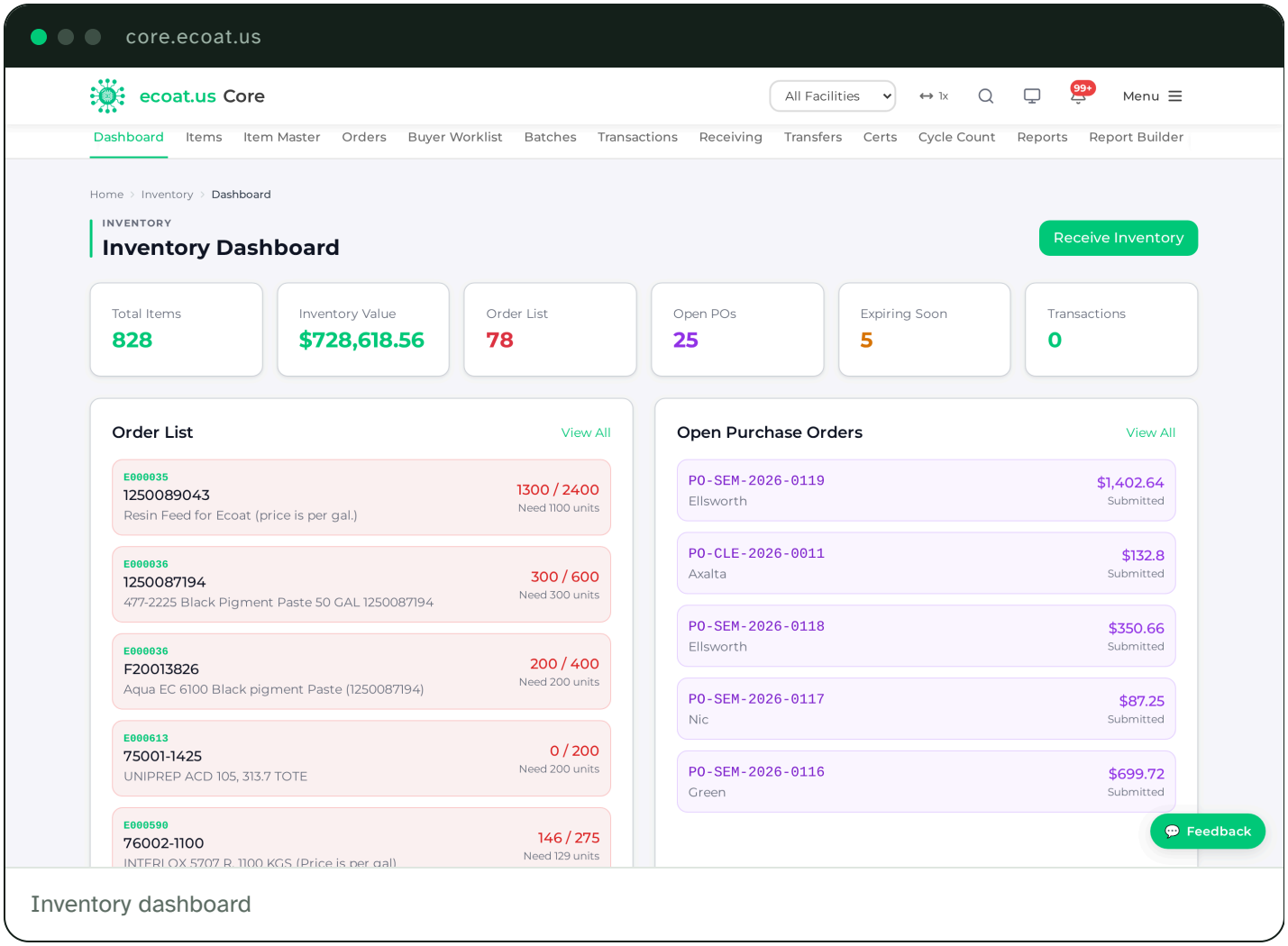
Almost every screen respects the **facility selector** in the top-right corner. Set it to the plant you work at and the lists, counts, and reports below will scope themselves to that location.

> **Permissions:** Most people can view inventory and record receipts, counts, and transfers. Creating and submitting purchase orders is limited to the Purchasing team. Editing item master data (reorder points, vendors, pricing) is limited to Purchasing and Admin.

Inventory Dashboard

The dashboard is your at-a-glance health check for the current facility. Open it from **Inventory** in the main menu (it is the default view).

It surfaces the numbers you care about most: how many items are below their reorder point, batches expiring soon, and quick links into the busiest screens (Receive, Items, Purchase Orders). Use it as your morning landing page, then jump to the specific task from there.



Inventory dashboard

> **Tip:** If the numbers look wrong, check the facility selector first — the dashboard only counts the facility you have selected.

Items

The Items screen is the working list of every stocked item at the selected facility. Open it from **Inventory > Items**.

Each row shows the part number, description, vendor, on-hand quantity, a **facility badge** (so you always know which plant the item belongs to), and the **manufacturer part number (MFG Part#)** for cross-referencing vendor paperwork. A colored stock indicator tells you the situation at a glance.

View and search items

1. Go to **Inventory > Items**
2. Search by part number, description, or vendor
3. Click any row to open the item detail

Edit an item

1. Click an item row to open its detail panel
2. Click **Edit**
3. Update the fields you need — description, vendor, code, location, unit price, UOM, reorder point, reorder quantity, lead time, or notes
4. Save

Quick actions from an item

From the item detail you can jump straight into related work:

- **Receive Product** — opens Receiving with this item pre-loaded
- **Make Transaction** — create an adjustment or issue for this item
- **View Batches** — see every batch for this item
- **View Transactions** — see the full movement history

Stock indicators:

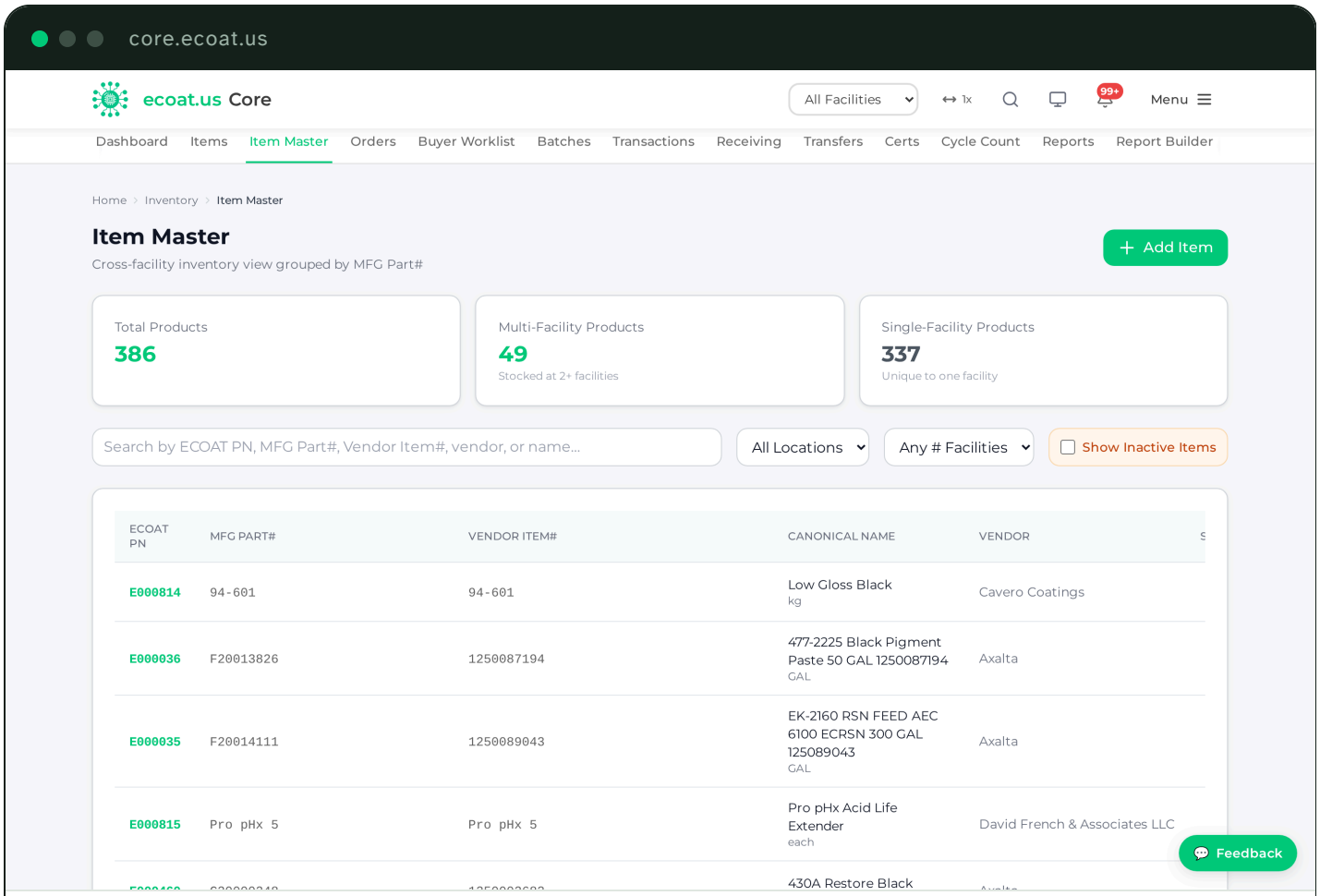
INDICATOR	MEANING
Green	Above reorder point
Yellow	At or below reorder point
Red	Out of stock

> **Tip:** To change how much triggers a reorder, edit the item and adjust **Reorder Point** (the trigger level) and **Reorder Qty** (how much to order). A good starting formula is `Reorder Point = (Daily Usage × Lead Time) + Safety Stock`.

Item Master

The Item Master groups the *same product* across all four facilities so you can compare and manage them together. Open it from **Inventory > Item Master**.

Products are grouped by **MFG Part#**, with a canonical (standardized) name and a facility matrix showing on-hand quantity at Seminole, Tulsa, Cleveland, and Mission side by side. A warning icon (⚠️) flags products whose names differ between facilities so you can clean up inconsistent naming.



Item Master

Compare and edit a product across facilities

1. Go to **Inventory > Item Master**

2. Click a product row to expand its per-facility breakdown
3. Click any facility row (it has a pencil icon) to edit just that facility's copy
4. Update description, vendor, category, location, pricing, or reorder settings
5. Save

> **Note:** Editing here updates only the one facility's item. The other facilities are unchanged.

Add a new item across facilities

1. Click **+ Add Item** in the Item Master header
2. **Step 1 — Common fields:** enter part number and description (required), plus vendor, UOM, and unit price. Flag **Hazardous Material** (enables an SDS link) or **Critical Item** if relevant, then tick the facilities to create the item at
3. Click **Next**
4. **Step 2 — Per-facility settings:** set location, category, reorder point, reorder quantity, qty-to-keep, lead time, inventory interval, and notes — each facility can differ
5. Click **Create Items**

> **Permissions:** Adding and editing items requires Purchasing or Admin access.

Purchase Orders

Purchase Orders (POs) track what you have ordered from vendors and what is still expected. Open the list from **Inventory > Orders**.

Create and submit a PO

1. Go to **Inventory > Orders** and click **New Purchase Order**
2. Select the **Vendor** and set an **Expected Delivery** date
3. Click **Add Item** to search and add items, entering a quantity for each

4. Review the total, then **Save Draft** or **Submit**

PO status flow:

STATUS	MEANING
Draft	Not yet submitted, still editable
Submitted	Sent to vendor, awaiting delivery
Partial	Some items received, more expected
Received	All items received
Closed	Complete, no further action
Cancelled	Order cancelled

Xero — POs are entered twice (on purpose)

Automatic Xero sync is currently **turned off**. When you submit a PO in Core, it does **not** flow into Xero by itself. Core reminds you of this right after you submit:

> *"PO submitted in Core. Xero sync is currently disabled — please create the matching Purchase Order in Xero manually."*

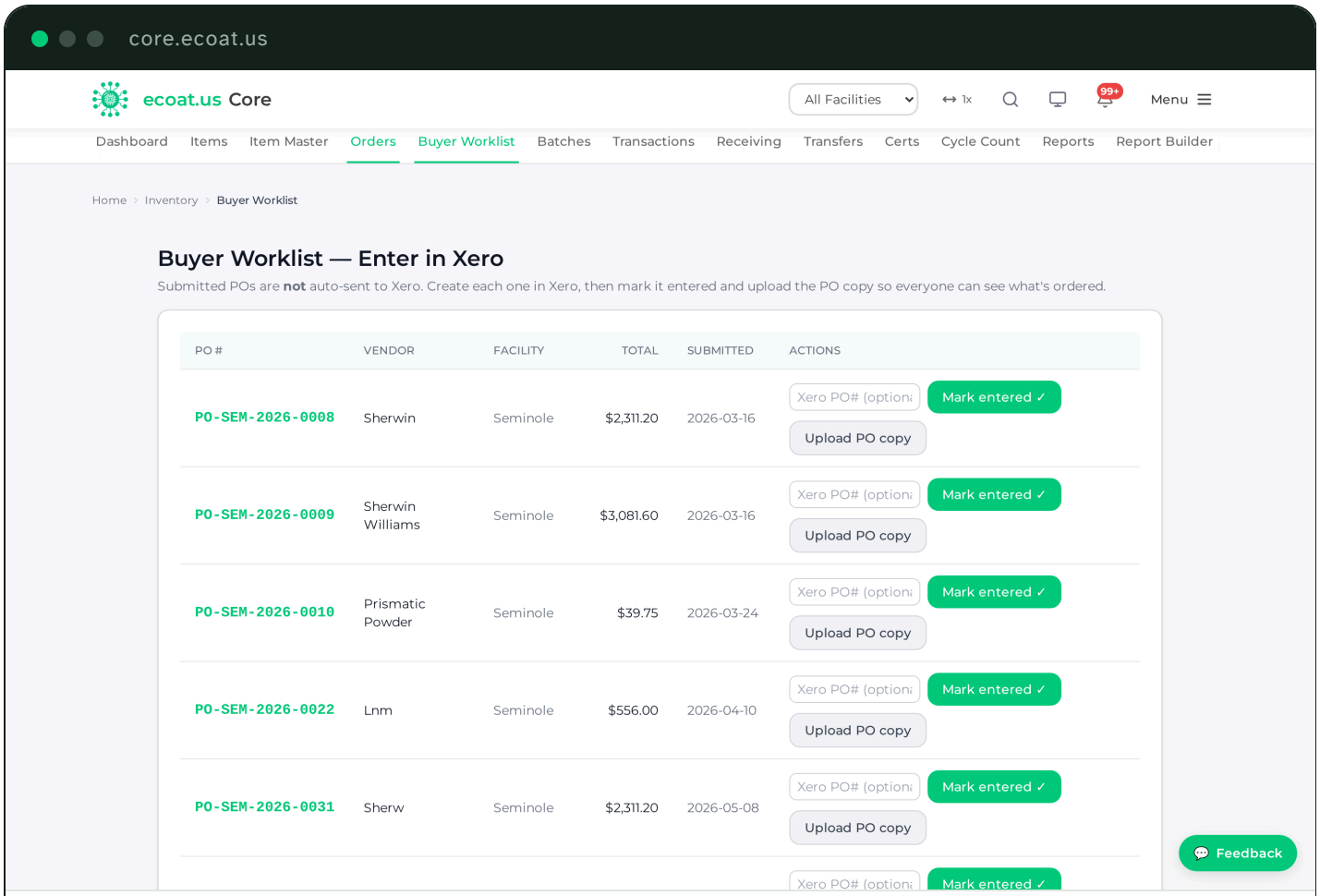
So the honest procedure today is: submit the PO in Core, then create the same PO by hand in Xero. The **Buyer Worklist** (below) exists specifically to make that second step reliable so nothing slips through.

> **Permissions:** The Purchasing team has full access — create, edit, submit, and cancel POs, and see every status. The Materials/Receiving team sees only open POs (Submitted and Partial) and cannot create or edit them.

Buyer Worklist

The Buyer Worklist is the checklist that keeps Core and Xero in step while auto-sync is off. Open it from **Inventory > Orders > Xero Worklist**. Its header reads **"Buyer Worklist — Enter in Xero."**

It lists every submitted PO that has **not yet** been entered in Xero, with columns for PO #, Vendor, Facility, Total, and Submitted date. As you enter each one into Xero, mark it here and it drops off the list.



Buyer Worklist

Clear a PO off the worklist

1. Open **Inventory > Orders > Xero Worklist**
2. For each PO, create the matching Purchase Order in Xero
3. Optionally type the **Xero PO#** into the reference box so both systems cross-reference
4. Upload a copy of the PO so everyone can see what was ordered

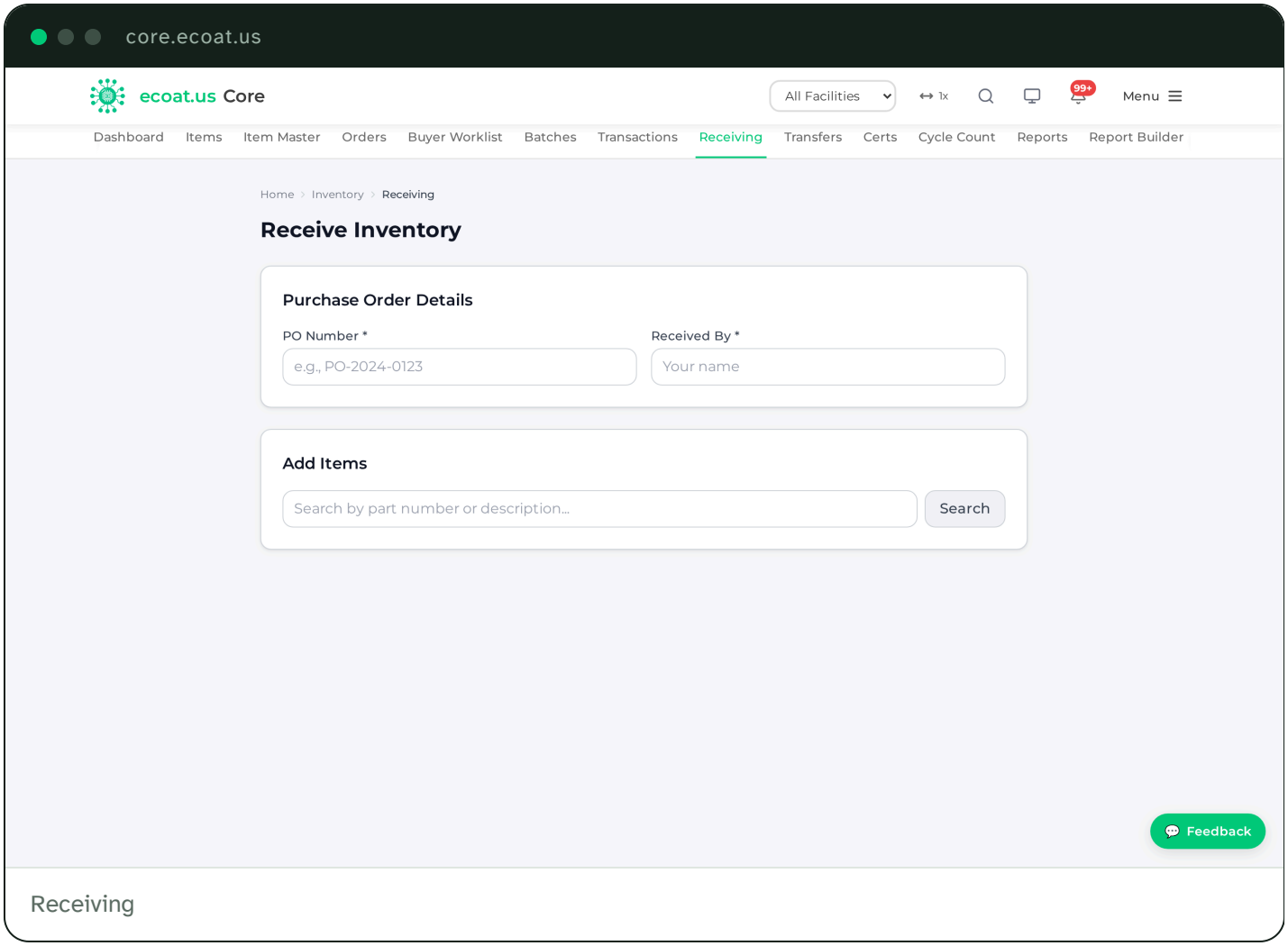
5. Mark it entered — the row disappears from the worklist

When the list is empty you will see **"Nothing waiting — all submitted POs have been entered in Xero. ✓"**

> **Tip:** Work the Buyer Worklist to zero as part of your daily purchasing routine. An empty worklist means Core and Xero agree.

Receiving

Receiving records incoming shipments and creates the batch records that give you traceability. Open it from **Inventory > Receive Inventory**.



Receiving

Receive a shipment

1. Go to **Inventory > Receive Inventory**
2. Enter the **PO Number** from the packing slip and click **Search**
3. For each item, enter the **Quantity** received
4. Enter the **MFG Batch Number** from the product label
5. Enter the **MFG Expiration Date** if the label or Certificate of Analysis shows one (optional)
6. Click **Complete Receiving**

You can add the same item more than once to receive different batches with different batch numbers or expiration dates.

About the MFG Batch Number

This is critical for traceability. Find it on the product label (e.g. `LOT 123456` or `BATCH XYZ789`). If it is missing, contact the vendor before receiving.

Certificate check while receiving

Core tracks certificates by **vendor + MFG batch/lot number**, so you only ever request a cert once per batch:

- **Green "Cert on file"** — nothing to do; a cert already exists for this vendor + batch
- **Amber "Cert needed"** — click **Register Cert** to create the cert record

If a Certificate of Conformance is missing, mark the batch **Quarantined** until it arrives.

Special cases

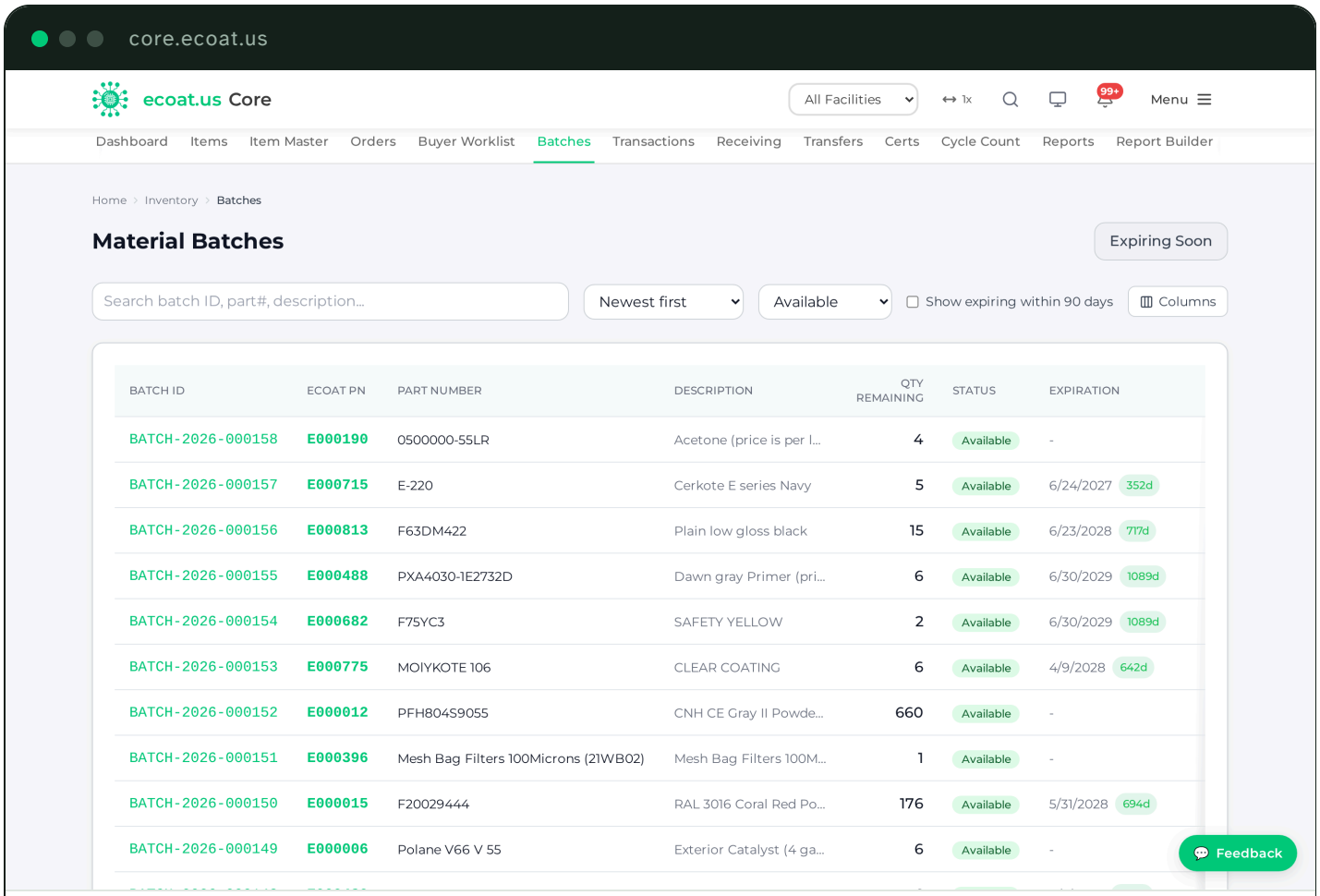
- **Partial receipt:** receive only what physically arrived; the PO stays **Partial**
- **Over-shipment:** stop and notify the Materials Manager — do not receive the excess
- **Wrong item:** stop, take a photo, notify the Materials Manager, set it aside for return
- **Customer-supplied (no PO):** use a PO number in the format `CUSTOMER-YYYY-NNN` and unit cost `$0.00`

> **Tip:** For **Paint** items, receiving automatically creates a batch record and prints an optional label (see Batches below) — you don't create the batch by hand.

Batches

A batch is a uniquely identified quantity of material — the backbone of ISO 9001 traceability and expiration control. Open the list from **Inventory > Batches**.

Each batch carries a unique **Batch ID** (`BATCH-YYYY-NNNNNN`), the vendor's MFG batch/lot number, quantity, received date, expiration date, PO link, and storage location.



Batches

How batches get created (Material Type matters)

You normally don't create batches manually — Receiving does it for you, but **only for the right kind of item**. When you receive an item whose **Material Type is "Paint,"** Core automatically creates a batch and sets an expiration date (the manufacturer's date if you entered one, otherwise one year from today). Items with any other Material Type are not batch-tracked unless you supply an MFG batch number during receiving.

This is why **Material Type is a load-bearing field**: it decides whether paint batches and expirations get created at all. If a paint product isn't generating batches, check that its Material Type is set to Paint.

View and filter batches

Go to **Inventory > Batches** and filter by facility, item, status, or "expiring soon" (next 30 days).

Batch statuses:

STATUS	MEANING	OK TO USE?
Available	Ready for use	Yes
In Use	Partially consumed	Yes
Depleted	Fully consumed (qty = 0)	No
Expired	Past expiration	No — dispose
Quarantined	Pending cert / quality hold	No — wait

Use the oldest stock first (FEFO/FIFO)

The policy is **FEFO — First Expired, First Out.** Core recommends the batch with the earliest expiration date first. For items without expiration dates it falls back to **FIFO** (oldest received first). The batch detail shows a "use first" recommendation — pull that batch, and if you use a different one you'll be asked for an override reason.

Check out (issue) material from a batch

When you consume material, record it against the batch so on-hand stays accurate:

1. Open a batch and click **Checkout**

2. On the **Checkout Material** screen, review the **Available Quantity**
3. Under **Issue Material**, enter the **Quantity to Issue**
4. Submit

If you try to issue from a batch that isn't the FEFO-recommended one, Core flags a **FEFO violation** and asks you to enter an **Override Reason** before it will proceed.

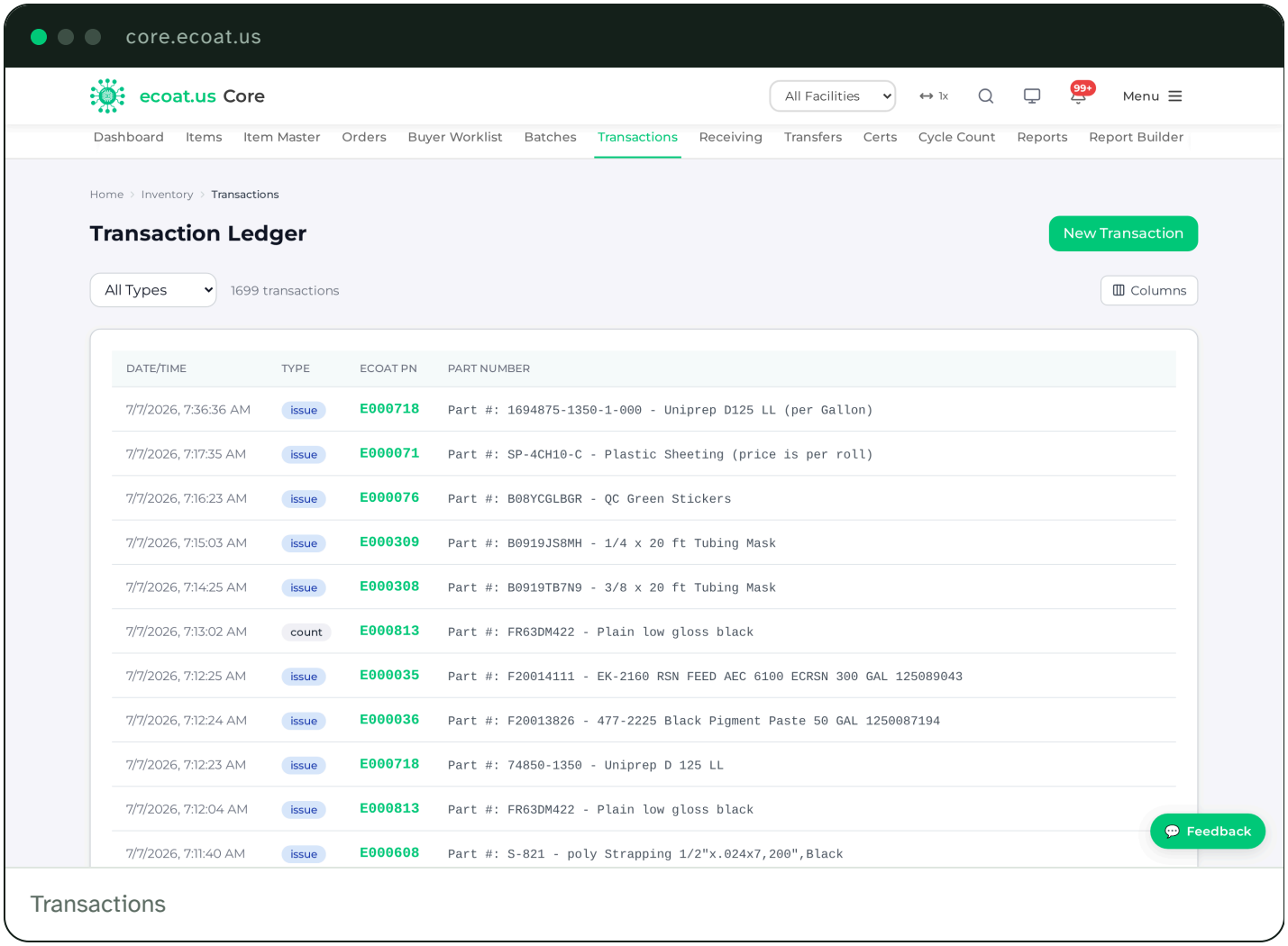
Print a batch label

From the batch detail, click **Print Label**. Labels include a scannable QR code, the Batch ID and MFG batch number, part number and description, expiration date, and location.

> **Tip:** Use the "Expiring Soon" filter daily. Red means under 7 days (use immediately), orange 7–14 days, yellow 14–30 days.

Transactions

The Transactions screen is the audit trail of every inventory movement. Open it from **Inventory > Transactions**.



Transactions

Common transaction types:

TYPE	USE WHEN	QUANTITY EFFECT
Count	Correcting to a physical count	+ or –
Adjust	Spill or damage	Usually –
Issue	Material used in production	–
Transfer	Moved between locations	No net change

Make an adjustment

The simplest correction is to edit the item directly:

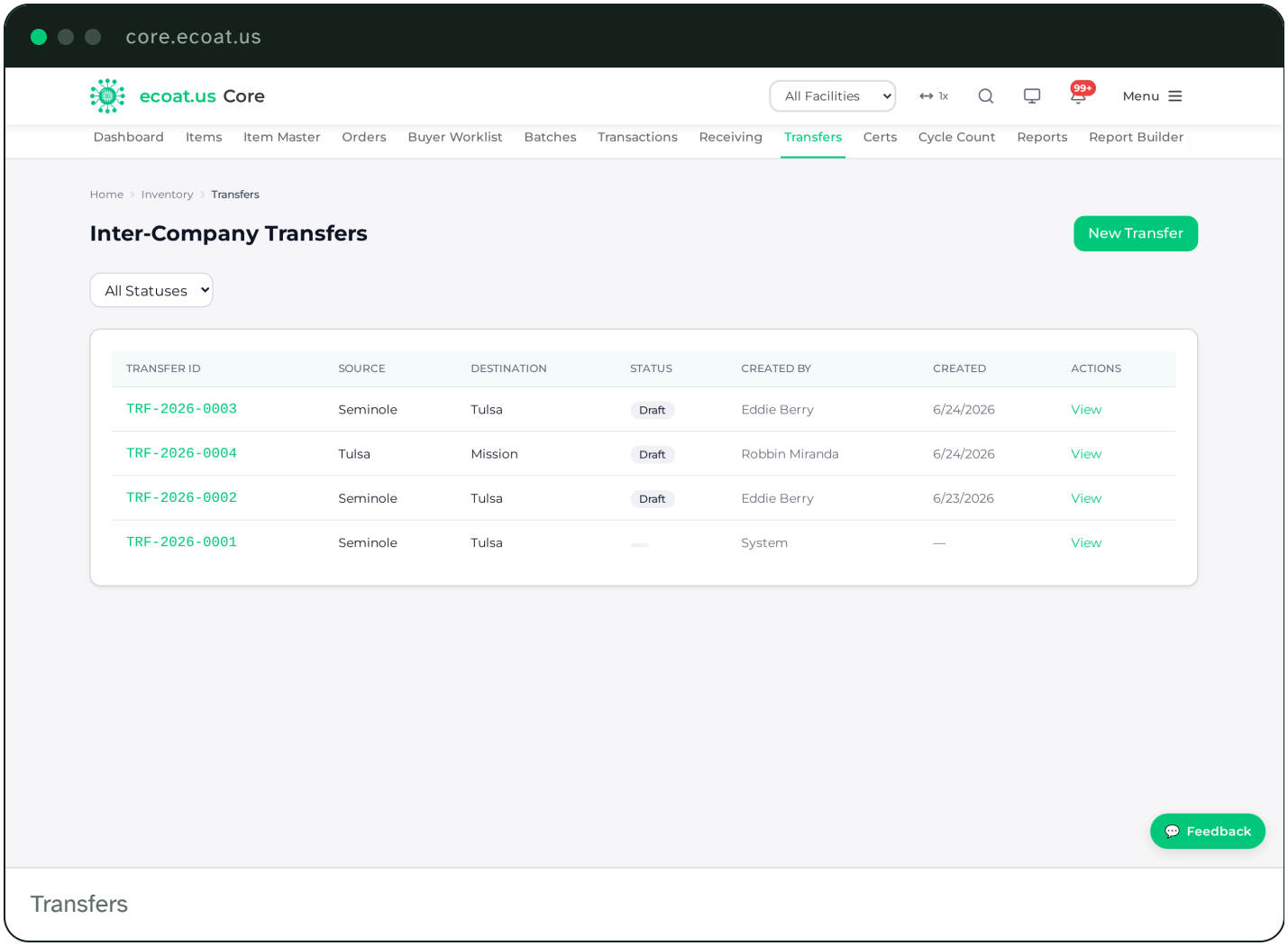
1. Go to **Inventory > Items** and open the item

2. Click **Edit** and update the **On Hand** quantity
3. Add a note explaining the change (e.g. `Spill - 2026-07-07 - 2 gal lost - J. Smith`)
4. Save

> **Permissions:** Adjustments above about $1,000 in value should be approved by the Materials Manager before you make them; larger amounts also require CFO notification or approval. When in doubt, investigate the discrepancy before adjusting.

Receiving vs. Transfers

Receiving brings material in from vendors. **Transfers** move material *between ECOAT facilities* with a full audit trail. Open the list from **Inventory > Transfers**.



Transfers

Transfer statuses: Draft → In Transit → Received (or Cancelled while still Draft).

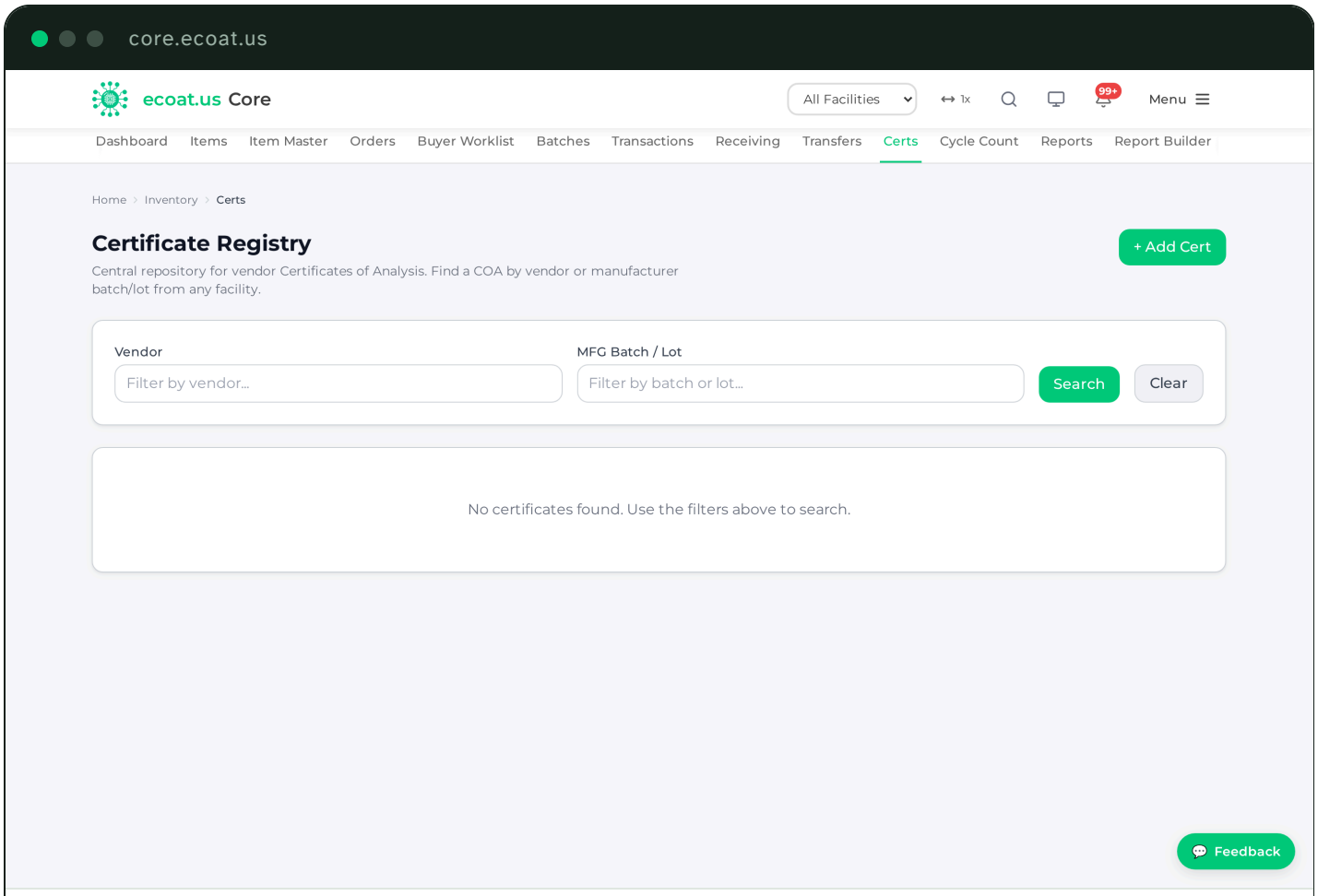
Create, ship, and receive a transfer

1. **Create:** Go to **Inventory > Transfers > New Transfer**, pick the **Source** and **Destination** facilities, add items with quantities, and click **Create Transfer** (starts as Draft)
2. **Ship:** Open the Draft and click **Ship Transfer** — Core verifies stock and **deducts inventory from the source immediately**, moving it to In Transit
3. **Receive:** Open the In Transit transfer, click **Receive Transfer**, confirm the quantities, enter your name as **Received By**, and **Complete Receiving** — inventory is added to the destination

> **Tip:** Source inventory drops the moment you ship, not when the truck arrives. That is intentional so material in transit isn't double-counted.

Certificate Registry

The Certificate Registry tracks which vendor batches already have certificates (CofC/CofA) on file, so you never request the same cert twice. Open it from **Inventory > Certs**.

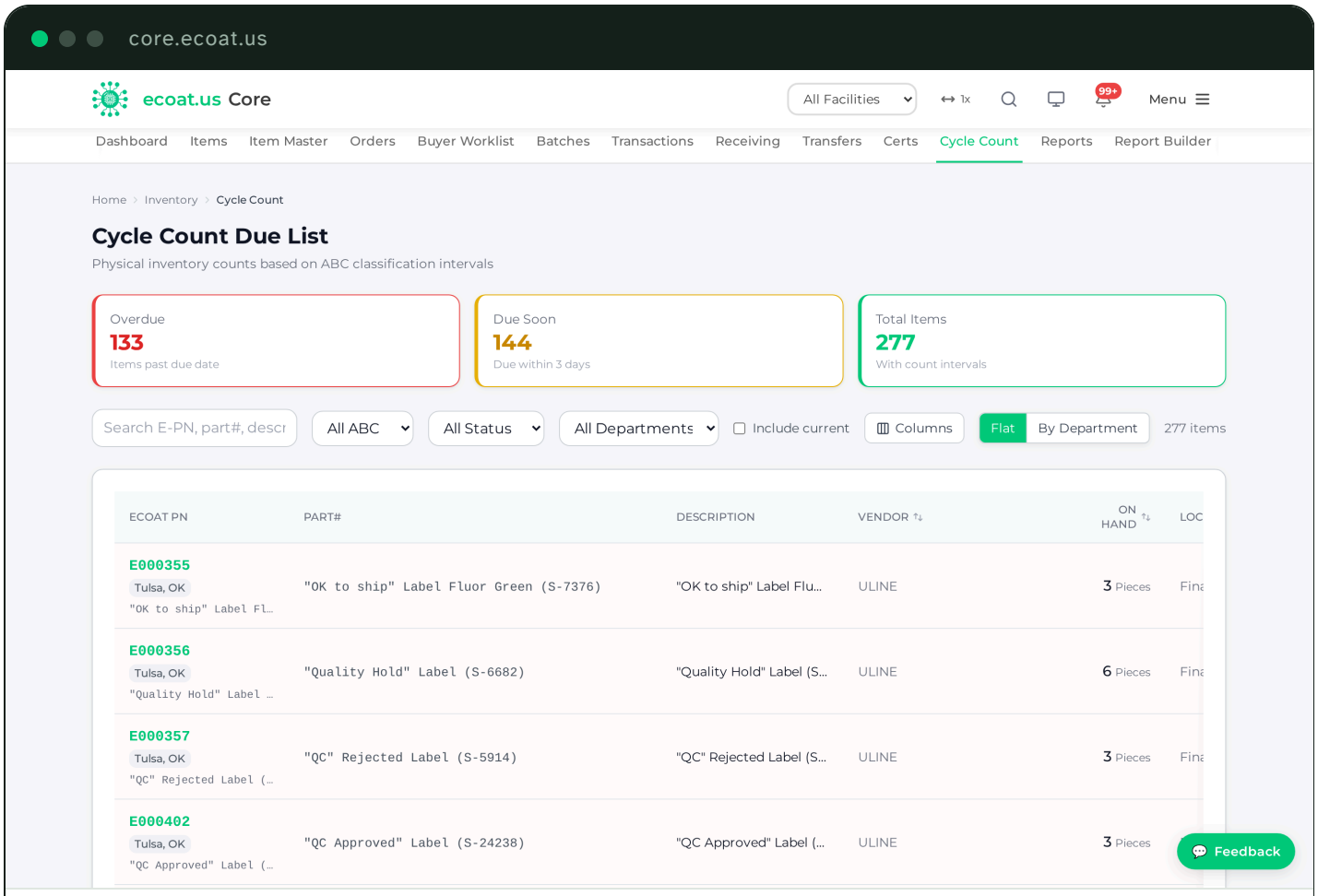


Certificate Registry

Search by vendor name or MFG batch/lot number. Each record shows the Cert ID, vendor, batch/lot, status (Active or Superseded), who uploaded it, and when. Certs are usually registered during Receiving (via the **Register Cert** button); the actual cert file is attached in Baserow on the matching record.

Cycle Count

Cycle counting keeps inventory accurate by counting a slice of items regularly, without shutting operations down. Open it from **Inventory > Cycle Count**.



Cycle Count

Items are scheduled by their **ABC classification** and inventory interval — Class A (critical) counted most often, Class C least often. Each row shows the item's **facility badge** and **manufacturer part number** alongside a color-coded due status: red (overdue), yellow (due soon, within 3 days), green (current).

Record a count

1. Go to **Inventory > Cycle Count**
2. Narrow the list with the filter bar — search text, ABC class, status, or "include current"
3. Click an item row to open the **Record Count** modal

4. Physically count the item and enter the **Counted Quantity**
5. Core shows the variance versus on-hand; if it exceeds the ABC threshold you'll see a warning
6. Add a note explaining any variance and click **Submit Count**

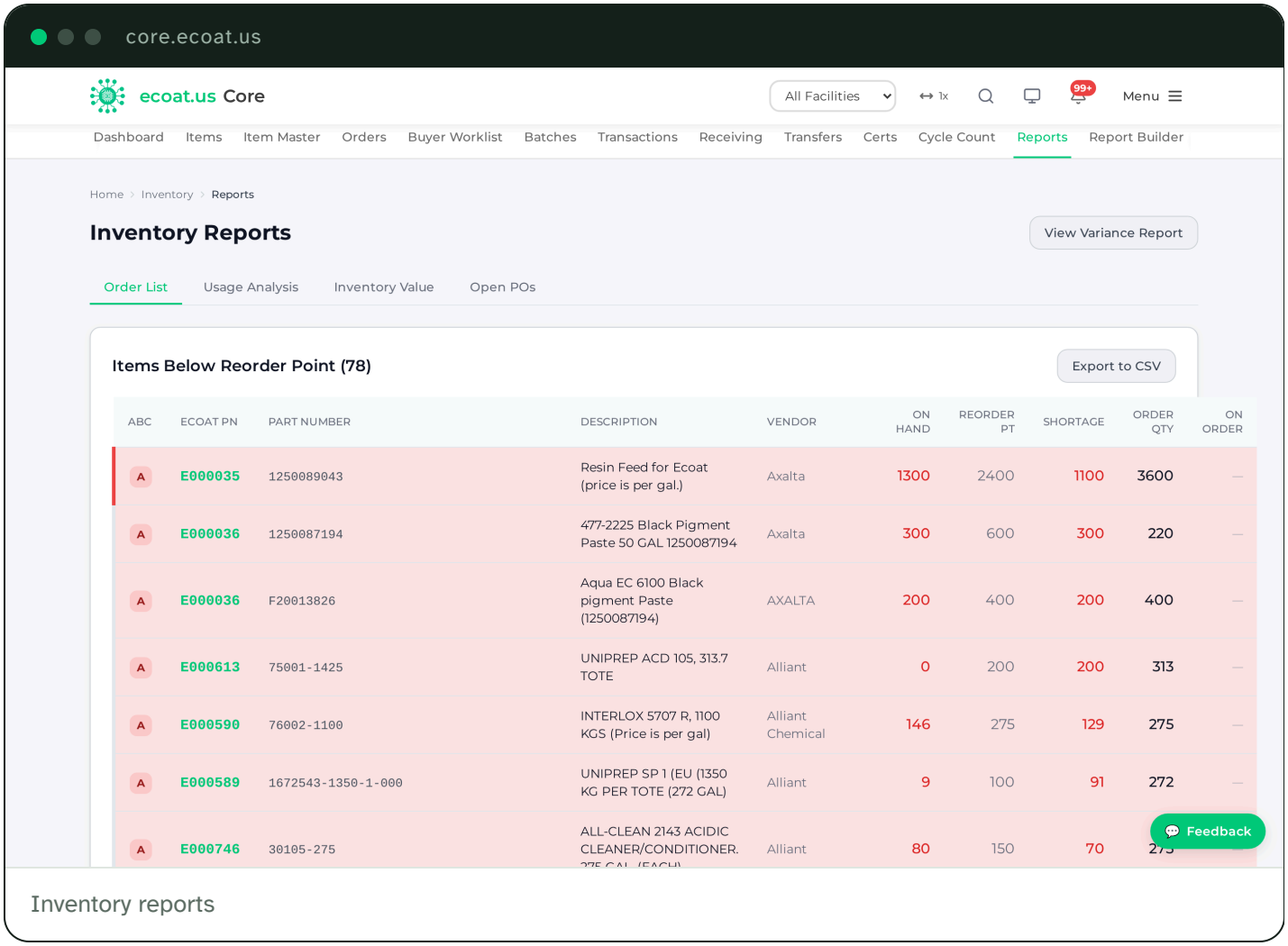
Submitting creates a COUNT transaction, updates on-hand, stamps the last-count date, and moves the item to "Current."

Variance thresholds: Class A < 2%, Class B < 5%, Class C < 10%.

> **Permissions:** Purchasing and Admin users see an **Edit** button on each row to clean up item master data (reorder points, vendor, location) while counting.

Reports

The Reports hub collects the standard inventory reports plus the custom Report Builder. Open it from **Inventory > Reports**.



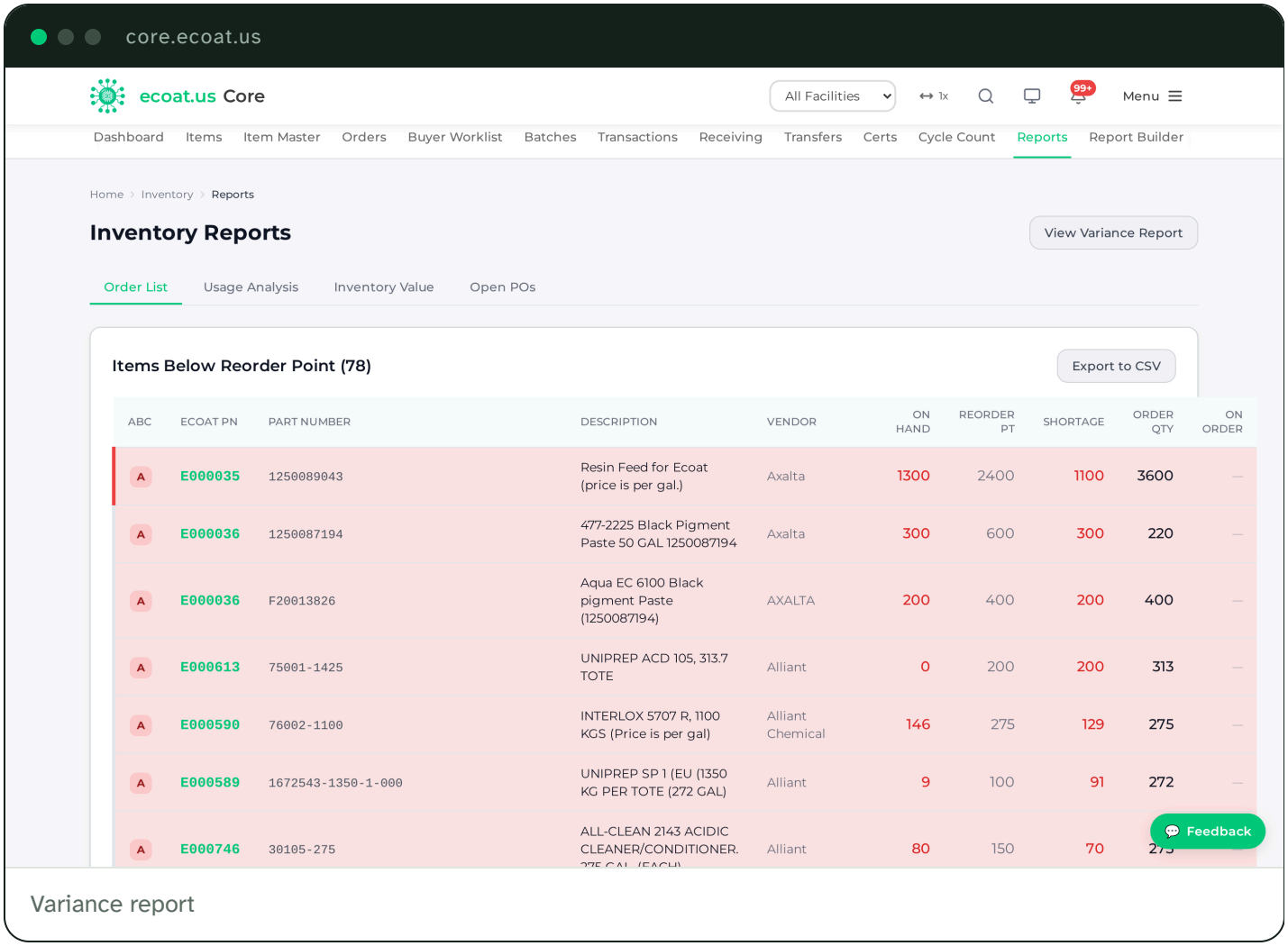
Inventory reports

From here you can reach:

- **Order List / Low Stock** — every item where on-hand ≤ reorder point, color-coded by urgency (red = out of stock, orange = below 50% of reorder point, yellow = at or below reorder point). Filter by facility, page through results, and **Export to CSV**. Quick actions let you jump to Receiving, bulk-create a PO, or view the item.
- **Variance Report** — discrepancies found during cycle counts (see below)
- **Report Builder** — build your own custom report (see below)

Variance Report

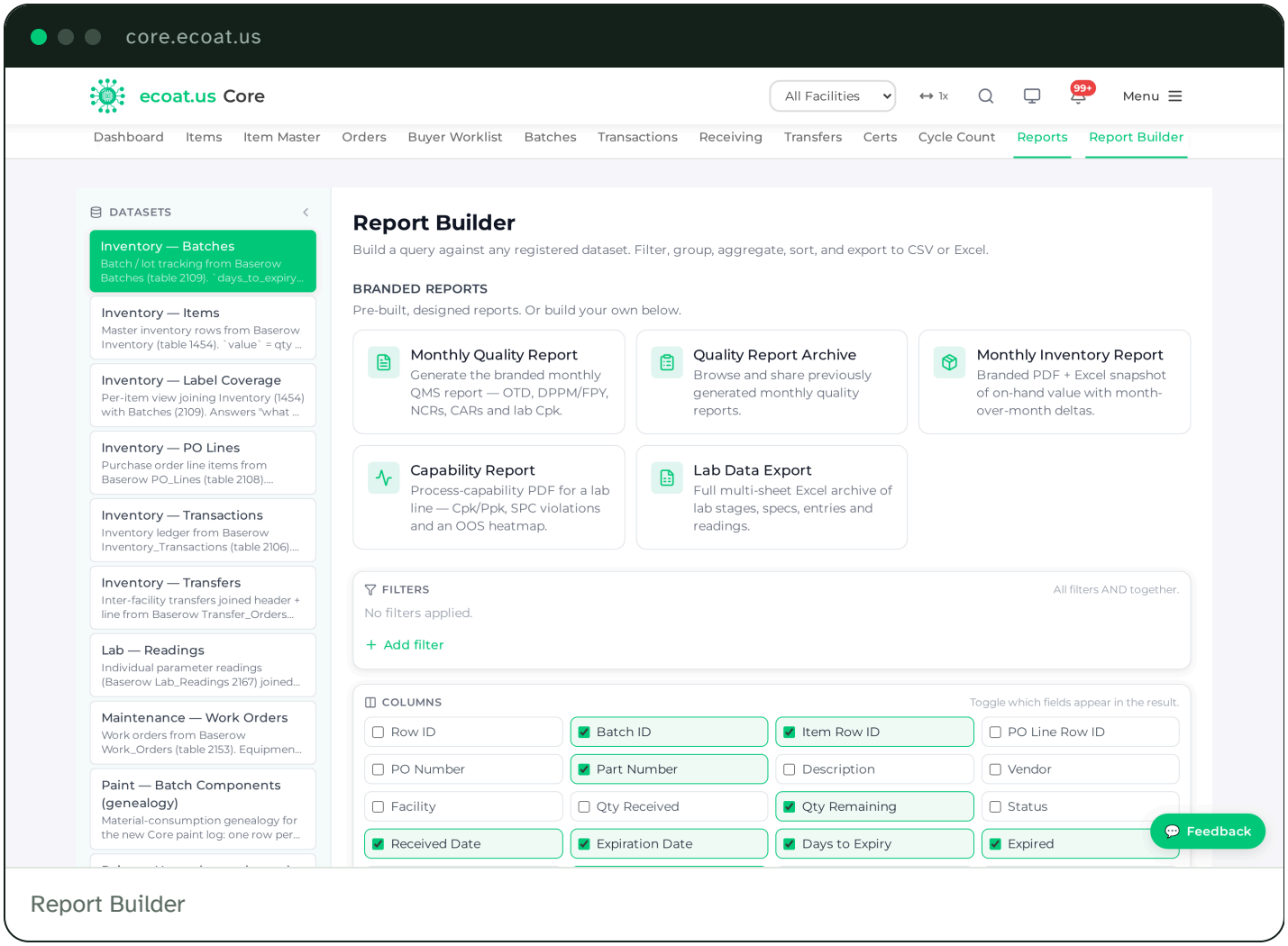
Open it from **Inventory > Reports > Variance Report**. Summary cards show Total Counts, Over, Short, Exact Match, Alerts, and Total Variance for the period. Filter by date range and minimum variance percentage, and **Export CSV** for analysis in Excel. High-variance rows are highlighted.



Variance report

Report Builder

Report Builder lets you build your own report from live Core data — pick a dataset, choose columns, filter, group, and export. Open it from **Inventory > Reports > Report Builder**.



Report Builder

Build a report

1. Go to **Inventory > Reports > Report Builder**
2. Pick a **dataset** (your data source — see the list below)
3. Choose the columns you want and add **filters** to narrow the rows
4. Optionally **group by** a column and add an **aggregation** (sum, count, etc.) to summarize
5. Review the results table
6. **Export** as CSV, XLSX, or PDF — or **save** the report to reuse it

Datasets you can report on

Report Builder reads from a shared library of datasets across the whole system, not just inventory:

DATASET	WHAT IT COVERS
Inventory — Items	Item master and on-hand levels
Inventory — Batches	Batch records and expirations
Inventory — Transactions	Every inventory movement
Inventory — Transfers	Inter-facility transfer lines
Inventory — PO Lines	Purchase order line items
Inventory — Label Coverage	Which items have labels printed
Production — Lots	Production lots
Production — OTD (On-Time Delivery)	One row per lot with the on-time/late verdict, sliceable by facility, customer, and month
Lab — Readings	Lab test readings
Paint — Usage	Paint consumption (new + legacy)
Paint — Batch Components	Paint batch genealogy
Maintenance — Work Orders	Maintenance work orders
QMS — CARs	Corrective action requests
QMS — NCRs	Non-conformance reports
Safety — PPE Observations	Safety observation records
ZNET — Production Runs	E-coat production runs
ZNET — Anode Health	Anode health tracking

Tip: The **Production — OTD** dataset is the one to use for delivery-performance reporting. It carries the same on-time logic the production screens use (a lot is on-time if it *finished* by its due date; internal lots and lots on QC Hold are excluded), so your numbers match the live dashboards.

Charts

Report Builder charts your results **automatically** when you group by a single column and add a numeric aggregation. If you group by a **date** column you get a **line chart**; otherwise you get a **bar chart**. Without grouping, you simply get the results table. There is no separate "pick a chart type" step — grouping is what turns the table into a chart.

Save, share, and schedule

- **Save** a report to reuse its dataset, columns, filters, and grouping later
- **Share** a saved report so colleagues can open it
- **Subscribe** to have a saved report emailed on a schedule — daily, weekly, monthly, or quarterly — as PDF, XLSX, or CSV

> **Permissions:** If you don't see any datasets, you may not have access — check with IT. Saved reports you mark as shared become visible to other users.

🧪 CHAPTER 4

04 Lab

Lab

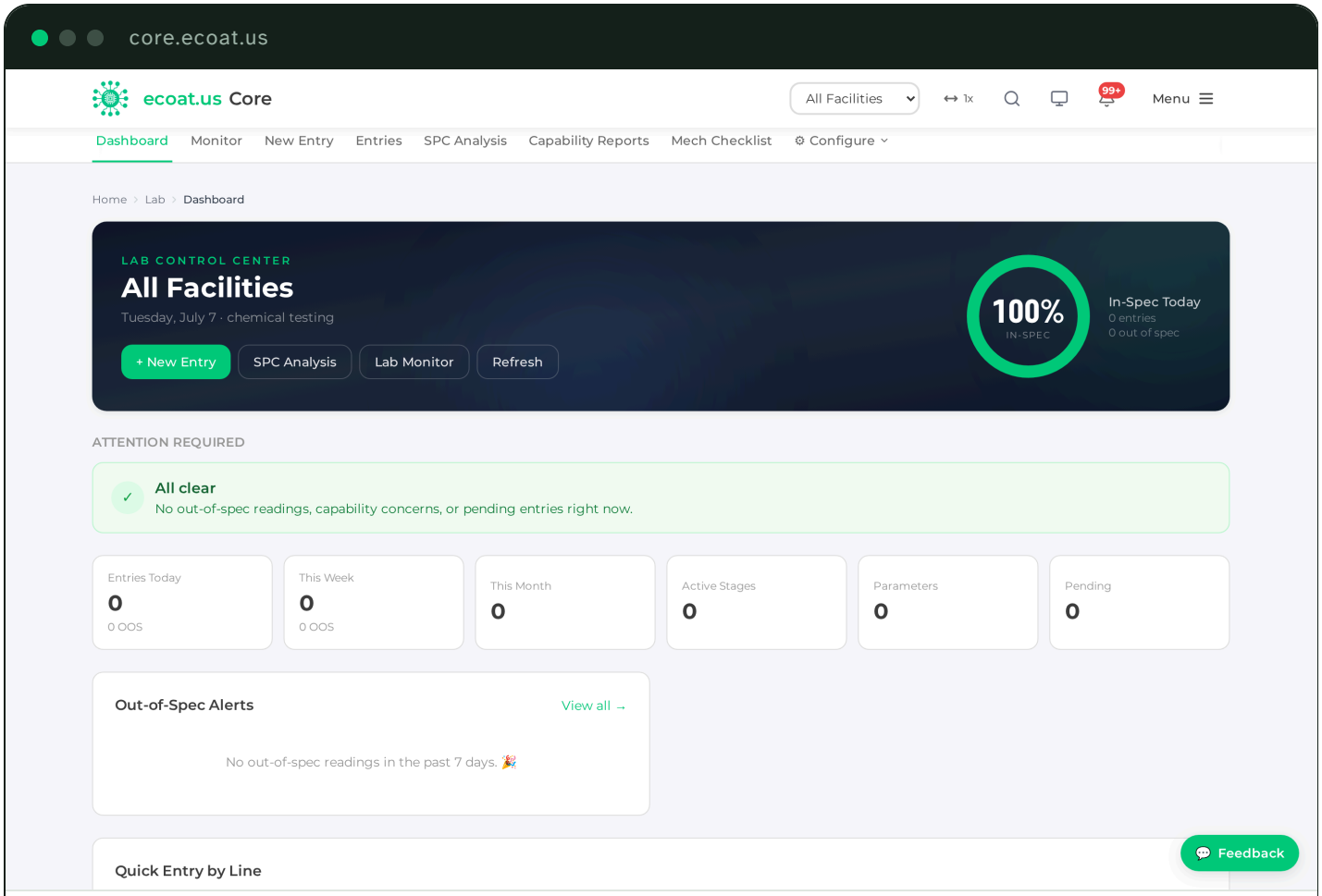
The Lab module is where technicians record chemical test readings for each processing line, watch bath conditions in real time, and prove the process stays in control. It turns shift-by-shift measurements into out-of-spec alerts, SPC control charts, and audit-ready capability reports.

Like the rest of Core, Lab respects the **facility selector** in the top-right corner — set it to your plant so lines, stages, and specs match where you work.

> **Permissions:** Any technician can start entries, view the dashboard, monitor, and SPC charts. Generating formal Capability Reports and all of the **configuration** pages (Stages, Specs, Additions mapping, Report Subscriptions, and Mechanical templates) are limited to lab supervisors, lab admins, and IT.

Lab Dashboard

The dashboard is your overview of testing activity for the selected facility. Open it from **Lab** in the main menu (it is the default view).



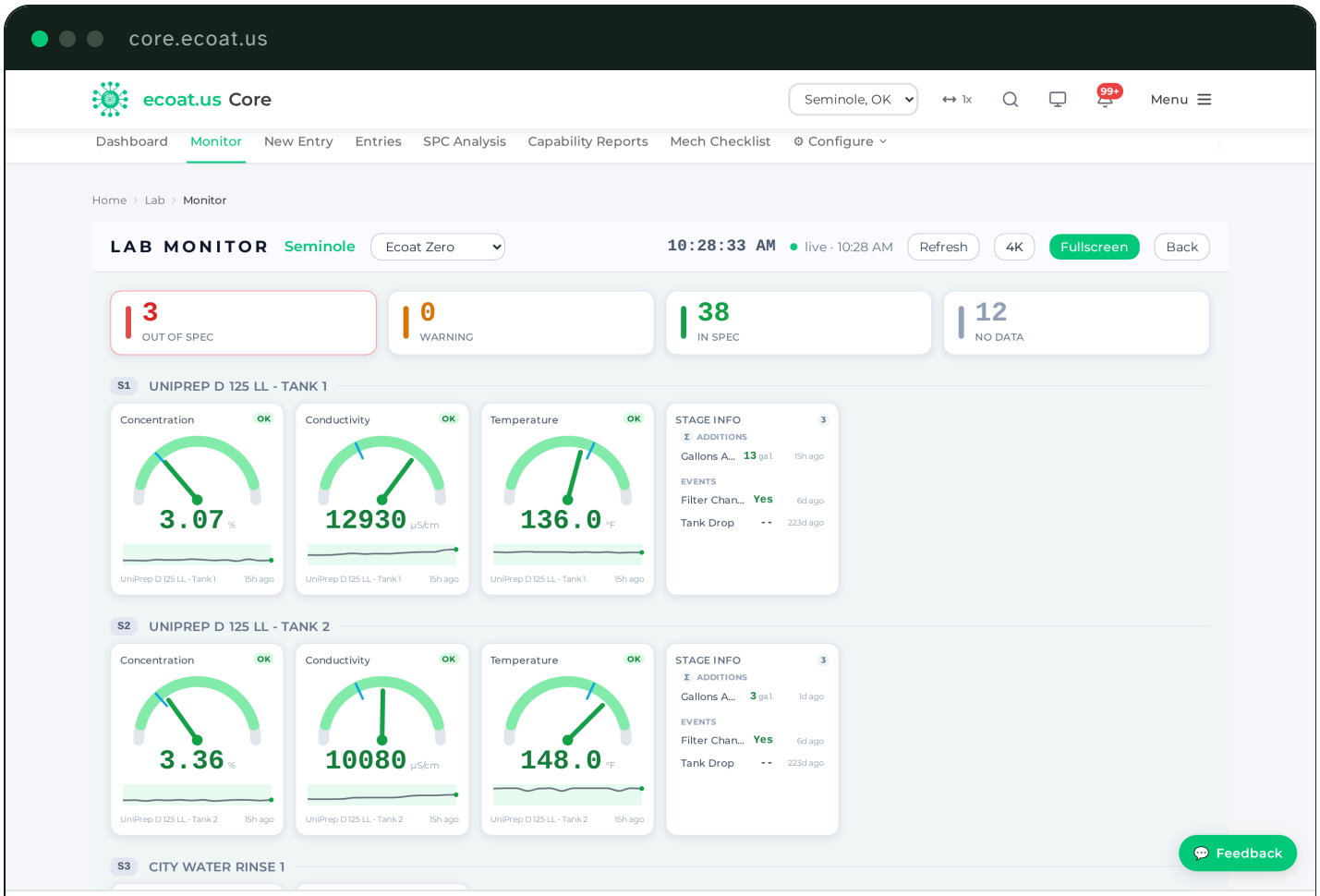
Lab dashboard

At a glance it shows entry counts (today, this week, this month), pending drafts, how many specs are configured, and out-of-spec counts for today and the week. A **Quick Entry by Line** section lets you start a new entry pre-set to a line, and a **Recent Entries** table lists the last 10 with status and out-of-spec (OOS) badges. An **SPC Health Summary** rates each parameter as Capable (Cpk ≥ 1.33), Marginal (1.0–1.33), or Not Capable (< 1.0).

> **Tip:** Investigate the "Out-of-Spec Highlights" (readings from the past 7 days outside limits) promptly — they are your earliest warning of a process drifting.

Monitor

Lab Monitor is a full-screen, live gauge display built for shop-floor TVs. Open it from **Lab > Monitor**, or click **Lab Monitor** on the dashboard.



Lab Monitor

Each parameter shows as a gauge with its current value, min/max limits, target marker, and last-updated time. The color tells you the status instantly:

COLOR	STATUS
Green	In spec
Yellow	Approaching a limit
Red	Out of spec

COLOR	STATUS
Gray	No recent reading

Use the line selector at the top to switch processing lines, and the summary bar to see total OK / Warning / Out-of-Spec counts. Click any gauge to jump into its SPC chart.

Kiosk mode (for a wall display)

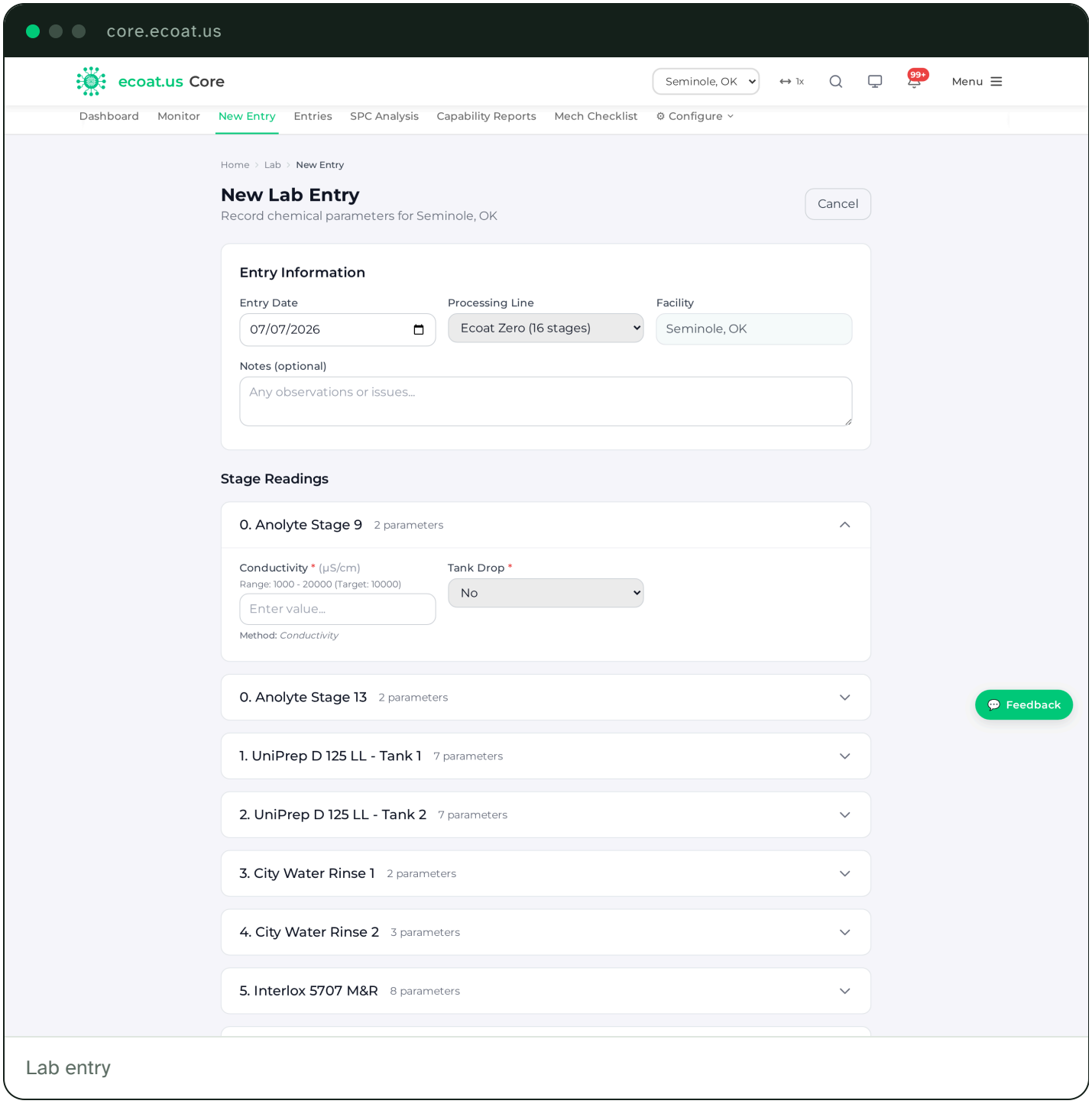
Monitor is designed to run unattended on a shop-floor screen:

1. Click the **Fullscreen** (expand) button
2. Data auto-refreshes every 60 seconds — the refresh toggle in the header turns this on or off
3. Press **Escape** to leave fullscreen

> **Tip:** Set the display to never sleep and leave auto-refresh on for a 24/7 board. You can also open a specific line directly, e.g. `…/lab/monitor?line=Ecoat%20Zero`.

New Entry

The entry form is where technicians record readings for a shift. Open it from **Lab > New Entry**.



Lab entry

Start and fill an entry

1. Go to **Lab > New Entry**
2. Select the **Line** (e.g. "Ecoat Zero")
3. Select the **Shift** (1st, 2nd, 3rd, or N/A)
4. The date defaults to today — change it if you're back-entering

5. The form loads organized by **Stage** (each chemical tank/process step is a collapsible section)

Expand a stage to see its parameters, then enter only the values you actually measured — **sparse data is normal**; a 10–15% fill rate per shift is typical.

- **Numeric parameters:** type the value. A green border means in spec; a red border means out of spec.
- **Yes/No parameters** (e.g. Tank Dumped, Filter Changed): tick the checkbox.
- **Text parameters:** free-form notes.

Some parameters show a **Method** note beneath the input describing how to run that titration — follow it exactly.

Out-of-spec detection

Core flags out-of-spec readings automatically: a red border on the input, an "X OOS" badge in the stage header, and an **email alert** to the lab team. Review any OOS reading before submitting to confirm it's real.

Save vs. Submit

- **Save as Draft** keeps your progress editable (status "Draft")
- **Submit** finalizes the entry (status "Submitted"), fires any OOS alerts, and locks it — after submission, contact IT for corrections

% Paint Solids calculator (Cleveland)

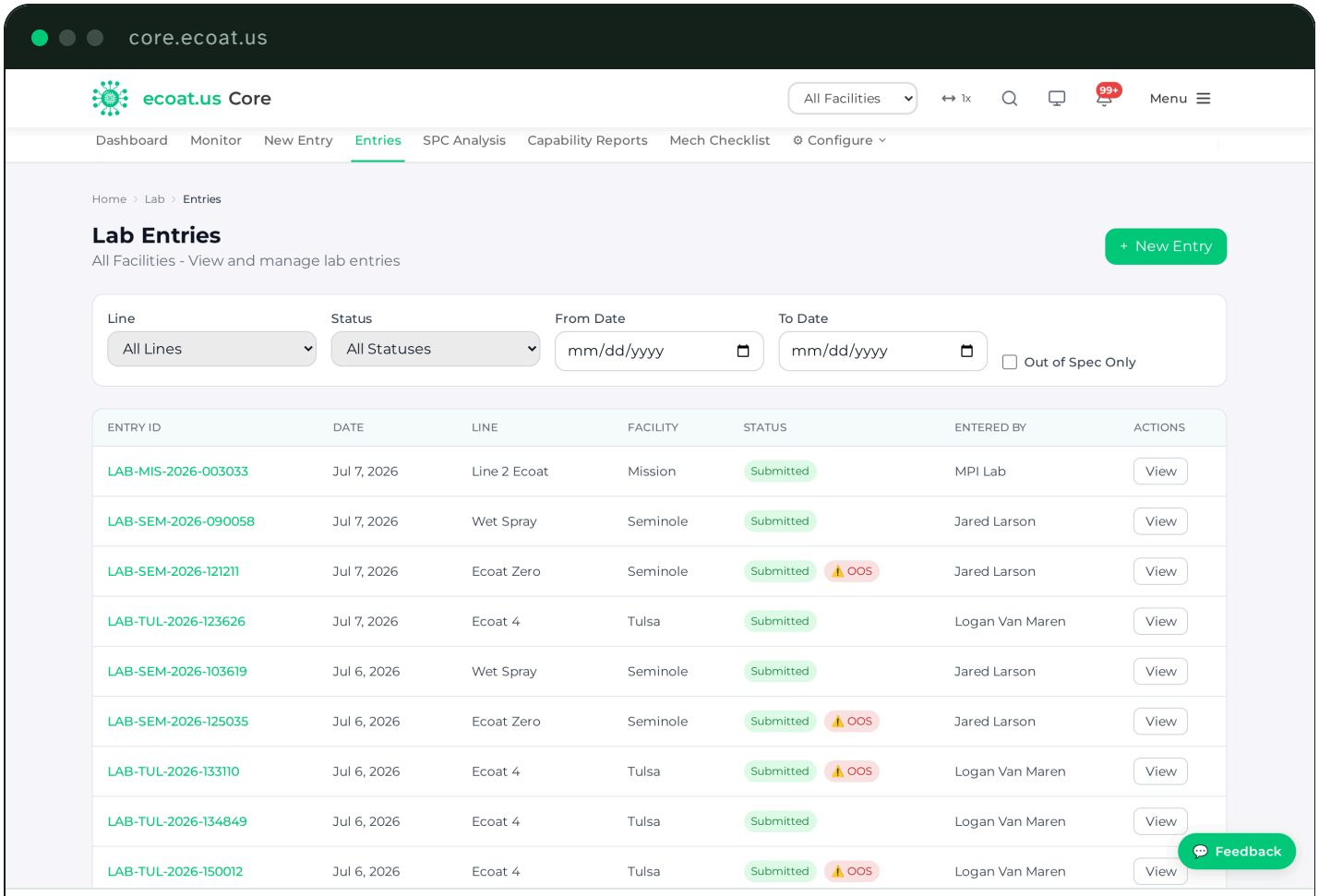
On stages set up for it (currently Cleveland Ecoat 5, Stage 11), the **% Solids** parameter appears as an interactive 3-tin calculator instead of a plain box:

1. For each of 3 tins, enter three weights in grams — **Baked** (dried residue), **Empty Tin**, and **Liquid** (wet sample)
2. Each row's % Solids computes live as `(Baked − Empty) ÷ Liquid × 100`
3. The bottom box shows the **Average % Solids** — this is the value saved
4. A red border on the average means it's outside the 13–17% range

Click **Enter manually** to switch to a plain box (type the final % directly), or **Use calculator** to switch back. In calculator mode all 9 raw weights *and* the average are saved as readings; in manual mode only the final % is saved. Other facilities show a plain box unless an admin has seeded the tin-weight specs.

Entries

The Entries list shows every lab entry with its status. Open it from **Lab > Entries**.



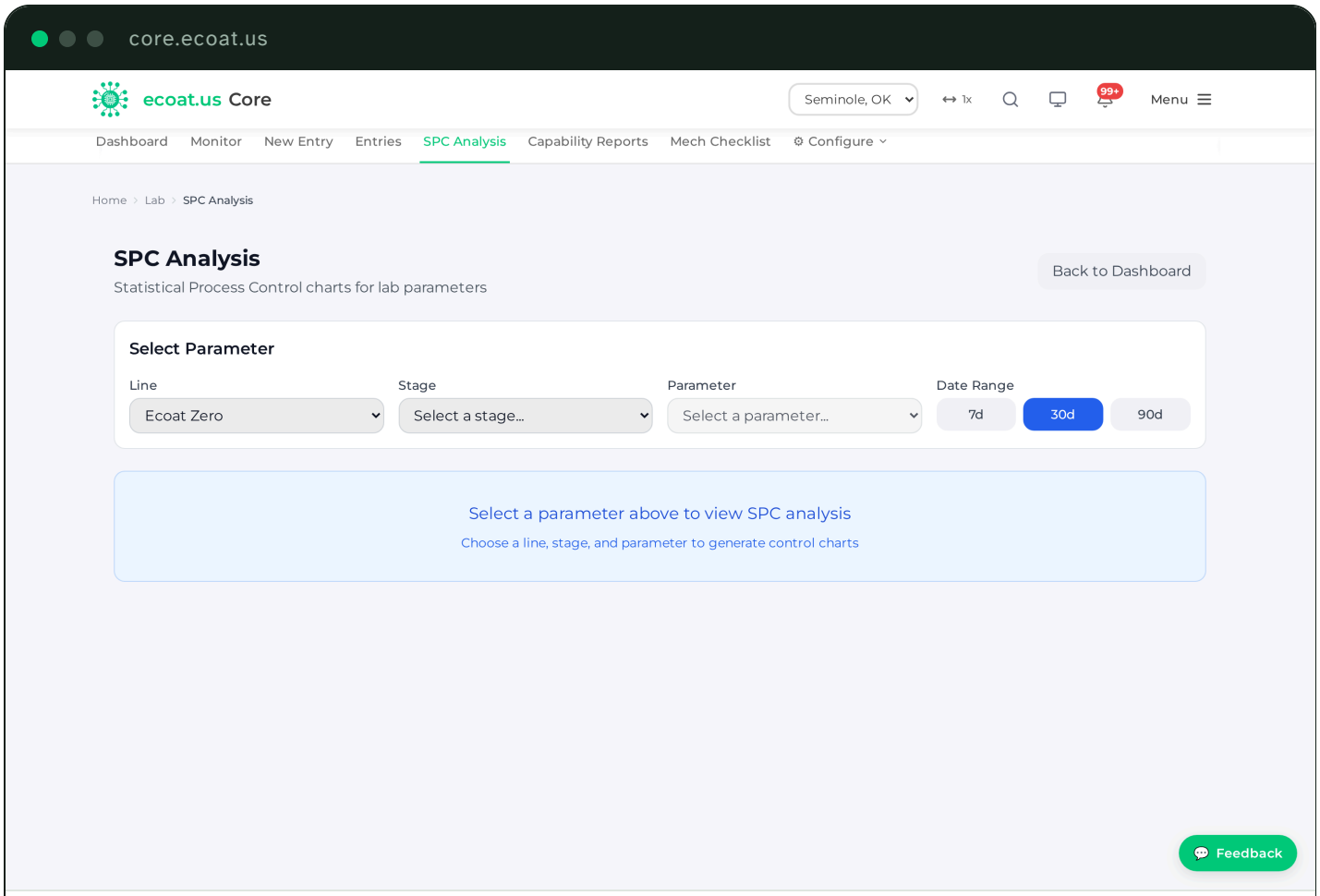
Lab entries

Each row shows the entry ID (`LAB-NNNN`), line, facility, technician, date, a status badge, and an OOS indicator. Filter by line, status, date range, or "out of spec only." Results are paginated (100 per page).

- **Draft** entries have an **Edit** button — continue and submit them
- **Submitted** entries open read-only via **View**

SPC Charts

SPC (Statistical Process Control) charts show whether a single parameter is stable over time, with control limits and capability indices. Open it from **Lab > SPC Analysis**.



SPC analysis

Read a control chart

1. Choose **Line**, **Stage**, and **Parameter**
2. Pick a date range (7, 30, 60, or 90 days)

The chart plots your readings against:

LINE	MEANING
UCL / LCL (red)	Upper / lower control limits (3σ)

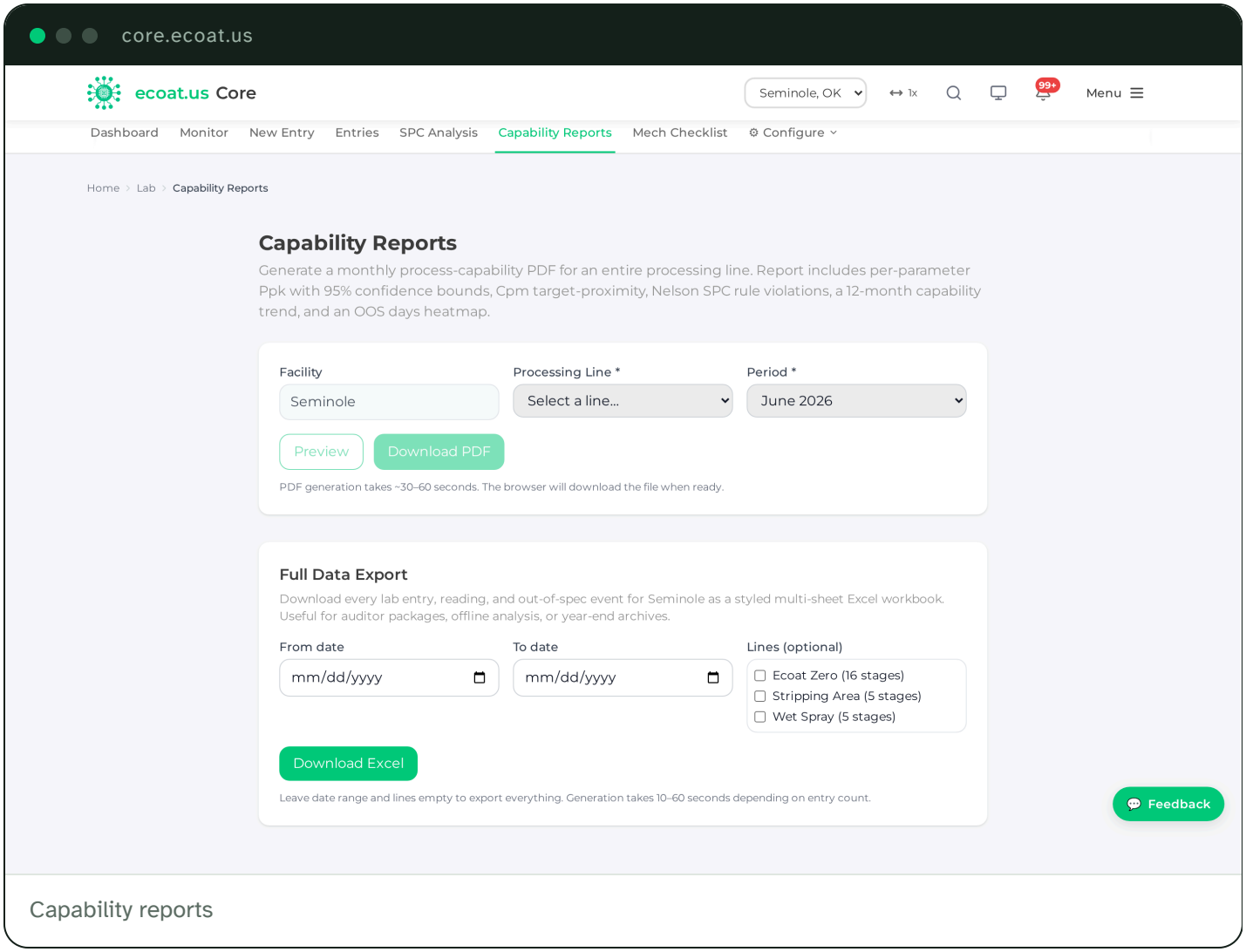
LINE	MEANING
Mean (green)	Average value
Target (blue dashed)	Specification target
Warning (orange dashed)	Warning limits (2σ)

Red dots mark out-of-spec readings. A statistics panel shows **Cp** (potential capability) and **Cpk** (actual, centered capability) — 1.33 or higher is capable; below 1.0 is not. Parameters without defined limits may show "N/A."

Control limits are usually **calculated** from your data (dashed lines) but a lab admin can set **fixed** limits for parameters with known process bounds (solid lines, labeled "Fixed").

Capability Reports

Capability Reports are the formal, printable, branded PDF for a whole processing line — the version you hand to management, customers, or an ISO auditor. Open it from **Lab > Capability Reports**. For live monitoring use Monitor or SPC instead; this is the signed-record view.



Capability reports

Generate a report on demand

1. Go to **Lab > Capability Reports** (facility is locked to your current facility selector)
2. Pick a **Processing Line** (e.g. "Ecoat 5")
3. Pick a **Period** (the most recent 12 months are listed)
4. Click **Preview** to see cover-page metrics quickly (~1 second)
5. Click **Download PDF** to generate the full report (~30–60 seconds)

The PDF is built from current *submitted* readings; drafts are excluded. It includes a cover page with the capability headline and sign-off block, a line-level summary table, per-parameter detail pages (control chart, histogram, trend), and methodology and stats appendices.

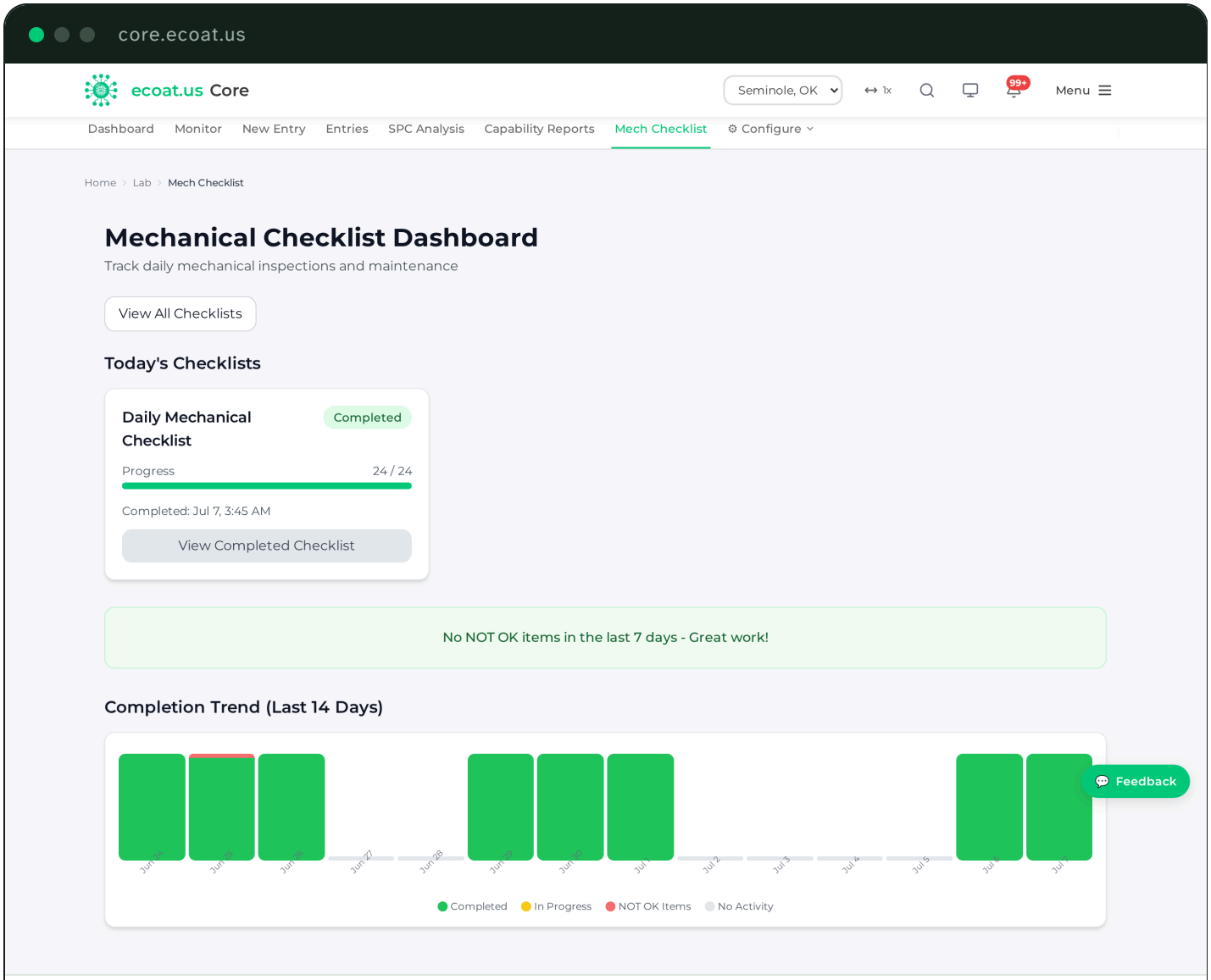
> **Tip:** The report leads with **Ppk 95% LCL** (the lower confidence bound), not the point estimate. With small monthly samples the point estimate can look better than the process really is, so the lower bound drives every tier color — a more honest read than a raw Ppk number.
>
> **Permissions:** Report generation is gated to lab-admin, lab-manager, plant-manager, quality-manager, and IT/admin groups. If you don't see the menu entry, ask IT to add you.

Scheduled monthly delivery

If your email is in the **Report Subscriptions** table, the previous month's report is generated and emailed to you automatically at 07:00 UTC on the 1st of each month. Use the on-demand download for anything between scheduled runs.

Mechanical Checklist

The Mechanical Checklist is the daily visual/mechanical equipment inspection. Open it from **Lab > Mechanical Checklist**.



Mechanical checklist

Complete a checklist

1. Go to **Lab > Mechanical Checklist**
2. Click **Start Checklist** (or continue today's)
3. For each check point, set **OK**, **NOT OK**, or **N/A** - If **NOT OK**, add notes explaining the issue - If the check point takes a reading, enter the numeric value
4. Click **Complete** when every item is reviewed

Check points are grouped into sections (Pumps, Filters, Mixers, Tanks, Heaters). Any **NOT OK** item automatically alerts maintenance.

> **Permissions:** Everyone can complete checklists. Building and editing the checklist templates is admin territory (see Configuration below).

Configuration (Supervisor / Admin)

The pages in this section define how the Lab module behaves — the stages, the specifications, how tank additions draw down inventory, who gets scheduled reports, and the mechanical checklist templates. They are **supervisor and lab-admin territory**; most technicians never need to open them. Changes here affect everyone at the facility, so make them deliberately.

> **Permissions:** All Configuration pages require lab-admin or IT-admin access.

Stages

Configure the processing stages (chemical tanks/steps) for each line. Open it from **Lab > Stages**.

Create a stage with a stage number, name, facility, and line. Optionally enter **tank dimensions** so Core can calculate tank volume, and define a **chemical bath mix** (each chemical with a ratio and unit) so the bath-mix calculator can work out required quantities for a target volume.

Specs

Configure the test parameters and their limits. Open it from **Lab > Specs**.

For each specification set the parameter name, type (numeric, boolean, or text), and the stage it belongs to, plus **Min / Max / Target** limits. You can also add a **Method** (titration instructions shown to technicians during entry), **UCL/LCL overrides** (fixed SPC limits for parameters with known bounds), a test frequency (informational), and — for derived values — a **Calculator** such as the % Solids 3-tin average (which needs 9 named child specs on the same stage).

Additions → Inventory link

This page maps a lab "tank-add" parameter to the inventory item it consumes, so recording an addition automatically draws that material down from stock. Open it from **Lab > Additions Mapping** (Tank-Add →

Inventory Mapping).

Each row pairs an **Add parameter** on a stage with the **inventory item it deducts** and a **conversion factor** (lab unit → inventory unit). When a lab entry is submitted, each **Confirmed** add deducts its mapped item (quantity × factor) from inventory. To set one up, click **Edit** on a row, search inventory by name or MFG part number, set the factor, and tick **Confirmed** so it deducts on submit. Rows can be marked **Active/Inactive**, and unmapped rows are flagged "— not mapped —."

> **Tip:** Leave a mapping **Unconfirmed** until you've verified the item and factor. Only confirmed mappings actually move inventory. "Additions Made" totals are intentionally excluded from deductions.

Report Subscriptions

Manage who receives the scheduled monthly Capability Reports by email. Open it from **Lab > Report Subscriptions**.

Click **+ Add Subscription**, then enter the recipient's email, facility, and the **Line** name exactly as it appears in Lab (e.g. `Ecoat 5`), and a report type (monthly is the only one currently wired). If several people subscribe to the same facility + line, Core generates **one** PDF and emails it to all of them. Prefer toggling a subscription **inactive** over deleting it when someone steps away temporarily — the row stays as an audit trail.

Mechanical Templates

Build and maintain the mechanical checklist templates. Open it from **Lab > Mechanical > Admin**.

Admins create a template per facility, add and edit check points grouped by section, set numeric reading limits (min/max/unit) per point, clone a template to another facility, and deactivate check points no longer needed.

🏭 CHAPTER 5

05

Production

Production

The Production module follows a job from the moment it lands on the floor to the moment it leaves on a truck. You create a **lot**, route it through your shop's process stages, clear the quality gates, print the paperwork that travels with it, and ship it on a Bill of Lading. Along the way the module keeps score — on-time delivery, bottlenecks, paint usage — so supervisors can see where work is piling up.

Everything lives under the **Production** tab in the top navigation. This chapter walks through each part roughly in the order a lot moves through it.

> **Permissions:** Everyone with Production access can view lots, dashboards, BOLs, and reports. A few entry points are gated by tier: **New Lot** and **Master Label** need **supervisor**, and **Admin** (process and master-data setup) needs **admin**. Those items simply won't appear in your menu if you don't have the tier.
>
> **Note: FAI (First Article Inspection)** appears under both **Production** and **Quality (QMS)**. It's the same tool in both places — it was moved to Quality but kept on the Production menu so older links and notifications still work. FAI is covered in the Quality chapter.

Production Dashboard

The dashboard is your live view of everything on the floor. It's the first thing you see when you open the Production tab.

What you'll see

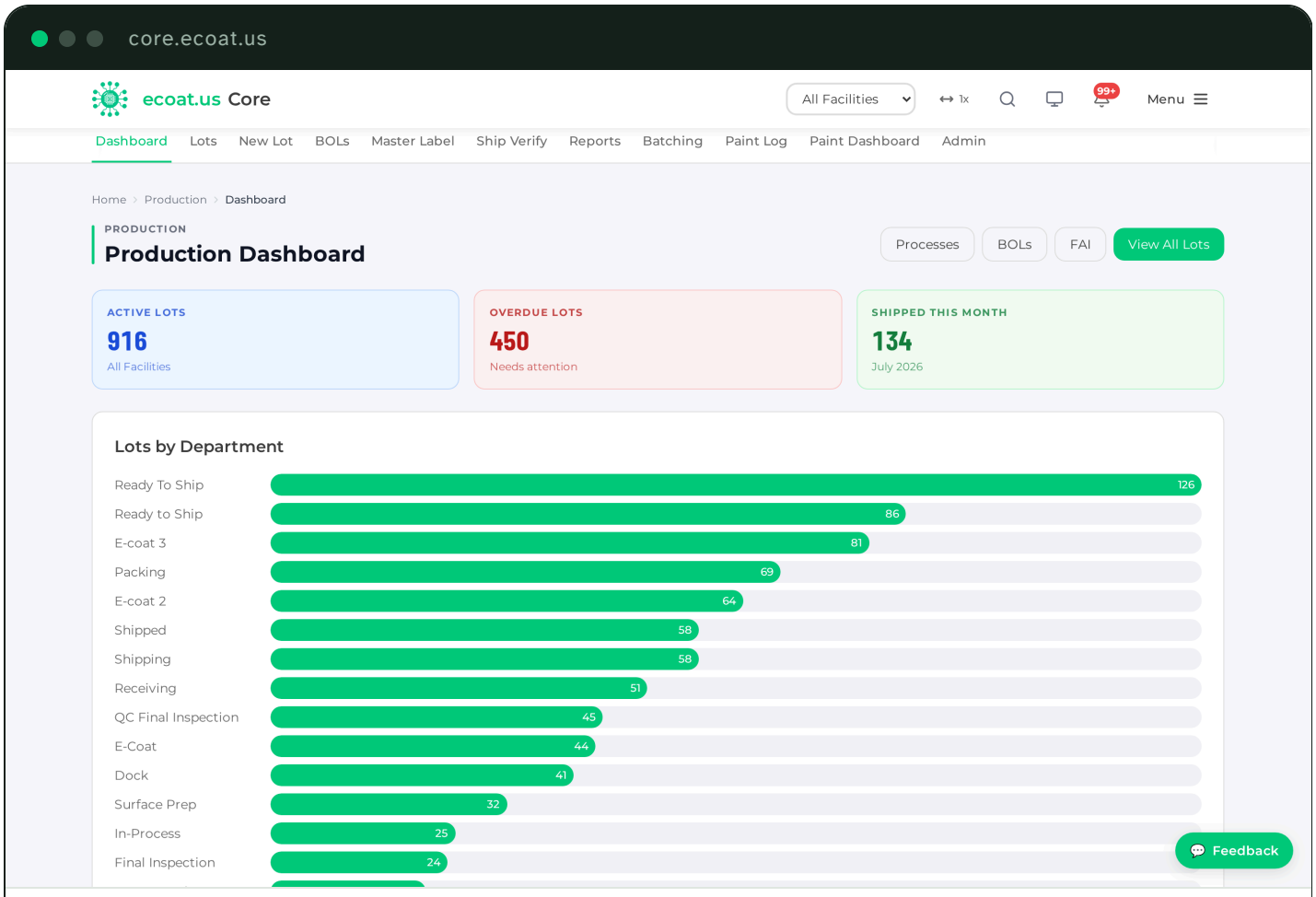
- **Active lots** — everything currently in production at this facility
- **Overdue lots** — anything past its due date

- **Shipped this month** — a running count of completed work
- A **Kanban board** that lays out lots as cards grouped by their department stage

Find a lot

1. Use the search box to look up a lot by **lot number, customer, PO, or part number**.
2. Filter by status to narrow the board down.
3. Click any card to open the lot's detail page.

> **Tip:** The facility selector in the top bar scopes the whole module. If a lot you expect is missing, check you're on the right facility (Seminole, Tulsa, Cleveland, or Mission).



Production dashboard with the lot Kanban board

Lots

A lot is one production job — a quantity of one part, for one customer, against one PO. The Lots page is the full searchable list behind the dashboard's board.

Create a new lot

1. Click **New Lot**.
2. Search for a product by **part number** or **description** and select it.
3. Fill in the job details: - **Customer**, **PO #**, **Quantity**, **Due Date** - Optional: **Skids**, **Expedite** level
4. For **coil products**, the **# of Clamps** field appears and is calculated for you from the product's coil dimensions. It applies to coils only — you won't see it on other parts.
5. Click **Create**.

The lot gets a unique lot number and starts in the first department stage.

> **Permissions:** Creating a lot requires the **supervisor** tier.
>
> **Tip:** Coil lots that need serial tags should be created through the coil-specific receiving flow, not the generic New Lot form — the generic form has no serial-tag step and would skip it silently.

Move a lot through the shop (transitions)

Drag a lot card between columns on the Kanban board, or open the lot and click **Move to Next Stage**, then confirm.

Quality gates can block a transition until the lot is clean:

GATE	WHAT IT CHECKS
QG1 — FAI	First Article Inspection is complete for a new product
QG2 — Risk	Risk mitigation is done when the risk score is over threshold
QG3 — Credit	The customer isn't on a credit hold
QG4 — Dims	Dimensional verification is recorded for coil products

GATE	WHAT IT CHECKS
QG5 — QC	The QC inspection has passed
QG6 — NCR	No non-conformances are open against the lot

If a gate stops you, the lot detail page tells you which one and what's outstanding.

Print the traveler

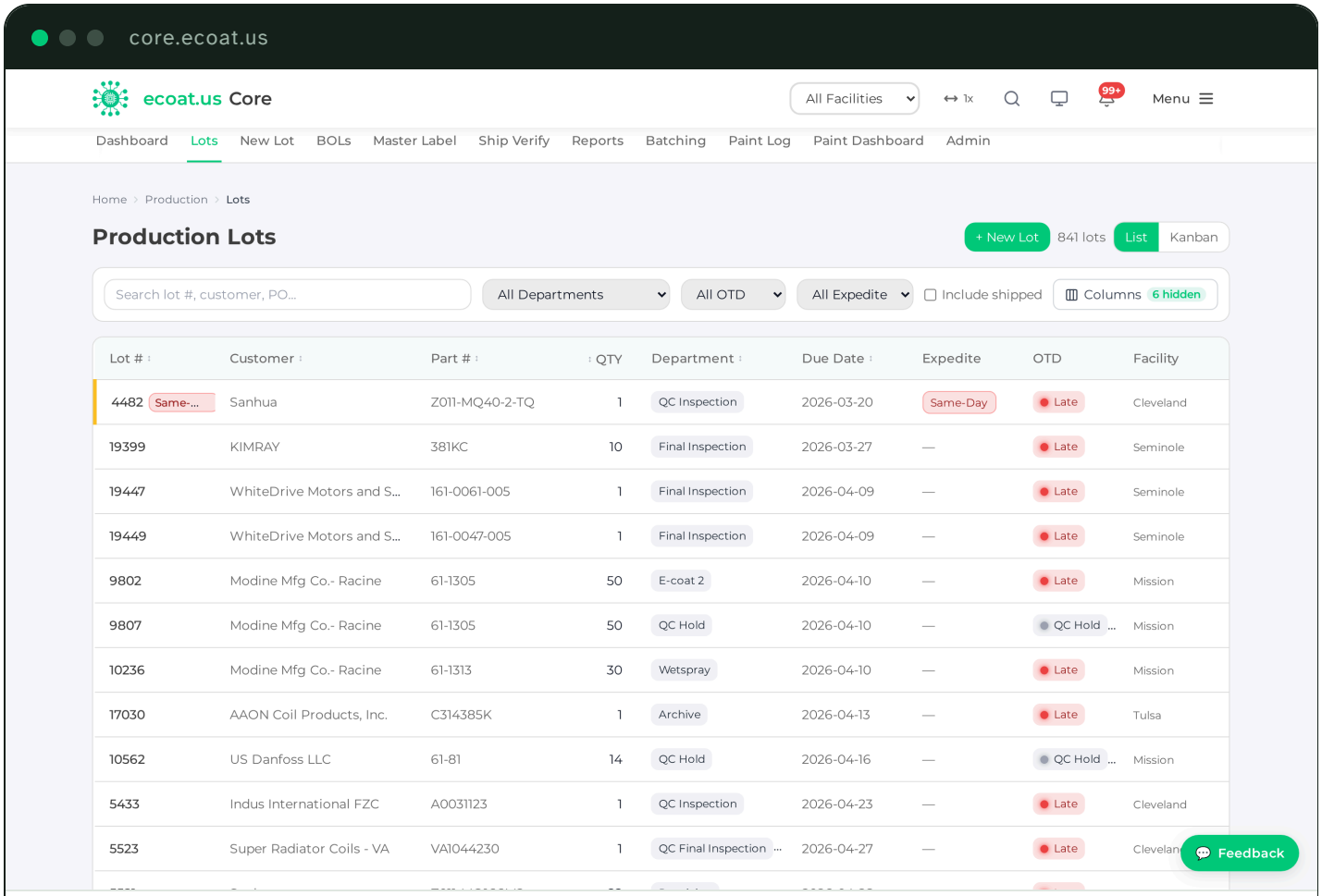
The **traveler** is the paper packet that rides with the lot through the shop.

1. Open the lot's detail page.
2. Click **View Traveler** to open the PDF on screen, or **Print Traveler** to email it straight to that facility's Epson printer.

The traveler carries:

- **Page 1** — lot details, barcodes (Code 128 + QR), the risk gauge, and FAI photos. For **coil products** it also prints the **coil square footage** and the **number of clamps** so the floor sets up correctly.
- **Page 2** — the step-by-step process routing for that product.

Each reprint bumps the revision number, and the button shows the current one (e.g. "View Traveler · rev 2") so everyone knows which copy is the latest.



Lot detail page with traveler and stage controls

BOLs (Bill of Lading)

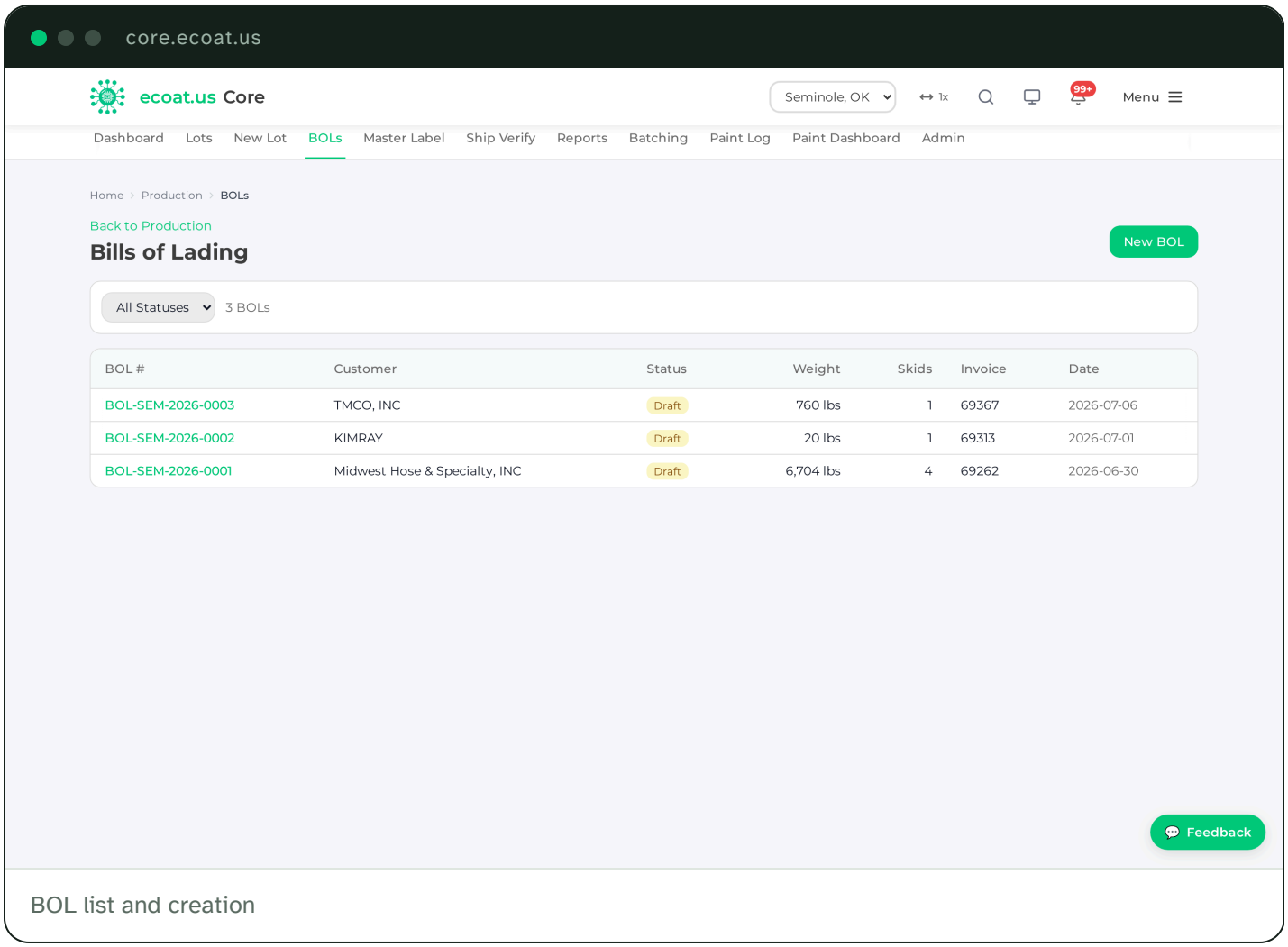
A BOL is the shipping document that closes out one or more lots. Building one confirms the shipment and moves those lots to "Shipped."

Create and confirm a BOL

1. Go to **Production > BOLs** and click **Create BOL**.
2. Add lot line items by searching for lot numbers.
3. Enter the **carrier** and **tracking** details.

4. Click **Confirm shipment** — this runs the quality gates against every lot on the BOL. If any lot fails a gate, fix it before confirming.
5. Capture the **signature**.
6. **Download the BOL PDF** for the driver.

Confirming a BOL automatically transitions all its lots to "Shipped" status, so you don't have to move them one by one.



BOL list and creation

Master Label

Master Label prints the customer-specific shipping label (currently the Modine master label format) for a finished shipment.

1. Go to **Production > Master Label**.
2. If you launch it from a BOL (via a `?bol=` link), it opens in **Auto** mode and fills the header for you. Otherwise it opens in **Manual** mode.
3. Confirm or enter the header fields: **From / To block, Modine part number, description, lot number, ship date, ASN**.
4. Add a row per pallet with its **piece count**.
5. Generate and print the label PDF.

> **Permissions:** Master Label requires the **supervisor** tier.

Ship Verify

Ship Verify is the last check before a truck leaves — a photographed, signed confirmation that what's on the BOL is what's on the dock.

1. Go to **Production > Ship Verify**.
2. Find the BOL awaiting verification (status **Pending verification**).
3. Review the customer, invoice, and line items.
4. Take **photos** of the loaded shipment (up to 10).
5. Have the **production supervisor** sign.
6. Submit — the status flips to **Verified**, stamped with who verified it and when.

A verification can later be **Voided** if something was wrong, which is recorded too.

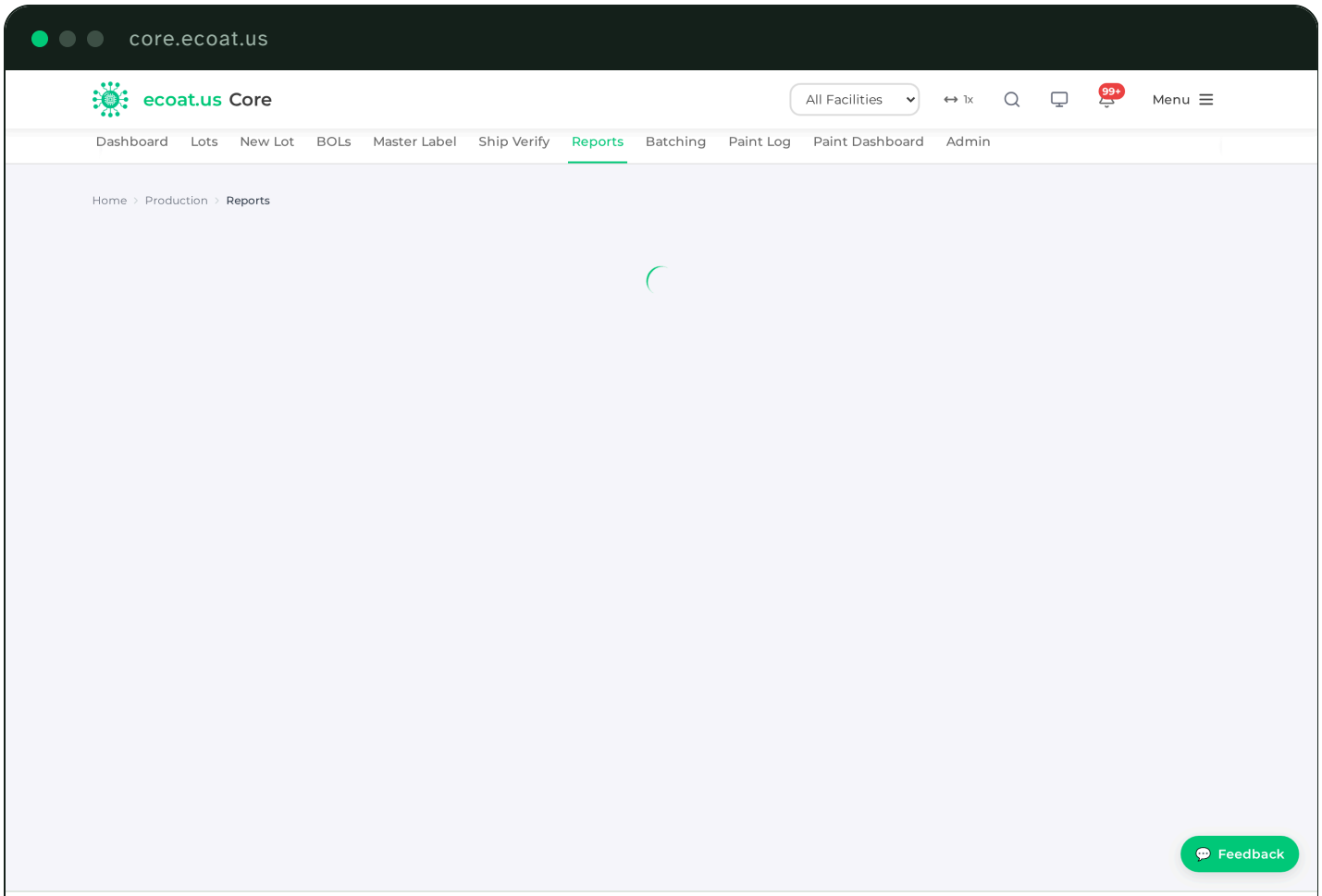
Reports

Reports turn the floor's activity into trends so you can see where time is being lost.

Go to **Production > Reports** for:

- **On-Time Delivery (OTD)** — the percentage of lots shipped on or before their due date, month by month.
- **Active Lot Aging** — how long current lots have been open.
- **Department Bottleneck Analysis** — the average days lots spend in each department, so you can spot the slow stage.
- **Rework Events** — Strip, Recoat, and other rework, grouped by cause.

Everything is scoped to the facility selected in the top bar. Empty charts ("No data available") just mean nothing matched for that facility and period.



Production reports and OTD trend

Batching

Batching groups your unshipped lots by paint colour and process so the floor can rack jobs by paint changeover instead of purely by due date.

1. Go to **Production > Batching**.
2. Lots are grouped by **(process, colour)**. Each group shows its lot count, total quantity, and the earliest due date.
3. The colour chip on each group matches the identity stripe on the traveler, so a rack of the same colour is easy to spot.

This page is read-only — it's a planning aid, not a place to move lots. Batch the racks it suggests, then move the lots through their stages as usual.

> **Tip:** Running the same colour back-to-back saves a paint changeover. Use this view first thing in the morning to plan the day's paint sequence.

Paint Log

The Paint Log is the office window into what the paint kiosk recorded on the floor. Painters log their mix sessions at the shop-floor kiosk; this page lets office staff review them.

1. Go to **Production > Paint Log**.
2. Browse the list of paint-mix sessions.
3. Click a session to open its detail, including **material genealogy** (which containers went in) and **lot chain-of-custody** (which lots the paint went to).

This is a read surface — you review here; the mixing itself happens at the kiosk.

Paint Dashboard

The Paint Dashboard reports paint usage and waste per facility, month by month.

1. Go to **Production > Paint Dashboard**.
2. Pick a **month**; the facility comes from the top-bar selector.
3. Review the KPI row, the **paint-by-product** breakdown, the **daily paint vs waste** trend, and **operator activity**.

It combines the new Core paint log with the older legacy paint log. A source-split badge shows how much of the data is new vs legacy, and there's an always-on link to the read-only **Legacy Paint Log** archive for older entries.

Processes

Processes are the routing recipes — the ordered steps a given product follows through the shop, which print on page 2 of the traveler.

1. Go to **Production > Processes** (Process Management).
2. Filter by **department** or type.
3. Click a process to see its **steps** — each with a step number, detail, the responsible department, whether **testing is required**, and any linked documentation.
4. A process can be marked **Use as FAI Process Template** so new First Article Inspections start from a known-good routing.

> **Permissions:** Editing processes and other master data lives under **Production > Admin**, which requires the **admin** tier. Most users only ever view.

QC Queue TV

The QC Queue TV is a wall-mounted dashboard for the quality team — a dark, distance-readable screen showing every lot waiting for QC inspection, oldest first, with time-in-stage and SLA colouring.

- It runs full-screen with no login on a shop TV, opened at `core.ecoat.us/production/qc-queue-tv` with the display key in the address.
- It refreshes every 30 seconds and shows a **DISCONNECTED** indicator if it loses the server.
- When there's nothing waiting, it reads **QC queue clear**.

> **Permissions:** This is a display-only screen authenticated by a fixed TV token, not a login. There's nothing to click — it's for watching, not acting. Inspections themselves are done back in the Quality module.

06

⚙️ CHAPTER 6

Motor Line

Motor Line

The Motor Line module runs the Danfoss hydraulic-motor coating work at Seminole. It tracks a motor from the dock to the truck: you **print pack labels**, **receive** boxes of motors, **pack and QC** them at the shop-floor kiosk, then **load them onto a truck** and record the shipment. Planners flag rush jobs as **Hot Orders**, dashboards and floor TVs keep everyone pointed at the right work, and a customer portal lets Danfoss look up anything we've shipped.

Everything lives under the **Motor Line** tab in the top navigation. This chapter follows a box of motors through the line, then covers the screens managers and admins use.

> **Permissions:** Motor Line is scoped to Seminole. Most pages need the **motor_line** module; the **Reports/Investigate** page is also open to quality users through a separate grant. The kiosk and floor TV are public displays authenticated by a device token, not a login. Everything under **Admin** (plus **Clear Stale Orders** and **e-ink Devices**) is **admin-only**.

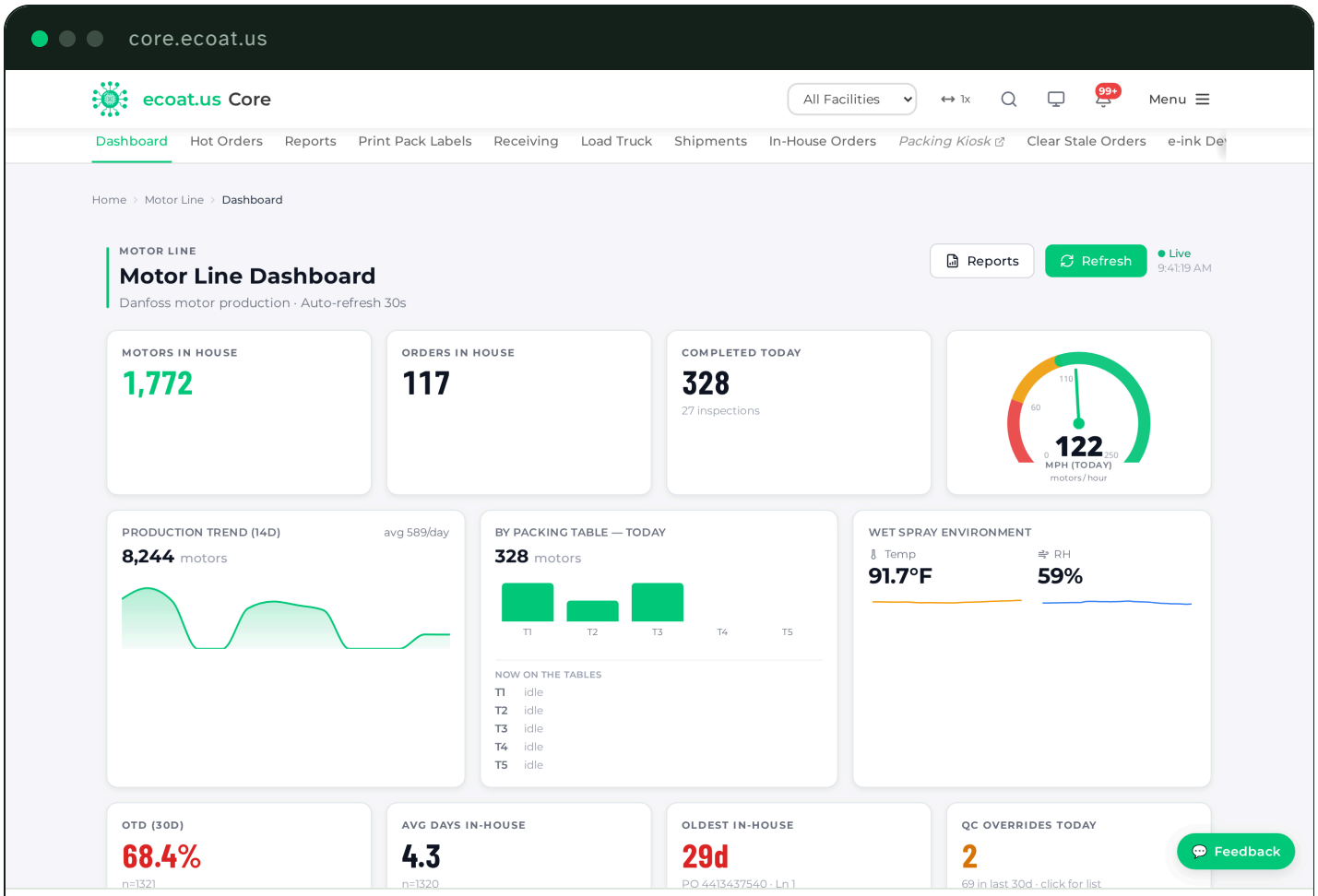
Motor Line Dashboard

The dashboard is the internal scoreboard for the line — the production team and management view. It replaces the old public Metabase dashboard.

Go to **Motor Line > Dashboard** for live tiles including:

- **Motors In House** and **Orders In House** — received but not yet packed out
- **Oldest In-House** and **Avg Days In-House** — how long work is sitting
- **Completed Today** — motors packed out today
- **QC Overrides Today** — supervisor overrides logged at the kiosk

It refreshes every 30 seconds. Numbers are click-through where it helps — a tile drills into the underlying orders or inspections.



Motor Line internal dashboard

Hot Orders

Hot Orders are the rush jobs — orders a planner has flagged as expedited (and usually upcharged). Flagging an order makes it shout across the whole line.

Flag an order as hot

1. Go to **Motor Line > Hot Orders**.
2. Click **Add Hot Order**.

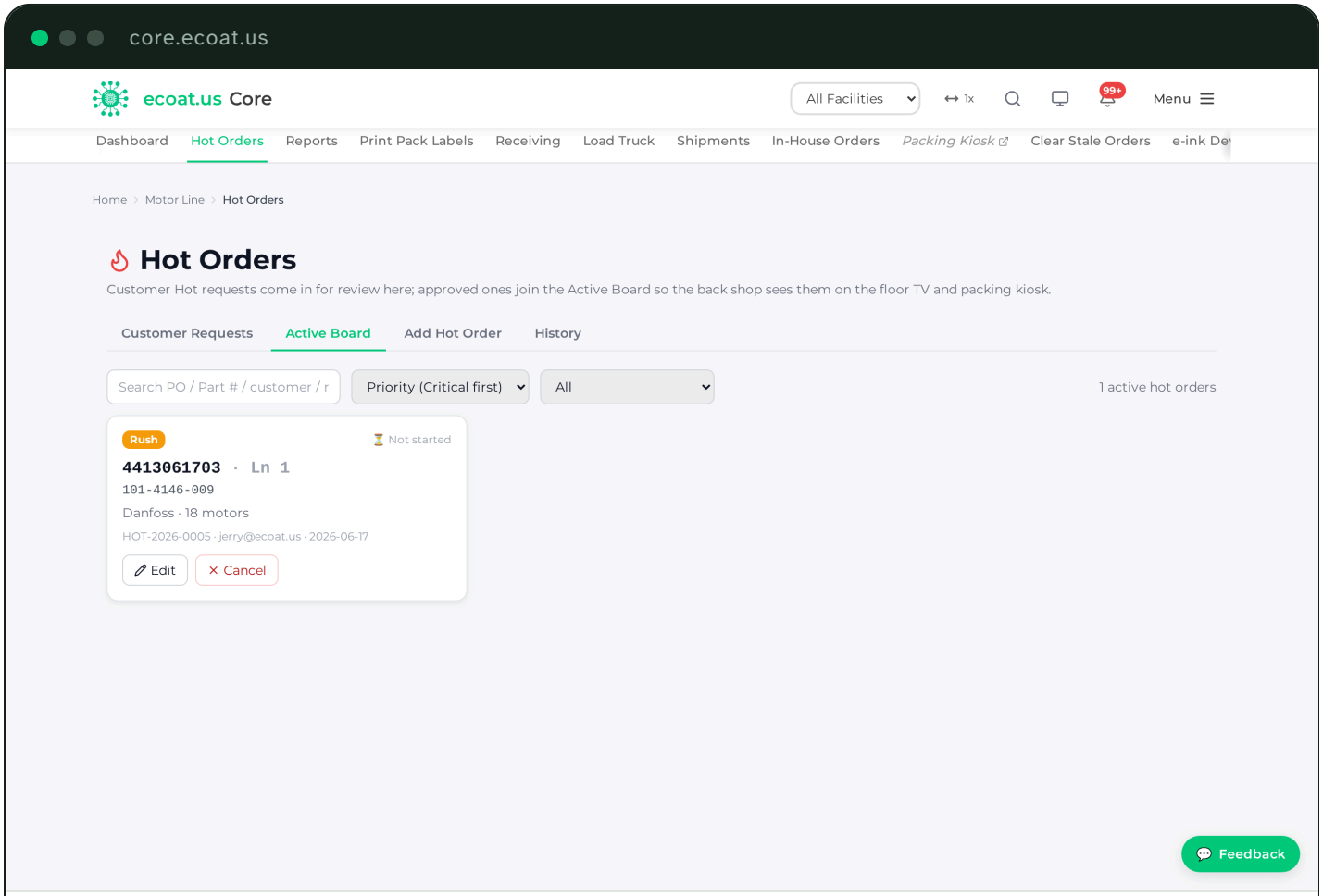
3. Enter the **PO number**, **Part #**, and set a **Priority** (Standard or Critical).
4. Save.

A hot order then:

- shows on the **Floor TV** and the **e-ink Hot List devices** at the tables,
- fires a **takeover alert** at the packing kiosk when that order is scanned, and
- **auto-completes** (drops off the board) once the order finishes packing.

Completed and cancelled hot orders stay retrievable as the upcharge record — sort by **Completed** to find them.

> **Tip:** Use **Critical** sparingly. If everything is critical, nothing is — the point is to tell the floor which one job jumps the queue.



Hot Orders board

Reports / Investigate

Reports is where you search scans and pull motor-line trends. The old standalone **Investigate** page was folded in here as the **Motors** tab, so scan-search links still land in the right place.

1. Go to **Motor Line > Reports**.
2. Use the **Motors** tab to look up scans by PO, part number, serial, or date.
3. Use the reporting tabs for throughput and QC trends.

> **Permissions:** This page is available to Motor Line users and to quality users who have the investigate grant, even without full Motor Line access.

Print Pack Labels

Pack labels are the QR labels on each box — one QR per box, carrying the Pack UUID, PO, Line, Box, and Qty so Receiving and Packing can scan instead of type. They print on Avery 5160 sheets (30 labels a sheet).

The fastest path — upload the Danfoss PO PDF

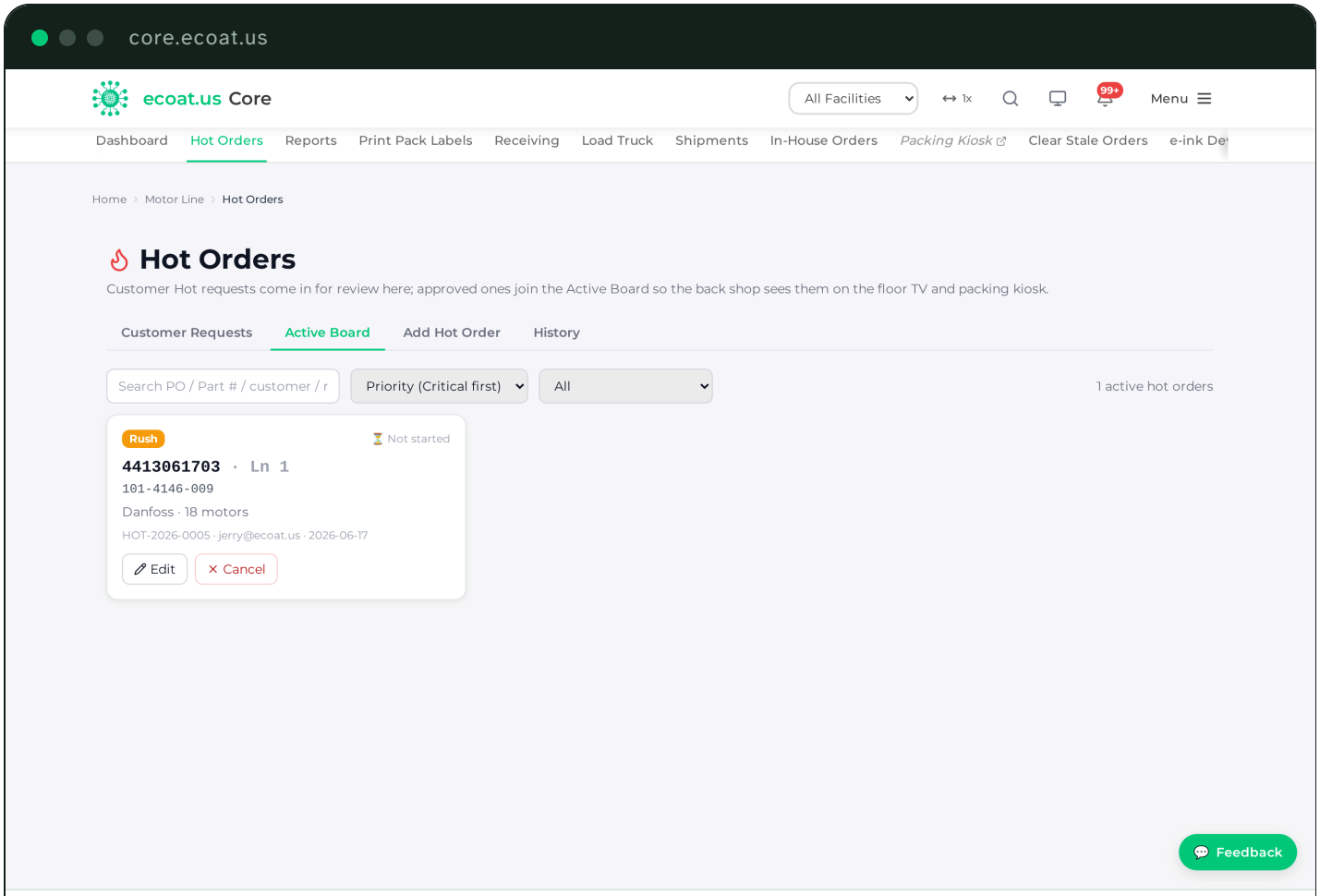
1. Go to **Motor Line > Print Pack Labels**.
2. Click **Upload Danfoss PO** and pick the PDF Danfoss emailed (e.g. `4413179217.pdf`).
3. Review the parsed lines in the preview, then click **Apply to matrix**. The PO number and one row per line item (with the right quantity) fill in for you.
4. Set **Boxes per line** — the PO doesn't say how to split a line into boxes. It defaults to one box of the full quantity; use **Duplicate** to split a row, or **Quick Set** to apply the same boxes/qty across many rows.
5. Click **Generate PDF** and print on Avery 5160 at **100% scale** (no fit-to-page).

Enter it manually instead

Add one row per PO line with **PO, Line #, Boxes,** and **Qty per box**. Use **Duplicate** to copy a row and **Quick Set** to fill across rows.

> **Tip:** Reusing a part-used Avery sheet? Set **Start Offset** to the number of already-peeled cells (counting from the top-left) so printing resumes on the first blank label. The page also remembers your last 5 print jobs — click one to reload those rows.

If the upload fails: "Could not find a Purchase order number" means it isn't a Danfoss PO or it's a scanned image (only text PDFs read); re-export from the email as PDF if you get "Expected a PDF."



Print Pack Labels line matrix

Receiving

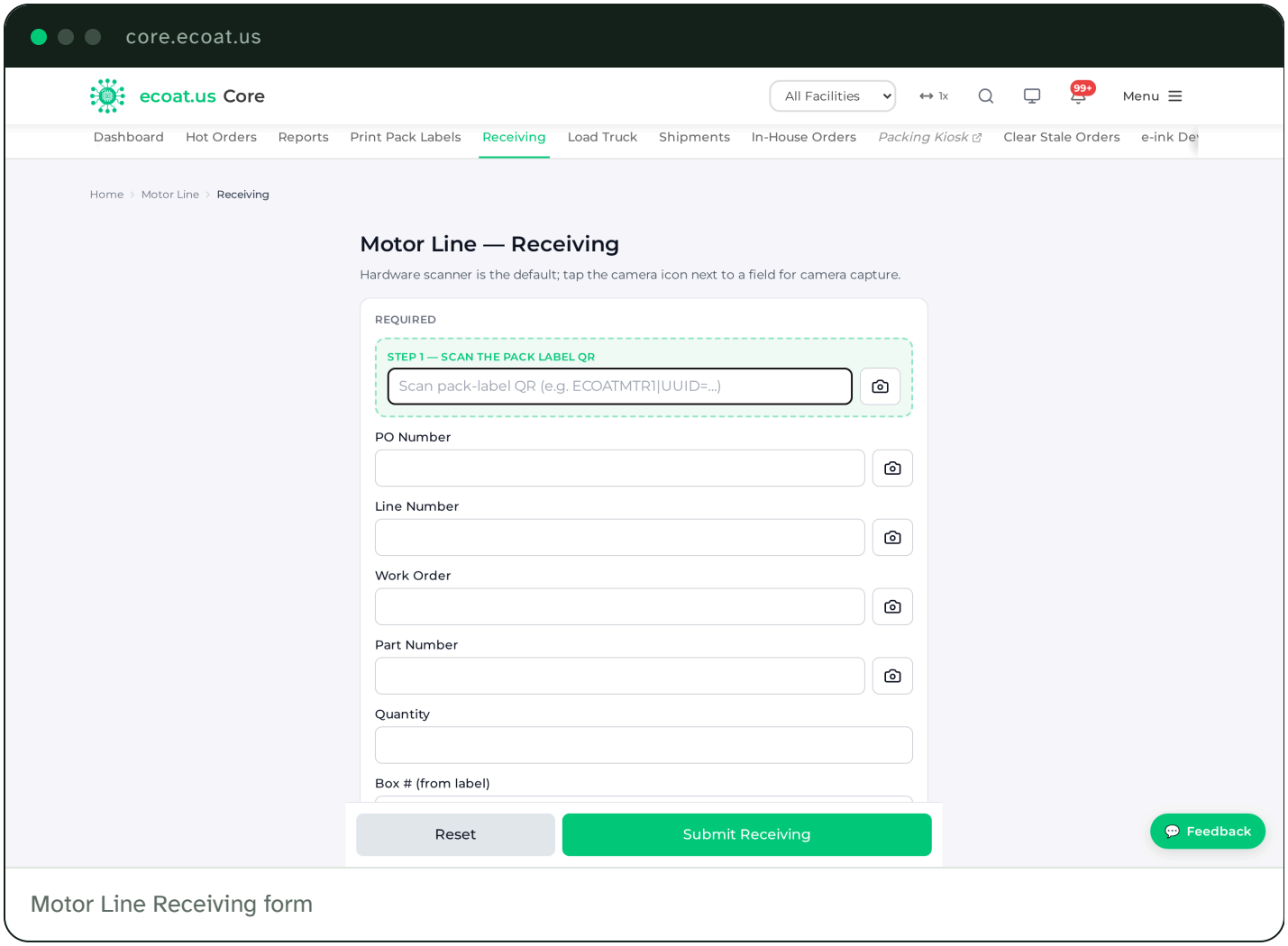
Receiving logs each box of motors as it hits the dock. Scanning the pack QR fills in the box's identity so you only add what the QR can't carry.

1. Open **Motor Line > Receiving** on an iPad or a PC with a scanner.
2. Tap **Scan Pack QR** — a green chip confirms **PO, Line, and Qty** are pre-filled.
3. Scan or type the **Work Order** (focus jumps here automatically).
4. Scan or type the **Part Number**.
5. Confirm the **Paint Spec** — it's a dropdown of every spec on record, and it **auto-fills** from the part number's history when there's a strong match. An amber note ("verify before submitting") warns when that part sometimes uses a different spec.
6. Tap **Submit** — the box is added to Inbound and ready for packing.

After a successful submit, click **Receive next box on same PO** to keep PO, vendor, and paint spec on the form for the next box on the same pallet.

> **Tip:** The form autosaves your draft to that device — walk away and your entry is still there when you come back.

If you see "This pack label has already been received as Inbound #N," the QR was scanned before. Don't re-scan; check Inbound #N with QA.



Motor Line Receiving form

The Packing Kiosk

The Packing Kiosk is a separate full-screen page that runs on the tables in the pack area (portrait TVs with barcode scanners). It has no login and no navigation chrome — it's built for one job: scanning every motor against its box and recording QC. Operators reach it at `core.ecoat.us/motor-line/packing`.

> **Note:** If the kiosk ever shows a red "Kiosk Not Enrolled" alarm instead of the packing screen, the device has lost its enrollment token — send it to IT to re-enroll. It will not let you pack until it's fixed.

Operator flow

1. **Pick your table.** Confirm the **Table 1–5 badge** in the top-right. If the picker shows instead, tap your table number (or press **1–5** on the keyboard). Tap **Change Table** in the header if you moved kiosks.
2. **Scan the pack label.** Tap **Scan Pack Label** and point the scanner at the box's QR. The kiosk loads that box's PO, line, part number, and quantity.
3. **Pack the motors.** The kiosk picks the mode from the inspection record and shows it at the top: - **Bulk** — scan the box label once; the packed count jumps by the box quantity. Used when a box holds several motors of the same part. - **Individual** — scan each **motor label**, then the box. Used when traceability matters (active CAPA parts, customer requirement, first article).
4. **Watch and listen for the result.** A **short high beep + green flash** means the scan was accepted; a **low double-beep + red flash** means it was rejected (wrong part, wrong table, or a duplicate).
5. **Record QC readings** when prompted — **Film Build (mils)**, **Pencil Hardness**, and **Meets Customer Requirements** — for the inspection record.
6. **Finish the session.** When the packed count reaches the quantity, a **Final QC** strip appears at the bottom. Walk the checklist (visual, packing slip, pallet count), tap each green check, then tap **Complete Session** to save the inspection.

To stop early, tap **Cancel** and confirm — the session is marked **Abandoned**, no finished-goods record is written, but the scans are kept for traceability.

Part-number mismatch and supervisor override

If a scanned motor's part number doesn't match the box, the kiosk **hard-blocks** and opens the **Supervisor Override** panel:

1. A **QC supervisor** enters their **5-digit PIN**.
2. Press **Enter** to approve, or **Esc** / tap outside to cancel.
3. The override is logged (supervisor, time, motor, box).
4. **Three wrong PINs in a row** locks the kiosk for 60 seconds.

> **Permissions:** PINs belong to QC supervisors only. Operators must never share or guess them. If a motor genuinely doesn't belong in the box, tap **Record Non-Con Motor** and pick the reason rather than forcing it through.

Load Truck

Load Truck is the dock app for loading a finished shipment. A dock worker scans each packed box's pack-ticket QR as it goes on the truck, then the driver signs.

1. Open **Motor Line > Load Truck** on an enrolled dock tablet (or signed in as a supervisor).
2. Open the shipment you're loading.
3. **Scan each box's pack ticket** as it's loaded. Progress is saved server-side per scan, so a mid-load refresh loses nothing.
4. When the truck is loaded, have the **driver sign** to record the shipment.

Shipments

Shipments is the management record of every truck that left.

1. Go to **Motor Line > Shipments**.
2. Browse the list of truck loads; click one to drill into its **contents**, the **driver**, and the **signature**.
3. A supervisor can **Void** a shipment if it was recorded in error.

It's read-only otherwise — full traceability for operations.

In-House Orders

In-House Orders are motors that have been received but not yet packed out. It's the working list behind the "Motors In House" dashboard number.

1. Go to **Motor Line > In-House Orders**.
2. Search and filter by part, paint spec, or how many days a box has been sitting.
3. Motor-line **supervisors** (and admins) can **edit** an order's identity fields — those changes sync back to the receiving record so the kiosk and dashboards stay consistent — or **Remove** an order from the in-house list.

Everyone with Motor Line access can view and search; only supervisors/admins can change anything, and every change is audited.

Floor TV

The Floor TV is the wall display in the production area — a dark, distance-readable board that shows the day's work and hot orders. A Linux box auto-opens it full-screen at `core.ecoat.us/motor-line/floor` with the display key in the address; there's no login. It refreshes every 30 seconds and shows a disconnected indicator if it loses the server. There's also a **public dashboard** variant (`/motor-line/public-dashboard`) for a lobby or open-floor kiosk.

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e-ink Device Labels (Hot List)

The e-ink devices are small battery screens at the tables (Xteink X4) that show the current **Hot List** — the hot orders the floor needs to jump on. They update over the air from the same hot-order data, so what a planner flags in Hot Orders shows up on the tables without anyone printing anything.

Admins check the fleet's health at **Motor Line > e-ink Devices**: station, **battery level**, **last check-in**, and firmware. The page is read-only — provisioning and token minting are done through the device-setup flow, not here.

Admin corner

These pages are **admin-only** and live under **Motor Line > Admin** (the Admin tile page links to them). Most people never need them — they're for fixing data, managing supervisors, and auditing what happened.

PAGE	WHAT IT'S FOR
Clear Stale Orders	Review and clear orders that were received but never packed, so they stop inflating the "motors in house" count. Every clear is audited.
e-ink Devices	Fleet health of the Hot List e-ink screens (battery, check-in, firmware).
Customer PN Map	Maintain the map between customer part numbers and our internal part numbers.
PN Exceptions	Custom notes on specific part numbers that show on the Receiving form.
Supervisors	The QC supervisor roster and their kiosk PINs (create, reset PIN, deactivate — PINs are stored hashed and never shown).
Inbound	Edit or hard-delete receiving records to undo a data-entry mistake.
Inspections	Edit inspection metadata and **Reopen** a completed inspection.
Scans	Edit or hard-delete individual motor scans.
Overrides	Read-only viewer of QC overrides — filter by supervisor, status, or date and open the override data.
Audit	Read-only audit log of every change — filter by table, user, action, or date, with a side-by-side old/new diff.

> **Permissions:** Every page here requires **admin**. Edits and deletes are audited, and the Audit page is where you go to see who changed what.

🔧 CHAPTER 7

07

Maintenance

Maintenance

The Maintenance module keeps your equipment running. It's where you track every machine, log and assign repair jobs, schedule the routine servicing that prevents breakdowns, and let shop-floor workers report problems the moment they spot them.

Everything lives under the **Maintenance** tab in the top navigation. This chapter walks through each part in the order you'll usually use it.

Maintenance Dashboard

The dashboard is your at-a-glance health check for equipment across your facility. It's the first thing you see when you open the Maintenance tab.

What you'll see

Four headline numbers sit at the top:

KPI	WHAT IT MEANS	HEALTHY TARGET
Equipment Health Score	Overall condition rating, 0–100	Above 80%
PM Compliance Rate	Percent of scheduled servicing done on time	Above 90%
Open Work Orders	Repair jobs still in the queue	Keep an eye on it
Overdue Tasks	Preventive tasks past their due date	0

Below the KPIs, an **Equipment Condition** breakdown shows progress bars by condition — Good (green), Fair (yellow), Poor (orange), and Critical (red). Click the Poor or Critical count to jump straight to the

equipment that needs attention.

The **Work Order Analytics** section groups your jobs by type, status, and priority, and charts how many were created each day.

Two reliability numbers help you tune your maintenance schedule:

- **MTTR (Mean Time To Repair)** — average hours to close a work order. Lower is better.
- **MTBF (Mean Time Between Failures)** — average days a machine runs between breakdowns. Higher is better.

> **Tip:** If a machine's MTBF is shorter than how often you service it, you're servicing it too rarely. Tighten the PM frequency.

How to change the reporting period

1. Use the period selector to choose **Last 7 days**, **30 days**, **60 days**, or **90 days**.
2. The analytics and trend charts refresh to match.

Use 7 or 30 days for day-to-day operations and 60 or 90 days when you're looking for longer trends.

Equipment

Equipment is your master registry of every machine, tool, and asset you maintain. This is where each item gets a permanent record, a criticality rating, and a running service history.

Find a piece of equipment

1. Go to **Maintenance > Equipment**.
2. Filter by category, criticality (A/B/C), condition, or active status.
3. Or search by name, Asset ID, or serial number.

Add a new piece of equipment

1. Click **+ Add Equipment**.
2. Fill in the required fields: - **Name** — a clear, descriptive name - **Asset ID** — the unique tag (see format below) - **Facility** — where it lives - **Category** — the equipment type - **Criticality** — its ABC rating
3. Add any optional details you have: manufacturer, model, serial number, install date.
4. Click **Create Equipment**.

ABC criticality — how important is this machine?

LEVEL	NAME	MEANING
A	Critical	Stops production or affects safety
B	Important	Significant impact, but a backup exists
C	Low	Minimal impact, easily replaced

> **Tip:** Put your preventive-maintenance effort on A-level equipment first — that's where a missed service hurts most.

Asset ID format

Asset IDs follow **EQ-{FACILITY}-{NUMBER}**:

FACILITY	PREFIX
Seminole	EQ-SEM-NNNN
Tulsa	EQ-TUL-NNNN
Cleveland	EQ-CLE-NNNN
Mission	EQ-MIS-NNNN

Condition ratings

CONDITION	MEANING	WHAT TO DO
Good	Running normally	Keep to the schedule
Fair	Minor wear, still working	Watch it; consider servicing early
Poor	Significant wear	Schedule a repair, service more often
Critical	Failing or unsafe	Take it out of service

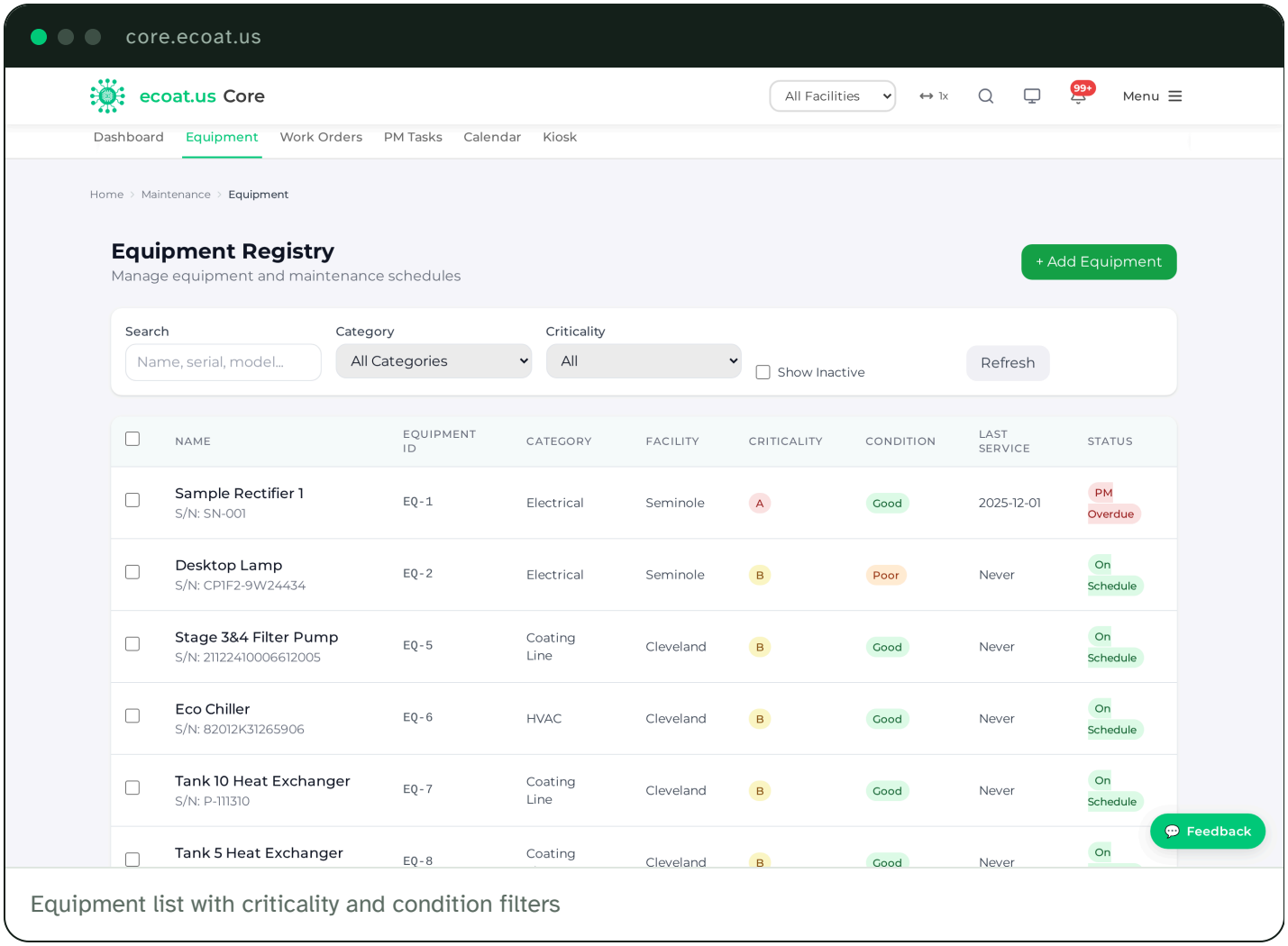
Print QR labels for the shop floor

Every piece of equipment can carry a QR label that jumps straight to the reporting kiosk when scanned.

1. Open the equipment's detail page (click it in the list).
2. Click the purple **Print Labels** button.
3. A PDF downloads with the QR code label.

The label carries the QR code, Asset ID, name, location, category, and a "SCAN FOR SERVICE" prompt.

> **Tip:** Print on Avery 5163 sheets (10 labels per sheet, 2"×4") at 100% scale, and test on plain paper first. Stick the label somewhere visible on the machine.



Equipment list with criticality and condition filters

Work Orders

Work orders are the individual repair and service jobs. Each one moves through a simple lifecycle from the moment it's raised to the moment it's finished.

```
OPEN → ASSIGNED → IN PROGRESS → COMPLETED
                      ↓
                (or CANCELLED)
```

Create a work order

1. Click **+ New Work Order**.

2. Fill in the required fields: - **Title** — a brief description of the job - **Equipment** — pick it from the dropdown - **Type** — Breakdown, Preventive, Safety, or Other - **Priority** — Emergency, High, Medium, or Low
3. Add a description, an assignee, or a scheduled date if you have them.
4. Click **Create Work Order**.

Set the right priority

PRIORITY	RESPONSE TIME	EXAMPLES
Emergency	Immediate	Safety hazard, production down
High	Within 4 hours	Major equipment issue
Medium	Within 24 hours	Non-critical repairs, routine PM
Low	Within a week	Minor issues, improvements

Complete a work order

1. Open the work order's detail page.
2. Click **Complete Work Order**.
3. Fill in the required fields: - **Actual Hours** — time spent - **Work Performed** — what you did
4. Optionally add parts used and any follow-up notes.
5. Click **Complete**.

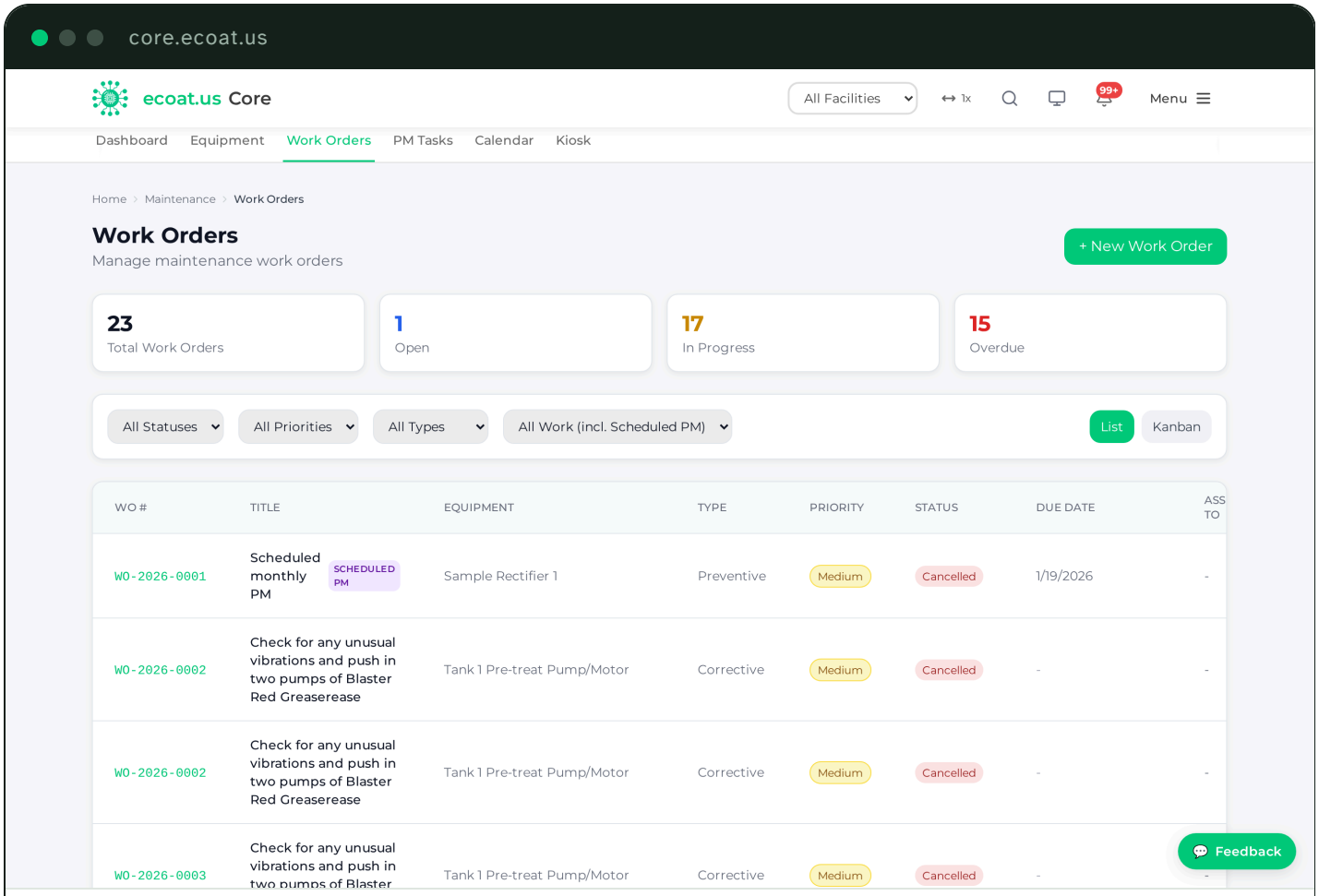
Finishing a work order automatically writes a service record and updates the equipment's history for you.

Kanban view

Click the Kanban (board) toggle for a visual workflow. Jobs appear as cards in columns — Open, Assigned, In Progress, Completed — colour-coded by priority. Drag a card between columns to change its status.

Work order numbers

Numbers follow **WO-YYYY-NNNN**, for example WO-2026-0001 (the first of 2026) or WO-2026-0150.



Work orders in Kanban view

PM Tasks

PM (preventive maintenance) tasks are the recurring servicing schedules that keep machines healthy before they break. Set a task up once, and the system generates the work orders for you on schedule.

Choose a frequency

FREQUENCY	HOW OFTEN	EXAMPLE
Daily	Every day	Safety checks

FREQUENCY	HOW OFTEN	EXAMPLE
Weekly	Every 7 days	Fluid-level checks
Monthly	Every 30 days	Filter inspection
Quarterly	Every 90 days	Lubrication
Semi-Annual	Every 180 days	Belt replacement
Annual	Every 365 days	Full service
Runtime-Based	By operating hours	Oil change every 500 hours

Create a PM task

1. Click **+ New PM Task**.
2. Fill in the required fields: - **Name** — what the task covers - **Equipment** — pick the machine - **Frequency** — how often it runs - **Priority** — the priority of the work orders it will create
3. Add instructions, safety notes, and an estimated time if useful.
4. Click **Create Task**.

Turn tasks into work orders

- **One task:** open its detail page and click **Generate Work Order**.
- **In bulk:** click **Generate PM Work Orders**, choose how many days ahead to look (7, 14, or 30), and click **Generate**. The system creates work orders for every task due in that window.

> **Tip:** Run the bulk generator once a week so your team always has the upcoming preventive jobs queued up.

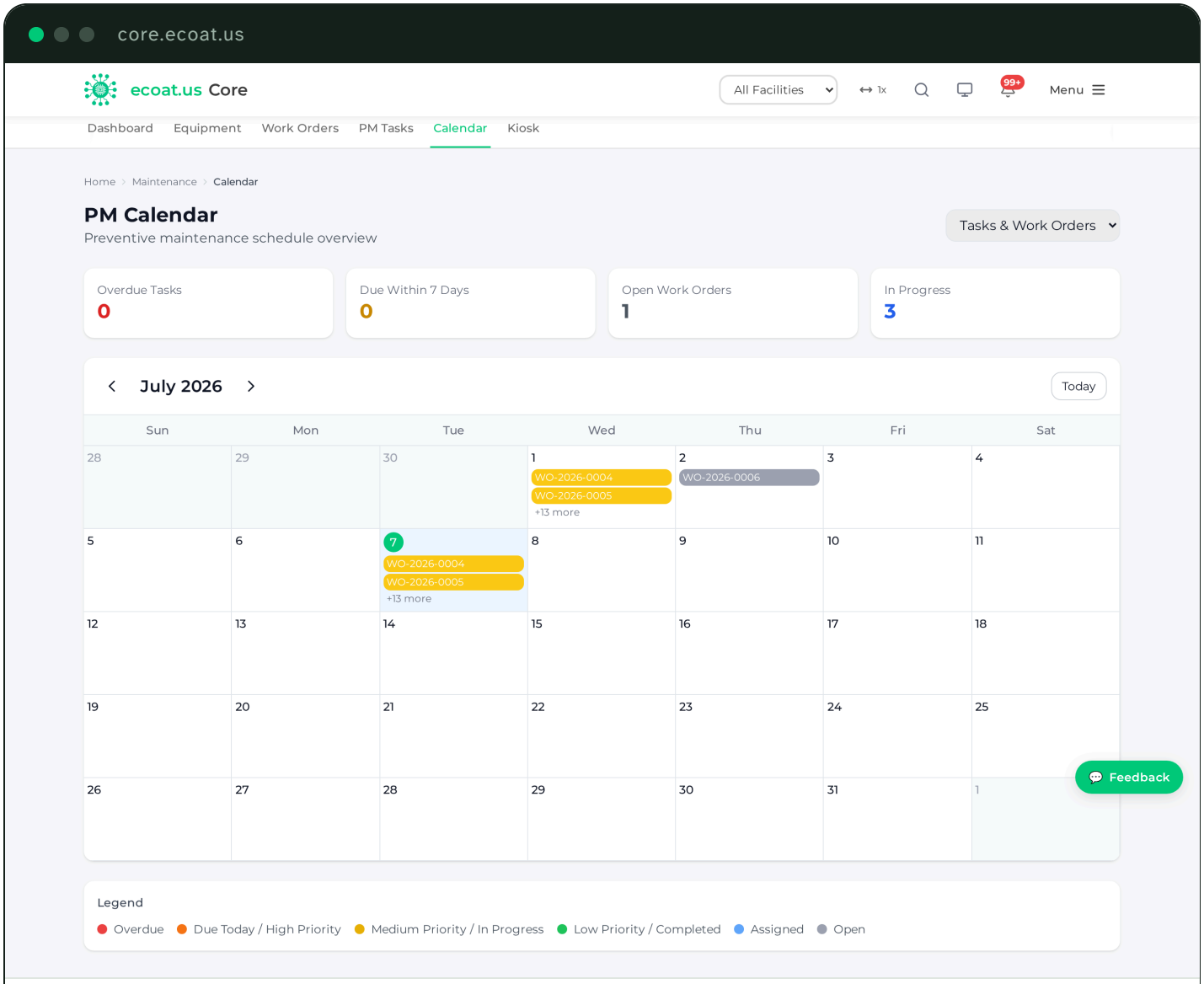
PM Calendar

The calendar shows what's due and when, laid out month by month.

1. Go to **Maintenance > Calendar**.
2. Navigate between months with the arrows.
3. Each day shows the PM tasks due and any scheduled work orders, colour-coded by priority.
4. Click a day to see its details.

Task colours tell you the schedule at a glance:

COLOUR	MEANING
Red	Overdue
Yellow	Due soon (within 7 days)
Green	On schedule



PM calendar with colour-coded tasks

QR Kiosk — reporting issues from the floor

The Maintenance Kiosk is a big-button, touch-friendly screen for shop-floor workers to report an equipment problem in seconds — no login gymnastics, no digging through menus.

Open the kiosk

- **From the dashboard:** click the **Kiosk Mode** button (top right).

- **By QR code:** scan the label on a machine — the kiosk opens with that equipment already selected.
- **Direct link:** `core.ecoat.us/maintenance/kiosk`.

Find the equipment

Scan its QR code: 1. Tap **Scan Equipment**. 2. Allow camera access. 3. Point at the machine's QR code — its details appear.

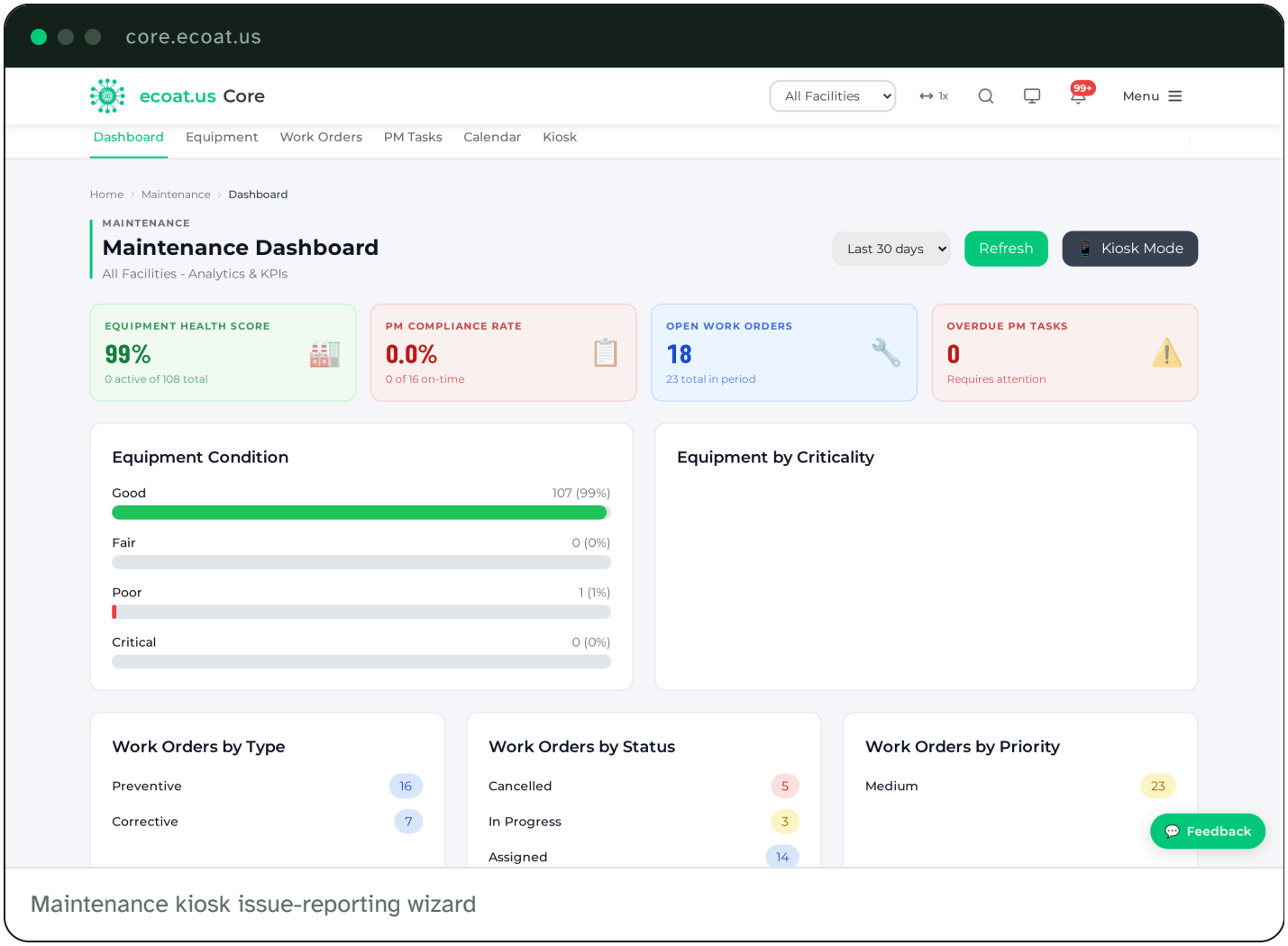
Or enter the Asset ID: 1. Tap **Enter Asset ID**. 2. Type the ID (e.g., EQ-SEM-0001). 3. Tap **Search**.

Report the issue (3-step wizard)

1. **Issue type** — Breakdown (stopped working), Preventive (service needed), Safety (a hazard), or Other.
2. **Priority** — Emergency (red, production stopped), High (orange, needs attention today), Medium (yellow, within 24 hours), or Low (green, can wait).
3. **Details** (optional) — a short description of the problem and your name.

When you submit, a green checkmark confirms it and shows the new work order number (e.g., WO-2026-0001). The kiosk returns home automatically after 10 seconds, or tap **Done** to go back right away.

> **Tip:** Hold your device 6–12 inches from the QR code in good light and keep it steady. If a label is damaged, use **Enter Asset ID** instead.
>
> **Permissions:** The kiosk is designed for anyone on the floor to use — its whole point is fast, low-friction reporting. Reviewing, assigning, and completing the work orders it creates happens back in the full Maintenance module.



Maintenance kiosk issue-reporting wizard

08

🦺 CHAPTER 8

Safety

Safety

The Safety module runs your monthly **PPE (personal protective equipment) audits**. Each month you walk the floor, record whether people are wearing the gear their area requires, and the system tallies up whether the facility passes. It also keeps a running history so you can see how compliance trends over time.

Everything lives under the **Safety** tab. This chapter covers the dashboard, recording observations, the area and history views, and the configuration screen.

PPE Audit Dashboard

The dashboard is the home base for the current month's audit at your facility. It shows where you stand and gives you one-tap access to start recording.

What you'll see

- **Facility compliance cards** with the overall compliance percentage
- **Area progress bars** showing how many observations you've recorded versus the minimum required
- **Pass/Fail indicators** for each area and for the facility as a whole
- **Quick actions** to start recording observations or complete the audit period

Run a monthly audit

1. Select your **facility** from the header dropdown.
2. Click **Open Audit Period** to start the current month.
3. The dashboard lists every configured area with its minimum sample requirement.

4. Record observations throughout the month until every area meets its minimum.
5. When you're done, click **Complete Audit** to finalize the month.

What counts as passing

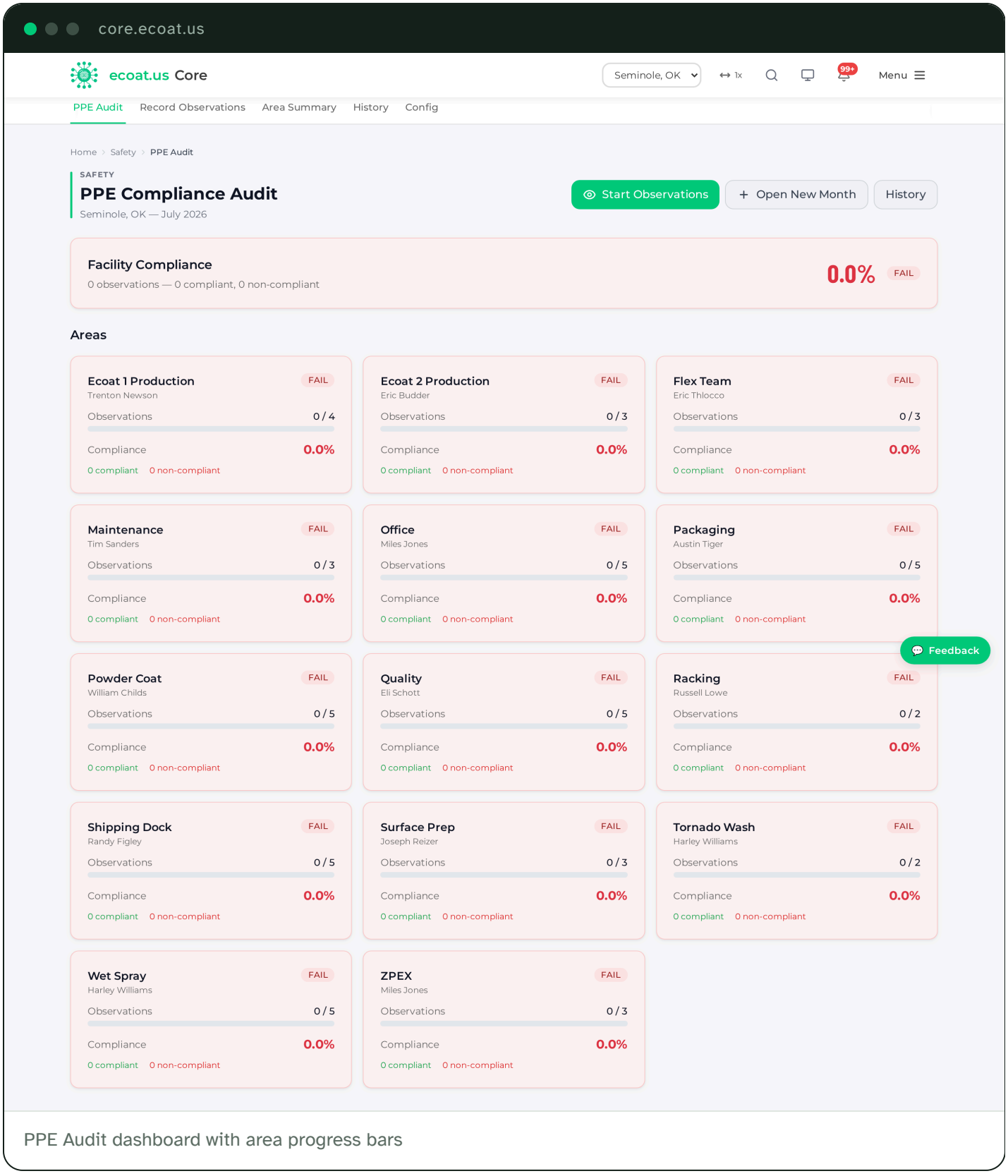
A facility **passes** the monthly PPE audit only when all three of these are true:

- Overall compliance is **95% or higher**
- Every area is at **95% or higher**
- Every area has met its **minimum sample size**

The minimum sample size scales with how many people work in an area:

HEADCOUNT	MINIMUM OBSERVATIONS
1–5	Every employee
6–15	5
16–30	8
31+	15

> **Tip:** Don't leave all your observations to the end of the month. Record a few each week so a busy final day doesn't cost you the audit.



PPE Audit dashboard with area progress bars

Record Observations

This is the mobile-first form you use on the floor to log each person's PPE compliance. It's built for phones and tablets and stays put on your selected area so you can log people one after another.

Record a single observation

1. Select your **facility** and **area**.
2. The required PPE items fill in automatically from that area's configuration.
3. Tap **Compliant** or **Non-Compliant** for the person you're observing.
4. If non-compliant, tap the PPE items they're **missing**.
5. Optionally add the **person's name** and any **corrective action** taken.
6. Tap **Save** and move to the next person.

Batch mode — logging several people quickly

The form keeps your facility and area selected after each save, so you don't re-pick them every time:

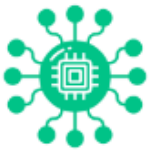
1. Choose the facility and area once.
2. Record the first person.
3. After you save, the form resets for the next person.
4. Keep going until you've hit the area's minimum sample size.

Filling in non-compliance details

When you mark someone **Non-Compliant**:

- **Missing Items** — tick each PPE item not being worn (e.g., Safety Glasses, Steel Toes)
- **Corrective Action** — toggle on if you fixed it on the spot
- **Coaching Completed** — toggle on if you coached the person on the requirement
- **Person Name** — optional, but it helps you spot repeat offenders
- **Comments** — any extra notes

Tip: Recording the name and ticking "Coaching Completed" turns a bare number into a paper trail you can stand behind in a safety review.



ecoa

Tulsa, OK

99+

Menu

PPE Audit | Record Observations | Area Summ

Home > Safety > Record Observations

PPE Observation

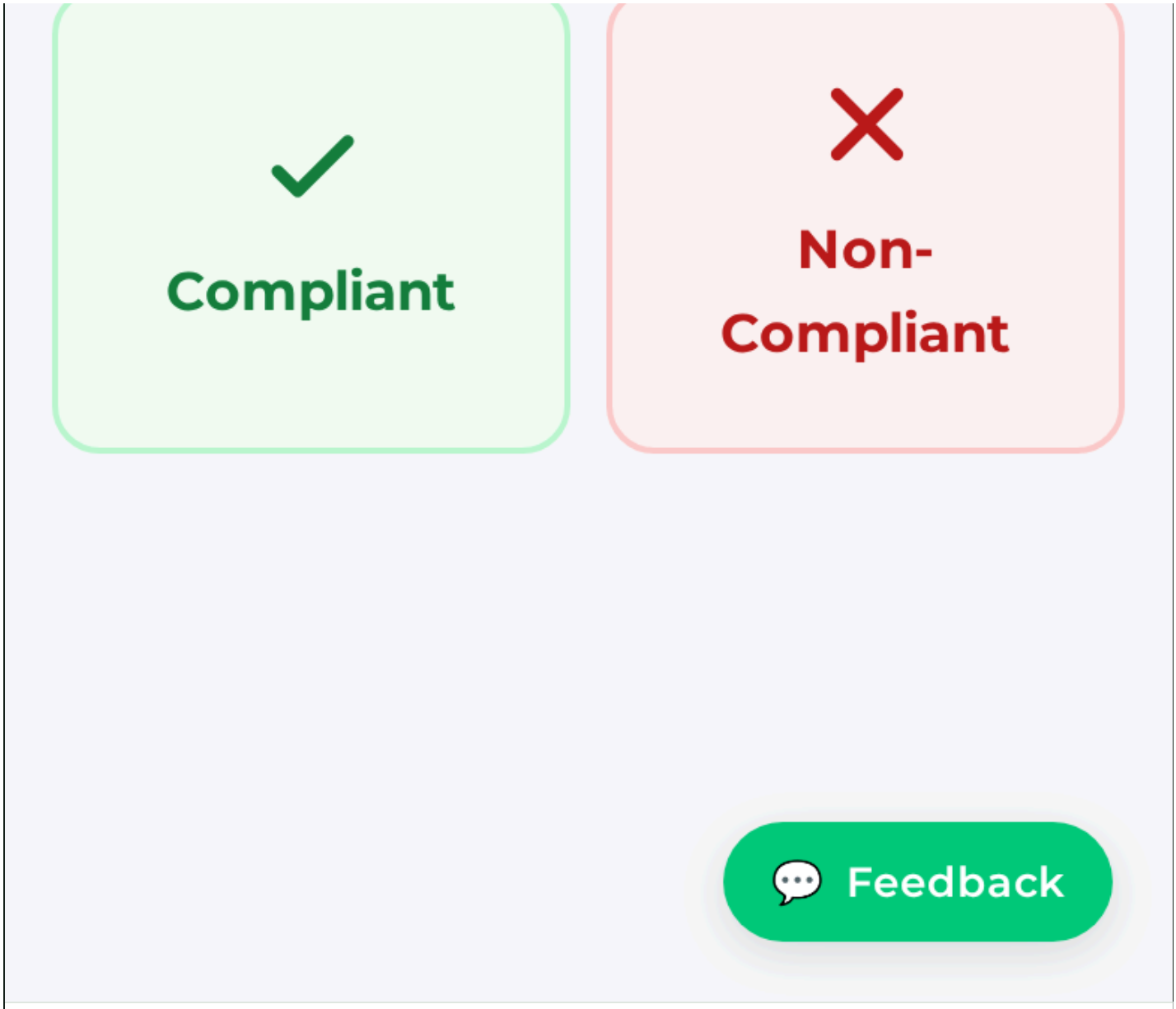
Tulsa, OK

Area

Ecoat Production

Supervisor	Elio
Required PPE	Safety Glasses, Steel Toes
Min Required	5

Observations this session: **0** of 5 minimum



Recording a PPE observation on a phone

Area Summary

The Area Summary breaks a month down area by area so you can see exactly which spots are dragging compliance down.

For a chosen facility and month it shows, per area:

- **Headcount** and the **minimum required** observations

- **Observed** count and progress toward that minimum
- **Compliance percentage**, colour-coded — green at 95%+, yellow 90–94%, red below 90%
- **Pass/Fail** status

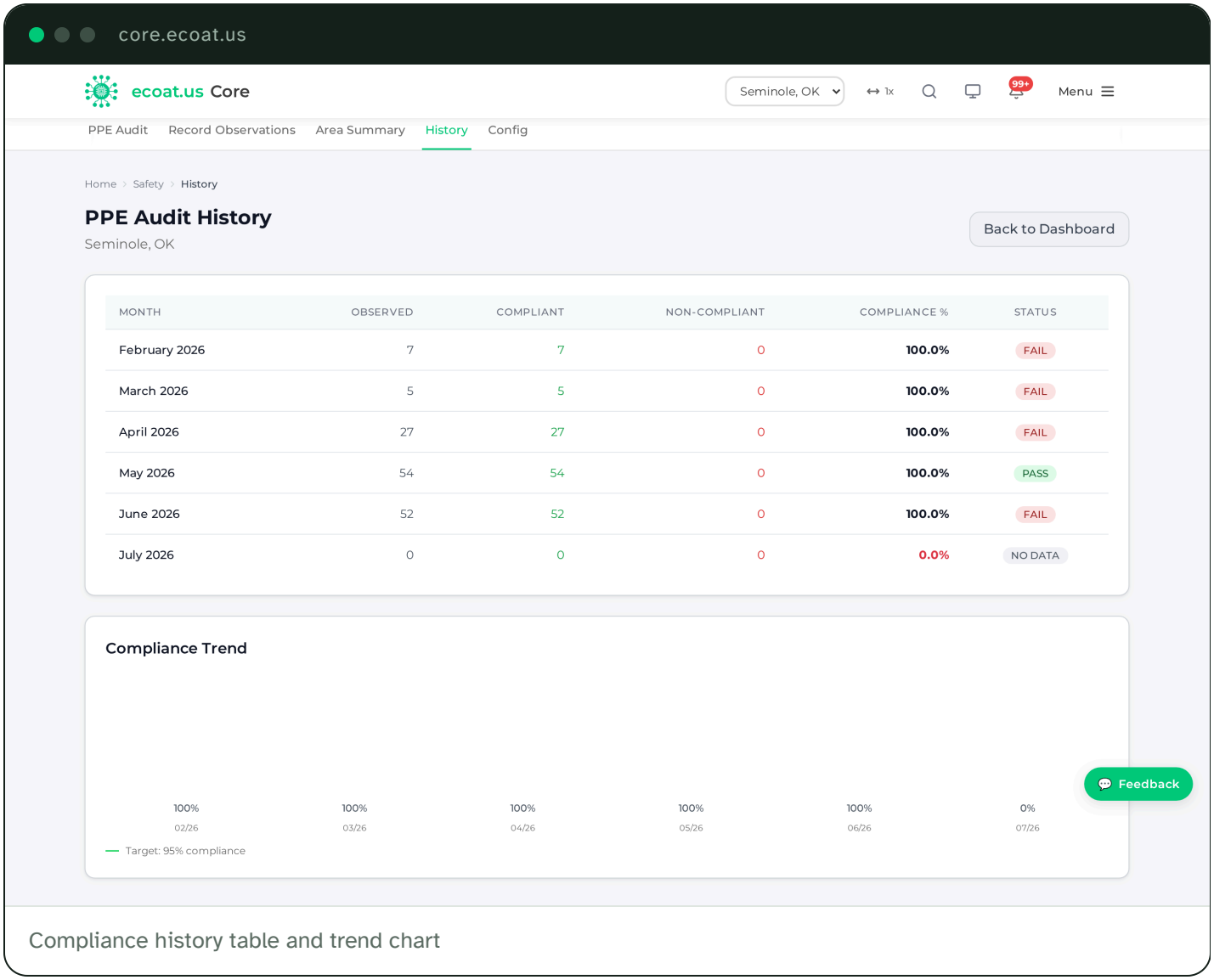
Click any area row to expand it and see the individual observations behind the numbers.

History

The History page shows compliance trends month over month so you can spot patterns instead of just reacting to the current month.

- A **monthly results table** lists total observations, compliance percentage, and pass/fail for each month.
- A **bar chart** visualizes the trend.
- Click any month to drill into that period's **Area Summary**.

> **Tip:** Watch for seasonal dips — a recurring drop in the same month often points to a specific job, crew rotation, or piece of gear that needs a second look.



Compliance history table and trend chart

Configuration

The Config screen defines what each area requires — its headcount, its required PPE, and its supervisor. Getting these right is what makes every audit accurate.

Each area has these settings:

- **Headcount** — number of employees in the area (this sets the minimum sample size)
- **Default Requirements** — the PPE items required, comma-separated (e.g., "Safety Glasses, Steel Toes, Gloves")

- **Area Supervisor** — the supervisor's name, filled in automatically on observations
- **Active** — toggle to include or exclude the area from audits

> **Permissions:** Only admins and safety personnel can change area configurations. Everyone else records observations against the areas that are already set up.

09

⚡ CHAPTER 9

ZNET

ZNET

ZNET is the production-intelligence side of ECOAT Core — it turns your coating-line data into dashboards you can actually use. Every time a bar of parts runs through the line, the line records how much square footage it coated, how many amp-hours it drew, how efficient it was, how the anodes behaved, and more. ZNET collects all of that and shows you production totals, run histories, line diagnostics, statistical process-control charts, anode health, and printable reports.

If you've used the standalone "ZStats" app before, ZNET is that same intelligence, now built into Core.

You'll find it under the **ZNET** tab (its icon is the ⚡ lightning bolt).

> **Permissions:** ZNET is facility-scoped. Most people see only their own plant's data. Multi-facility users and admins also get the fleet-wide **Global ZNET Operations** view. If you have no ZNET access at all, the tab and its Home-page card simply don't appear. The rest of this chapter notes which view you'll land in.

What ZNET is watching

ZNET is built around the electrocoat line. The data it shows comes straight off each run:

- **Runs** — every bar of parts that goes through the line, with its customer, part number, operator, square footage, amp-hours, and cycle time.
- **Efficiency** — how much coating you get per amp-hour (sqft/Ah) and per paint-hour (throughput).
- **Anodes** — the health of the anodes in the tank, scored over time so you can replace them before they fail.
- **SPC (Statistical Process Control)** — control charts that flag when the process drifts out of its normal range.

- **Reports** — printable PDF/CSV summaries you can file or email.

Fleet Overview (Global)

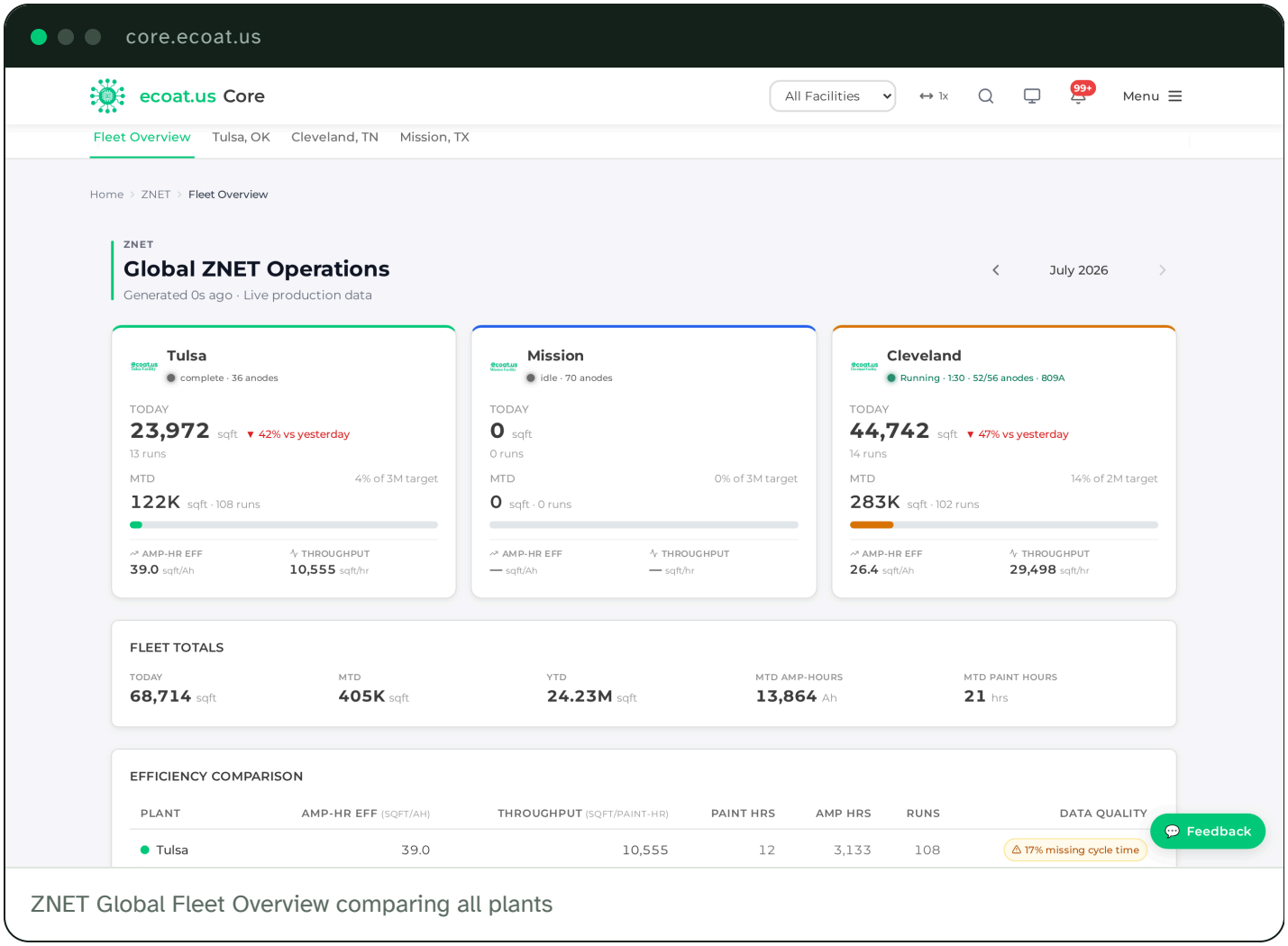
If you have fleet access, ZNET opens on the Global ZNET Operations view — a single screen comparing every plant. The heading reads **Global ZNET Operations**, with month arrows to step back and forward.

You'll see:

- **Fleet Totals** — combined production across all plants for the month.
- **Efficiency Comparison** — a table ranking plants by **Amp-Hr Eff (sqft/AH)**, **Throughput (sqft/paint-hr)**, **Paint Hrs**, **Amp Hrs**, and **Runs**, plus a **Data Quality** indicator (a "Data OK" flag warns when a plant is missing cycle-time data).
- **Anode Health** — a fleet-wide roll-up of healthy / warning / critical anodes.
- **Per-plant cards** — each plant shows its **Today** and **MTD** (month-to-date) numbers and a live status line. When a line is mid-run, the card shows **Running**, the elapsed time, the active anode count, and the current amperage; otherwise it shows idle or offline.

Click any plant to drill into its per-facility view.

> **Tip:** The **Data Quality** column is worth a glance before you trust the efficiency ranking — a plant that's missing cycle times can look artificially good or bad.



ZNET Global Fleet Overview comparing all plants

A single plant's view

Single-facility users land straight on their own plant. However you get here, a plant's data is organized into six tabs across the top:

TAB	WHAT IT SHOWS
Dashboard	This month's production at a glance
Run Log	Every individual run, searchable
Diagnostics	Efficiency trends and operator performance

TAB	WHAT IT SHOWS
SPC	Statistical process-control charts
Anodes	Anode health grid for the tank
Reports	Generate printable PDF/CSV reports

Dashboard

The plant Dashboard shows the current month's **Monthly Production** totals with month arrows to move between periods. Headline figures include **Today**, **This Week**, **Runs**, **Avg / Run**, **Avg Cycle Time**, **Amp-Hours**, **Amp-Hr Eff**, **Throughput Eff**, and **Rework Rate**, along with a daily production trend.

Run Log

The **Run Log** lists every run for the month in a sortable table. Columns are **Run #**, **Date**, **Customer**, **Part #**, **SqFt**, **Amp-Hrs**, and **Operator**. Use **Search runs…** to find a specific run, customer, or part, and click a column header to sort. Runs pulled automatically from the line are tagged "Auto-logged run from ZNET Web."

Diagnostics

Diagnostics digs into *why* the numbers look the way they do. It shows a **Coating Efficiency** trend and an **Operator Performance** table with each operator's **Total SqFt**, **Runs**, **Avg SqFt/Run**, **Avg Cycle**, and **Rework %**.

SPC (Statistical Process Control)

The SPC Control Charts tab tells you whether the process is behaving. Pick a metric — **Efficiency** or **Current Imbalance** — a time window (**7**, **30**, or **90** days), and a chart type (**EWMA** or **CUSUM**). The chart plots each run against calculated control limits and flags any points that break the control rules, so a drift shows up before it becomes scrap. A **Cpk** capability badge summarizes how well the process is holding to spec.

> **Tip:** EWMA is best for catching small, gradual drifts; CUSUM highlights a sustained shift away from the target. If a metric trips a violation, check the Run Log and Diagnostics for that period to find the cause.

Anodes

The Anodes tab shows the health of every anode in the tank. Each anode gets a health score and a status — **Healthy**, **Warning**, **Critical**, or **Inactive** (never fired). A **Range** selector lets you score anodes over a specific date range. Click any anode to open its detail page, which shows its cumulative amp-hours, percent of life remaining, an estimated replacement date, and its recent cycle history.

> **Tip:** Watch anodes that slide from Healthy into Warning — replacing one on a planned basis is far cheaper than a Critical failure that halts the line.

Reports

The Reports tab generates printable production reports you can save or email. Choose a **Report Type**:

- **Monthly Summary** — a full monthly production report with the KPI summary, daily breakdown, operator performance, and run statistics. Available as **PDF** or **CSV**.
- **Anode Heat-Map** — a date-range snapshot of anode health as a colour-coded grid, with per-anode scores and amp-hours and a worst-first ranking table. **PDF only.**

Pick the month (or date range for the heat-map), choose the format, and click **Generate Production Report**. The file downloads to your device.

The Home-page ZNET card

Your Home dashboard carries a ZNET card (⚡) so you get the headline without opening the module. What it shows follows your scope:

- **Single-facility users** see their plant name, its **MTD sqft** and **Today** totals, **MTD runs**, and an **Anode alerts** line counting critical and warning anodes.
- **Fleet users** see "Fleet production intelligence" with the fleet totals plus a one-line-per-plant breakdown, each showing MTD sqft and any anode alerts.

Click the card to jump straight into ZNET — to your plant if you're single-facility, or to the Global view if you have fleet access. If the data is briefly unavailable, the card says so rather than showing stale numbers.

> **Permissions:** The card only appears if you have ZNET access, and it always respects your facility scope — you'll never see a plant on it that you can't open.

10

🖥️ CHAPTER 10

IT

IT

The IT module is your help desk. When something's broken — a login won't work, a printer's offline, an app is misbehaving — this is where you file a ticket and track it to resolution. It also holds a searchable **FAQ** of answers to common questions, and (for IT staff) a **Devices** registry of the company's enrolled machines.

You'll find it under the **IT** tab. Opening it drops you on the **Help Desk** by default. Everything here is available to any signed-in user; a few staff and admin screens are noted along the way.

Getting help fastest

Before you file a ticket, it's worth a 10-second look at the **FAQ** — if the answer's already there, you're unblocked immediately. If it isn't, filing a ticket takes under a minute. Here's the quick path:

1. Open the **IT** tab.
2. Check the **FAQ** for your issue.
3. If it's not answered, click **Submit an IT request** and describe the problem — the more detail, the faster it gets solved.

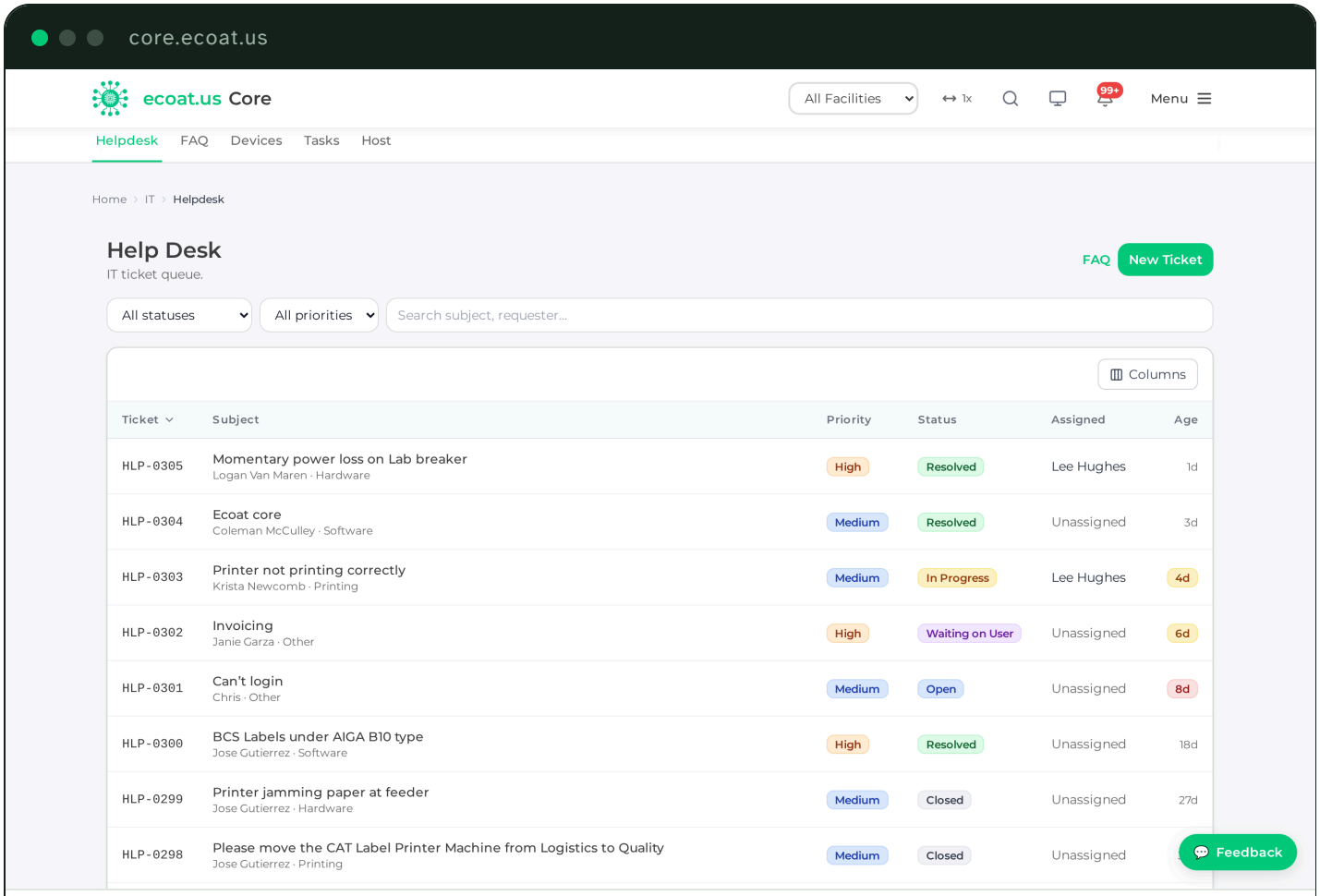
> **Tip:** A good ticket names the device or app, what you were doing, and the exact error message. That's usually the difference between a same-day fix and a day of back-and-forth.

Help Desk — the ticket queue

The Help Desk (`/it/helpdesk`) lists IT tickets so you can see what's open and what's been done.

- **Search** by subject or requester with the search box ("Search subject, requester…").
- **Filter** by status (Open, In Progress, Waiting on User, Resolved, Closed — plus All statuses) and by priority (All priorities, or Low/Medium/High/Urgent).
- Each row shows the **Ticket**, **Subject**, **Status**, **Priority**, and whether it's **Assigned** or **Unassigned**.

Click any ticket to open its detail page.



IT Help Desk ticket queue with filters

Create a ticket

Click "Submit an IT request" (`/it/helpdesk/new`) to file a new ticket. The form is short:

1. **Subject** — a short summary of the problem.
2. **Category** — pick the area it falls under from the dropdown.
3. **Priority** — Low, Medium, High, or Urgent (defaults to Medium).
4. **Description** — the details. The prompt asks: "What happened? Any error messages, and which device/app?"
5. Submit.

Below the form, **Your recent tickets** shows what you've filed lately (or "You haven't filed any tickets yet." if you're new), so you can jump back into an existing conversation instead of opening a duplicate.

> **Tip:** Reserve **Urgent** for things that stop you working entirely. Overusing it makes it harder for IT to spot the real emergencies.

Track a ticket

Open any ticket to see its full detail and conversation. The page shows the subject, current **Status**, **Priority**, and who it's **Assigned to**.

- The **Conversation** section is the running thread. Add a reply in the "Add a reply..." box to ask a question or give more information.
- You'll see updates as IT works the ticket, right through to Resolved and Closed.

> **Permissions:** IT staff also see a **Staff controls** panel on the ticket, where they change status, assign the ticket, add an **Internal note** (not shown to the requester), and — where relevant — generate a password-reset link. Regular users just see the conversation and their own replies.

FAQ

The IT FAQ (`/it/faq`) collects answers to common IT questions so you can self-serve.

1. Browse the list, or use **Search the FAQ...** to find a topic.
2. Filter by category if you like.
3. Click an article to read it.

At the bottom of each article, tell IT whether it helped with the **Helpful** / **Not helpful** buttons. That feedback helps them improve the answers over time.

Devices

The Devices registry (`/it/devices`) is IT's inventory of enrolled company machines — laptops, workstations, and kiosks across the fleet.

- The list shows each machine's **Hostname**, **Owner**, **Location**, **Status**, and **Last seen**, with filters for location and status.
- Click a device to open its detail page, which shows its operating system, kernel, uptime, memory, disk, pending updates, Tailscale IP, agent/service heartbeat, and a full **Audit trail** of actions taken on it.

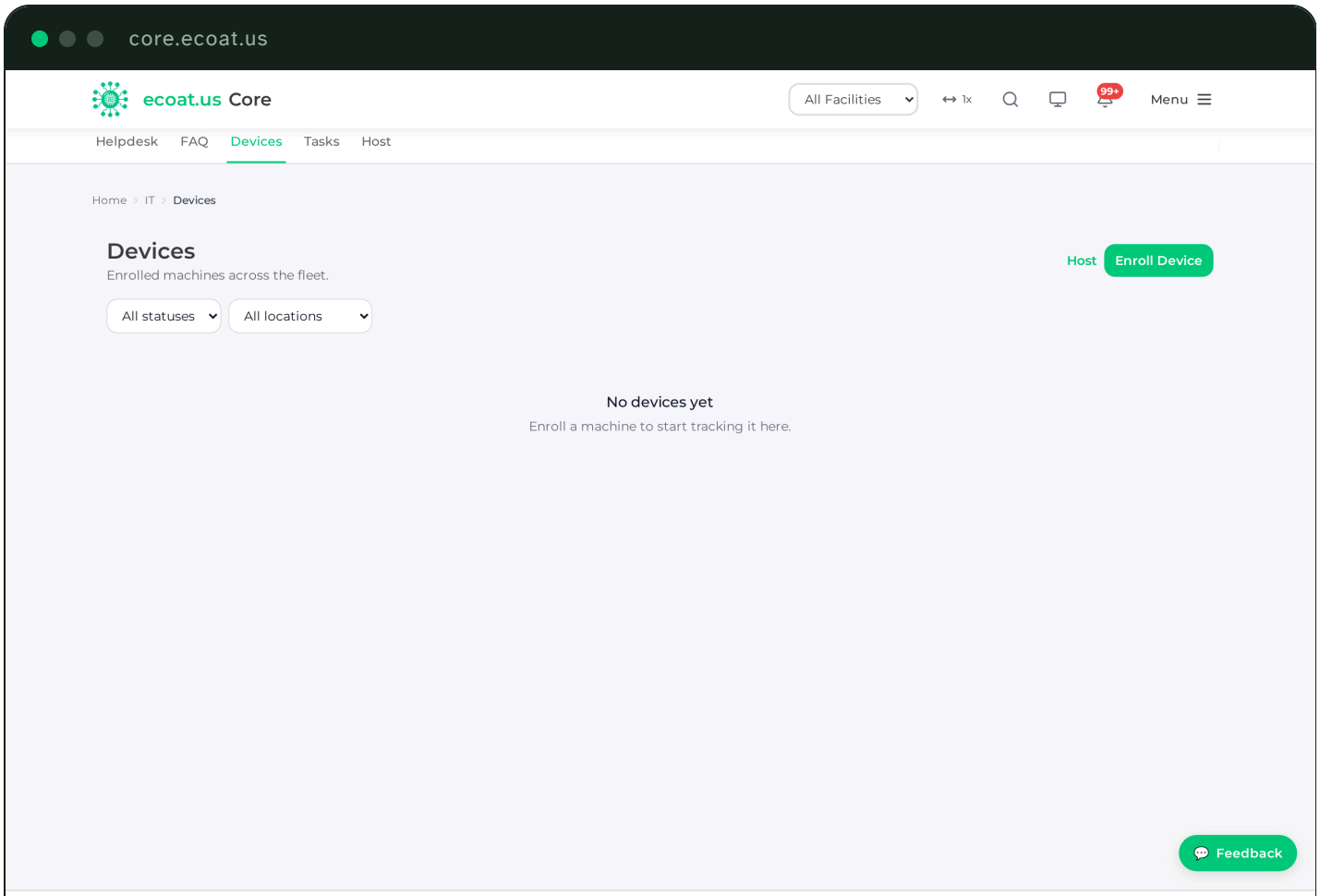
> **Permissions:** Devices is a staff screen (it needs IT-module access). Most staff can view devices and their history; retiring a device and proposing maintenance tasks are done from the detail page.

Enrolling a new device

Enrollment (`/it/devices/enroll`) is admin-only. It works by generating a one-time command you run on the machine being added:

1. Open **Devices** and choose **Enroll a Device**.
2. Fill in the **Owner name**, **Owner email**, and **Location**.
3. Click **Generate enrollment command**.

4. Copy the generated command and run it on the target machine — it registers the device and it then appears in the Devices list.



Enrolling a new device in IT

> **Permissions:** The **Host Dashboard** and **Tasks** screens are additional staff tools for monitoring hosts and managing proposed device tasks. Filing tickets and reading the FAQ need no special role — everyone can do those.

> **Note:** Unlike ZNET, IT does not have a dedicated card on the Home dashboard — you reach it through the **IT** tab in the top navigation. Notifications about your own tickets and feedback surface through the bell/notification area instead.

CHAPTER 11

11 Admin & Feedback

Admin & Feedback

This chapter has two halves. The first is for **everyone** — what happens to the feedback you send about CORE. The second is the **admin corner**: a set of behind-the-scenes settings screens that only administrators can open. If you're not an admin, the admin section won't appear for you, and that's fine — you can skip to whatever you need.

What happens to the feedback you send (for everyone)

CORE has a built-in "Send feedback" button so you can tell the team what's working, what's broken, and what you'd like to see. You'll find it available throughout the app.

Send feedback

1. Click **Send feedback**.
2. Pick a category — **Question**, **Issue**, **Idea**, **Praise**, or **Other**.
3. Type your message. If it's a problem, say what you were trying to do (the prompt reads: "What's on your mind? If it's an issue, what were you trying to do?").
4. Send it. CORE automatically notes which page you were on, so you don't have to explain where you were.

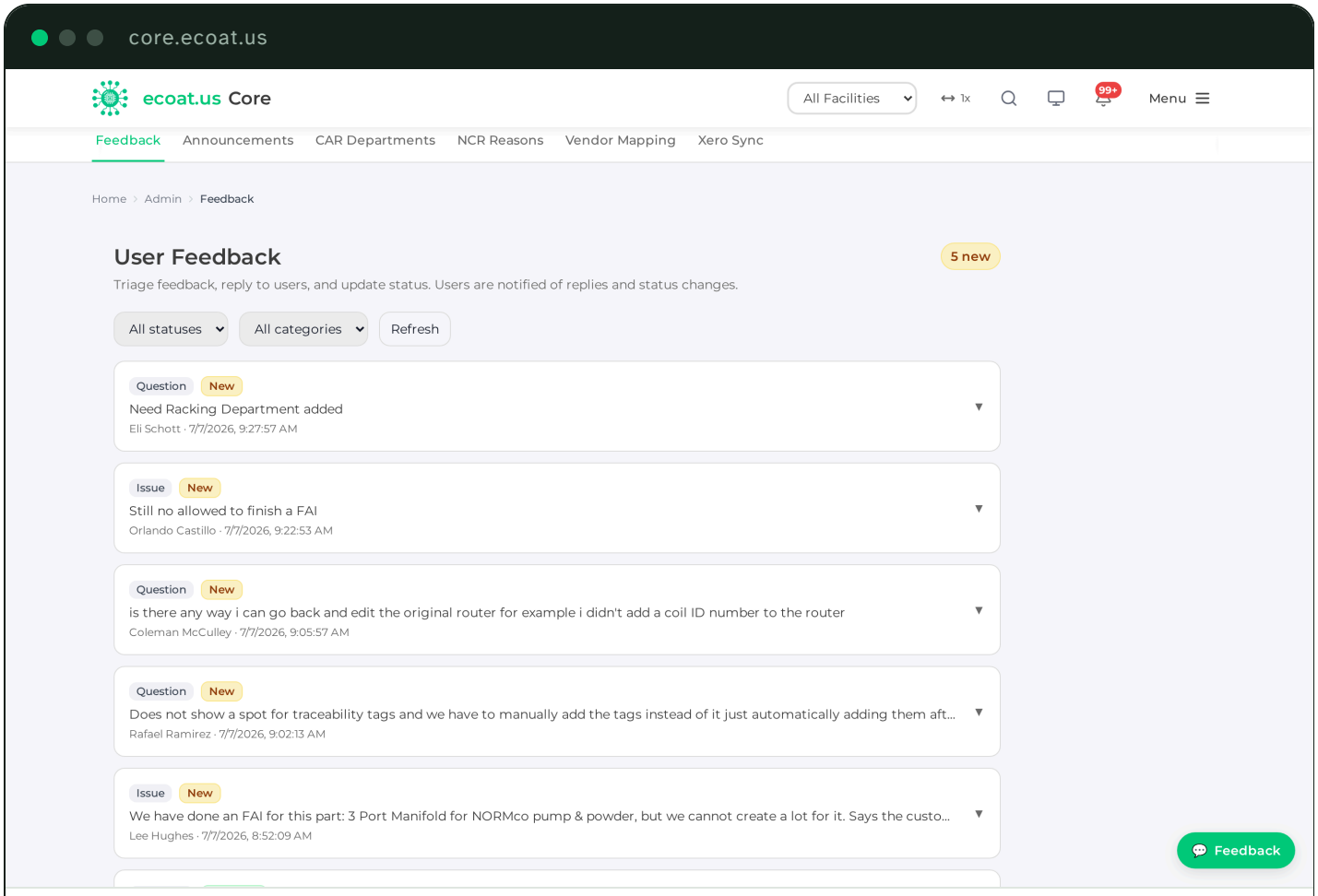
What happens next

Your feedback goes into a triage queue that admins work through. When an admin replies or changes the status of your submission, **you're notified — the reply lands in your email and in the app.**

To see the whole conversation, open **My Feedback** (`/feedback/mine`). It lists everything you've submitted along with any replies, and you can keep the thread going with the "Add to the conversation…"

box. The notification bell links you straight here.

> **Tip:** Feedback isn't a black hole — a real person reads every item and can reply to you directly. If you're not sure whether something's a bug or just how it works, "Question" is a perfectly good category to pick.



My Feedback showing a reply thread

The admin corner (for admins)

The following screens live under the Admin menu and require administrator access (an `@ecoat.us` admin account). They control the option lists, mappings, and integrations that the rest of CORE depends on. Changes here ripple across every user, so go carefully.

Feedback triage

Route: `/admin/feedback` · **Admin only**

This is the other end of the feedback flow above. The **User Feedback** page lets you "*Triage feedback, reply to users, and update status. Users are notified of replies and status changes.*"

- **Filter** the queue by **status** and **category**. A count of new items helps you see the backlog at a glance.
- Each item carries a **status**: **New**, **Reviewed**, or **Resolved**. Change it as you work the item.
- **Reply** to the submitter in the "Write a reply to the user..." box. Your reply is added to the thread **and emailed to the person who submitted it** — this is the threaded, two-way conversation they see in My Feedback.

> **Tip:** Move an item to **Reviewed** once you've read it and **Resolved** when it's done. Because status changes notify the user, they always know their feedback didn't vanish.

Announcements

Route: `/admin/announcements` · **Admin only**

Create the IT announcements that appear on everyone's dashboard — the banners for outages, maintenance windows, and company notices. You set a title, message, type (Info, Warning, Critical, Maintenance), priority, optional start/expiry dates, and which facilities see it. This module is covered in full in its own help topic; the short version is that higher-priority announcements show first, and setting an expiry date keeps the dashboard tidy.

CAR Departments

Route: `/admin/car-departments` · **Admin only**

Maintains the list of departments that a Corrective Action Request (CAR) can be assigned to. Add, rename, or remove departments here. A department that has active CARs against it can't be deleted.

NCR Reasons

Route: `/admin/ncr-reasons` · **Admin only**

Maintains the reason codes for Non-Conformance Reports (NCRs). Add or edit reason codes and toggle them active or inactive — an inactive reason simply drops out of the dropdown when someone creates an

NCR, without affecting past records.

Vendor Mapping

Route: `/admin/vendor-mapping` · **Admin only**

Links a vendor name in CORE inventory to its matching **Xero contact**, per facility. This mapping is what lets a purchase order sync to Xero automatically: when a PO is submitted, CORE looks up the vendor here, and if a mapping exists it creates a draft PO in the right facility's Xero organization. No mapping means the PO still saves locally but won't reach Xero. This module has its own detailed help topic.

GL Codes

Route: `/admin/gl-codes` · **Admin only**

Manages the **general-ledger (GL) codes** that CORE offers when you assign an item to an accounting bucket. The page shows an overview of your codes broken down by cost category, plus the full catalog. Each code carries a **GL Number** (e.g., 121110), a **Description** (e.g., "Ecoat Inventory"), an **Account Group**, an **Account Type**, and optional **Notes**.

- **Search** by GL number, description, or group.
- **Add or edit** a code and set its group, type, and description.
- Only assigned codes appear in the Items dropdown; the page also flags codes that still need assignment ("Other/Do Not Know plus empty rows").

> **Tip:** Keep the description meaningful — it's what buyers and accounting see in the Items dropdown, so a clear label prevents mis-coded inventory.

Xero Sync

Route: `/admin/xero-sync` · **Admin only**

Sync to Xero by E-PN is a manual tool for pushing specific inventory items to Xero on demand. As the page explains: "*Push specific items to Xero by ECOAT part number. Each E-PN is pushed at every facility it exists at, to that facility's Xero organization. Safe to re-run — it updates the existing Xero item if one already exists.*"

1. Paste one or more **ECOAT part numbers** (E-PNs) into the box — commas, spaces, or new lines all work (e.g., `E000035, E000036, E000362`).
2. Optionally leave **Refresh last-purchase price before pushing** checked (recommended).
3. Click **Push to Xero**.
4. A results table shows each part's **Status** — a green ✓ **Synced**, or the Xero item / error if something went wrong.

> **Tip:** Because the push is safe to re-run, use this whenever an item's details or price changed and you want Xero to catch up — it updates the existing Xero item rather than creating a duplicate.
>
> **Permissions:** Every screen in this section is administrator-only. Regular users interact with the *results* of these settings — the announcements on their dashboard, the reason codes in a dropdown, the reply in their inbox — but never these configuration pages themselves.
>
> **Note:** Automatic Xero PO sync is currently disabled — vendor mappings are kept current for when it returns, but today every submitted PO is entered in Xero manually via the Buyer Worklist.
