AMS CONTROLS

ECLIPSE PRO™

MES

From Manufacturing Data to Better Decisions

TRAINING PRESENTATION

Why Eclipse PRO?

88%
MARGIN
Pressure from tighter pricing

72%
LABOR
Stretched teams and shortages

64%
LEAD TIME
Highlighted business constraint

51%
MATERIAL
Scrap has a larger cost impact



BUSINESS PRESSURE

- Tighter margins
- Shorter lead times
- Labor stretched
- Material cost makes scrap painful



VISIBILITY GAP

- Busy is not productive
- Manual reporting misses short stops
- Hidden capacity is already on the floor

The Manual Reporting Issue

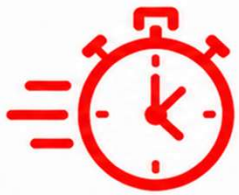
WITHOUT AUTOMATED METRICS

- Operators estimate downtime
- Small stops disappear
- Run time is confused with production time
- Root causes are debated after the fact

WITH MACHINE DATA

- Machine states are captured automatically
- Losses are time-stamped and categorized
- Patterns become visible over days and weeks
- Teams can make decisions from the same facts

Hidden Capacity



SHORT STOPS

Lost time that rarely gets counted



SETUP INEFFICIENCY

Time and effort between jobs



IDLE BLOCKS

Capacity waiting for flow



UTILIZATION

Space for improvement

Results & Root Causes

OUTCOME METRICS
What happened?

- Parts produced
- OEE / availability / quality
- On-time completion
- Scrap and rework
- Cost per job

BEHAVIOR METRICS
Why did it happen?

- Machine states
- Cycle-time distributions
- Stop frequency and duration
- Sensor trends
- Operator / material / maintenance events

Outcome Verses Behavior



Sears

Had the customers and the data.

- Massive retail business
- Millions of customers
- Decades of purchase history

Focused on outcomes.
What sold? How many units?

SAME CUSTOMER DATA

DIFFERENT APPROACH



Amazon

Built a business around understanding customer behavior.

- Tracked what customers searched for
- Identified what customers wanted
- Optimized inventory, pricing and logistics.

Focused on behavior.
What they might want next.

AMS CONTROLS

Predictive Manufacturing

REACTIVE

- Fix after failure
- Use reports after the shift
- Rely on memory and estimates
- Respond to surprises
- Repeat the same losses

PREDICTIVE

- Detect change early
- Review live trends
- Prioritize by impact
- Plan interventions
- Improve the system daily

Improvement Path

1 → 2 → 3 → 4 → 5

1 CAPTURE

Run / idle / stop states

2 CLASSIFY

Downtime reason and context

3 REVIEW

Daily trend and top losses

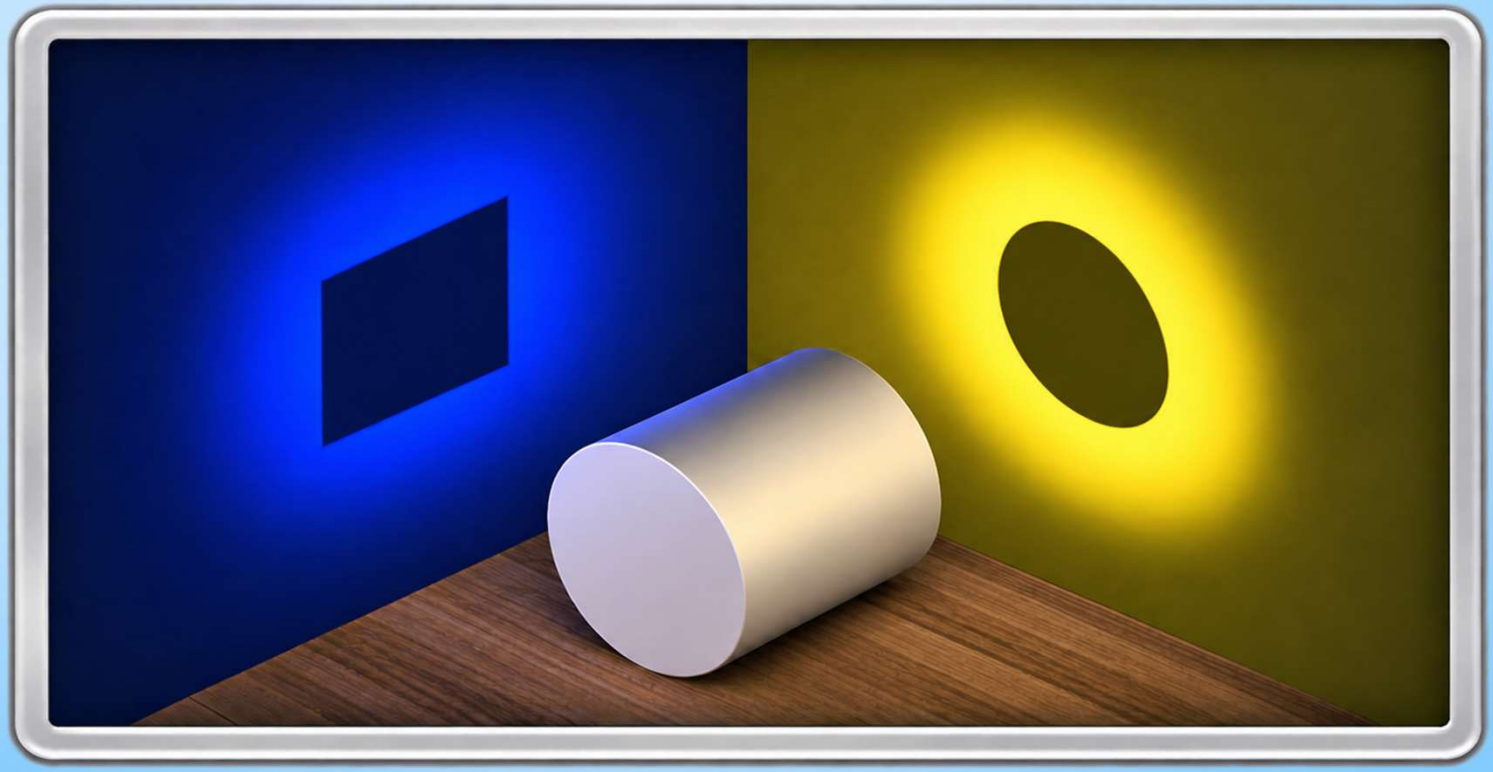
4 ACT

Assign actions to owners

5 EXPAND

Add sensors, maintenance, analytics

How is Eclipse PRO Viewed?



AMS CONTROLS

Real Time Metrics

&

ECLIPSE PRO™

MES Solution

Types of Data



MACHINE SIGNAL

Sensors, PLC tags, controller events.



EVENT CAPTURE

Time-stamped events and states



CONTEXT LAYER

Job, operator, coil, material, reason codes

Process Variables

AMS CONTROLS

XL200 ROLLFORMING CONTROLS

Pathfinder™ FOLDING MACHINE CONTROLS

MACHINE BUDDY™

MACHINE BUDDY™



Rollformer



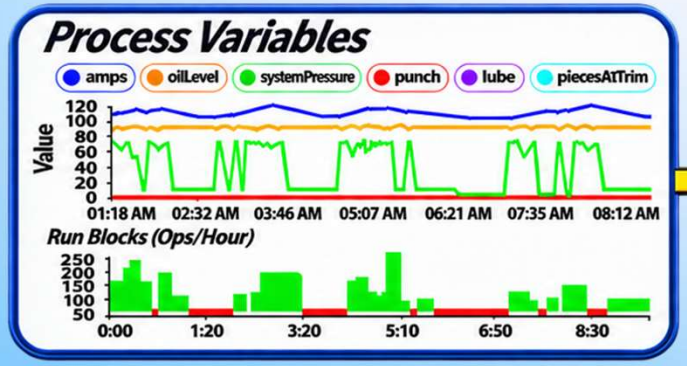
Folder



Press Brake



CNC Machine





Export

CMMS PM

Eclipse PRO Dashboard

Real-Time Visibility | Deeper Insights | Actionable Metrics



The Big Picture

Overall performance across your entire operation

Drill Down

Dive into a specific machine for detailed performance

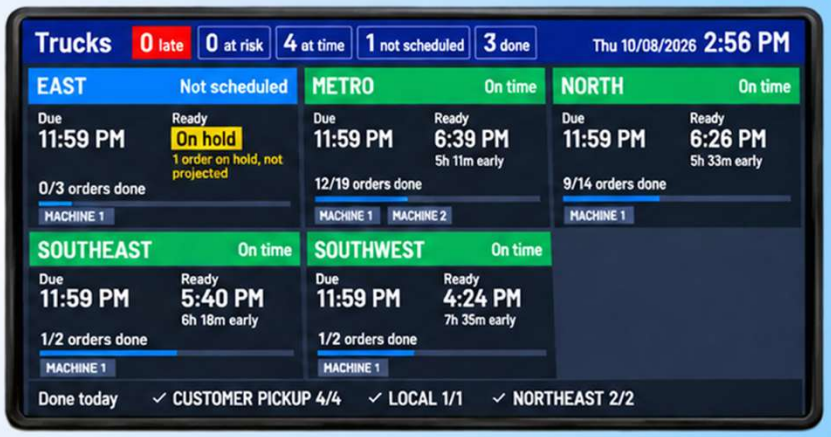
Expand Metrics

Explore trends, schedules, and deeper analytics

Eclipse PRO™ Andon Screens

AMS CONTROLS







Andon = Empowering All

Andon Display

- Japanese word for “paper lantern”
- Immediate attention to problems as they occur in the manufacturing process
- Simple & consistent mechanism for communicating information
- Encourage immediate reaction to issues
- Improve accountability of operators by increasing their responsibility for “good” production
- Empower operators to take action when problems occur
- Improve the ability of supervisors to quickly identify and resolve manufacturing issues

Real-Time Machine Andon Screens

Give operators and teams a clear view of what’s running, what’s down, and what to work on next.



Spot Issues Immediately | **Respond Faster and Reduce Downtime** | **Keep Production on Track**

Production Data & ECLIPSE PRO™ MES Solution

AMS CONTROLS

ECLIPSE PRO™ MES



AMS CONTROLS

ECLIPSE PRO™

MES

Manufacturing Execution System (MES)



Schedule Production | Track Production in Real Time | Control Equipment | Collect & Store Production Records

The Eclipse Pro Manufacturing Ecosystem

AMS CONTROLS

- Sales
- Accounting
- Shipping
- Inventory
- Design Software
- Analytics
- Preventative Maintenance
- Quality Assurance

ECLIPSE PRO MES

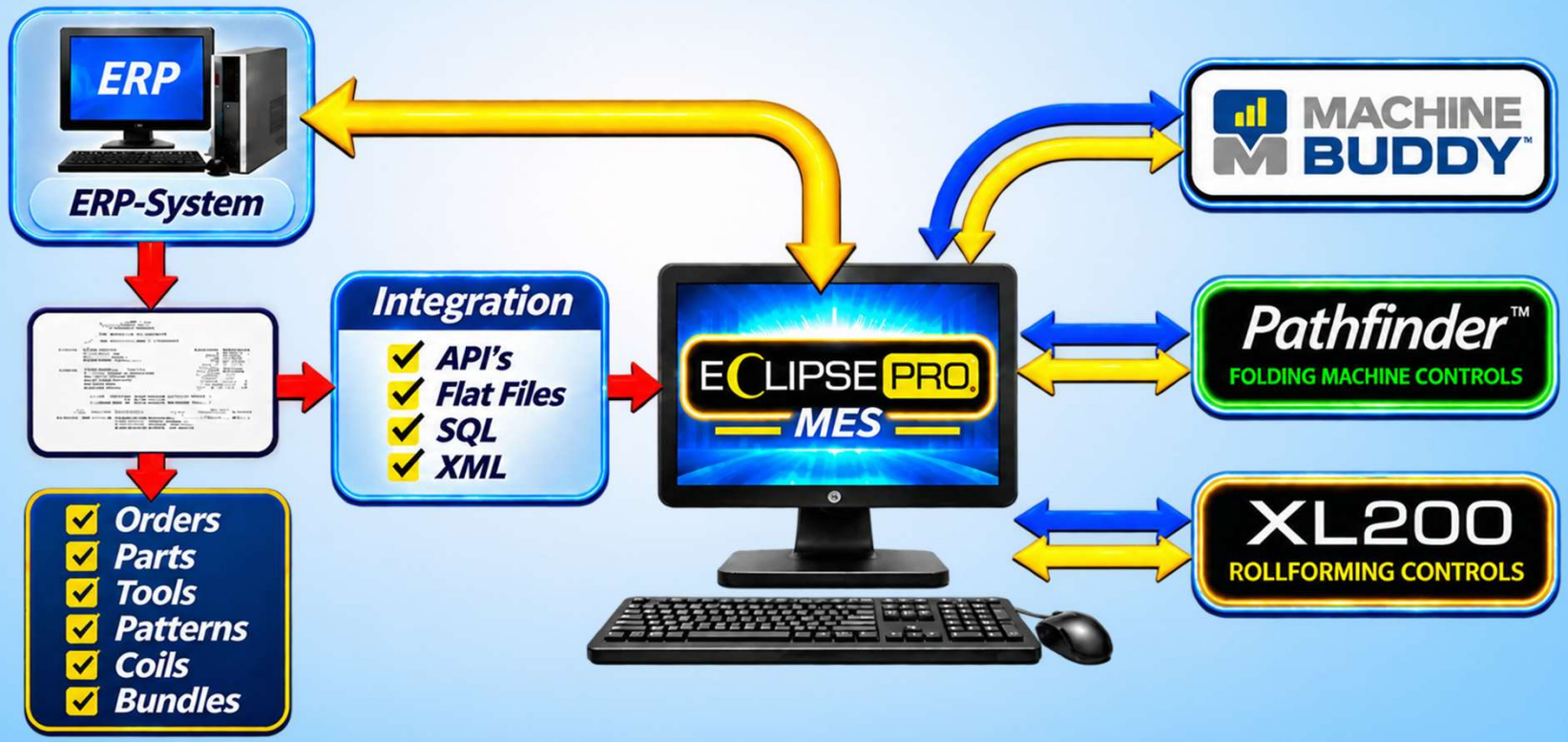
- Machine Controls
- Bar Code Scanners
- Part Marking
- Label Printers
- Quality Measurement
- Information Displays
- Mobile Terminals

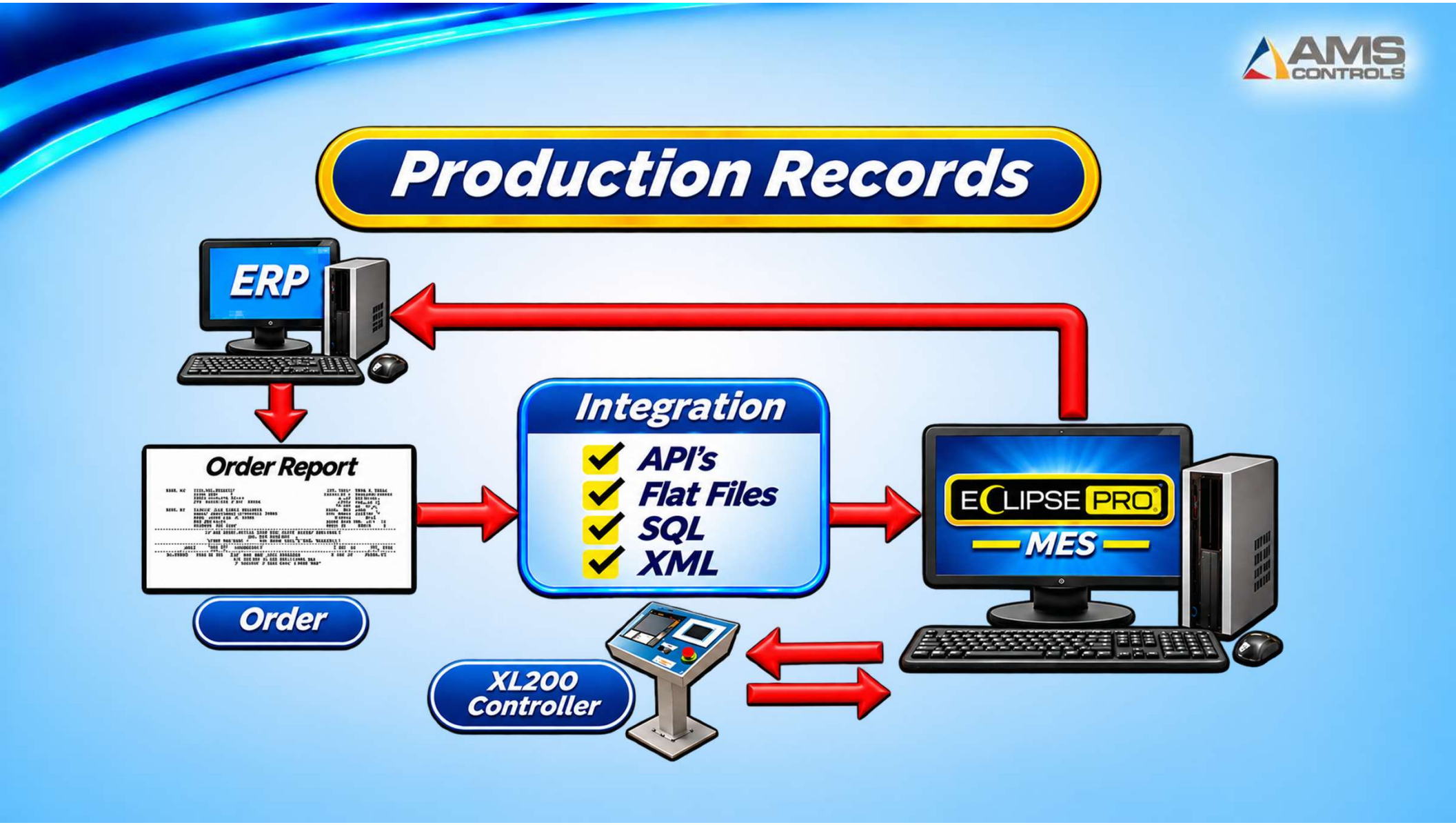
What is Eclipse PRO Good For?



- Mistake-Proofing
- On-Time Deliveries
- Perfect Accounting & Inventory Control
- Eliminating Waste / Growing Capacity
- Flexibility
- Management Focus & Capital Spending
- Continuous Improvement

Eclipse PRO Data Flow




AMS CONTROLS
Production Records
ERP
Order Report
Order
Integration
API's
Flat Files
SQL
XML
ECLIPSE PRO
MES
XL200 Controller

Production Logs

View pre-sorted production records in four locations:

Production Logs

By Order

*Production records grouped and sorted by **Order**.*

PRODUCTION LOG – *Orders*

Type	Date	Order	Material	Consumed	Duration
shiftStart	11/06/2026 5:03	04EZ3SLE5	26G-28-RED	0.00 ft	0.00
loadCoil	11/06/2026 5:14	04EZ3SLE5	26G-28-MATBLA	0.00 ft	0.00

By Coil

*Production records grouped and sorted by **Coil**.*

PRODUCTION LOG – *Coils*

Type	Date	Coil	Material	Consumed	Duration
returnCoil	11/06/2026 5:13	CGD6VWQMS	26G-28-RED	0.00 ft	0.00
manualShear	11/06/2026 5:16	CODVPZZBE	26G-28-MATBLA	2.51 ft	0.00

By Material

*Production records grouped and sorted by **Material**.*

PRODUCTION LOG – *Material*

Type	Date	Material	Order	Consumed	Duration
manualShear	11/06/2026 5:16	26G-28-MATBLA	04EZ3SLE5	2.51 ft	0.00
manualHalt	11/06/2026 5:18	26G-28-MATBLA	04EZ3SLE5	26.04 ft	1.25

By Machine

*Production records grouped and sorted by **Machine**.*

PRODUCTION LOG – *Machines*

Type	Date	Machine	Order	Consumed	Duration
shiftStart	11/06/2026 5:03	MA-1	—	0.00 ft	0.00
delay	11/06/2026 5:16	MA-1	04EZ3SLE5	0.00 ft	13.85

ERP-Integration Gantt Chart

Project / Task Name	Dur	%	Start
Phase 1 – Project Initiation	**5 d**	**100%**	
Kickoff & Scope Definition	1 d	100%	
Stakeholder Alignment	1 d	100%	
Requirements Review	2 d	100%	
Integration Strategy	1 d	100%	
Phase 2 – ERP Integration Design	**10 d**	**100%**	
Map ERP Data (Orders, Parts, Materials)	3 d	100%	
Define API / Flat File / Web Hook	2 d	100%	
Data Schema & Field Mapping	3 d	100%	
Integration Design Review	2 d	100%	
Phase 3 – Development & Configuration	**15 d**	**75%**	
Build ERP Interface	6 d	100%	
Configure Eclipse Pro (MES)	4 d	100%	
Controller / Machine Tag Mapping	3 d	50%	
Unit & System Testing	2 d	0%	
Phase 4 – Testing & Validation	**10 d**	**0%**	
End-to-End Production Test	5 d	0%	
Order Flow Validation	2 d	0%	
Data Accuracy & Reporting Check	2 d	0%	
User Acceptance Test (UAT)	1 d	0%	
Phase 5 – Training & Go-Live	**5 d**	**0%**	
Operator Training	2 d	0%	
Supervisor / Admin Training	1 d	0%	
Go-Live Preparation	1 d	0%	
Production Go-Live	1 d	0%	
Phase 6 – Stabilization & Support	**10 d**	**0%**	
Post Go-Live Monitoring	5 d	0%	
Performance Review	2 d	0%	
Optimization & Adjustments	2 d	0%	
Handoff to Operations	1 d	0%	

Finish — Mar: 3 10 17 24 31 | Apr: 7 14 21 28 | May: 5 12 19 26 | Jun: 2 9 16 23 30 | Jul: 7 14 21 28

Paragon–Eclipse Integration

Readiness view, generated on 24 Jan 2026

ACTIONS	ASSIGNEE	EST	START	DUE	%
Phase 1 – Setup & Testing (Paragon)					
Install Eclipse Clasic/Pro Setup	Installation	16 hrs	3 Mar		100%
Review/Validate Customer Site Setup	J. Green	12 hrs	5 Mar		100%
Eclipse Training	Wayne Green	16 hrs	7 Mar		100%
System Online Entry	Wayne Green	8 hrs	9 Mar		100%
Test Run – Sending Orders to the Folder	Wayne Green	24 hrs	11 Mar		100%
Review/Coach Plan Before Startup	Wayne Green	8 hrs	14 Mar		100%
Test & Train to Communication between Paragon & Eclipse Pro	R. & M.	8 hrs	18 Mar		75%
Test Sending Orders from Eclipse to the Controller	R. & M.	8 hrs	19 Mar		75%
Test Sending Orders from Paragon to the Folder	R. & M.	8 hrs	19 Mar		75%
Test Reading Orders for the Controller Interface	R. & M.	8 hrs	20 Mar		75%
Test Reading Orders from Eclipse to Paragon	R. & M.	8 hrs	21 Mar		75%
Setup if Paragon					
Enter all Orders	J. B.	8 hrs	24 Mar		0%
Enter all Purchases	J. B.	8 hrs	25 Mar		0%
Enter all Inventory	J. B.	8 hrs	26 Mar		0%
Setup Inventory/Import for Users, Coils and Materials	J. B.	8 hrs	27 Mar		0%

Mar 2026: 10 17 24 31 | Apr: 7 14 21 28 | May: 5 12 19 26 | Jun: 2 9 16 23 30 | Jul: 7 14 21 28

Install Eclipse Classic/Pro Setup
Review/Validate Customer Site Setup
Eclipse Training
System Online Entry
Test Run – Sending Orders to the Folder
Review/Coach Plan Before Startup
Test & Train to Communication
Test Sending Orders to Controller
Test Sending Orders from Paragon
Test Reading Orders for Controller
Test Reading Orders from Eclipse
Enter all Orders
Enter all Purchases
Enter all Inventory
Setup Inventory/Import

Progress

Current Expected Today

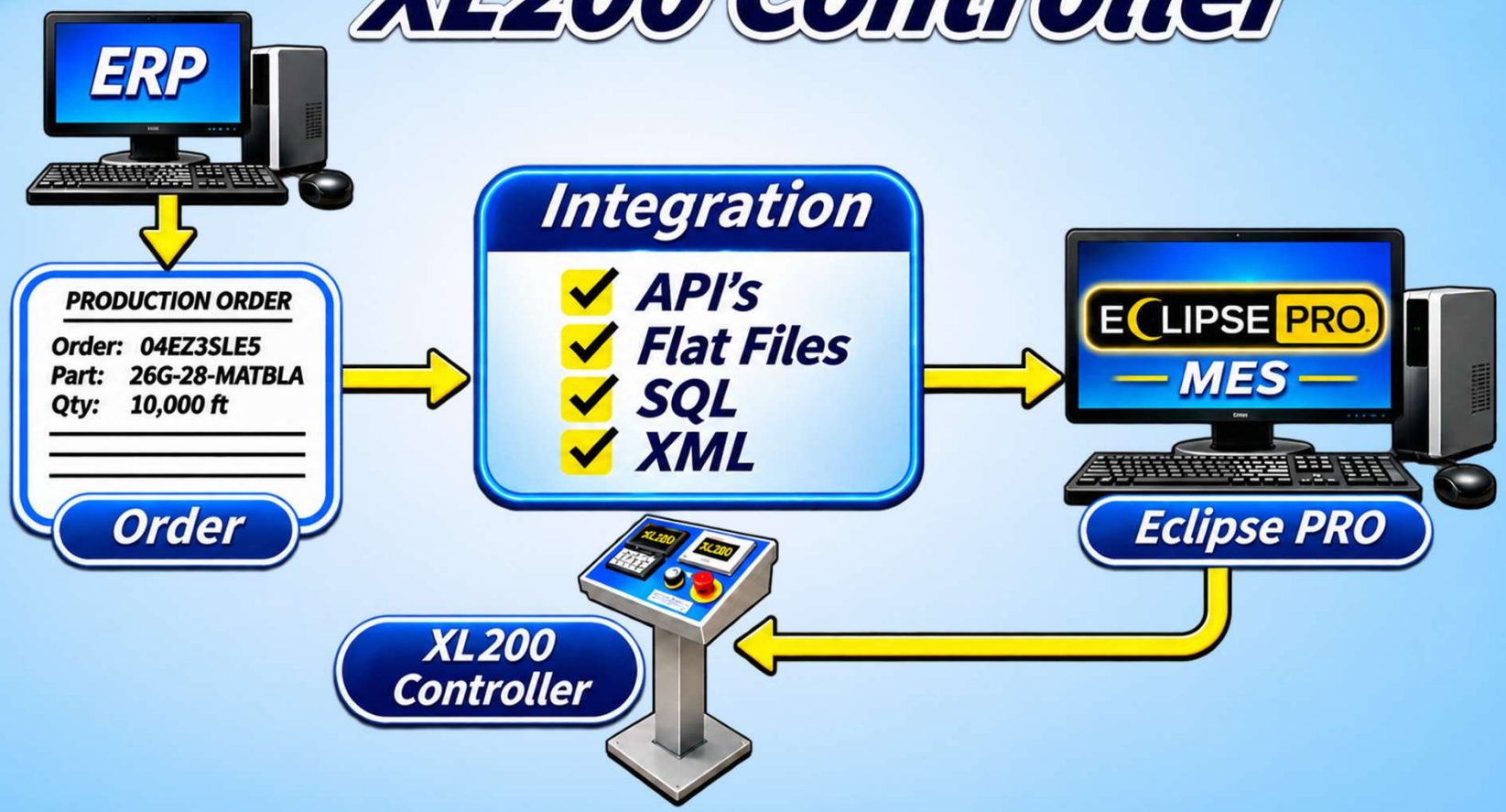
Overall Progress	52%
Total Tasks	91

Basic Functions



XL200
ROLLFORMING CONTROLS

XL200 Controller



XL200 Controller

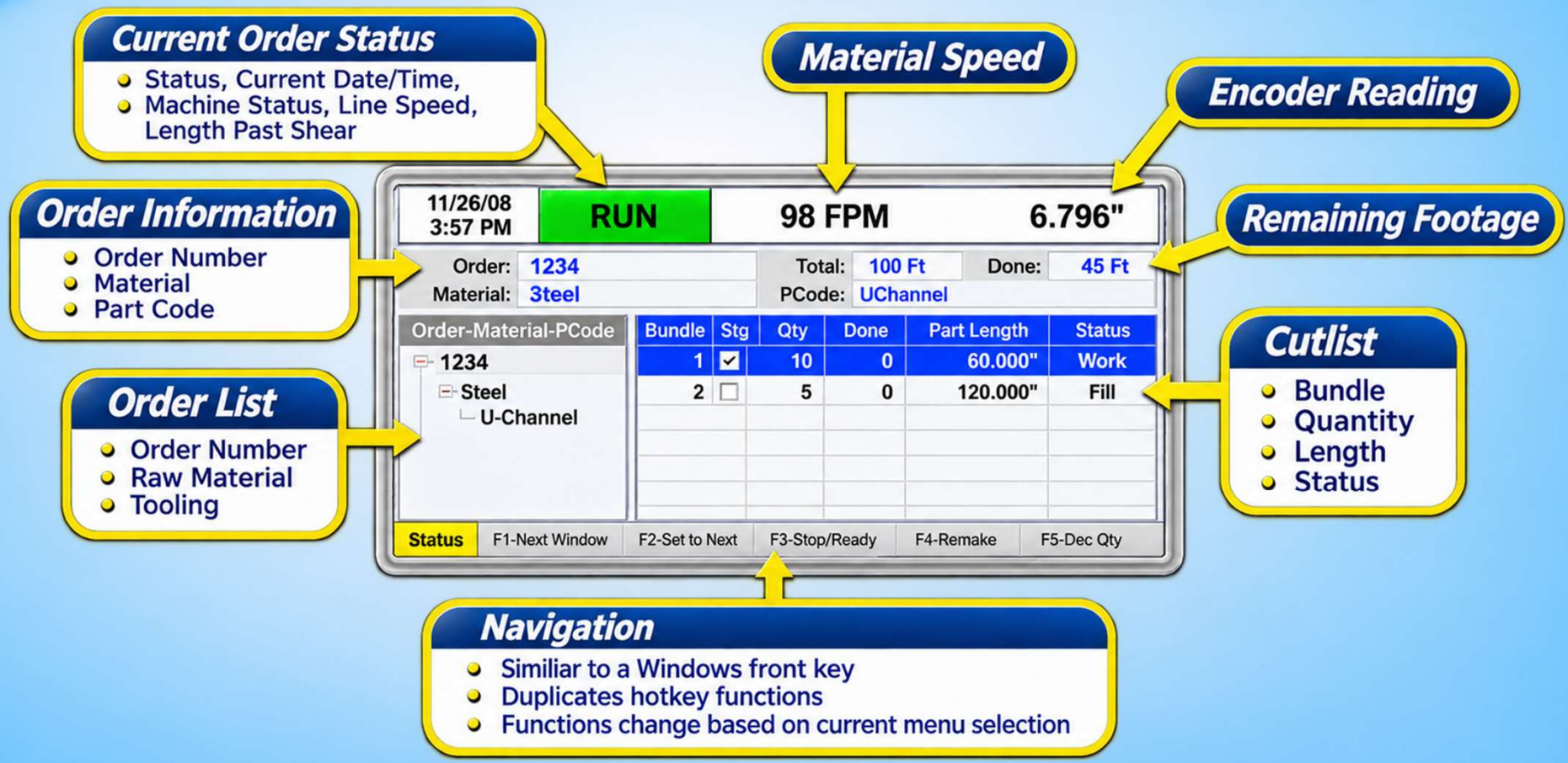
6 Important Functions of the XL Series

- Machine Controller Basics
- Scrap Handling
- Downtime Handling



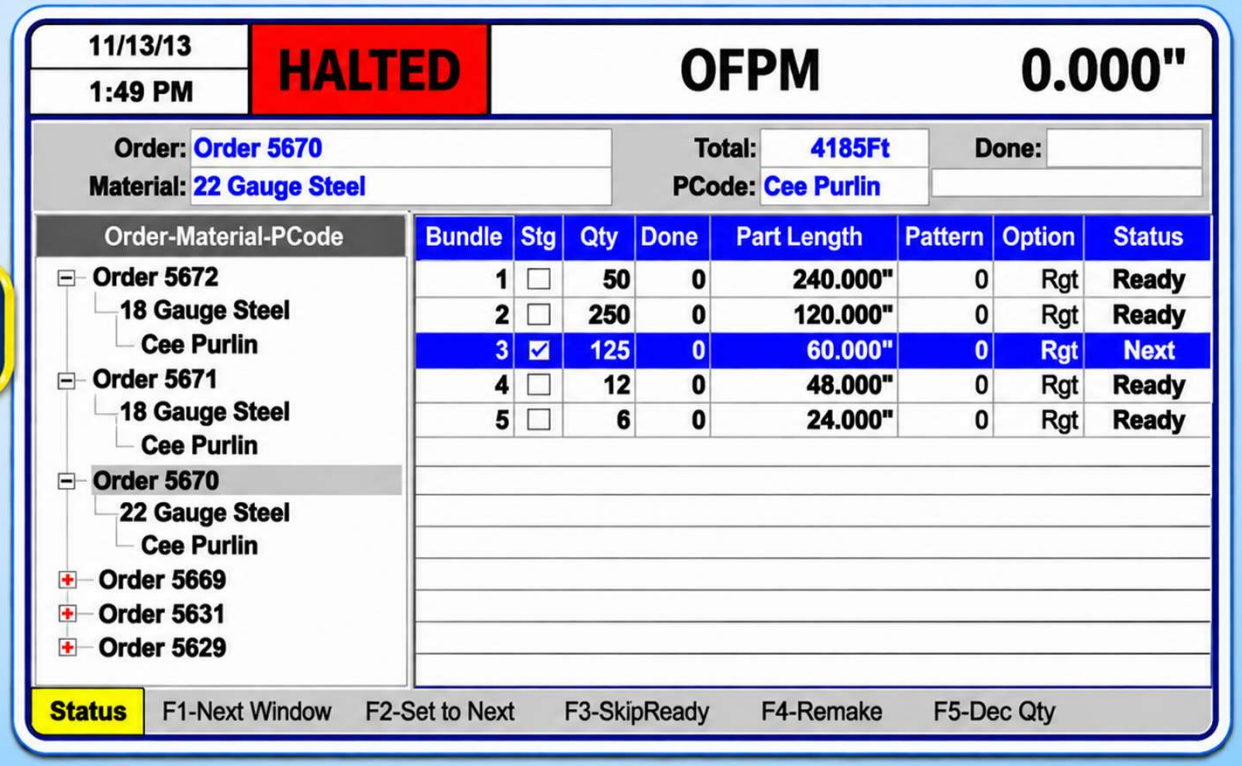
- Coil Changes
- The Part Queue
- Calibration

XL200–Controller Basics



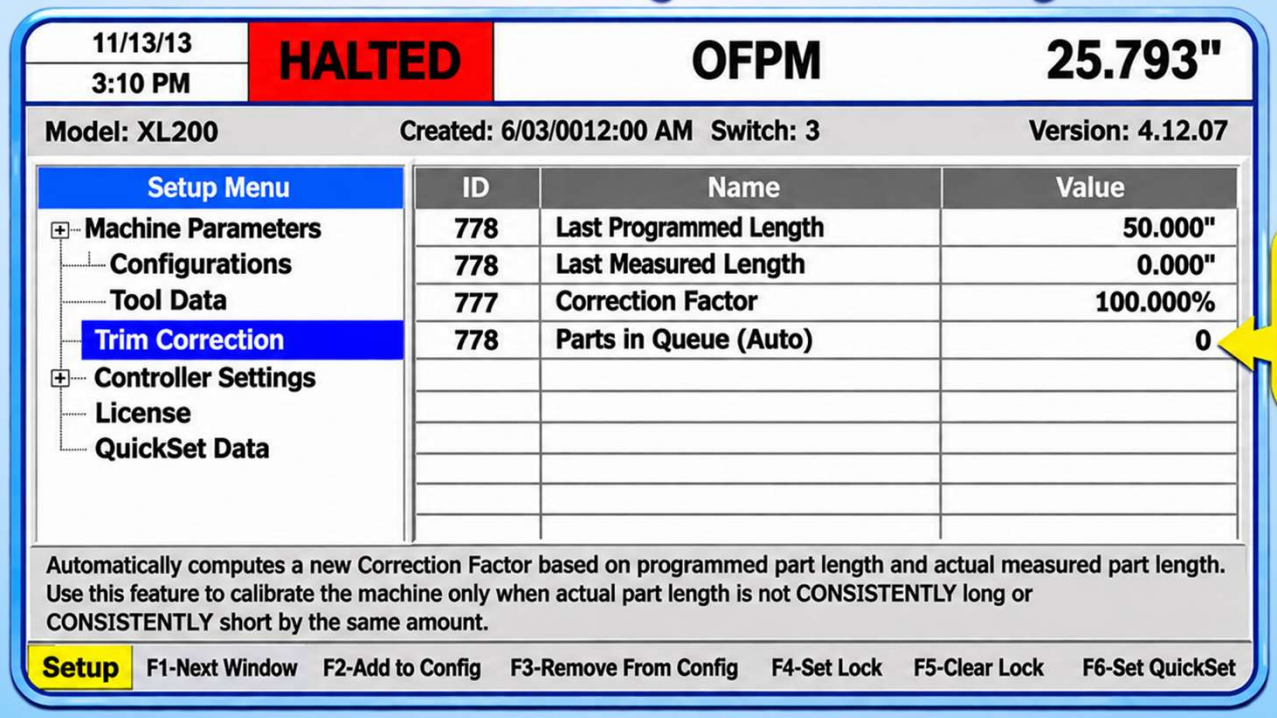
XL200 – Controller Basics

Production Flows



XL200 – Part Queue

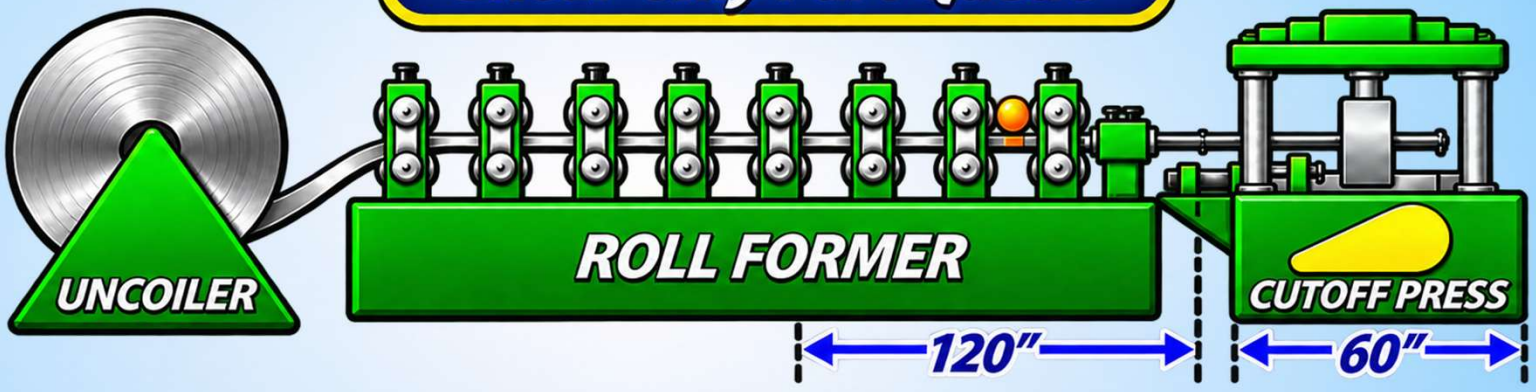
Two versions of the Part Queue: Shear-only and Punching



The Part Queue is "dumped" when the line is halted

XL200 – Part Queue

Shear-only Part Queue

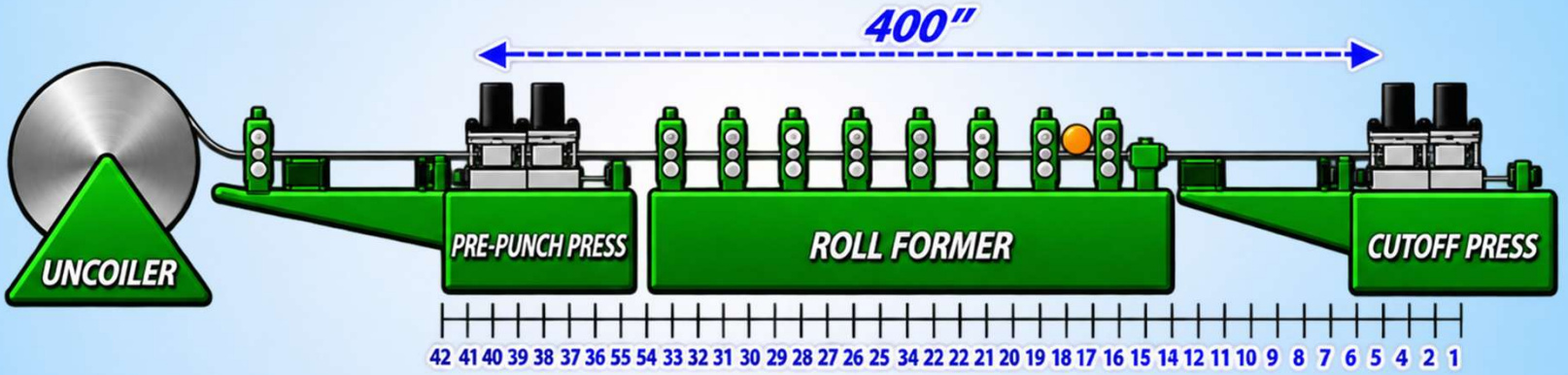


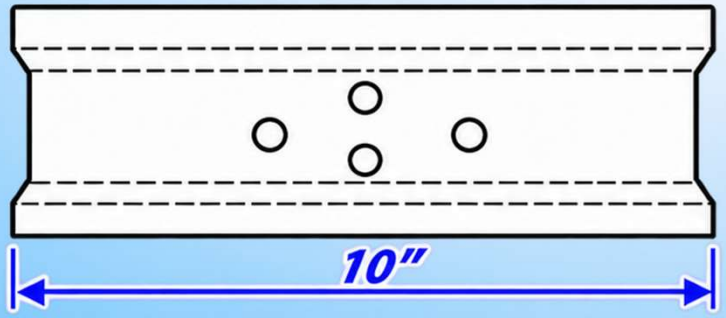
Part Queue



XL200 - Part Queue

Punching Part Queue



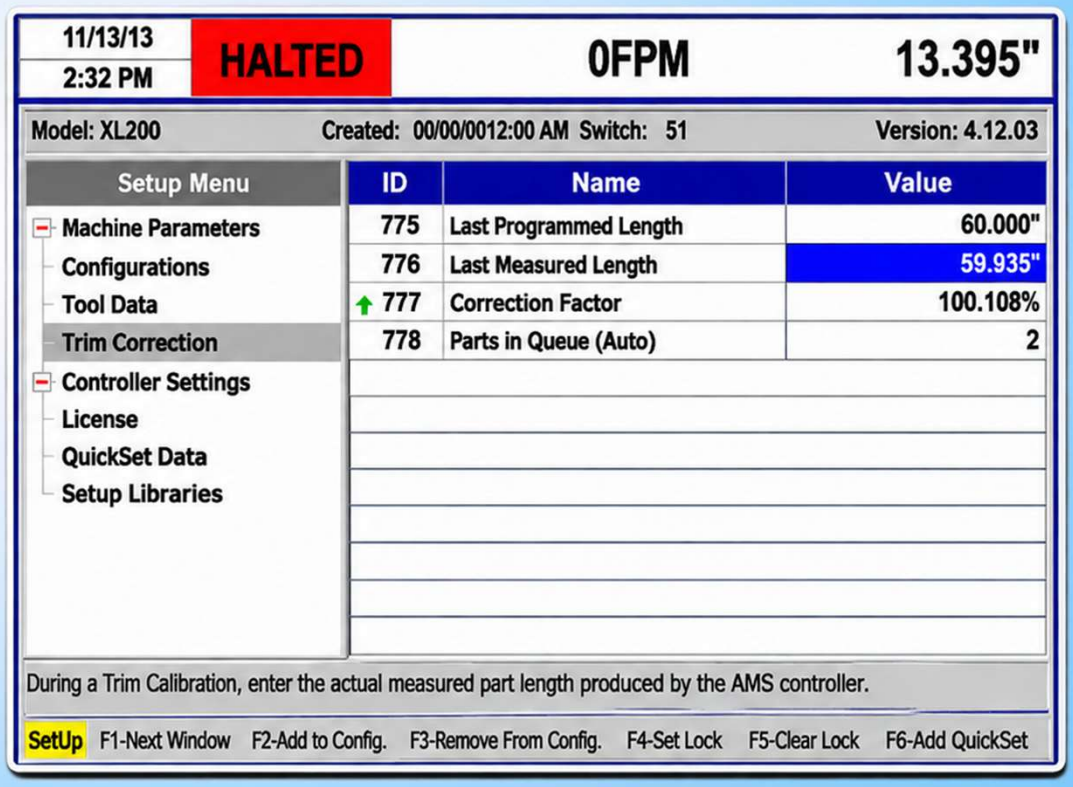




XL200-Length Calibration

On-board Length Calibration

- Calibration corrects consistent error, ***not*** variance.
- Calibration is required due to encoder wheel measuring error.
- Operators enter length measured.
- Mind the queue!



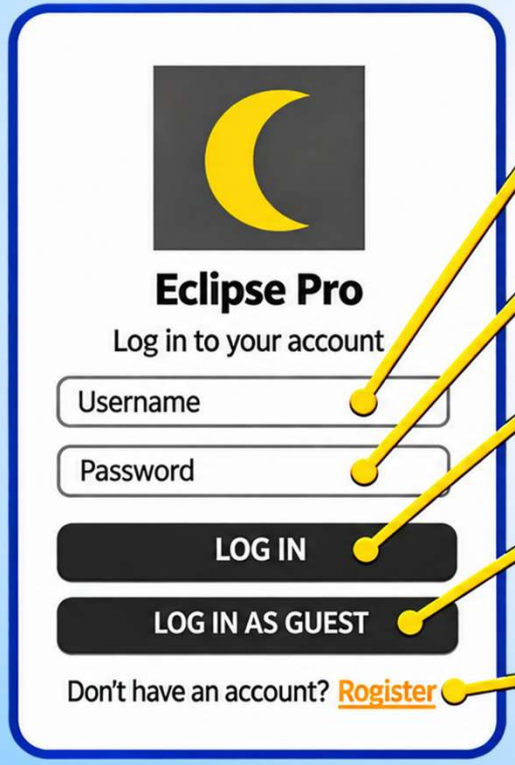
AMS CONTROLS

ECLIPSE PRO™

MES

Navigation Basics

Logging Into Eclipse PRO



Username
Enter your assigned username.

Password
Enter your account password.

Log In
Access Eclipse PRO using your credentials.

Log In as Guest
Access the system with guest permissions, where enabled.

Register
Create or request a new account, depending on system configuration.

Eclipse Pro: Log In & User Permissions



Eclipse Pro

Log in to your account

Username

Password

LOG IN

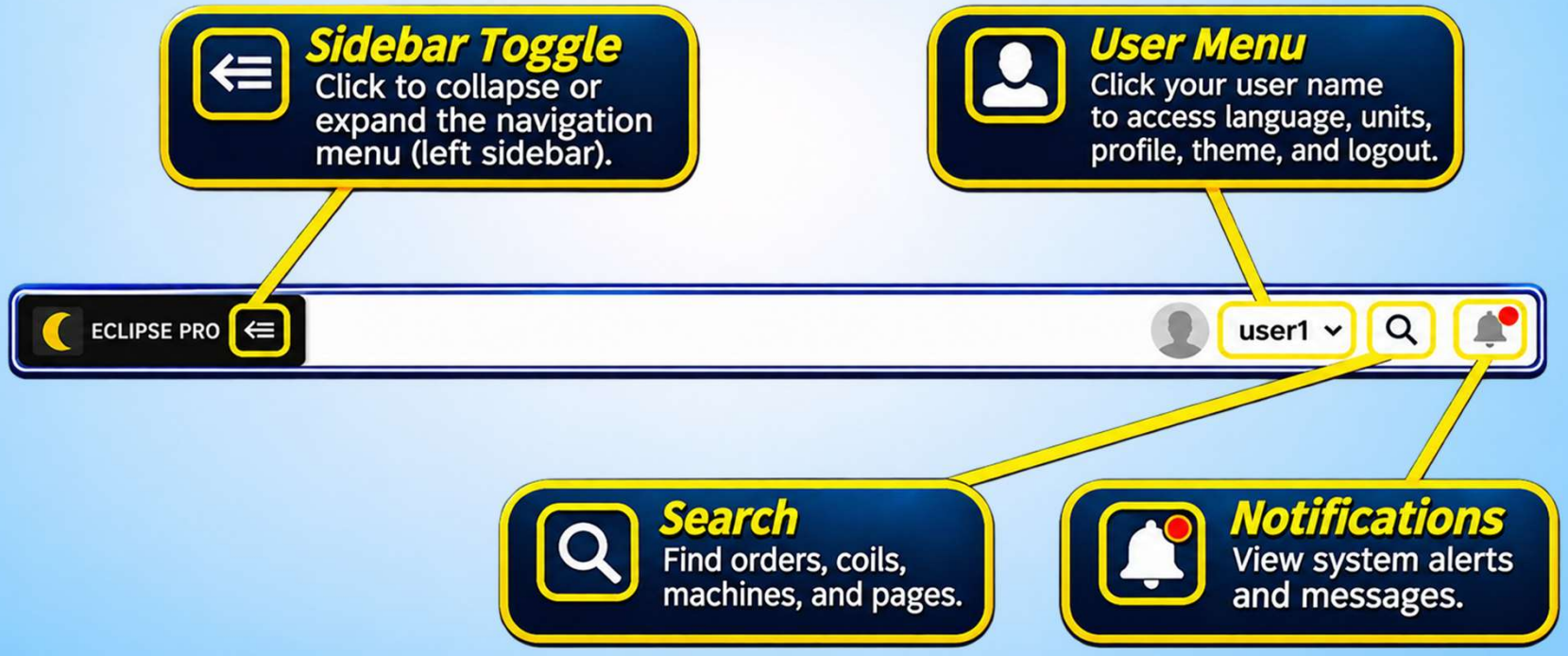
LOG IN AS GUEST

Don't have an account? Register

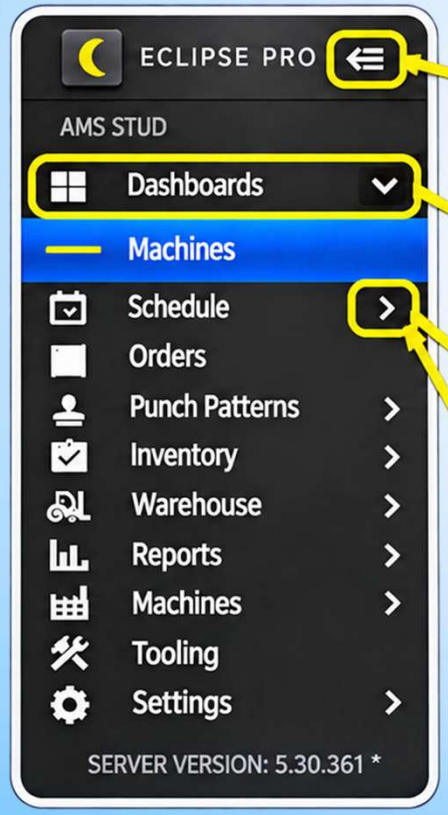
User Permissions (Roles)

Administrator	Full system access and configuration
Scheduler	Create and manage production schedules
Job Editor	Create and edit jobs/orders
Job Editor – Quantity	Edit job quantities
Tooling Editor	Manage tooling and coils
Operator	Run production and collect data
PFPC	Manage PFPC settings
Pattern Editor	Create and edit punch patterns and profiles
Machine Manager	Manage machine setup and configuration

Eclipse PRO – Menu Bar Navigation



Eclipse PRO – Main Menu Navigation



Sidebar Toggle
Located beside the Eclipse PRO logo.
Click to collapse or expand the navigation menu.

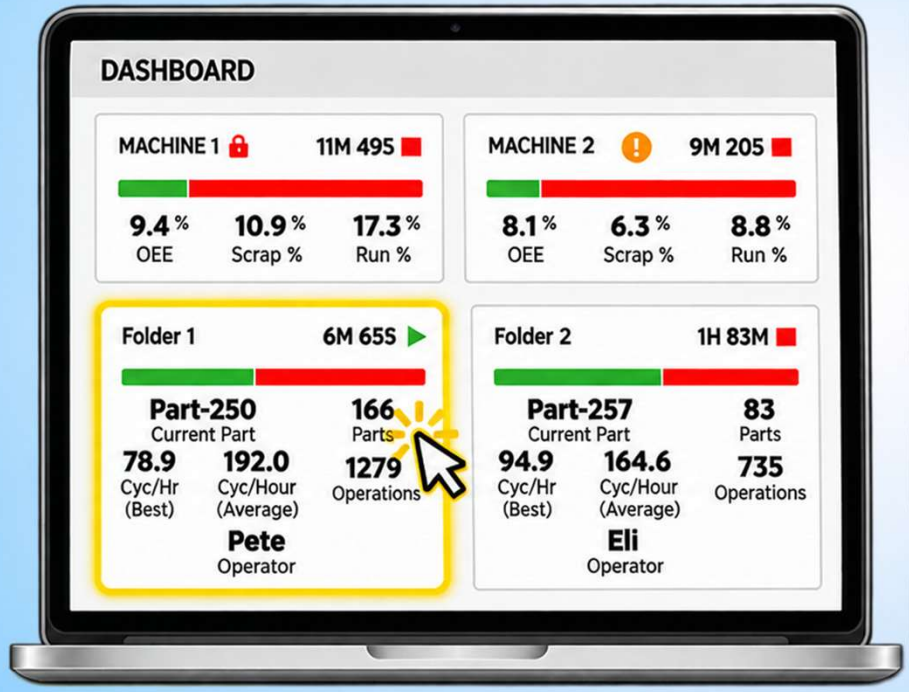
Menu Categories
Select a category to access its associated functions.

Navigation Chevrons (>)
Indicate that additional submenu options are available.

Down Chevron (⌄)
Indicates that a menu section is expanded.

Highlighted Selection
Identifies the currently selected menu item or active section.

Eclipse PRO – Interactive Machine Tiles



Interactive Machine Tiles

Clickable dashboard tiles that provide a real-time snapshot of each machine's status and performance.

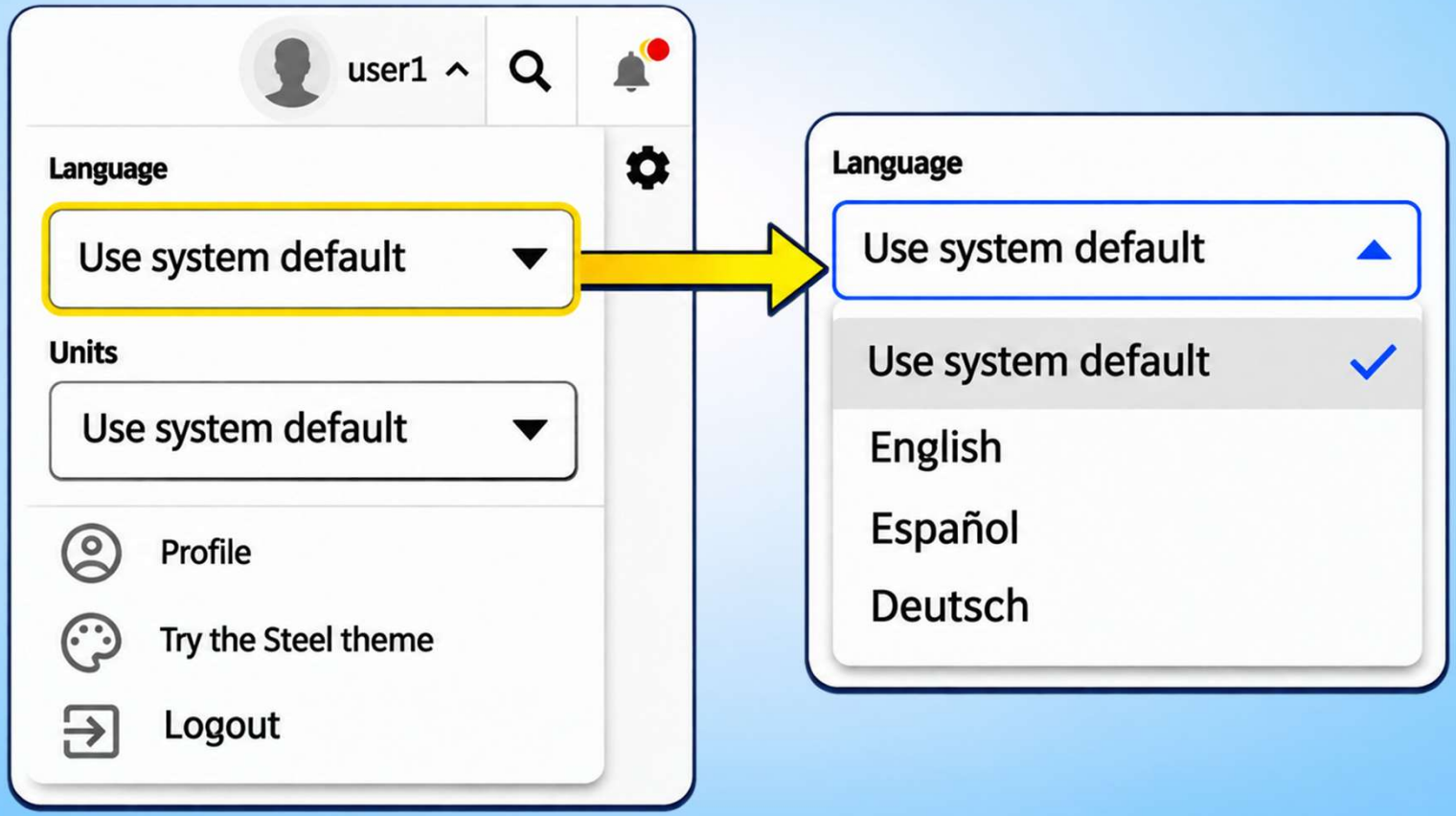
Three Levels of Navigation

1. **Machine Overview**
   Multiple tiles display the status of all connected machines.
2. **Select a Machine Tile**
   Click a tile to drill down into that machine's information.
3. **Detailed Machine Dashboard**
   Review additional production metrics, machine performance, and operating information.

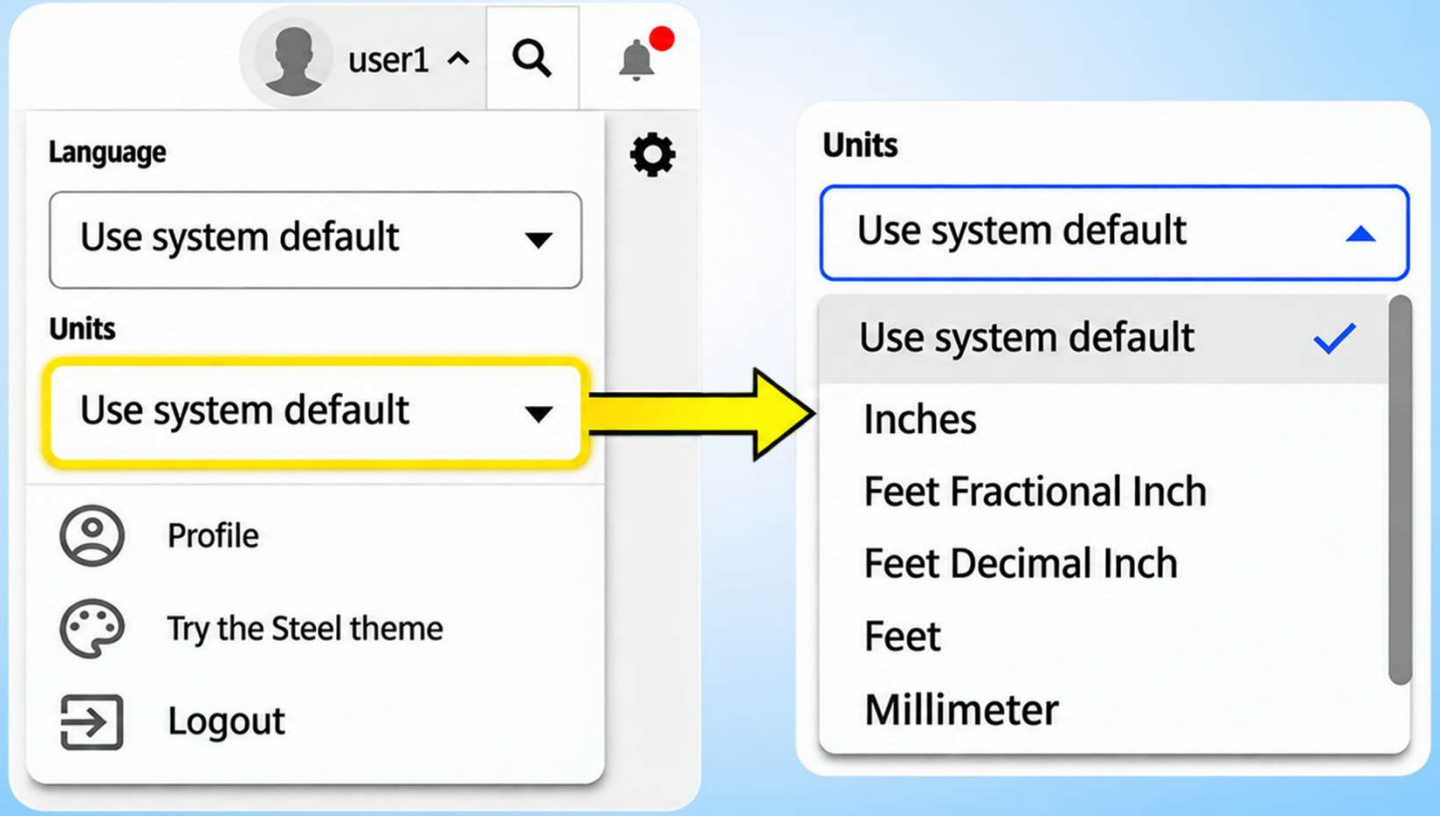
Key Terms

- **Dashboard Tile** — A clickable visual summary of a machine.
- **Drill-Down** — Move from a summary view to more detailed information.
- **Expand / Collapse** — Open or close a menu or section.

User Menu – Language



User Menu – Units



Eclipse PRO – Customize Your Page View



Eclipse PRO – Navigation Tip



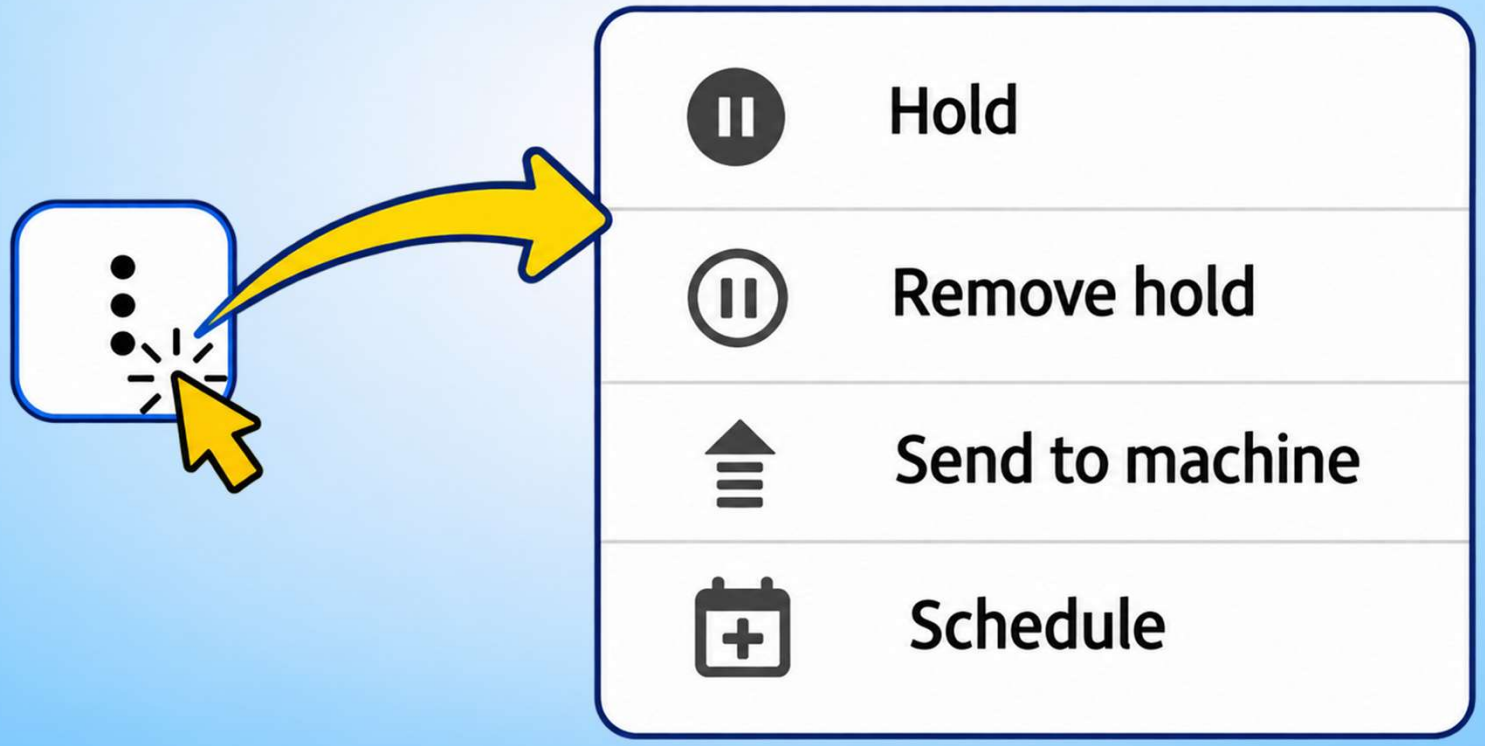
Hamburger Menu
(More Actions)

The three dots (•••) open an additional menu with actions for the selected order(s) or item(s).

- Auto Rebundle Selected
- Split Selected To Multiple Items...
- Combine Selected To New Bundle(s)...
- Resequence: By Bundle, then current sort
- Resequence: By Bundle, then Long to Short
- Resequence: By Bundle, then Short to Long
- Bulk Edit Field
- Duplicate Selected Items
- Delete Selected Items...

Hover or click the three dots to open the More Actions Menu.

Eclipse PRO - Kebab Menu



Mistake-Proofing Tools

The Mistake-Proofing Process



Wrong Orders & ECLIPSE PRO™ MES Solution

Order & Part Data



Orders Screen Overview

Track, Filter, and Act on Orders with Clear Status and Alerts

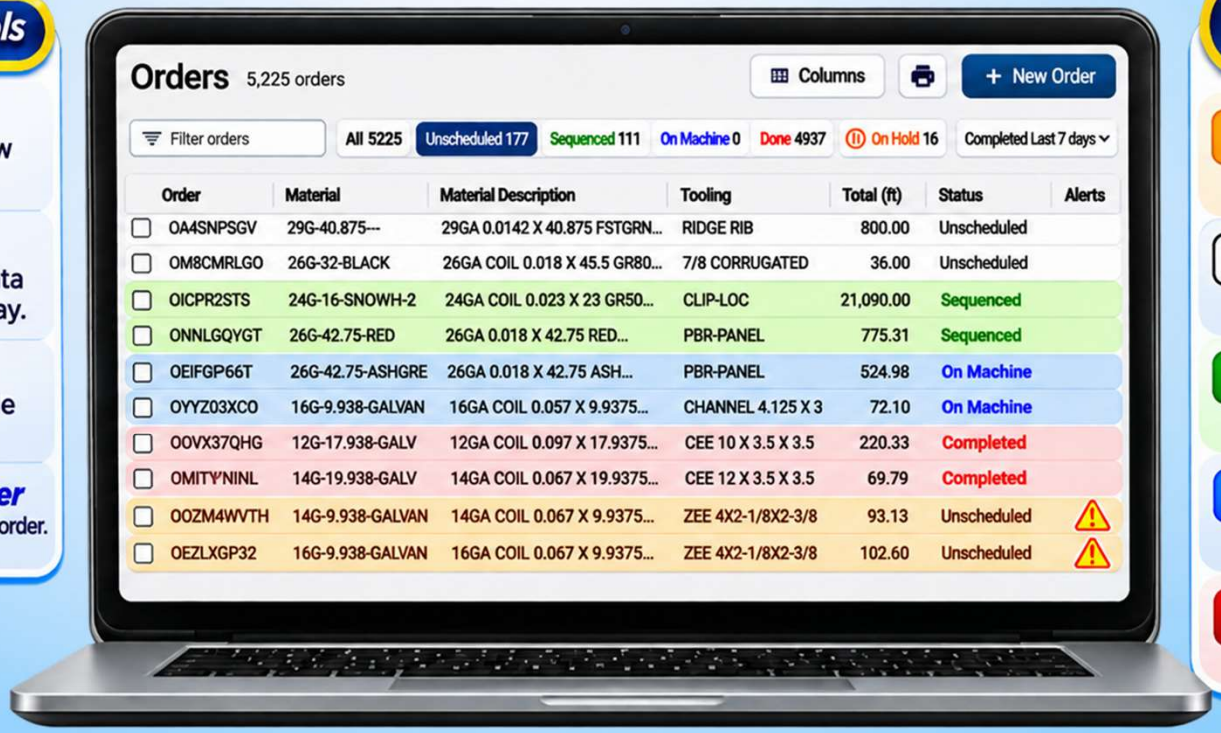
Navigation & Controls

Filter Orders
Search and narrow the list of orders.

Columns
Choose which data columns to display.

Print
Create a printable view.

+ New Order
New Order
Create a new order.



Row Color Key (Order Status)

Orange – Alert
Needs attention due to missing data, past due, and/or missing coil information.

White – Important
The order is active and can be edited (update material, quantity, tooling, or schedule).

Green – Sequenced
The order is scheduled in the production sequence (ready to run).

Blue – On Machine
The order is at the XL200 Controller (in production).

Red – Completed
The order has finished production.

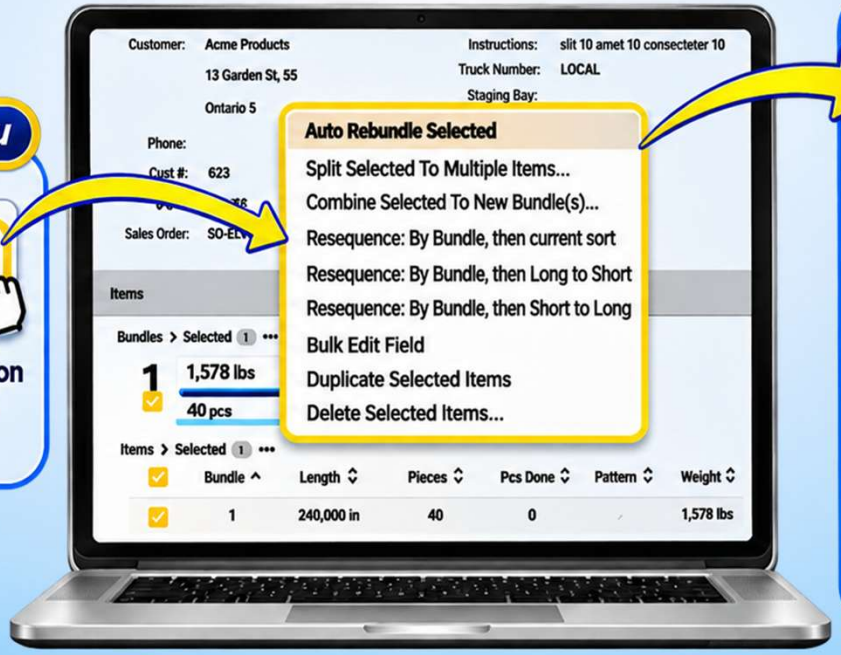
Bundling Menu

Manage Selected Items with Powerful Actions

Access the Actions Menu

Items › Selected 1 •••

Click the ••• (More Actions) button next to Selected items to open the Actions Menu.



Action Descriptions

Auto Rebundle Selected
Automatically groups selected items into optimized bundle(s).

Split Selected To Multiple Items
Divides the selected item(s) into multiple items.

Combine Selected To New Bundle(s)
Combines selected items into a new bundle.

Resequence (3 Options)
Reorders items by bundle with the chosen sort: current sort, Long to Short, or Short to Long.

Bulk Edit Field
Updates a field (e.g., material, quantity, due date) for all selected items.

Duplicate Selected Items
Creates a copy of the selected item(s).

Delete Selected Items
Removes the selected item(s) from the order.

Order Sequence Report

A Forward-Looking View of Scheduled Orders and Their Production Sequence



Report Benefits

Forward Production Visibility
Shows the upcoming sequence of scheduled orders by machine.

Confirm Order Sequence
Verifies the exact order in which jobs will run, including material, tooling, and quantities.

Improve Planning & Preparation
Helps stage material, tooling, and setup ahead of time to reduce changeover and downtime.

Optimize Production Flow
Provides a clear, forward-looking schedule to keep production on track and on time.

Order Summary Report

A Complete, At-a-Glance View of Order, Coil, Bundle, and Production Results



Report Benefits

Order & Production Details
Consolidates order information, material details, coil usage, and bundle-level production results in one view.

Material & Coil Traceability
Tracks coil number, material, heat number, and usage.

Yield & Scrap Analysis
Shows total good, scrap, and reclaimed amounts (ft and lbs) to improve material utilization.

Production Accountability
Captures date, shift, employee, and machine details.

Operational Efficiency
Delivers accurate, real-time results for better production tracking, cost control, and process improvement.

Wrong Punch Pattern

&

ECLIPSE PRO™

MES

Solution

Punch Patterns

Design complex punching logic in minutes, not hours.

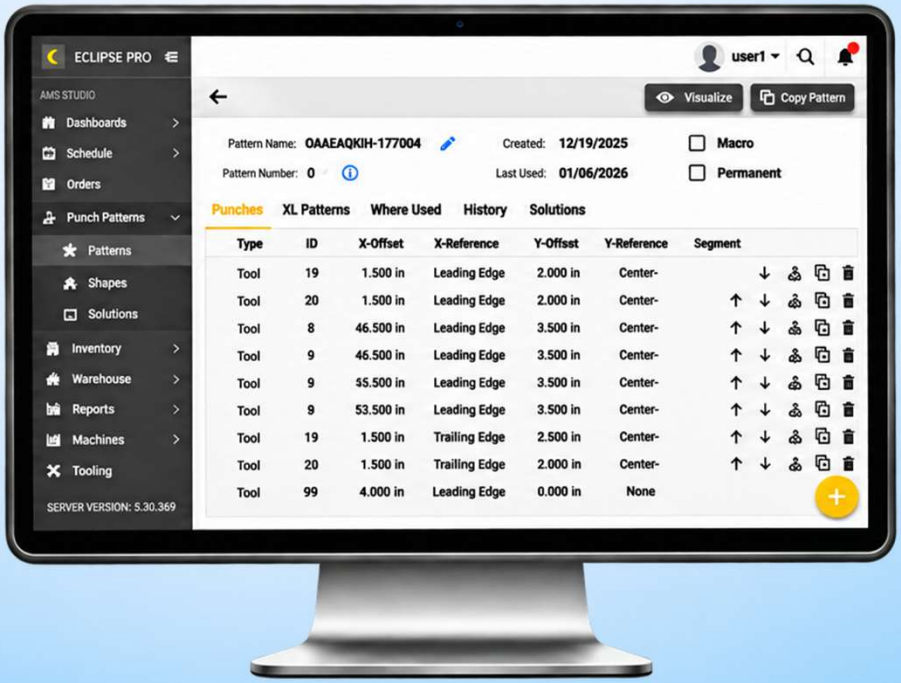
BENEFITS

Faster Programming
Build patterns in minutes, not hours.

Higher Accuracy
Visual interface eliminates guesswork.

Smarter Optimization
Automatic shape-based layout saves time and tooling.

Increased Productivity
Reduce setup time and get to production faster.



KEY FEATURES

Rapid Pattern Creation
- Enter multiple punches at once — each becomes its own line automatically
- Clone and edit existing patterns
- Add, remove, and reposition punches with full coordinate control (X/Y offsets, leading/trailing edges, etc.)

Macro Patterns
- Create macros (predefined sets of punches)
- Reuse macros in other patterns
- Reduces the total number of lines needed, simplifying maintenance

Shape-Based Punching (New)
- Input geometric shapes to define punch layouts
- System automatically calculates optimal punch locations and sequence
- Minimizes machine movement for faster cycle times and less wear

Visualize Part
- 2-D hole layout with dimension
- 3D of finished part

Wrong Schedule & ECLIPSE PRO™ MES Solution

Drag-and-Drop Scheduler

Empower your planners. Eliminate production chaos.

OVERVIEW

Plan. Drag. Done.

The Drag-and-Drop Scheduler gives production teams full visual control of every machine. Incoming orders arrive pre-sorted in the queue. Simply drag jobs onto machines to assign them instantly — with live status feedback that prevents bottlenecks and downtime.



KEY BENEFITS

Simplify Scheduling

- Drag jobs from the queue to machines with a single click
- Filter and sort by product, customer, or due date

Boost Throughput

- See real-time machine status, OEE, and scrap rates before scheduling
- Prevent assigning jobs to locked or stopped machines

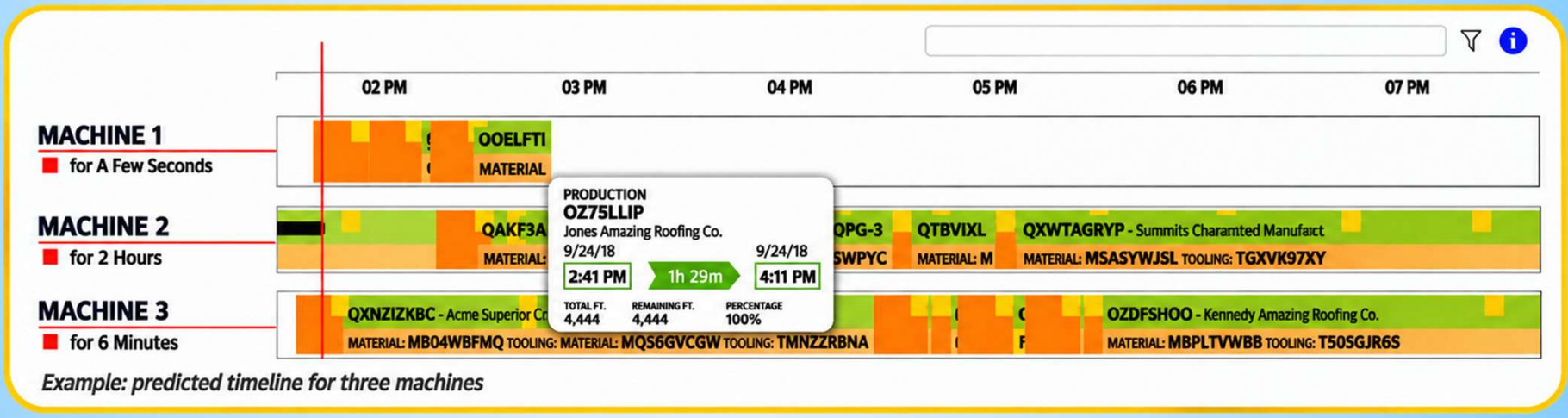
Automate Job Flow

- "Auto-Push" keeps machines loaded automatically
- Reduce manual planner workload and scheduling errors

Increase On-Time Delivery

- Track job progress live by footage and time remaining
- Instantly rebalance work across machines as demand shifts

Predictive Scheduling



Example: predicted timeline for three machines

Continuously Estimates Each Machine's Timeline From:

- Job sequence and production rates per product
- Changeover, coil and bundling times
- Planned shifts and non-working time

Used To:

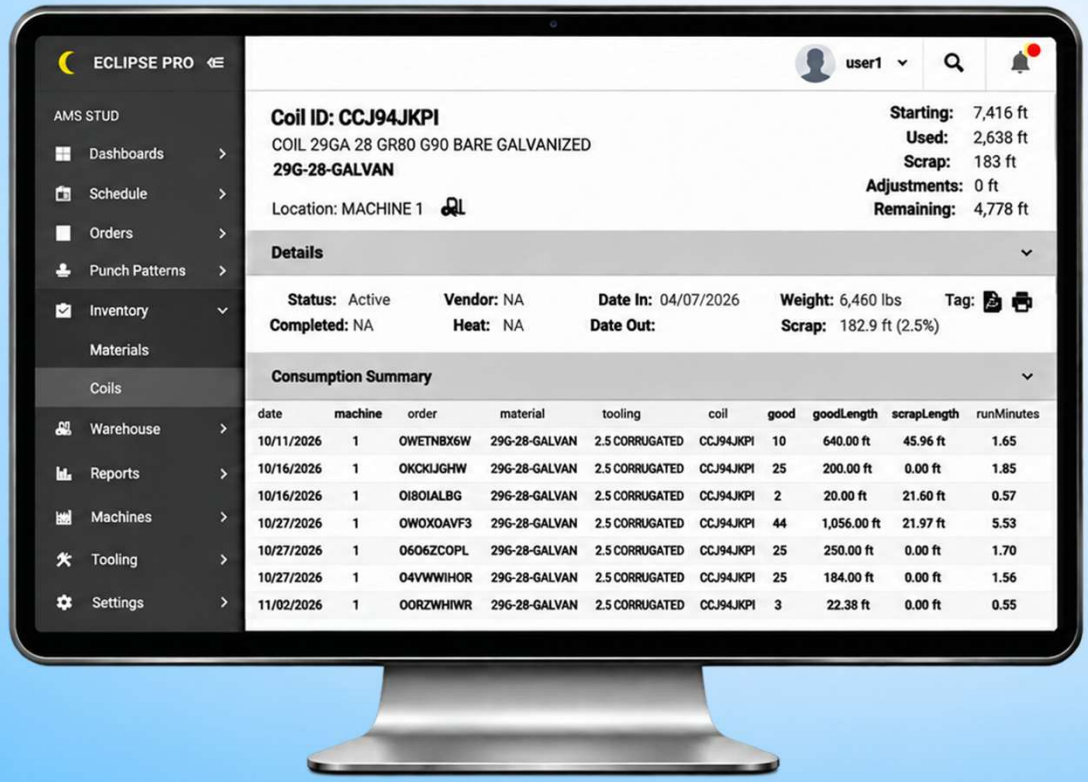
- Spot late shipments while there's still time to act
- Balance machine hours with demand
- Promise delivery dates responsibly

Wrong Coil &

ECLIPSE PRO™

MES Solution

Perfect Accounting & Inventory Control



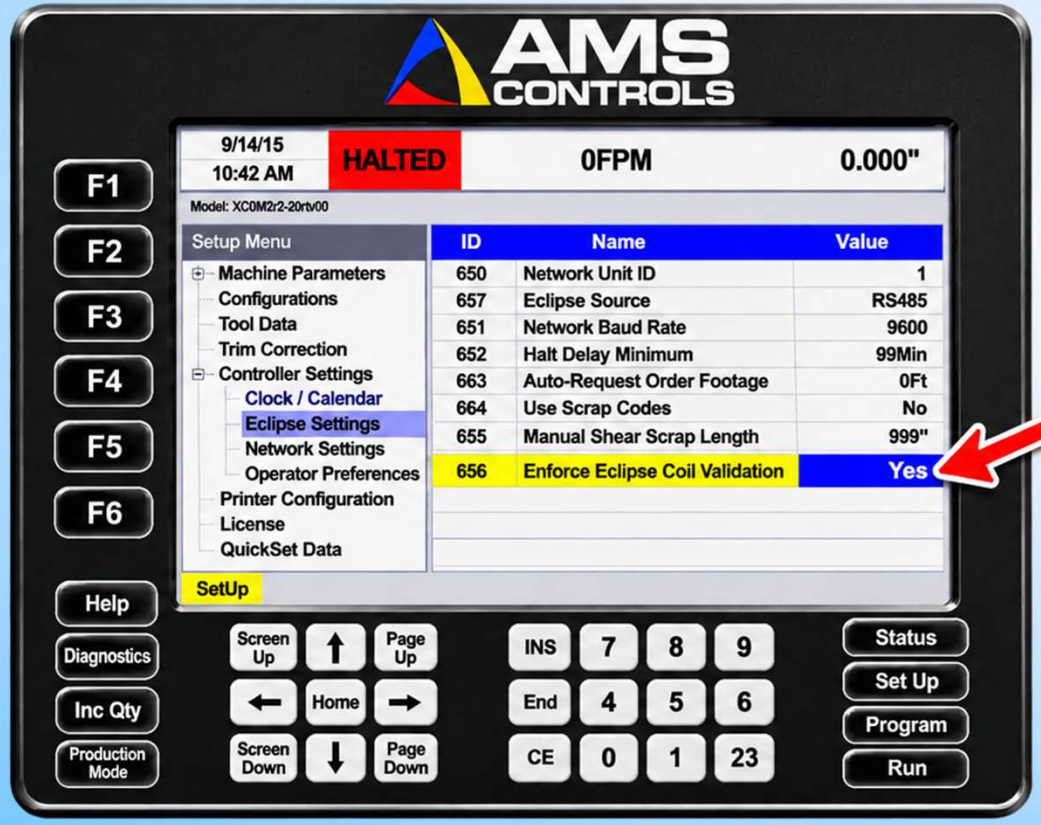
Exact Coil Inventories

- Usage totals accurate to a fraction of an inch
- No data logging errors if using bar-codes and coil ID validation

Exact Finished Goods Tracking

- Know exactly what was produced in each bundle
- Great tool for dealing with customer complaints
- Traceability: what coil was used to produce each part

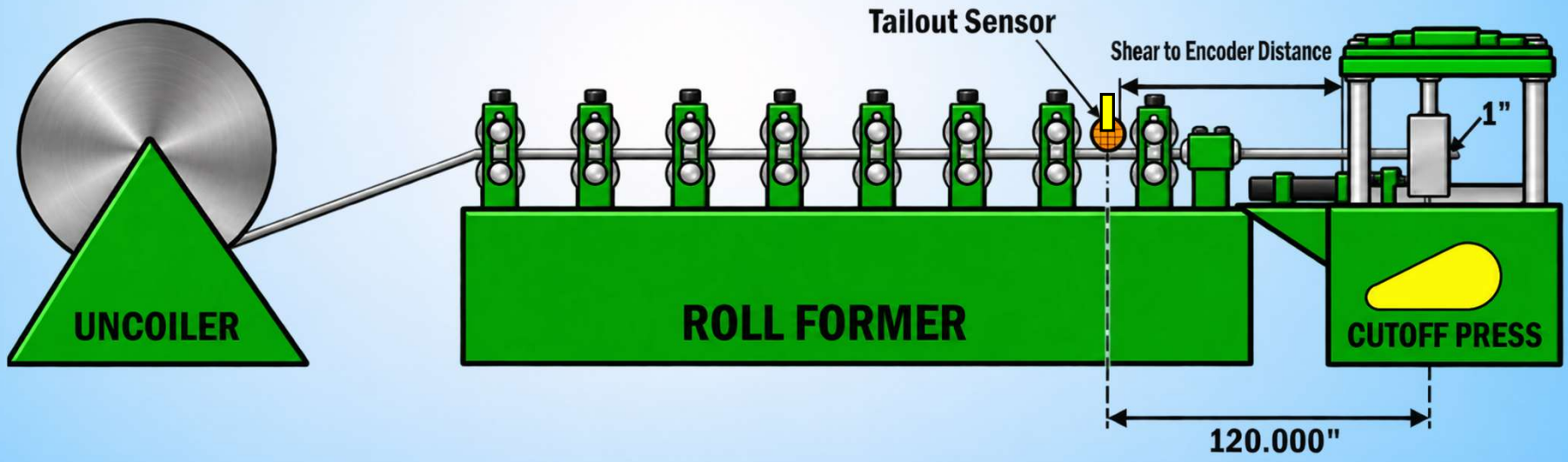
Coil Validation



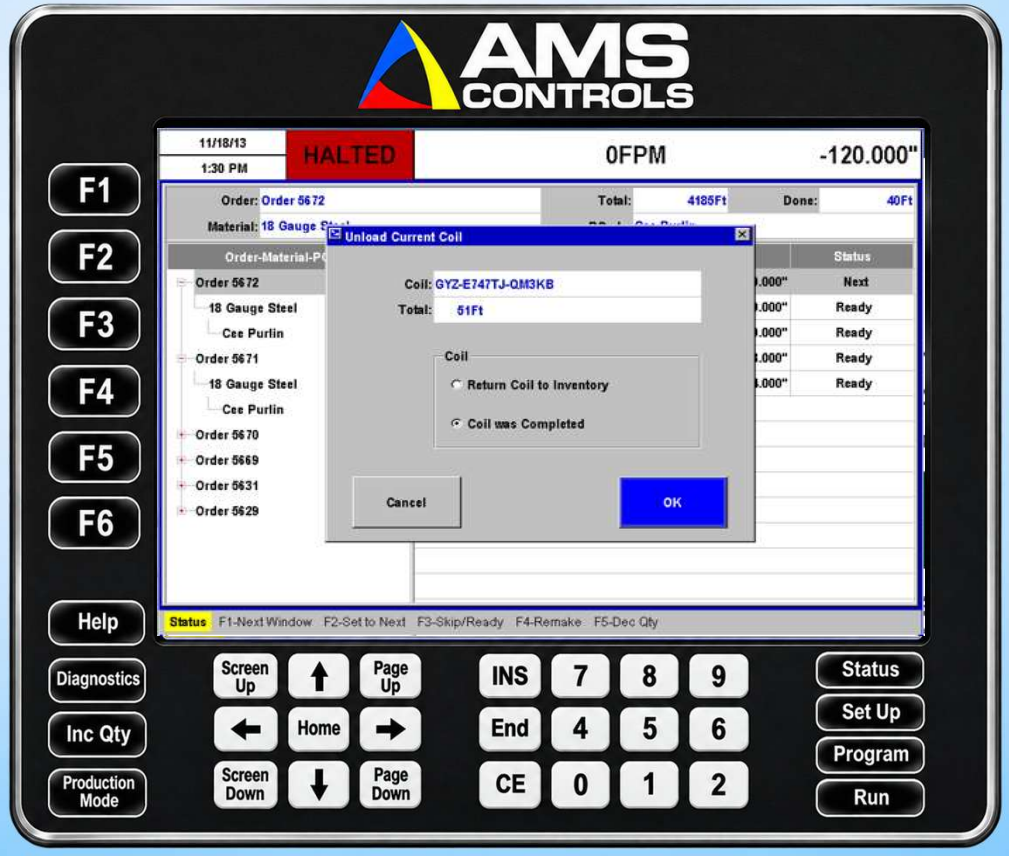
Step 1: Set This to YES

- **Enforce Eclipse Coil Validation**

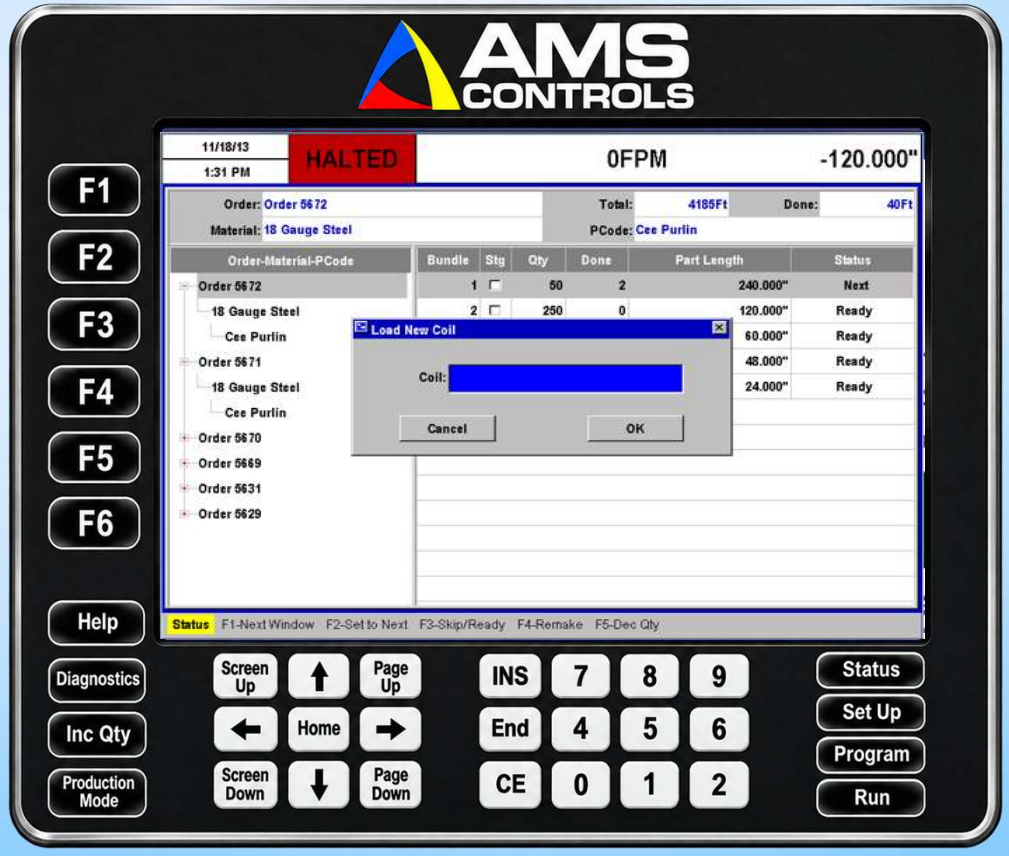
Coil Validation



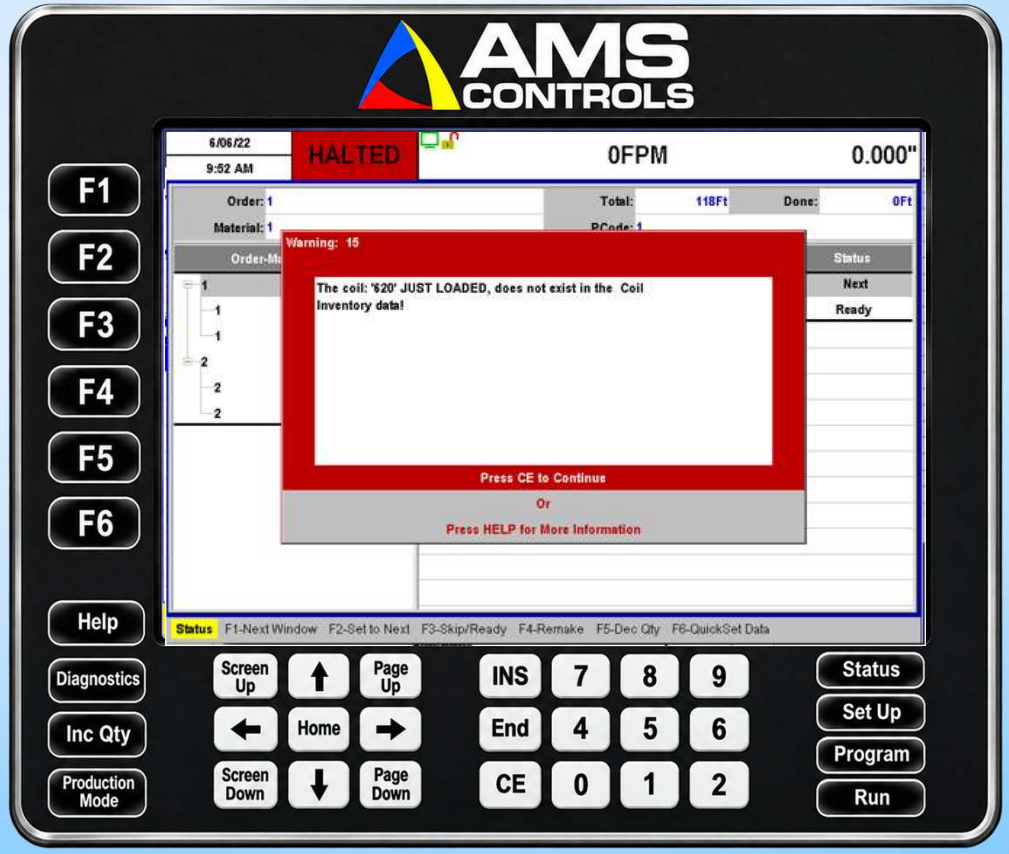
Coil Validation



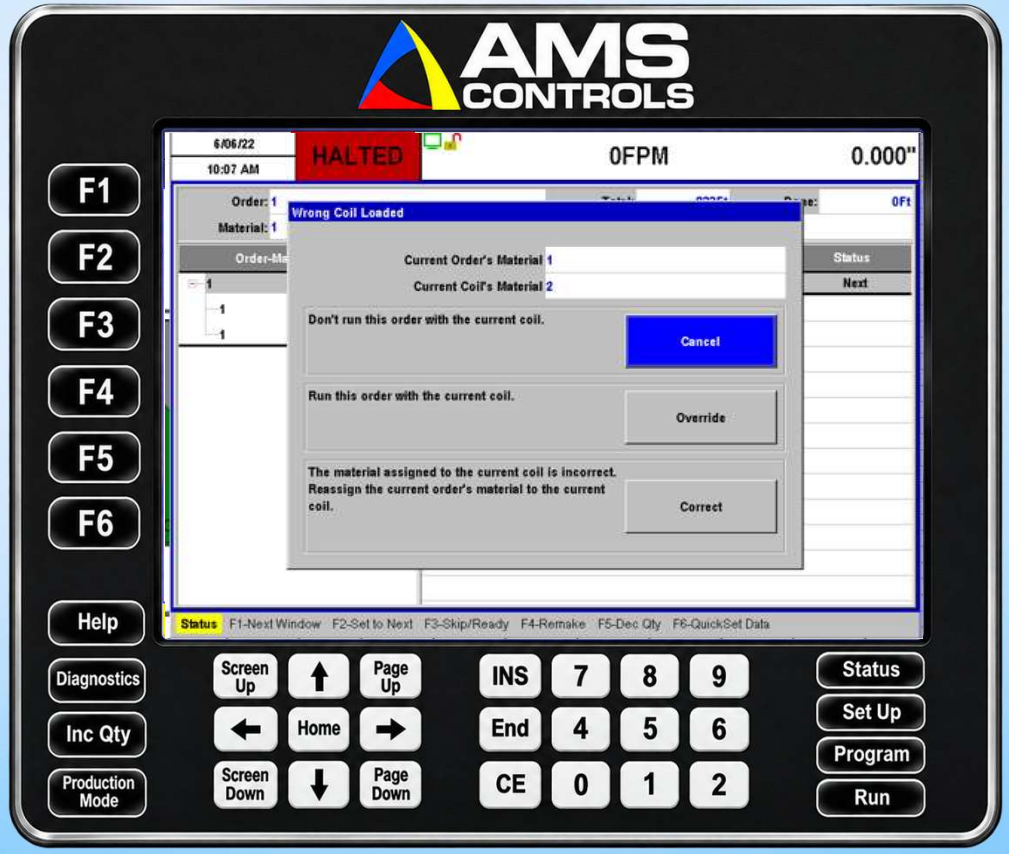
Coil Validation



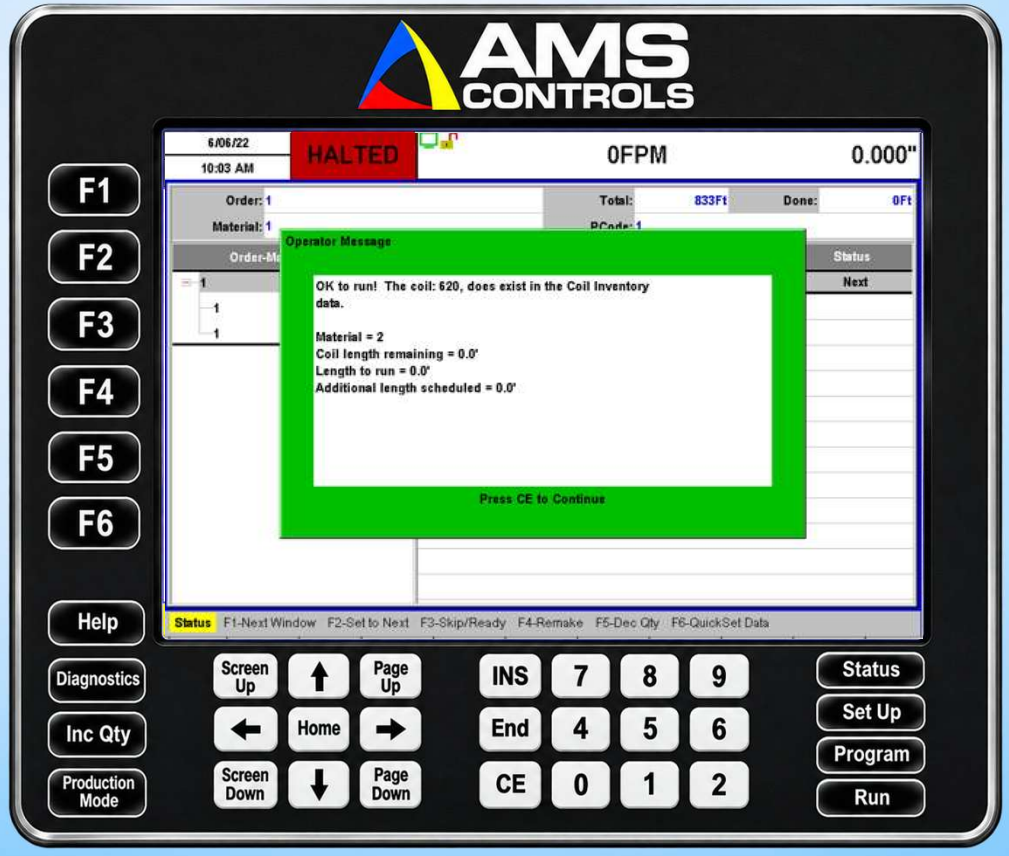
Coil Validation



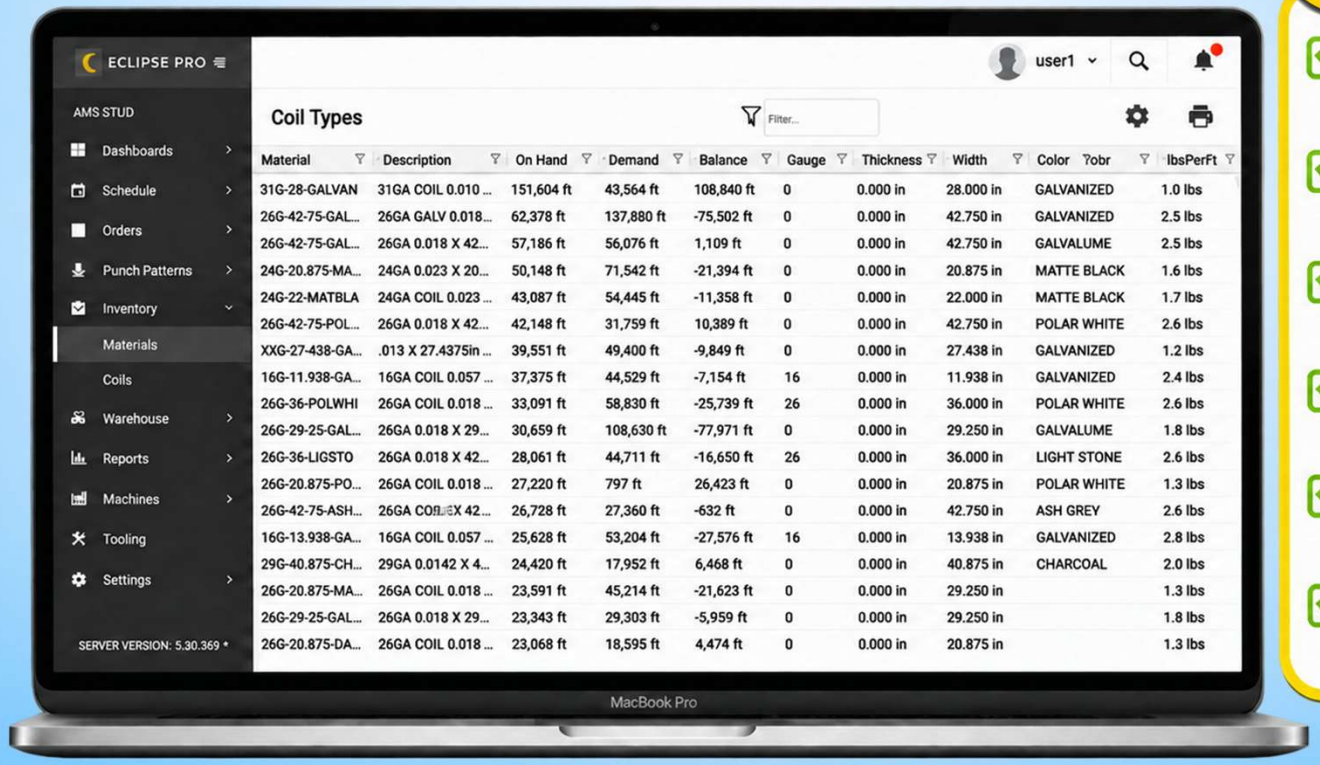
Coil Validation



Coil Validation



Inventory by Materials



Material	Description	On Hand	Demand	Balance	Gauge	Thickness	Width	Color ?obr	lbsPerFt
31G-28-GALVAN	31GA COIL 0.010 ...	151,604 ft	43,564 ft	108,840 ft	0	0.000 in	28.000 in	GALVANIZED	1.0 lbs
26G-42-75-GAL...	26GA GALV 0.018...	62,378 ft	137,880 ft	-75,502 ft	0	0.000 in	42.750 in	GALVANIZED	2.5 lbs
26G-42-75-GAL...	26GA 0.018 X 42...	57,186 ft	56,076 ft	1,109 ft	0	0.000 in	42.750 in	GALVALUME	2.5 lbs
24G-20.875-MA...	24GA 0.023 X 20...	50,148 ft	71,542 ft	-21,394 ft	0	0.000 in	20.875 in	MATTE BLACK	1.6 lbs
24G-22-MATBLA	24GA COIL 0.023 ...	43,087 ft	54,445 ft	-11,358 ft	0	0.000 in	22.000 in	MATTE BLACK	1.7 lbs
26G-42-75-POL...	26GA 0.018 X 42...	42,148 ft	31,759 ft	10,389 ft	0	0.000 in	42.750 in	POLAR WHITE	2.6 lbs
XXG-27-438-GA...	.013 X 27.4375in ...	39,551 ft	49,400 ft	-9,849 ft	0	0.000 in	27.438 in	GALVANIZED	1.2 lbs
16G-11.938-GA...	16GA COIL 0.057 ...	37,375 ft	44,529 ft	-7,154 ft	16	0.000 in	11.938 in	GALVANIZED	2.4 lbs
26G-36-POLWHI	26GA COIL 0.018 ...	33,091 ft	58,830 ft	-25,739 ft	26	0.000 in	36.000 in	POLAR WHITE	2.6 lbs
26G-29-25-GAL...	26GA 0.018 X 29...	30,659 ft	108,630 ft	-77,971 ft	0	0.000 in	29.250 in	GALVALUME	1.8 lbs
26G-36-LIGSTO	26GA 0.018 X 42...	28,061 ft	44,711 ft	-16,650 ft	26	0.000 in	36.000 in	LIGHT STONE	2.6 lbs
26G-20.875-PO...	26GA COIL 0.018 ...	27,220 ft	797 ft	26,423 ft	0	0.000 in	20.875 in	POLAR WHITE	1.3 lbs
26G-42-75-ASH...	26GA COIL X 42...	26,728 ft	27,360 ft	-632 ft	0	0.000 in	42.750 in	ASH GREY	2.6 lbs
16G-13.938-GA...	16GA COIL 0.057 ...	25,628 ft	53,204 ft	-27,576 ft	16	0.000 in	13.938 in	GALVANIZED	2.8 lbs
29G-40.875-CH...	29GA 0.0142 X 4...	24,420 ft	17,952 ft	6,468 ft	0	0.000 in	40.875 in	CHARCOAL	2.0 lbs
26G-20.875-MA...	26GA COIL 0.018 ...	23,591 ft	45,214 ft	-21,623 ft	0	0.000 in	29.250 in		1.3 lbs
26G-29-25-GAL...	26GA 0.018 X 29...	23,343 ft	29,303 ft	-5,959 ft	0	0.000 in	29.250 in		1.8 lbs
26G-20.875-DA...	26GA COIL 0.018 ...	23,068 ft	18,595 ft	4,474 ft	0	0.000 in	20.875 in		1.3 lbs

Benefits

Material Visibility
See on-hand, demand, and available balance in real time.

Detailed Material Specs
View width, thickness, gauge, color, and material type.

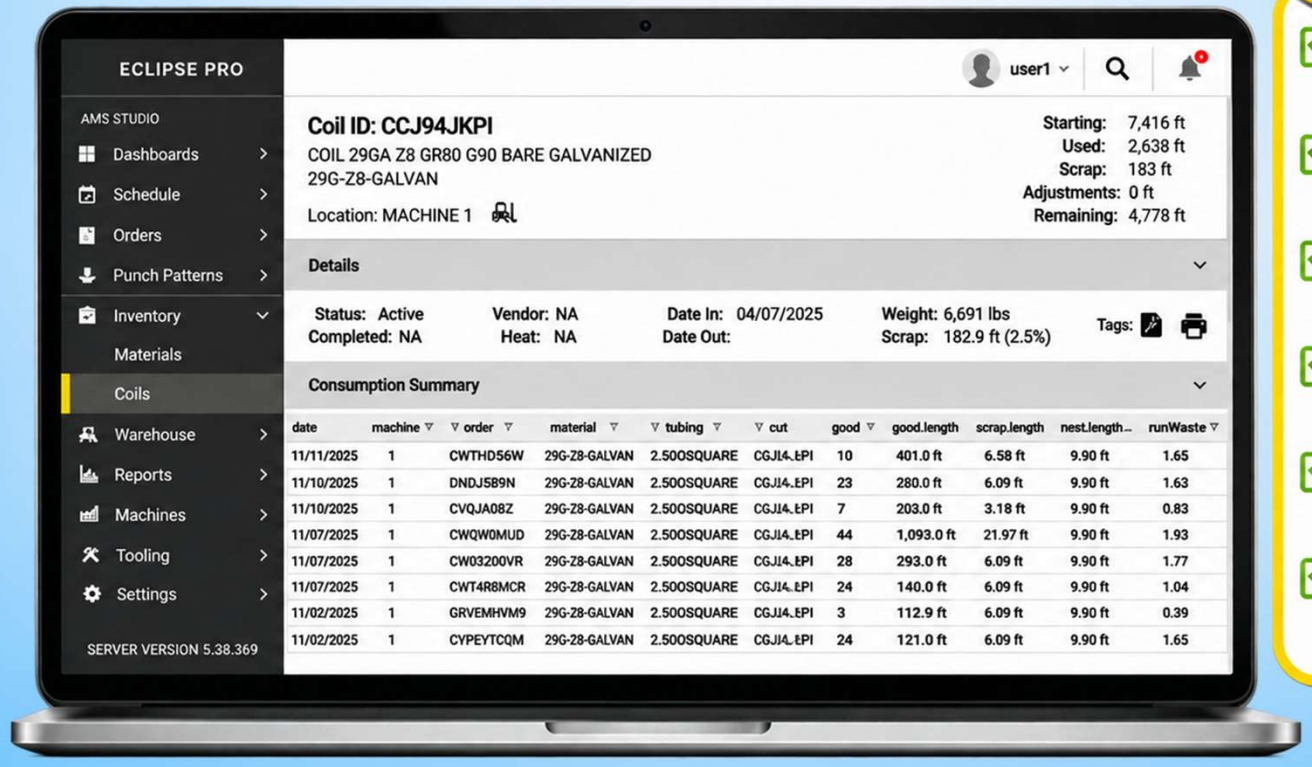
Coil-Level Traceability
Track each coil from receipt to production (usage, scrap, and weight).

Location Management
Know exactly where each coil is stored or staged.

Better Production Planning
Ensure the right material and quantity are available for upcoming orders.

Reduced Material Waste
Monitor usage and scrap to improve yield and control costs.

Inventory by Coil



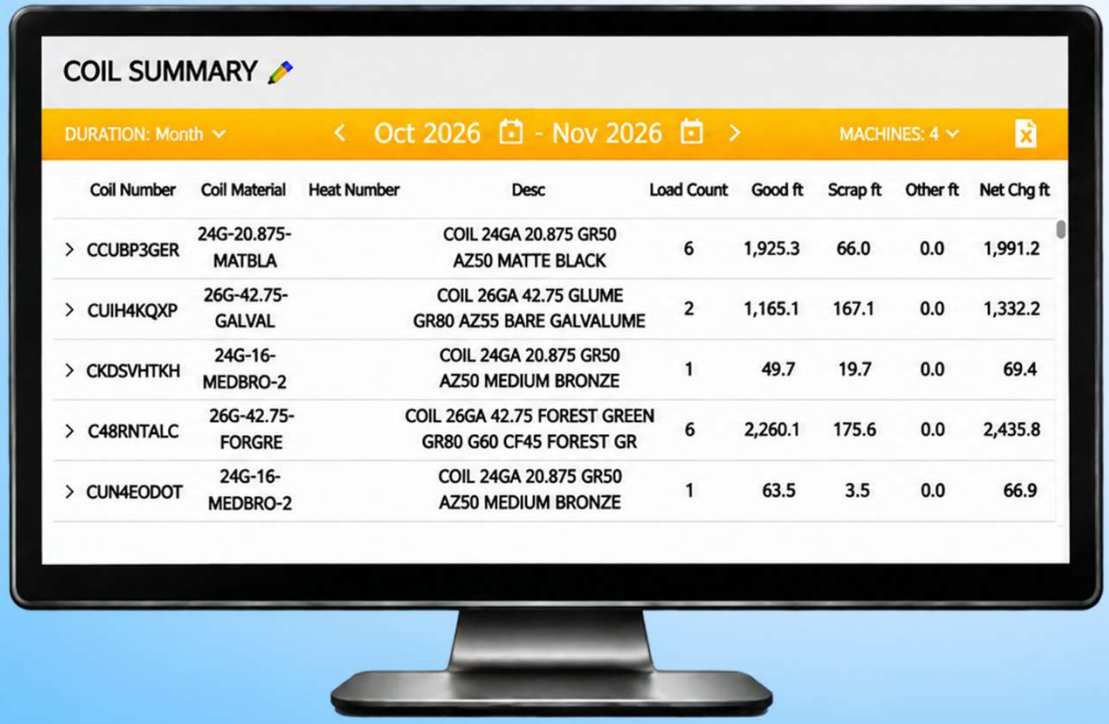
date	machine	order	material	tubing	cut	good	good.length	scrap.length	nest.length...	runWaste
11/11/2025	1	CWTHD56W	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	10	401.0 ft	6.58 ft	9.90 ft	1.65
11/10/2025	1	DNDJ5B9N	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	23	280.0 ft	6.09 ft	9.90 ft	1.63
11/10/2025	1	CVQJA08Z	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	7	203.0 ft	3.18 ft	9.90 ft	0.83
11/07/2025	1	CWQW0MUD	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	44	1,093.0 ft	21.97 ft	9.90 ft	1.93
11/07/2025	1	CW032D0VR	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	28	293.0 ft	6.09 ft	9.90 ft	1.77
11/07/2025	1	CWT4R8MCR	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	24	140.0 ft	6.09 ft	9.90 ft	1.04
11/02/2025	1	GRVEMHVM9	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	3	112.9 ft	6.09 ft	9.90 ft	0.39
11/02/2025	1	CYPEYTCQM	29G-Z8-GALVAN	2.500SQUARE	CGJI4..EPI	24	121.0 ft	6.09 ft	9.90 ft	1.65

Benefits

- **Full Coil Visibility**
  See complete coil details including material, gauge, width, and coating.
- **Real-Time Status**
  Know if the coil is active, in use, or completed.
- **Usage & Yield Tracking**
  View good length, scrap, and remaining footage.
- **Production History**
  See every order, machine run, and length produced from the coil.
- **Traceability & Quality**
  Maintain a full history for quality, compliance, and customer requirements.
- **Better Material Planning**
  Make informed decisions on coil usage, inventory, and next runs.

Coil Summary

A Complete, At-a-Glance View of Coils, Materials, and Production Results



Coil Number	Coil Material	Heat Number	Desc	Load Count	Good ft	Scrap ft	Other ft	Net Chg ft
CCUBP3GER	24G-20.875-MATBLA		COIL 24GA 20.875 GR50 AZ50 MATTE BLACK	6	1,925.3	66.0	0.0	1,991.2
CUIH4KQXP	26G-42.75-GALVAL		COIL 26GA 42.75 GLUME GR80 AZ55 BARE GALVALUME	2	1,165.1	167.1	0.0	1,332.2
CKDSVHTKH	24G-16-MEDBRO-2		COIL 24GA 20.875 GR50 AZ50 MEDIUM BRONZE	1	49.7	19.7	0.0	69.4
C48RNTALC	26G-42.75-FORGRE		COIL 26GA 42.75 FOREST GREEN GR80 G60 CF45 FOREST GR	6	2,260.1	175.6	0.0	2,435.8
CUN4EODOT	24G-16-MEDBRO-2		COIL 24GA 20.875 GR50 AZ50 MEDIUM BRONZE	1	63.5	3.5	0.0	66.9

Report Benefits

Complete Coil Overview
View coil number, material, heat number, and product description in one report.

Production Results
See load count, good footage, scrap, other, and net change for each coil.

Material Utilization
Analyze good vs. scrap footage to improve yield and reduce waste.

Data-Driven Decisions
Identify material trends by coil, material, heat, and machine.

Operational Efficiency
Get accurate, real-time coil results to support production planning, cost control, and improvement.

Warehouse App

Real-Time Material Control on the Shop Floor



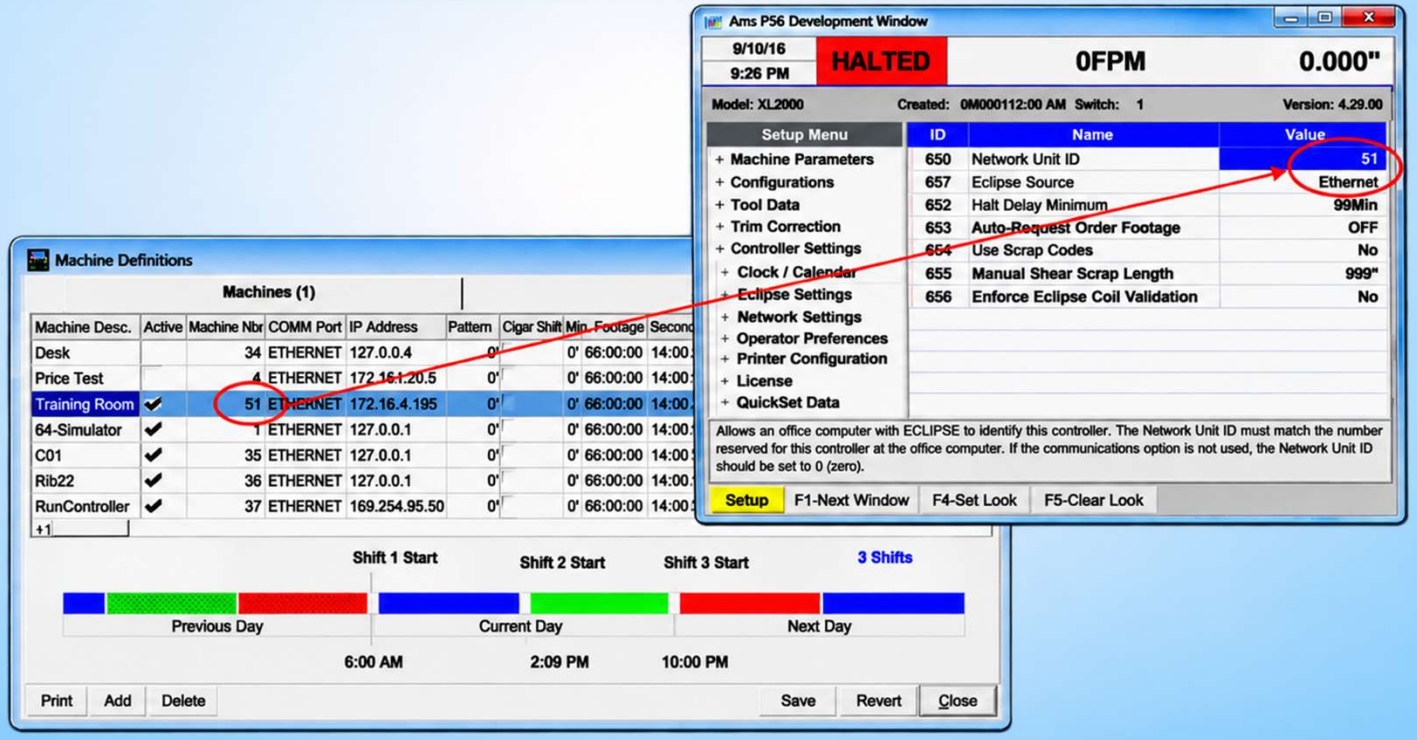
Benefits

- **Real-Time Visibility**
  Know what material is needed, where it is, and when it's due.
- **Faster Material Delivery**
  Get the right coil to the right machine at the right time.
- **Reduced Downtime**
  Keep lines running with accurate, up-to-date material status.
- **Improved Inventory Accuracy**
  Track coils, length, age, and location throughout the plant.
- **Better Coordination**
  Connect warehouse, production, and staging in one system.
- **Higher OEE & Throughput**
  Eliminate manual lookups, delays, and material bottlenecks.

Wrong Machine & ECLIPSE PRO™ MES Solution

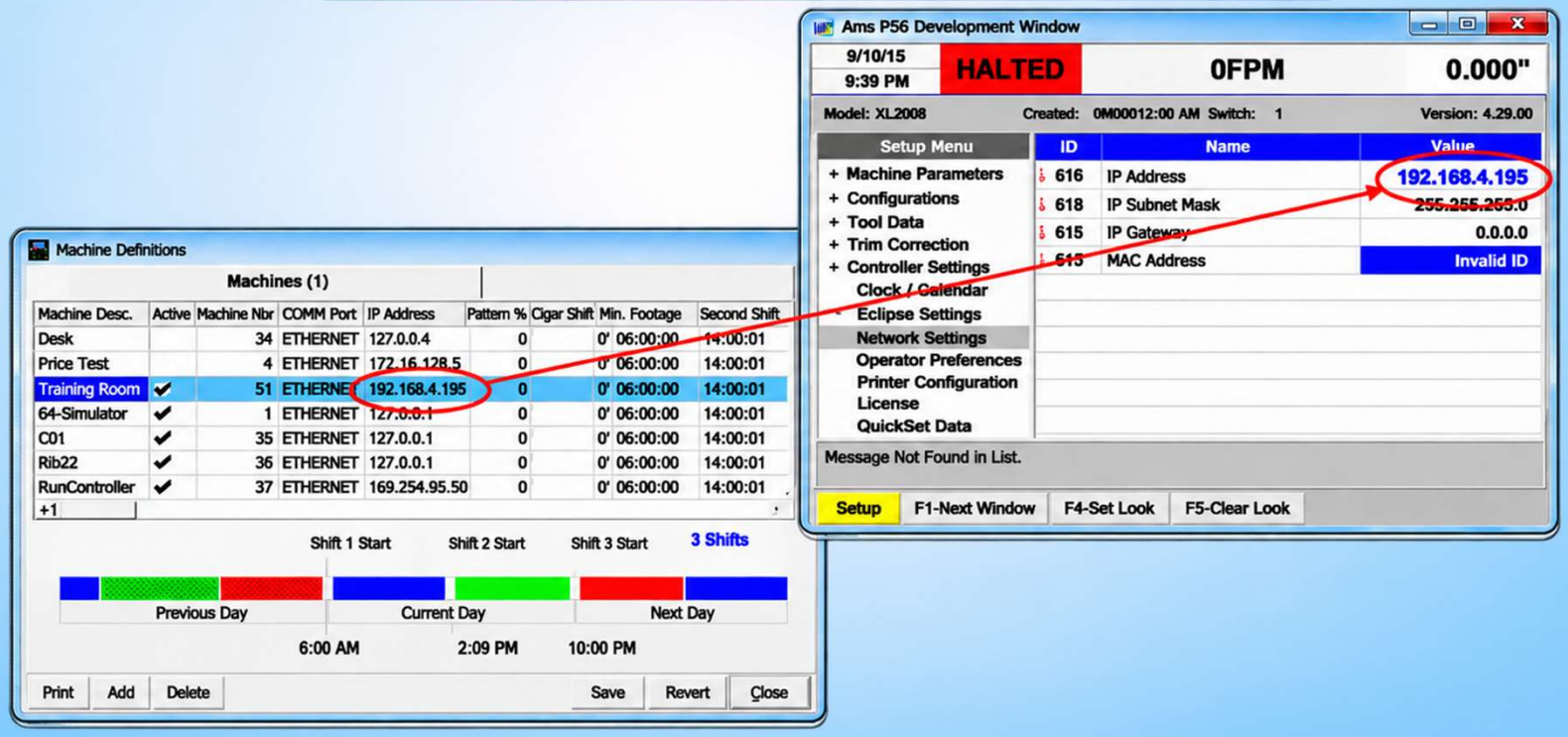
Machine Setup

Version 3 and Older Controllers

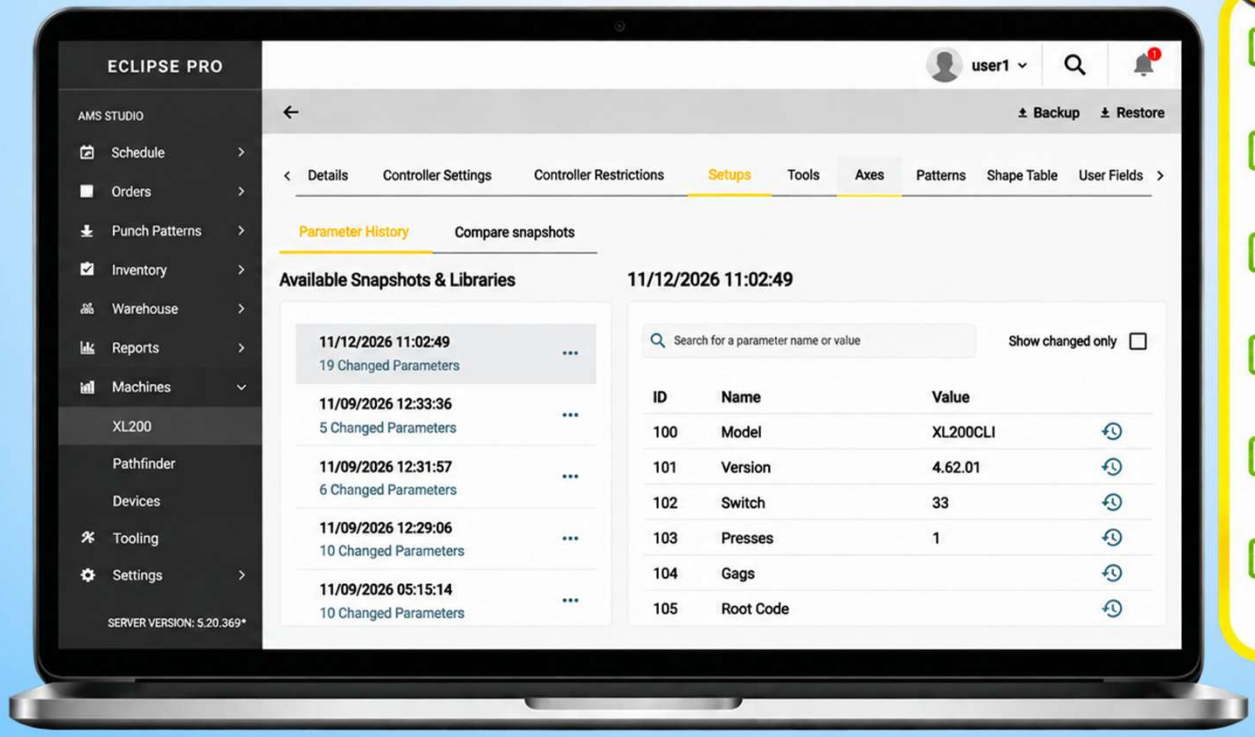


Machine Setup

V4 & V5 Controllers



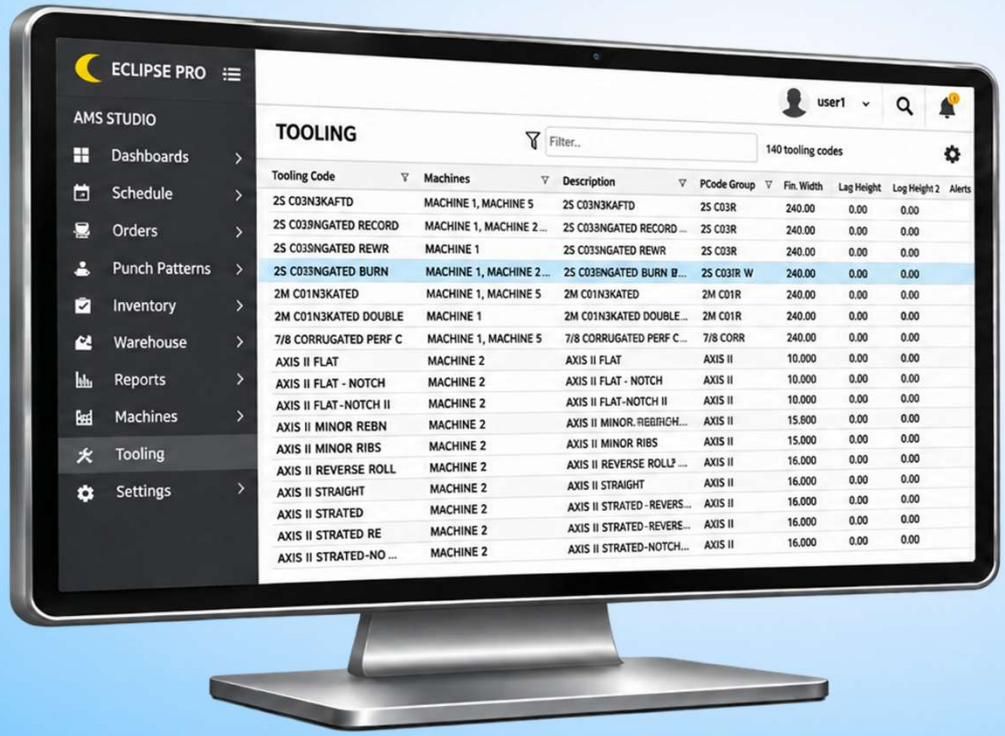
Setup Parameters



Benefits

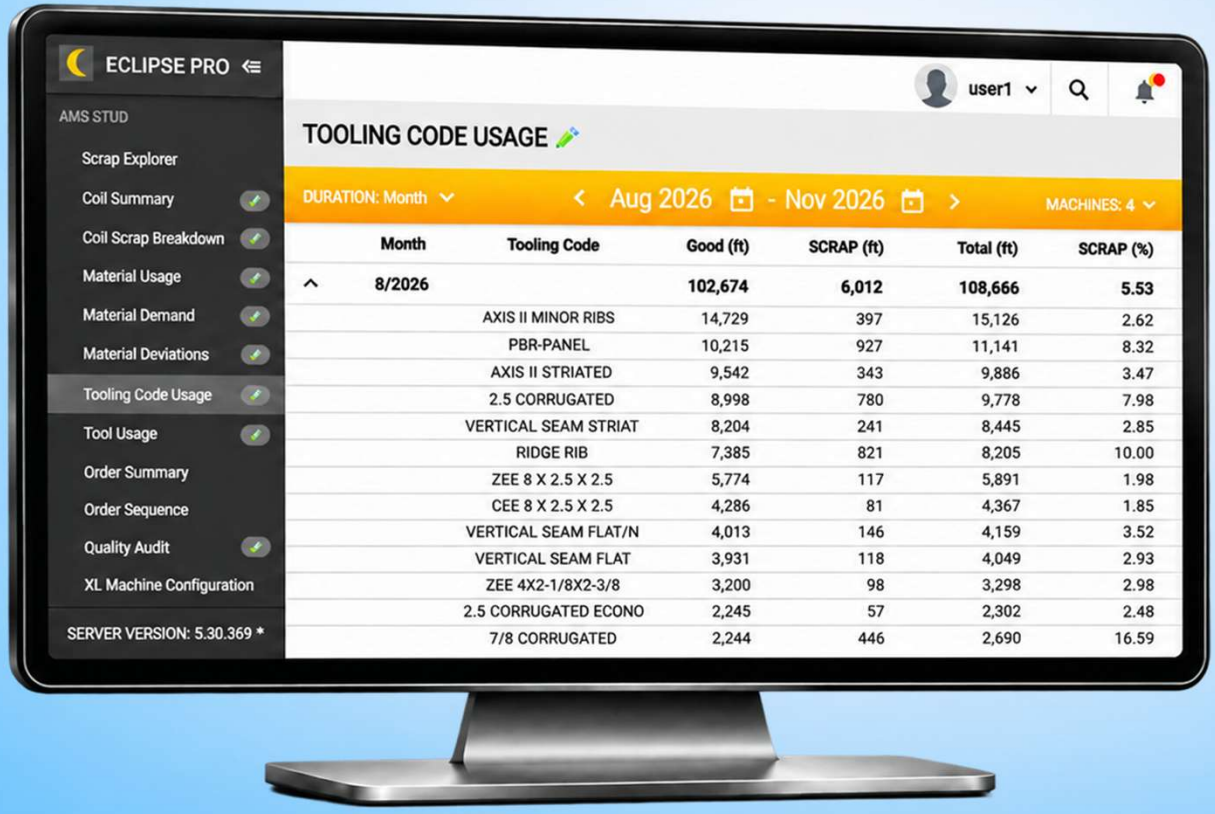
- **View Parameter**
  View current parameters and changes made.
- **Track Changes**
  See what parameters changed, when, and by how much.
- **Compare Snapshots**
  Compare different setup versions side by side.
- **Setup Libraries**
  Save and reuse proven setups across machines.
- **Process Consistency**
  Maintain consistent machine performance and part quality.
- **Faster Troubleshooting**
  Quickly identify and correct setup and configuration issues.

Tooling • Product Code



- Assigns machine to tooling or profiles.
- Sorts the orders to the correct machine when it's imported.
- Multiple machines can be assigned to the same tooling.
- The orders will show up on all assigned machines until the order is assigned or sent to a machine.

Tooling Code Usage Report



Month	Tooling Code	Good (ft)	SCRAP (ft)	Total (ft)	SCRAP (%)
8/2026		102,674	6,012	108,666	5.53
	AXIS II MINOR RIBS	14,729	397	15,126	2.62
	PBR-PANEL	10,215	927	11,141	8.32
	AXIS II STRIATED	9,542	343	9,886	3.47
	2.5 CORRUGATED	8,998	780	9,778	7.98
	VERTICAL SEAM STRIAT	8,204	241	8,445	2.85
	RIDGE RIB	7,385	821	8,205	10.00
	ZEE 8 X 2.5 X 2.5	5,774	117	5,891	1.98
	CEE 8 X 2.5 X 2.5	4,286	81	4,367	1.85
	VERTICAL SEAM FLAT/N	4,013	146	4,159	3.52
	VERTICAL SEAM FLAT	3,931	118	4,049	2.93
	ZEE 4X2-1/8X2-3/8	3,200	98	3,298	2.98
	2.5 CORRUGATED ECONO	2,245	57	2,302	2.48
	7/8 CORRUGATED	2,244	446	2,690	16.59

Report Benefits

Track Tooling (Die) Usage

See which tools are being used, by machine and over time.

Plan Preventive Maintenance

Know when to service rapted (single) or double-deck tooling based on usage.

Identify Potential Tooling Issues

Spot high scrap rates early, which can be a leading indicator of tooling wear or damage.

Tool Usage Report



Report Benefits

Track Punch (Tool) Usage
See each punch number, total hits, and percent of use by machine over time.

Plan Preventive Maintenance
Know when a punch is nearing wear and schedule regrinding or service.

Identify Potential Punch Issues
Use scrap hits and rates to spot punch wear or damage early and take action.

AMS CONTROLS

Productivity • Profit

&

ECLIPSE PRO™

MES Solution

Profit Model Overview

GOAL:
Profit Now and in the Future

Simple Model:

Gross Profit
– Overhead
Operating Profit



Gross Profit

Gross Profit = Selling Price − Material Cost



Machine Speed vs. Throughput

Road Trip: Chicago to St. Louis = 300 Miles



Machine Speed vs. Throughput

Road Trip: Chicago to St. Louis = 300 Miles



Good news:

Bugatti Veyron

- Speed = 265 mph
- Trip time = 67 minutes!
- Throughput = 265 mph



Bad news:

Potty-training toddler

- Must stop every 45 mi.
- Each stop = 20 min.
- Trip time = 187 min.
- Throughput = 96 mph



More bad news:

Antique-obsessed mother-in-law

- Must stop at every flea market @ 60 min. ea.
- Trip time = 307 minutes
- Throughput = 58 mph

Machine Speed vs. Throughput

Back to Roll Forming...



Good news:

Flying shear

Speed = 135 fpm

Throughput = 135 fpm



Bad news:

20 Coil changes/shift

12 minutes/change

240 minutes downtime

Throughput = 58 fpm



!! More bad news:

2 Tooling changes/shift

35 minutes/change

310 minutes downtime

Throughput = 35 fpm

How Roll Formers Make Money

Production per Day

(420 – 310) × 135 = **14,850’**

Gross Profit per Year

14,850 × $0.50 × 250 = **$1.9M**

Overhead per Year

= **$800K**

Operating Profit

= **$1.1M**



How Roll Formers Make Money

Almost... Additional downtime from data entry, etc: **35 min.**

Production per Day

(420 – 310 – 35) × 135 = **10,125'**

Gross Profit per Year

10,125 × $0.50 × 250 = **$1.3M**

Overhead per Year = **$800K**

Operating Profit = **$466K**



How Roll Formers Make Money

Not so fast...

Problems with stacker limit speed to **120 fpm.**

Production per Day

(420 – 345) × 120 = **9,000'**

Gross Profit per Year

9,000 × $0.50 × 250 = **$1.1M**

Overhead per Year = **$800K**

Operating Profit = **$325K**



How Roll Formers Make Money

Oh, Scrap! — **2%** of parts have a problem and you scrap **10'** per coil change.

Production per Day

$(420 - 345) \times 120 \times 98\% =$ **8,820'**

Gross Profit per Year

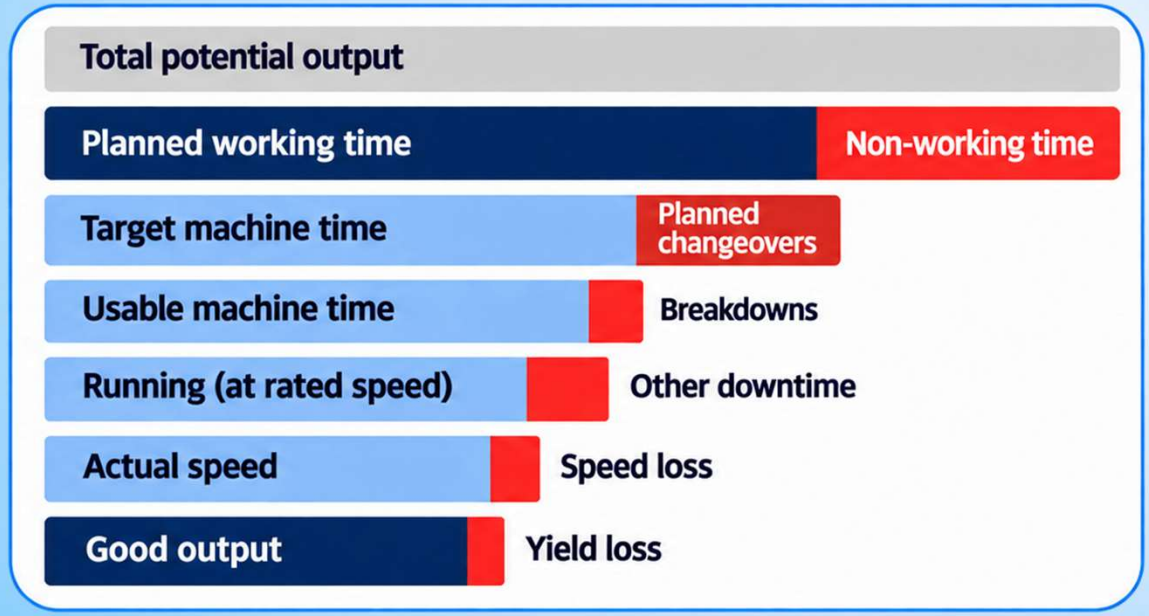
$8{,}820 \times \$0.50 \times 250 - (180 + 200) \times \$2.00 =$ **$914K**

Overhead per Year = **$800K**

Operating Profit = **$114K**



OEE: Overall Equipment Effectiveness



Key OEE Metrics

Availability %
Running time ÷ planned working time

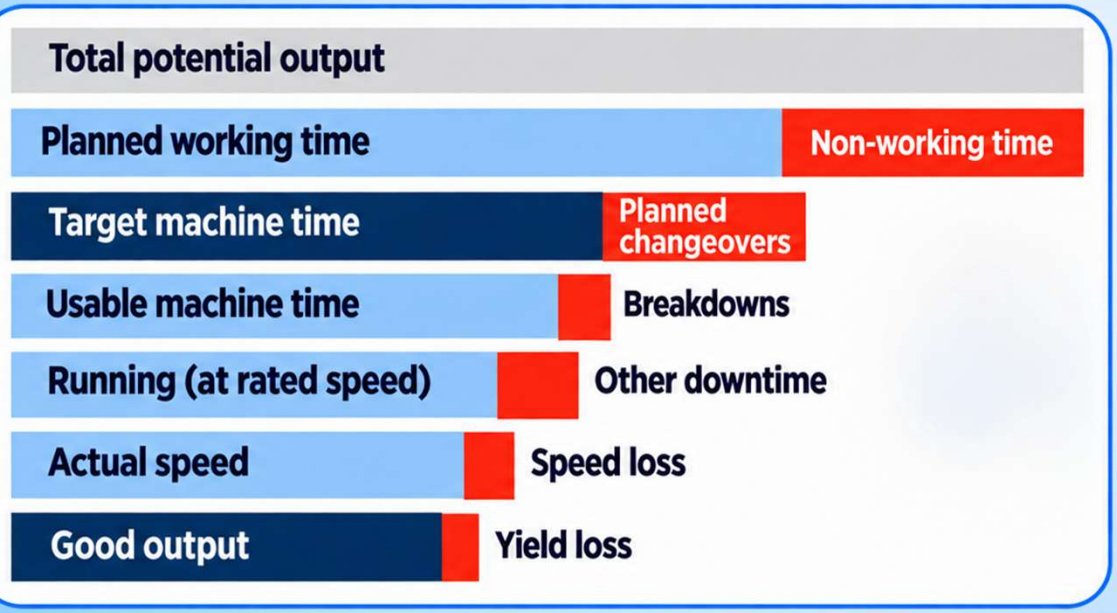
Speed %
Actual speed ÷ OEM rated speed for that part

Yield %
Good parts ÷ total parts

OEE %
Availability × Speed × Yield = good output ÷ planned working time potential

OEE is best for long-term trends. Day to day it swings with the number of changeovers.

Target %: A Fairer Measure for a Shift or a Day



Key Target Metrics

Target Availability %
Running time ÷ target machine time

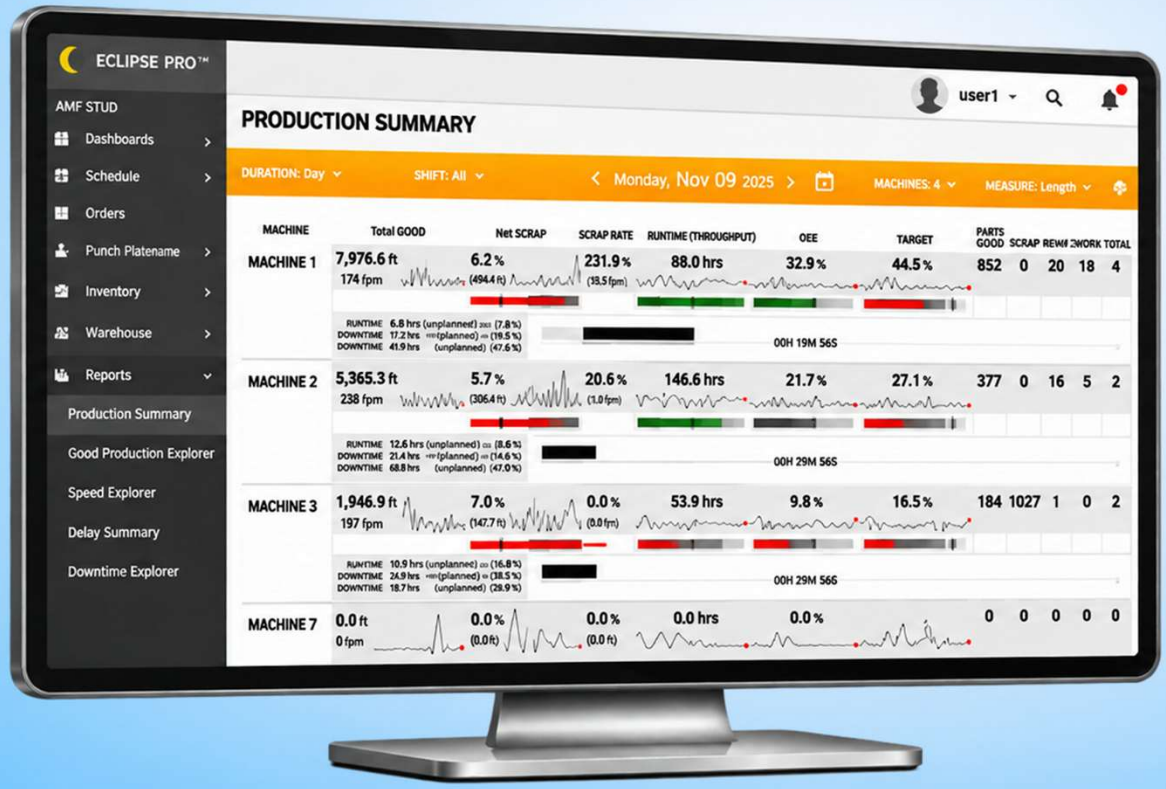
Speed %
Actual speed ÷ OEM rated speed for that part

Yield %
Good parts ÷ total parts

Target %
Target availability × Speed × Yield

Planned changeovers get credit at standard times. That matters most with many changeovers per shift.

Production Summary



Production Summary Benefits

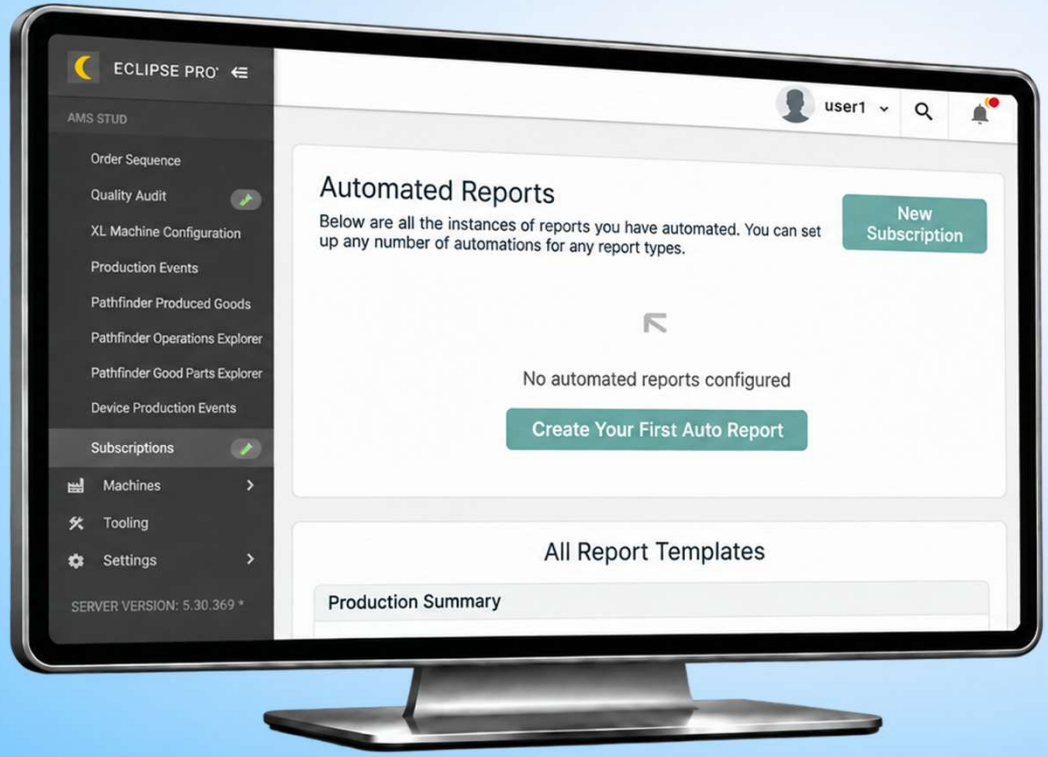
Real-Time Performance
See key production metrics by machine, including output, scrap, throughput, OEE, and target.

Identify Issues Quickly
Spot downtime, changeovers, and other losses at a glance.

Improve Productivity
Take action to reduce scrap, increase throughput, and meet targets.

Track Production Progress
Monitor each machine's status and performance for the selected day, shift, or time period.

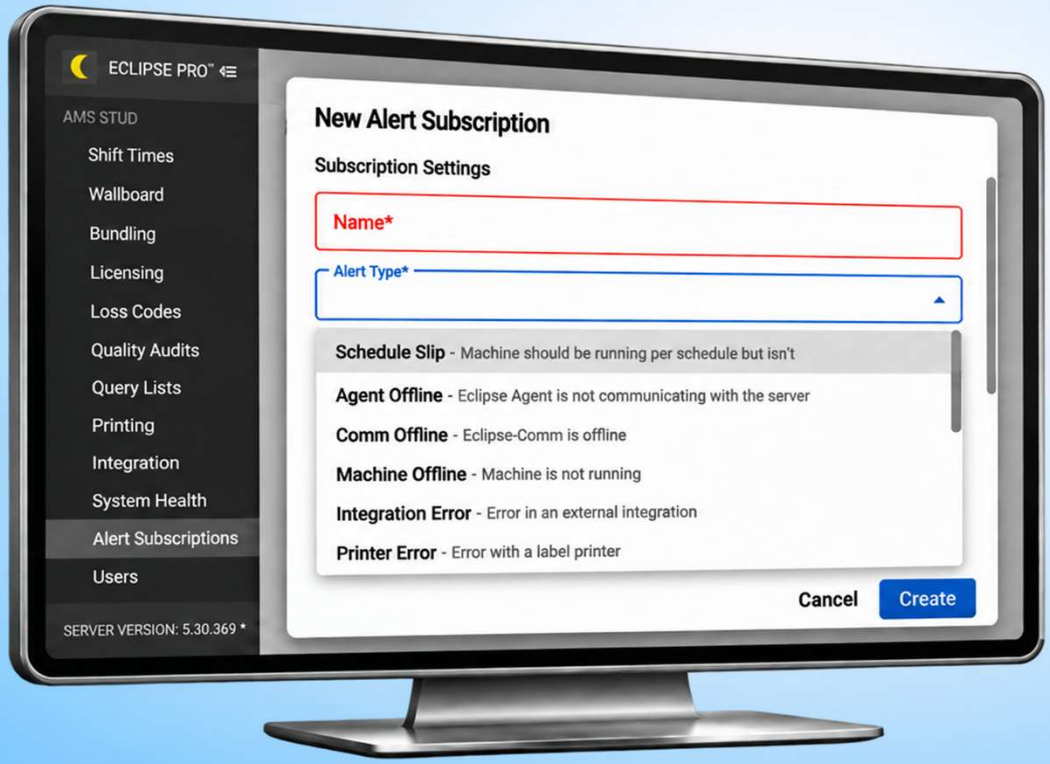
Subscription • Reports



Available Reports for Subscription

- Production Summary
- Material Usage
- Order Summary
- Coil Summary
- Delay Summary
- Scrap Summary
- Quality Audit
- Tooling Code Usage
- Tool Usage
- Material Demand
- Pathfinder Produced Goods
- XL Machine Configuration
- Coil Scrap Breakdown

Subscription • Alerts



Subscription • Alert Benefits

Real-Time Notifications
Get instant alerts for key events that impact production.

Monitor What Matters
Subscribe to specific alerts (e.g., schedule slip, machine offline, errors).

Keep Teams Informed
Automatically notify the right people so issues can be addressed quickly.

Reduce Downtime
Detect and respond to problems early to keep production on track.

Scrap Tracking & ECLIPSE PRO™ MES Solution

How does Eclipse PRO help?

Less Waste



Minimize Scrap



Optimize Production Schedule



Optimize Cutting Patterns
for slitters or shears



Mistake-Proofing!



Knowing Causes Leads to Fixes

Scrap Handling

4 Methods of Handling Scrap Pieces



Increase Quantity

Add additional parts to the next order to use the scrap.



Remake

Regenerate the part from scrap material.



Hand-keyed “900” Bundle

Group and track scrap pieces as a 900 bundle in Eclipse PRO.



Barcode Scan “On-the-Fly”

Scan and process scrap pieces in real time during production.

Scrap Handling



Increase Quantity

Add additional parts to the next order to use the scrap.



Used for small quantities (1 – 2 pieces at a time).



Cut list item cannot have a status of “DONE”.



Can be used “on-the-fly” in most applications.



Parts produced this way are counted as Scrap.



Operators must be careful around Bundle and Order transitions.

Scrap Handling

Remake

Regenerate the part from scrap material.



Used for large quantities or when an item is “DONE”.



Cannot be used “on-the-fly”.



Parts produced this way are always counted as Scrap.



Parts are not counted as Scrap until they are produced.

Scrap Handling



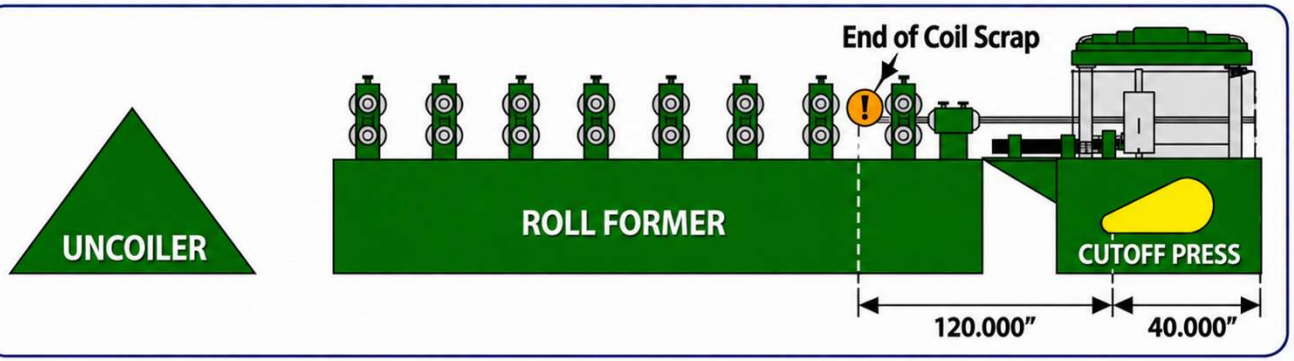
900 Bundle Number – For when you KNOW you're making Scrap!

- Any bundle with a 900+ number is automatically counted as Scrap.
- The last 2 digits carry the Scrap Code.
- Used by Machine Operators to handle large quantities of Scrap.
- The current coil has a large section of defective material.
- The Machine Operator or Setup Man is working on a tooling setup or problem that will clearly generate a lot of Scrap in the process of forming a good part.

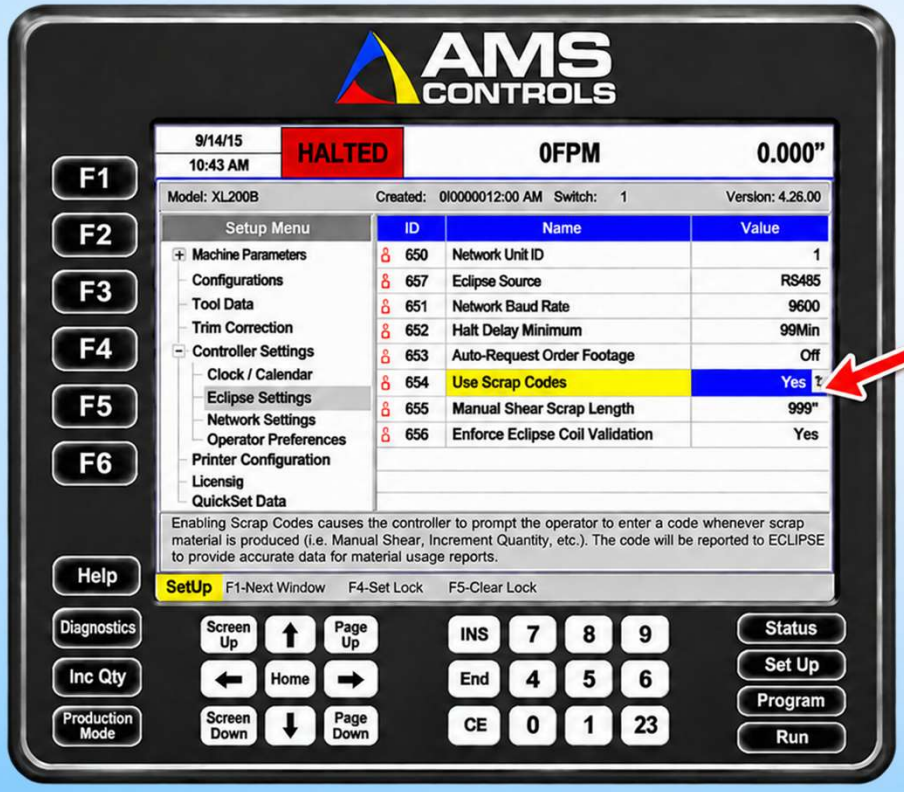
Scrap Handling

Decrease Quantity

Decrease Quantity is used to recover good product from something previously counted as scrap. It subtracts from the Scrap total and adds length back to the Good total.



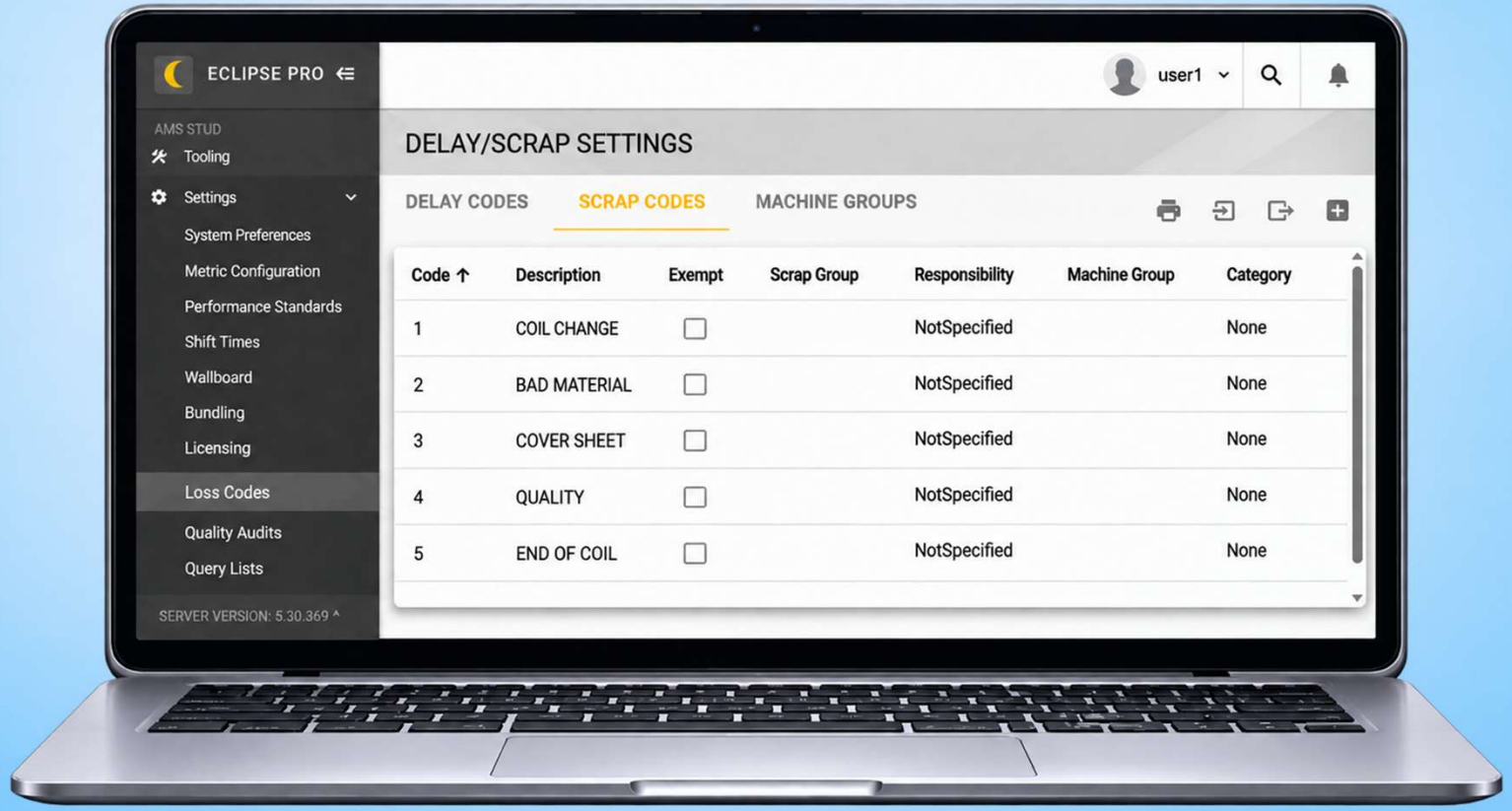
Scrap Handling



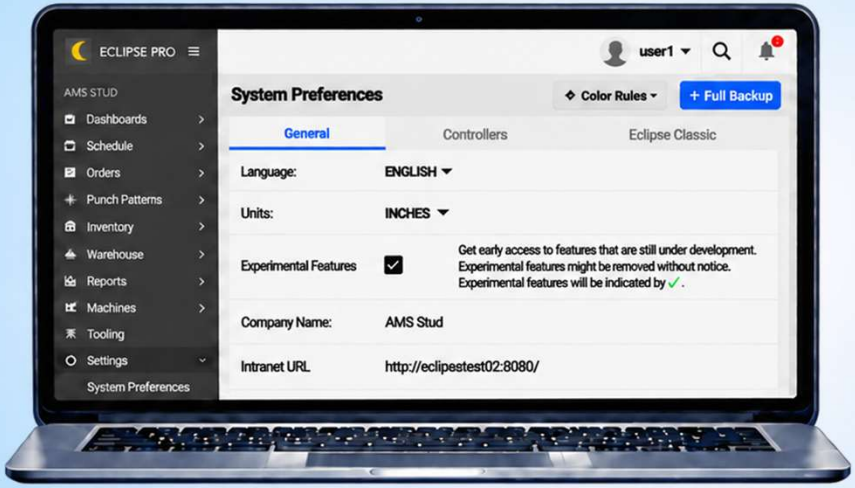
Step 1:

- Set "Use Scrap Codes" to **YES**

Scrap Codes

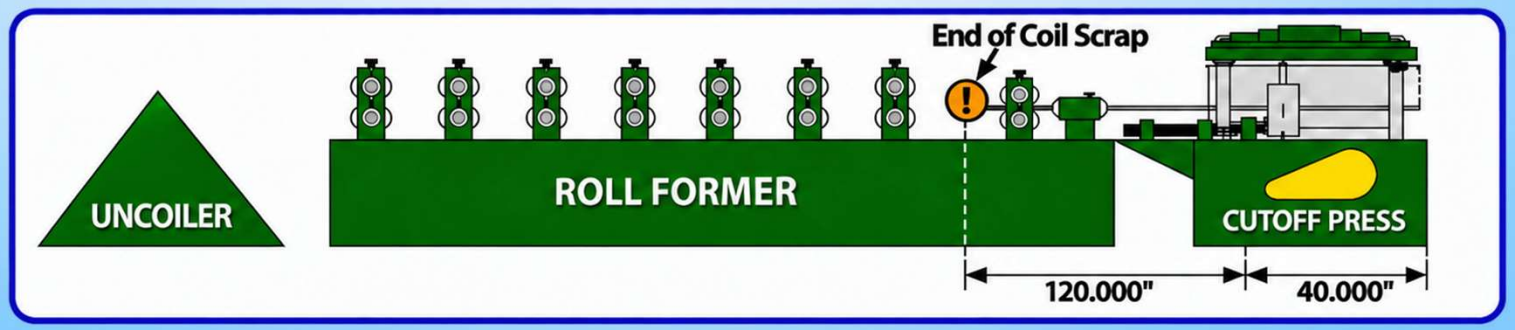

ECLIPSE PRO
user1
AMS STUD
Tooling
Settings
System Preferences
Metric Configuration
Performance Standards
Shift Times
Wallboard
Bundling
Licensing
Loss Codes
Quality Audits
Query Lists
SERVER VERSION: 5.30.369
DELAY/SCRAP SETTINGS
DELAY CODES
SCRAP CODES
MACHINE GROUPS
Code
Description
Exempt
Scrap Group
Responsibility
Machine Group
Category
1 COIL CHANGE NotSpecified None
2 BAD MATERIAL NotSpecified None
3 COVER SHEET NotSpecified None
4 QUALITY NotSpecified None
5 END OF COIL NotSpecified None

Scrap Codes

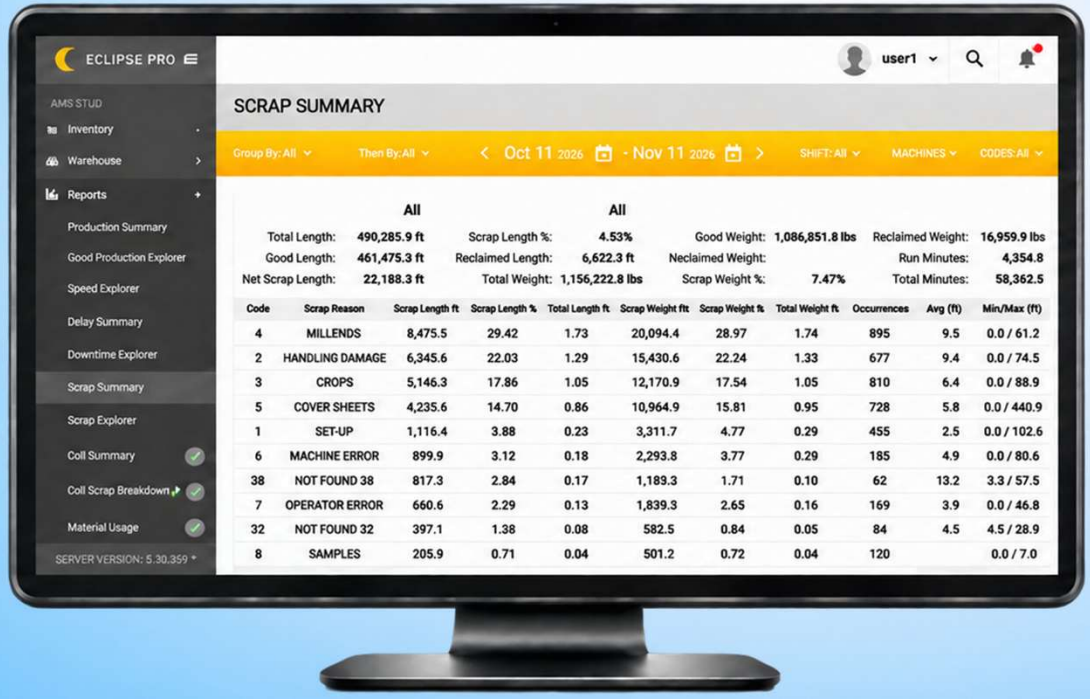


1 Select the ***Tail-Out Code***, with the Scrap Code from the material between the ***Tail-Out Sensor*** to ***Shear.***

Code ↑	Description
3	COVER SHEET
4	QUALITY
5	TAIL-OUT
6	END OF COIL



Scrap Summary Report



	All		All			
Total Length:	490,285.9 ft	Scrap Length %:	4.53%	Good Weight:	1,086,851.8 lbs	Reclaimed Weight:	16,959.9 lbs
Good Length:	461,475.3 ft	Reclaimed Length:	6,622.3 ft	Neclaimed Weight:		Run Minutes:	4,354.8
Net Scrap Length:	22,188.3 ft	Total Weight:	1,156,222.8 lbs	Scrap Weight %:	7.47%	Total Minutes:	58,362.5

Code	Scrap Reason	Scrap Length ft	Scrap Length %	Total Length ft	Scrap Weight ft	Scrap Weight %	Total Weight ft	Occurrences	Avg (ft)	Min/Max (ft)
4	MILLENDS	8,475.5	29.42	1.73	20,094.4	28.97	1.74	895	9.5	0.0 / 61.2
2	HANDLING DAMAGE	6,345.6	22.03	1.29	15,430.6	22.24	1.33	677	9.4	0.0 / 74.5
3	CROPS	5,146.3	17.86	1.05	12,170.9	17.54	1.05	810	6.4	0.0 / 88.9
5	COVER SHEETS	4,235.6	14.70	0.86	10,964.9	15.81	0.95	728	5.8	0.0 / 440.9
1	SET-UP	1,116.4	3.88	0.23	3,311.7	4.77	0.29	455	2.5	0.0 / 102.6
6	MACHINE ERROR	899.9	3.12	0.18	2,293.8	3.77	0.29	185	4.9	0.0 / 80.6
38	NOT FOUND 38	817.3	2.84	0.17	1,189.3	1.71	0.10	62	13.2	3.3 / 57.5
7	OPERATOR ERROR	660.6	2.29	0.13	1,839.3	2.65	0.16	169	3.9	0.0 / 46.8
32	NOT FOUND 32	397.1	1.38	0.08	582.5	0.84	0.05	84	4.5	4.5 / 28.9
8	SAMPLES	205.9	0.71	0.04	501.2	0.72	0.04	120		0.0 / 7.0

Report Benefits

Scrap Performance at a Glance
Shows total, good, and scrap lengths and weights with key percentages.

Scrap Code Analysis
Breaks down scrap by code and reason (e.g., Millends, Handling Damage, Crops).

Identify Trends
Highlights the most common scrap sources and their impact on production.

Production Accountability
Tracks occurrences, averages, and min/max scrap lengths.

Improve Material Utilization
Use the data to reduce scrap, recover material, and improve overall efficiency.

Downtime Tracking & ECLIPSE PRO™ MES Solution

How Does Eclipse PRO Help?

More Capacity



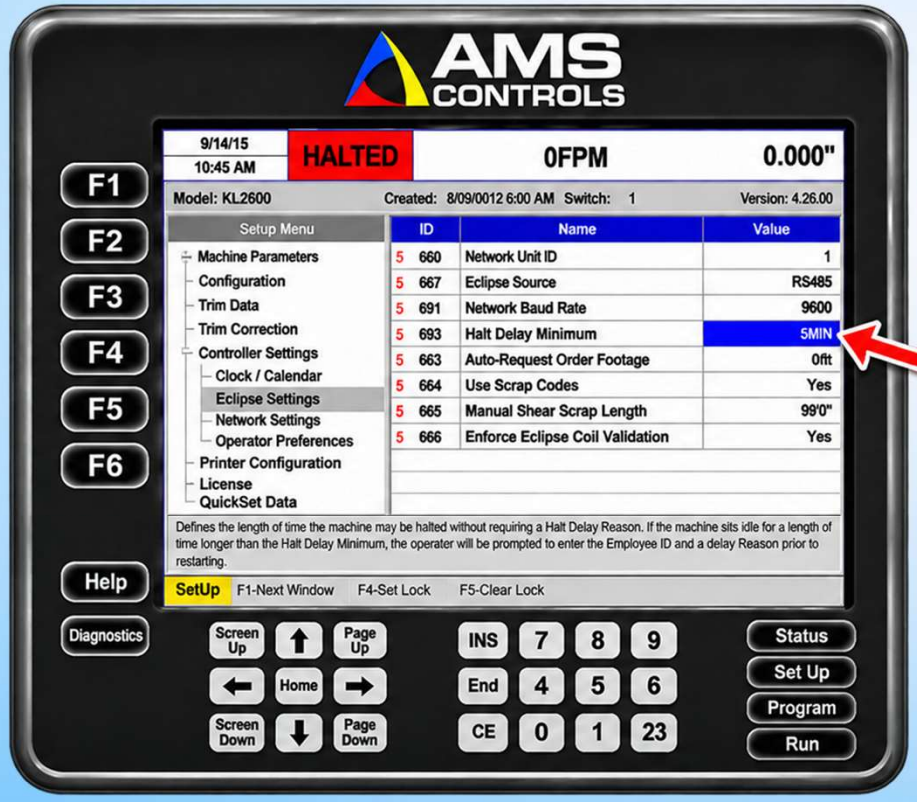
Eliminate Data Entry
Automatically capture and record coil and production data.

Simplify Coil & Production Logging
Track coils and production in real time within Eclipse PRO.

Keep Material Flowing
Reduce waiting for coils to arrive or finished goods to be removed.

Minimize Changeover Time
Coordinate operations with real-time data and visibility.

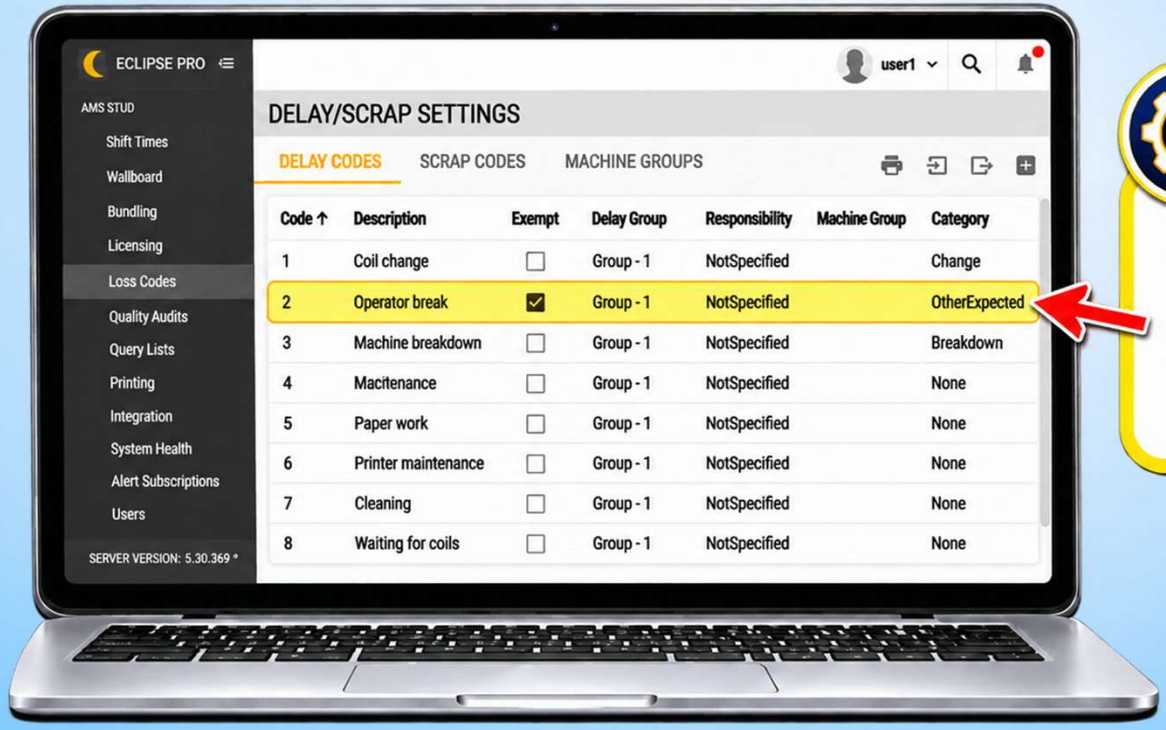
Downtime Tracking



Step 1:

- Set “Halt Delay Minimum” to **5 Min**

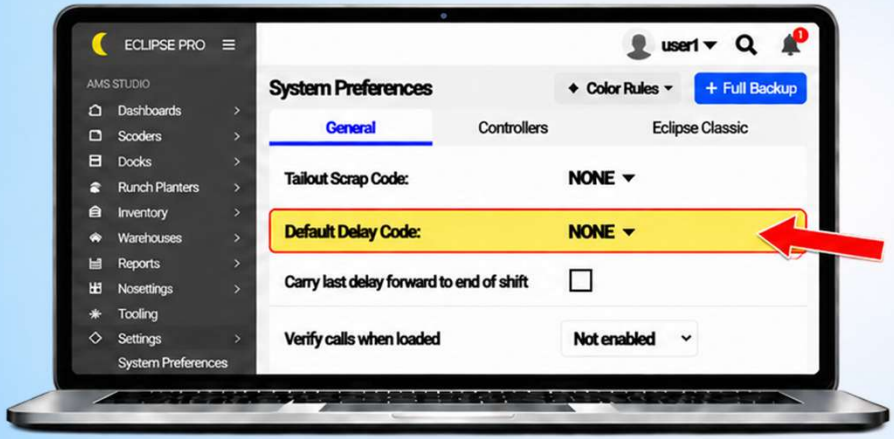
Downtime Tracking



Step 2:

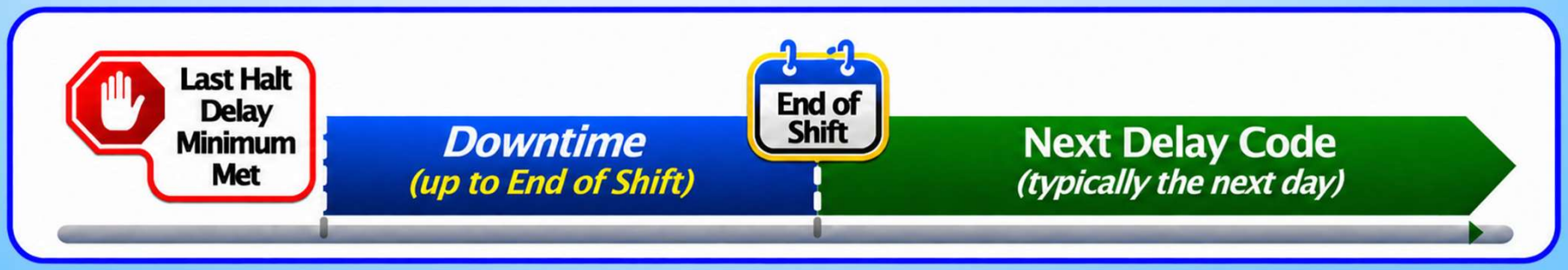
- **Enter the *Delay Code* for the downtime reason.**

Downtime Tracking



Default Delay Code

- Sets the delay code for the *end of shift*.

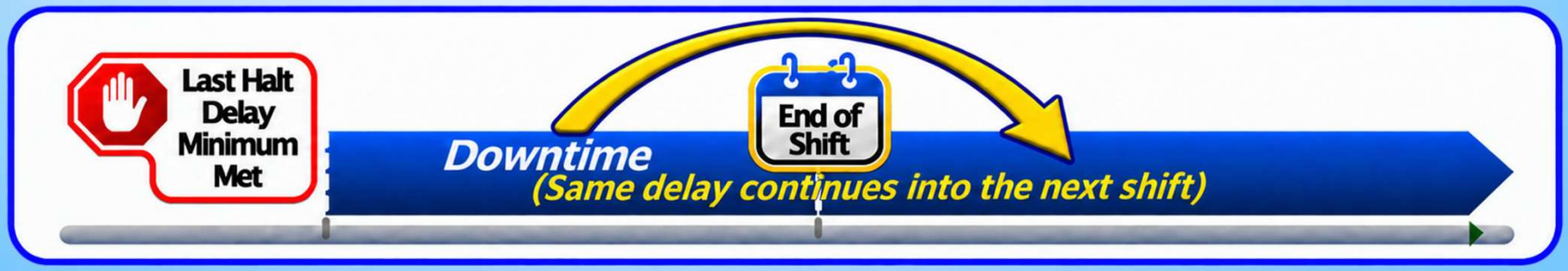


Downtime Tracking

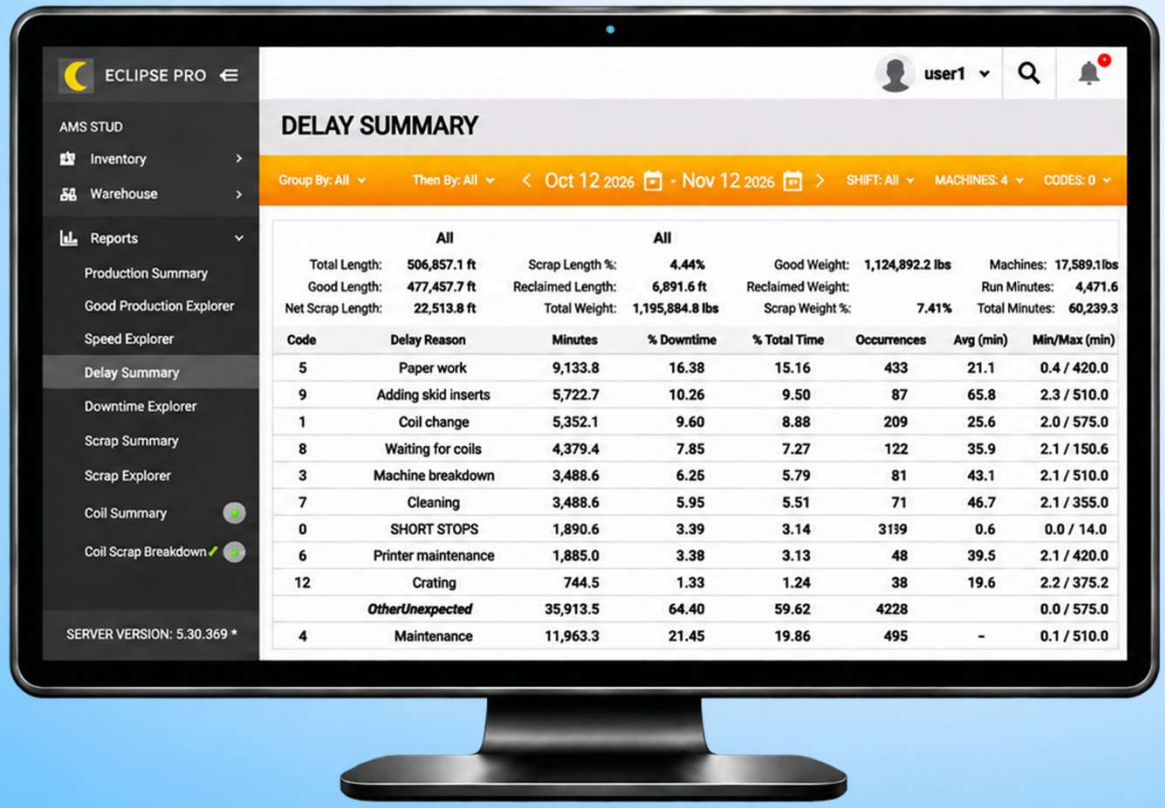


Carry Delay Forward

When checked, the current delay ***continues past the end of the shift*** until the machine runs or another delay is selected.



Downtime Summary Report



	All		All				
Total Length:	506,857.1 ft	Scrap Length %:	4.44%	Good Weight:	1,124,892.2 lbs	Machines:	17,589.1 lbs
Good Length:	477,457.7 ft	Reclaimed Length:	6,891.6 ft	Reclaimed Weight:		Run Minutes:	4,471.6
Net Scrap Length:	22,513.8 ft	Total Weight:	1,195,884.8 lbs	Scrap Weight %:	7.41%	Total Minutes:	60,239.3

Code	Delay Reason	Minutes	% Downtime	% Total Time	Occurrences	Avg (min)	Min/Max (min)
5	Paper work	9,133.8	16.38	15.16	433	21.1	0.4 / 420.0
9	Adding skid inserts	5,722.7	10.26	9.50	87	65.8	2.3 / 510.0
1	Coil change	5,352.1	9.60	8.88	209	25.6	2.0 / 575.0
8	Waiting for coils	4,379.4	7.85	7.27	122	35.9	2.1 / 150.6
3	Machine breakdown	3,488.6	6.25	5.79	81	43.1	2.1 / 510.0
7	Cleaning	3,488.6	5.95	5.51	71	46.7	2.1 / 355.0
0	SHORT STOPS	1,890.6	3.39	3.14	3139	0.6	0.0 / 14.0
6	Printer maintenance	1,885.0	3.38	3.13	48	39.5	2.1 / 420.0
12	Crating	744.5	1.33	1.24	38	19.6	2.2 / 375.2
	OtherUnexpected	35,913.5	64.40	59.62	4228		0.0 / 575.0
4	Maintenance	11,963.3	21.45	19.86	495	-	0.1 / 510.0

Report Benefits

Quantify Downtime
Shows total downtime, minutes, and percentage of total time.

Identify Top Delay Reasons
Ranks delays by time, occurrences, and average duration.

Find Trends Over Time
Compare downtime by date range, shift, machine, or delay group.

Target Improvements
Pinpoints the biggest downtime sources to prioritize corrective actions.

Increase Production Efficiency
Reduce unplanned downtime and maximize runtime and output.

Implementing

ECLIPSE PRO™ MES Solution

Business Mindsets

Intrapreneur

E
Employee



- Works for a company
- Earns a wage or salary
- Trades time for money

S
Self-Employed



- Owns a job (works for themselves)
- Income depends on personal work
- Limited by time and effort

B
Business Owner



- Owns a system or company
- Creates leverage through people, processes, and systems
- Can generate income without your constant involvement

I
Investor



- Puts money to work
- Generates income or asset growth (e.g., real estate, stocks, businesses)
- Builds long-term and passive income

Your Company Culture



BUILD THE CULTURE

Automated metrics only create value when they become part of operating discipline.

DAILY	Top losses, short stops, production misses	Supervisor + operators
WEEKLY	Trends, repeated issues, improvement actions	Operations + maintenance
MONTHLY	Capacity, reliability, ROI, system priorities	Leadership team

Turn Data into Action

Machines give you the facts. People turn those-facts into solutions.

Remove Emotions

CAPTURE DATA FROM MACHINES

No emotion. Just facts.



FACTS CREATE OPPORTUNITY

Needs Emotions

USE HUMAN POWER TO IMPLEMENT SOLUTIONS

Emotional states turn data into action.

CREATIVITY	Finding solutions and opportunities when the obvious resources aren't available.
DECISIVENESS	Making decisions and committing to them instead of hesitating.
PASSION	The internal energy and desire that drive you toward your goals.
HONESTY	Being truthful with yourself about your circumstances, weaknesses, and responsibilities.
SINCERITY	Being genuine in your intentions, relationships, and commitments,
CARING	Caring deeply about your purpose, other peeple, and what you're working to accomplish.

ACCURATE MACHINE DATA + POWERFUL PEOPLE = BETTER DECISIONS, HIGHER PERFORMANCE.

Let's Make More Money!

After implementing Eclipse...

1. No more data entry downtime
2. Fewer customer complaints & "yield loss"
3. Dialog with operators gets the stacker fixed
4. Smart capital spending on coil handling
5. OEE improves from 15.6% to 36%
6. Operating profit increase from $114K to $1.5M

