AVISTRATA
AVIATION BUSINESS PLATFORM

From first call to first mission

A special mission aircraft program, start to finish, in Avistrata

For aircraft operators, integrators and their customers · Avistrata 2.2

This brief follows one program through Avistrata: winning the work, signing the contract, planning the build, doing the work on the hangar floor, delivering the aircraft and flying it on missions. Each stage builds on the one before it, in the same system and from the same records, so nothing is typed in twice.

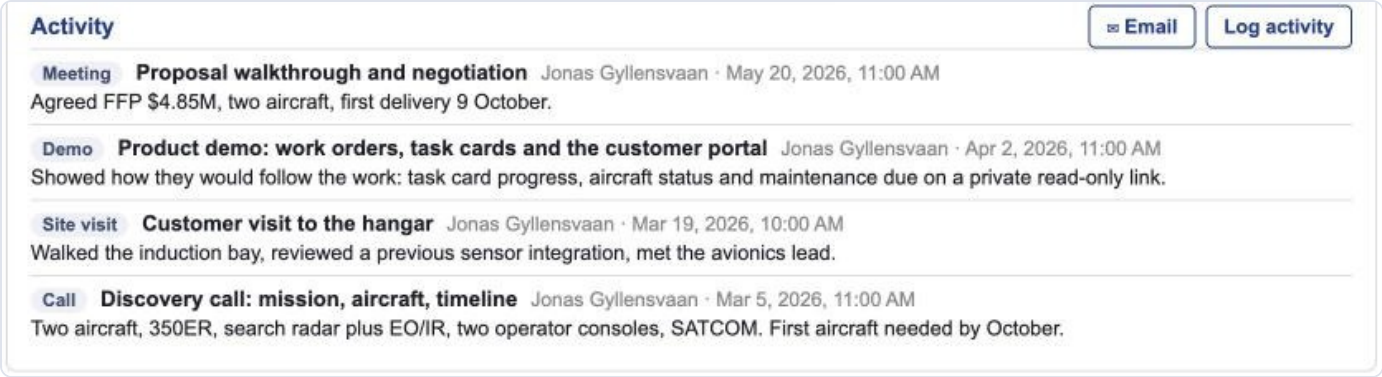
The sample program. A coastal patrol agency needs two Beechcraft King Air 350ER converted for maritime patrol: a belly search radar and radome, an EO/IR turret, two operator consoles in the cabin, SATCOM and mission power, plus the phase inspections due at induction. The contract is $4.85 million, firm fixed price. Aircraft 1 has been delivered and is starting patrol flights; aircraft 2 is halfway through its installation. **Every company, person, tail number and figure in this brief is fictional.** The screenshots are real Avistrata screens showing this sample data. The sample was entered in one sitting, so some records (signatures, the AI plan, notifications) carry the date it was entered.

1 · Win	2 · Sign	3 · Plan	4 · Run	5 · Build	6 · Deliver	7 · Fly	8 · Support
Lead, opportunity and business case	Contract with e-signature	Work orders and task cards from the case	Program, schedule, resources and what-ifs	Task cards signed off on the floor	Induction, redelivery and acceptance	Dispatch, crew checks and squawks	Engineering, hangar, stores and AOG

When	What happened in the sample
March 2026	A lead from a trade show becomes an opportunity. Calls, a hangar visit and a product demo are logged against it.
April to May	The business case is reviewed at SIOP, approved to bid, submitted and won on 29 May.
June	Both parties sign the contract online. The AI plan turns the case into 12 work orders with 62 task cards, and the program starts.
June to October	Aircraft 1 is inducted, inspected, modified and test flown. The customer signs its acceptance certificate on 27 October.
September to December	Aircraft 2 is inducted and is in its avionics installation now. The program manager models extra technicians and overtime to protect its December delivery.
From 27 October	Aircraft 1 starts crew training and patrol sorties. The first squawk goes to maintenance the same day.

1 Win the work

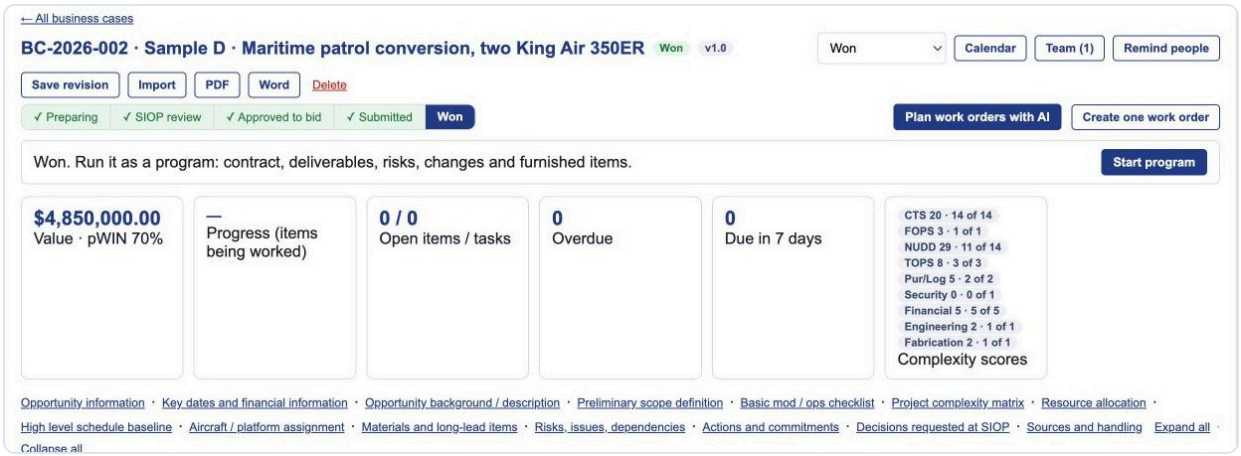
Business Development keeps the whole pursuit in one place. The lead and its opportunity hold the company, the contact who will sign, the value, the stage and the next step. Every call, visit, demo and email is logged against them, so anyone picking up the account sees its history.



The opportunity's activity: discovery call, hangar visit, product demo and the negotiation meeting.

The business case

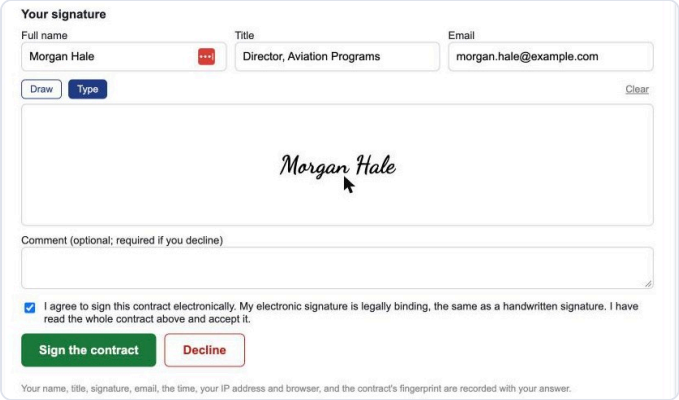
The bid is worked up as a business case on the organization's own template, here a SIOP review template. It covers the scope questionnaire, a complexity matrix, the hours by function, a high-level schedule, the aircraft involved, long-lead materials, risks, actions and the decisions needed at review. The case moves through **Preparing → SIOP review → Approved to bid → Submitted → Won**, with revisions, reviews, tasks and reminders along the way.



The won case: value and pWIN, complexity scores by domain, and from here, one click each to plan the work orders or start the program.

2 Sign the contract

The contract is written from a template with the deal's details filled in (customer, value, billing terms, dates) and sent for signature from Avistrata. Each signer gets a personal link in turn: the customer first, then the company's authorized signer. They read the whole contract, type or draw a signature and agree to sign electronically.

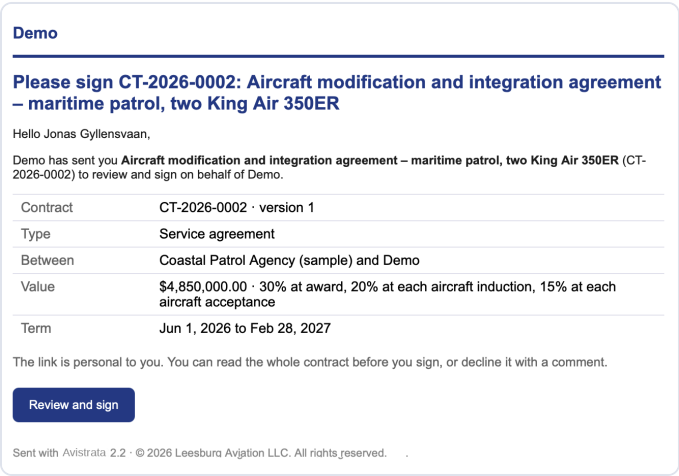


The customer's signing page.

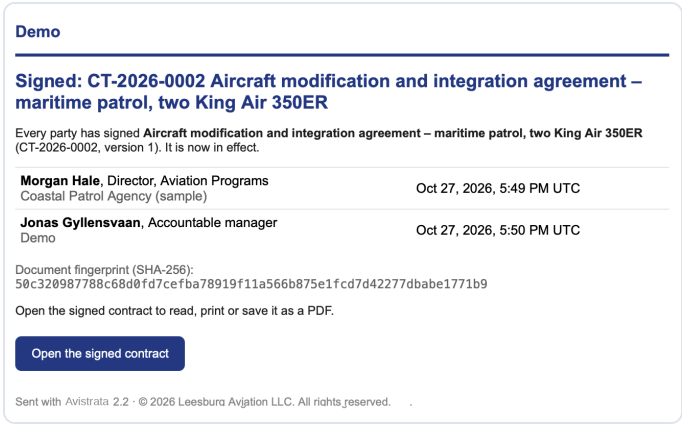


Signed by both parties, in order. The signing record keeps each signature with its time, and the signed version carries a SHA-256 fingerprint of its text.

Once a contract is out for signature, its terms are locked. A change after signing is made as an amendment or a renewal, so the signed version always stays as it was signed.



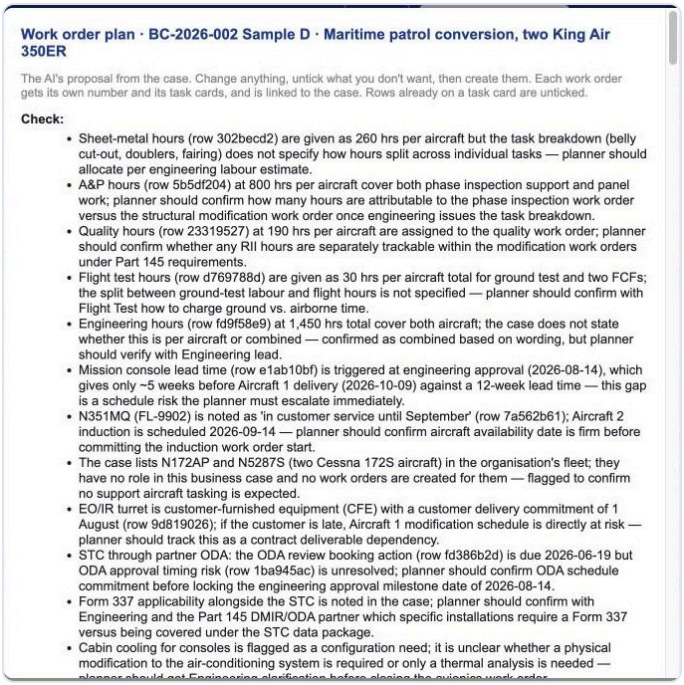
Each signer is emailed in turn with a personal link.



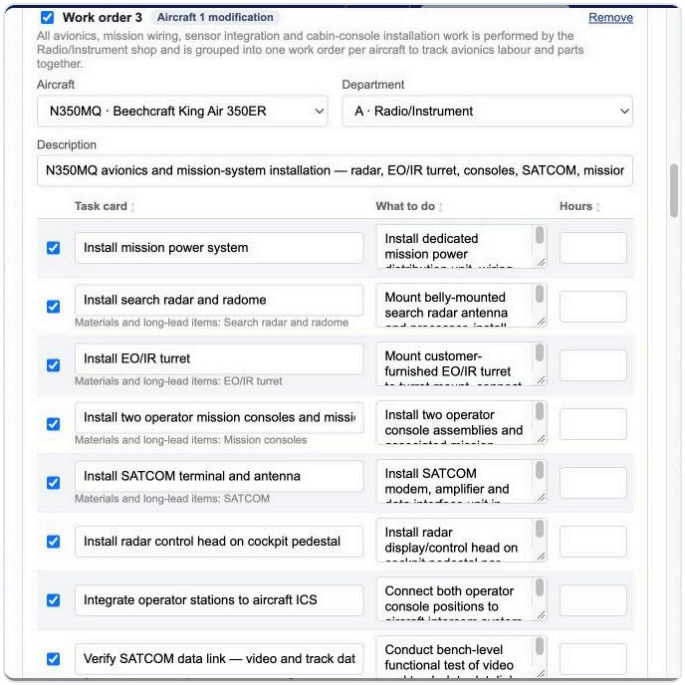
When the last party signs, everyone gets the signed copy with the signing times and the fingerprint.

3 From business case to work orders, automatically

On a won case, **Plan work orders with AI** reads the case (scope, aircraft, hours by function, long-lead items, schedule) and proposes the work orders it needs: one per aircraft and department where that makes sense, each with its task cards and the case row each card came from. It also lists what a planner should check before the work starts.

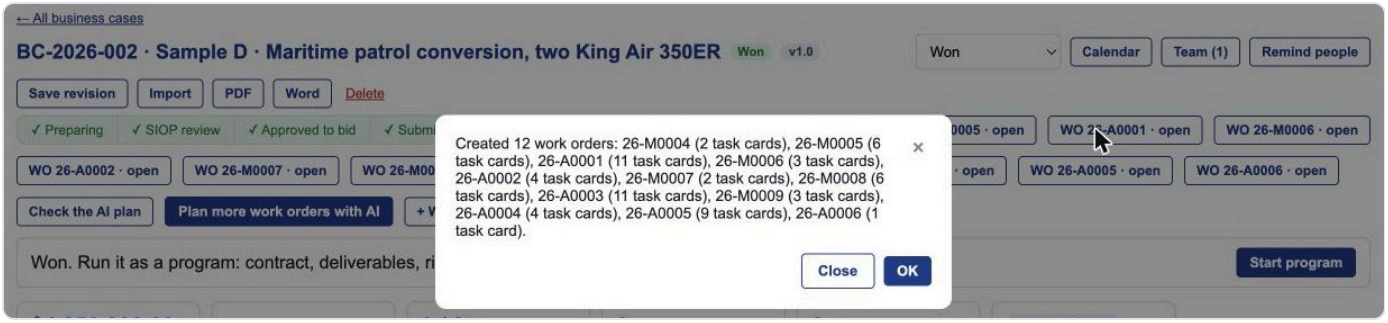


"Check" items the AI raised, for example: mission consoles ordered at engineering approval leave five weeks against a 12-week lead time.



A proposed work order: aircraft, department, description and its task cards. Anything can be changed, unticked or added to.

The planner reviews the proposal and clicks **Create**. Each work order gets its number and task cards and stays linked to the business case.

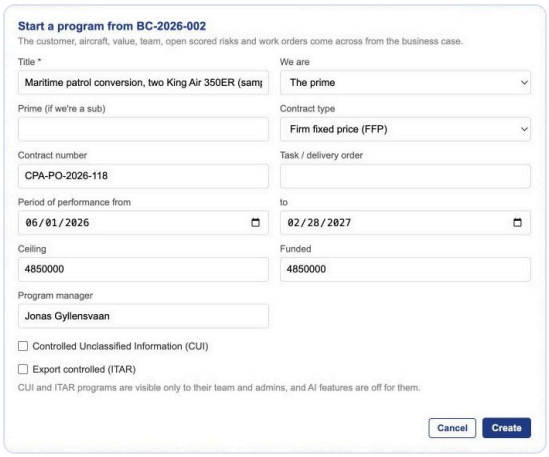


12 work orders and 62 task cards created from the case, shown as links on the case.

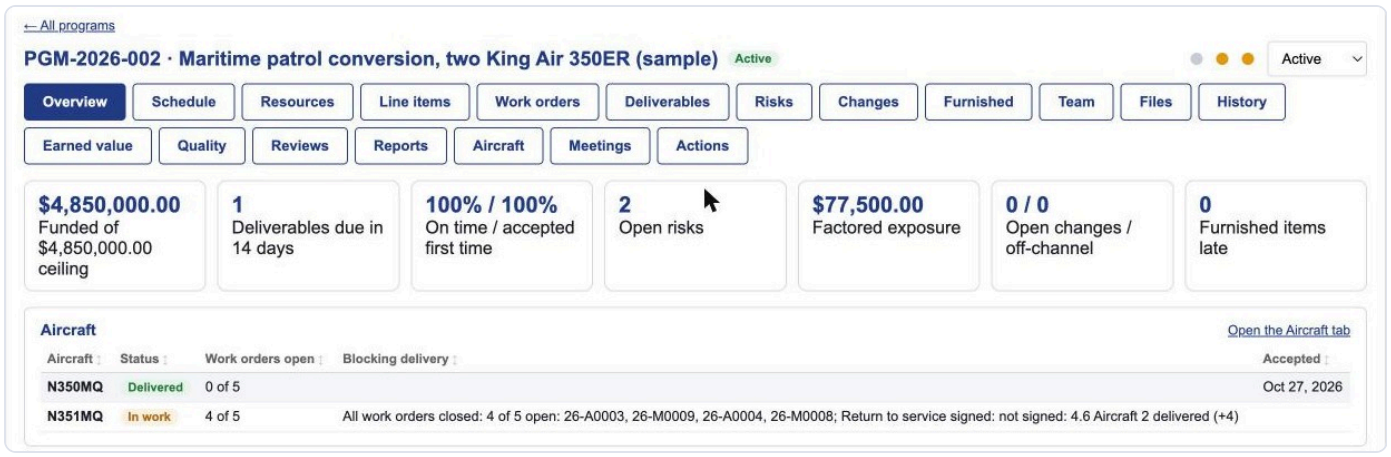
> **Data handling.** Programs marked CUI or export controlled (ITAR) are visible only to their team and admins, and AI features are off for them.

4 Run it as a program

Start program creates the program from the case. The customer, aircraft, value, team, open scored risks and work orders all carry over from the case.



Starting the program from the business case: contract type, number, period of performance, ceiling and funding.



The program overview: funding, deliverables due, on-time and first-time acceptance, open risks and their factored exposure, changes and furnished items. Each aircraft shows its status and what still blocks its delivery.

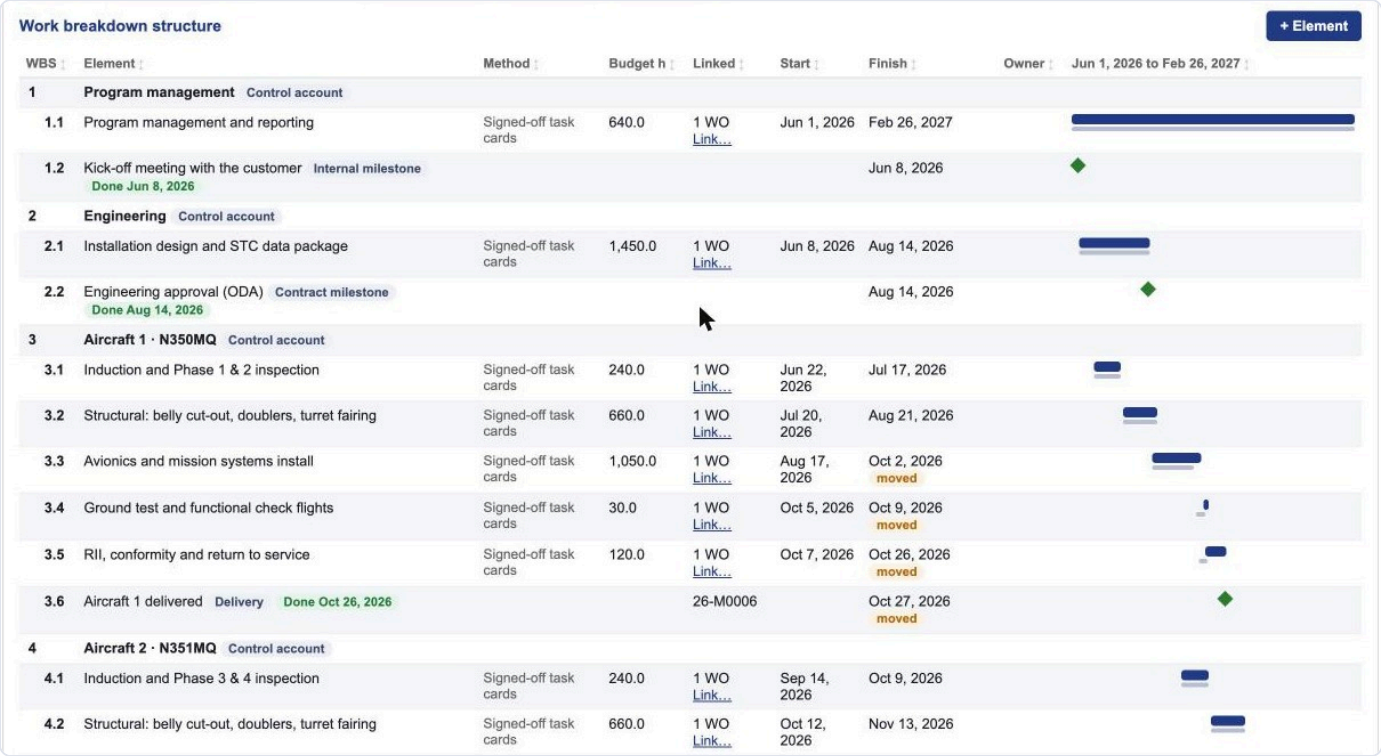
The program holds what a contract manager and program manager need: **line items** (CLINs, options included), **deliverables** with their submissions and acceptance, **risks** with likelihood, consequence and cost and schedule impact, **changes**, **customer-furnished equipment** with its required and promised dates, the team, meetings and action items, files and a full history.



Line items: one per aircraft, training and data, and a 12-month sustainment option, kept out of the total until it is exercised.

5 Plan the schedule and the people

The schedule is a work breakdown structure: control accounts, work packages and milestones, each work package linked to its work order. The baseline is frozen when the plan is agreed. From then on, every change shows against it.



Work breakdown structure

+ Element

WBS	Element	Method	Budget h	Linked	Start	Finish	Owner
1	**Program management** Control account						
1.1	Program management and reporting	Signed-off task cards	640.0	1 WO Link…	Jun 1, 2026	Feb 26, 2027	
1.2	Kick-off meeting with the customer Internal milestone Done Jun 8, 2026					Jun 8, 2026	
2	**Engineering** Control account						
2.1	Installation design and STC data package	Signed-off task cards	1,450.0	1 WO Link…	Jun 8, 2026	Aug 14, 2026	
2.2	Engineering approval (ODA) Contract milestone Done Aug 14, 2026					Aug 14, 2026	
3	**Aircraft 1 · N350MQ** Control account						
3.1	Induction and Phase 1 & 2 inspection	Signed-off task cards	240.0	1 WO Link…	Jun 22, 2026	Jul 17, 2026	
3.2	Structural: belly cut-out, doublers, turret fairing	Signed-off task cards	660.0	1 WO Link…	Jul 20, 2026	Aug 21, 2026	
3.3	Avionics and mission systems install	Signed-off task cards	1,050.0	1 WO Link…	Aug 17, 2026	Oct 2, 2026 moved	
3.4	Ground test and functional check flights	Signed-off task cards	30.0	1 WO Link…	Oct 5, 2026	Oct 9, 2026 moved	
3.5	RII, conformity and return to service	Signed-off task cards	120.0	1 WO Link…	Oct 7, 2026	Oct 26, 2026 moved	
3.6	Aircraft 1 delivered Delivery Done Oct 26, 2026			26-M0006		Oct 27, 2026 moved	
4	**Aircraft 2 · N351MQ** Control account						
4.1	Induction and Phase 3 & 4 inspection	Signed-off task cards	240.0	1 WO Link…	Sep 14, 2026	Oct 9, 2026	
4.2	Structural: belly cut-out, doublers, turret fairing	Signed-off task cards	660.0	1 WO Link…	Oct 12, 2026	Nov 13, 2026	

The WBS with the baseline (grey) under the current dates (navy). Aircraft 1's avionics finished a week late because the first customer-furnished turret arrived 11 days late, and the "moved" flags show it.

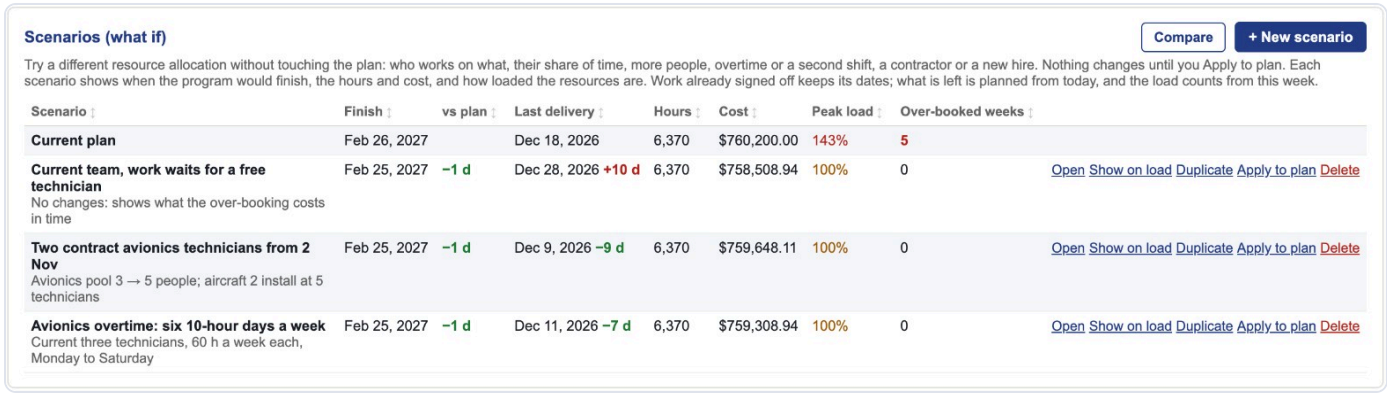
Resources (named people, roles with a headcount, equipment and bays) are assigned to the work with a share of their time. The resource load shows, week by week, who is booked against what they have across every program, and flags over-booking.

5 Plan the schedule and the people WHAT IF

In the sample, aircraft 2's avionics installation books the three avionics technicians at 143% for five weeks. Rather than finding out in December, the program manager models it. A **scenario** is a copy of the plan that can be changed without touching the real one:

- who works on which element, and at what share of their time
- more people, overtime or a second shift, extra working days
- a contractor or new hire added just for the scenario
- leveling: work waits while a resource is full, so the dates are realistic

Work already signed off keeps its dates; what is left is planned from today.



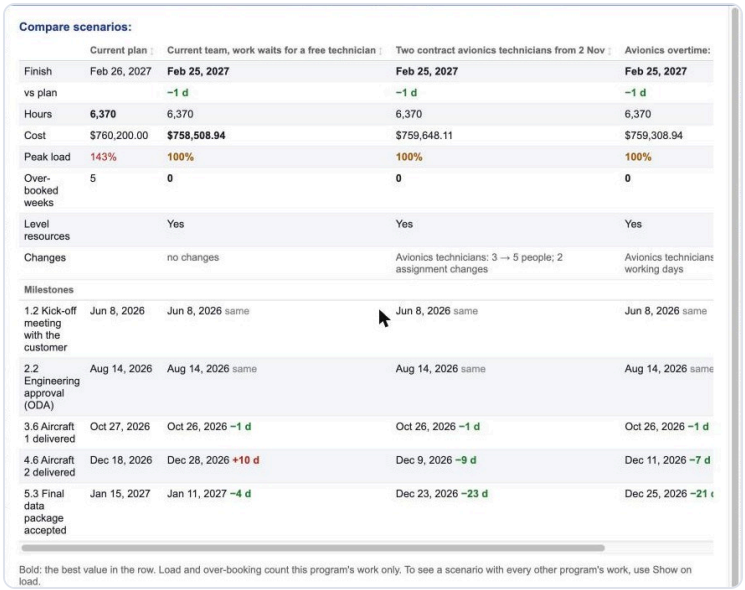
Scenarios (what if)

Compare | + New scenario

Try a different resource allocation without touching the plan: who works on what, their share of time, more people, overtime or a second shift, a contractor or a new hire. Nothing changes until you Apply to plan. Each scenario shows when the program would finish, the hours and cost, and how loaded the resources are. Work already signed off keeps its dates; what is left is planned from today, and the load counts from this week.

Scenario	Finish	vs plan	Last delivery	Hours	Cost	Peak load	Over-booked weeks	
Current plan	Feb 26, 2027		Dec 18, 2026	6,370	$760,200.00	143%	5	
Current team, work waits for a free technician No changes: shows what the over-booking costs in time	Feb 25, 2027	−1 d	Dec 28, 2026 +10 d	6,370	$758,508.94	100%	0	Open Show on load Duplicate Apply to plan Delete
Two contract avionics technicians from 2 Nov Avionics pool 3 → 5 people; aircraft 2 install at 5 technicians	Feb 25, 2027	−1 d	Dec 9, 2026 −9 d	6,370	$759,648.11	100%	0	Open Show on load Duplicate Apply to plan Delete
Avionics overtime: six 10-hour days a week Current three technicians, 60 h a week each, Monday to Saturday	Feb 25, 2027	−1 d	Dec 11, 2026 −7 d	6,370	$759,308.94	100%	0	Open Show on load Duplicate Apply to plan Delete

Three scenarios against the current plan: finish, last aircraft delivery, hours, cost, peak load and over-booked weeks.



Compare scenarios:

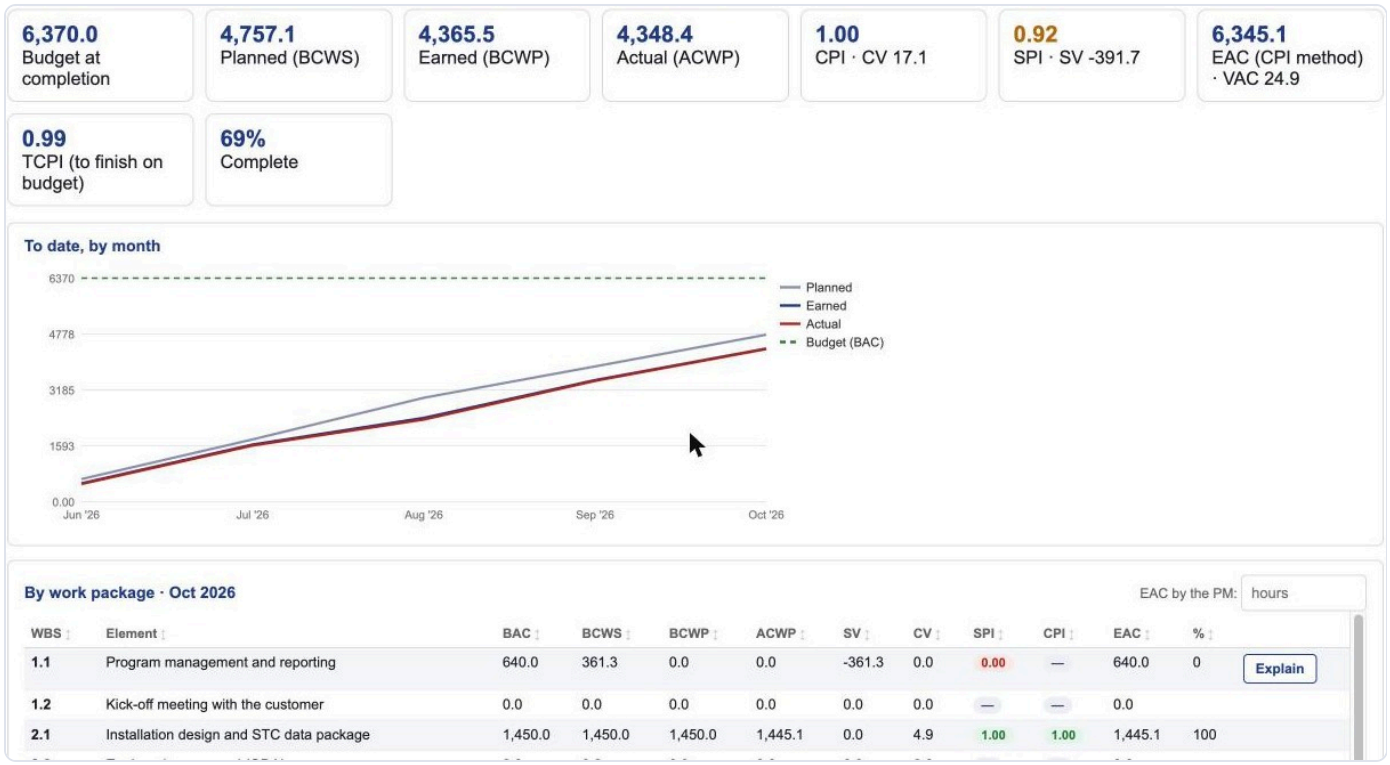
	Current plan	Current team, work waits for a free technician	Two contract avionics technicians from 2 Nov	Avionics overtime:
Finish	Feb 26, 2027	**Feb 25, 2027**	**Feb 25, 2027**	**Feb 25, 2027**
vs plan		−1 d	−1 d	−1 d
Hours	**6,370**	6,370	6,370	6,370
Cost	$760,200.00	**$758,508.94**	$759,648.11	$759,308.94
Peak load	143%	**100%**	**100%**	**100%**
Over-booked weeks	5	**0**	**0**	**0**
Level resources		Yes	Yes	Yes
Changes		no changes	Avionics technicians: 3 → 5 people; 2 assignment changes	Avionics technicians working days
Milestones				
1.2 Kick-off meeting with the customer	Jun 8, 2026	Jun 8, 2026 same	Jun 8, 2026 same	Jun 8, 2026 same
2.2 Engineering approval (ODA)	Aug 14, 2026	Aug 14, 2026 same	Aug 14, 2026 same	Aug 14, 2026 same
3.6 Aircraft 1 delivered	Oct 27, 2026	Oct 26, 2026 −1 d	Oct 26, 2026 −1 d	Oct 26, 2026 −1 d
4.6 Aircraft 2 delivered	Dec 18, 2026	Dec 28, 2026 +10 d	Dec 9, 2026 −9 d	Dec 11, 2026 −7 d
5.3 Final data package accepted	Jan 15, 2027	Jan 11, 2027 −4 d	Dec 23, 2026 −23 d	Dec 25, 2026 −21 d

Bold: the best value in the row. Load and over-booking count this program's work only. To see a scenario with every other program's work, use Show on load.

Compare puts them side by side, down to each milestone. Waiting for the current team moves aircraft 2's delivery out by 10 days. Two contract technicians bring it 9 days earlier than planned; six 10-hour days a week bring it 7 days earlier. Apply to plan writes the chosen scenario's dates and assignments into the plan.

5 Keep score: earned value

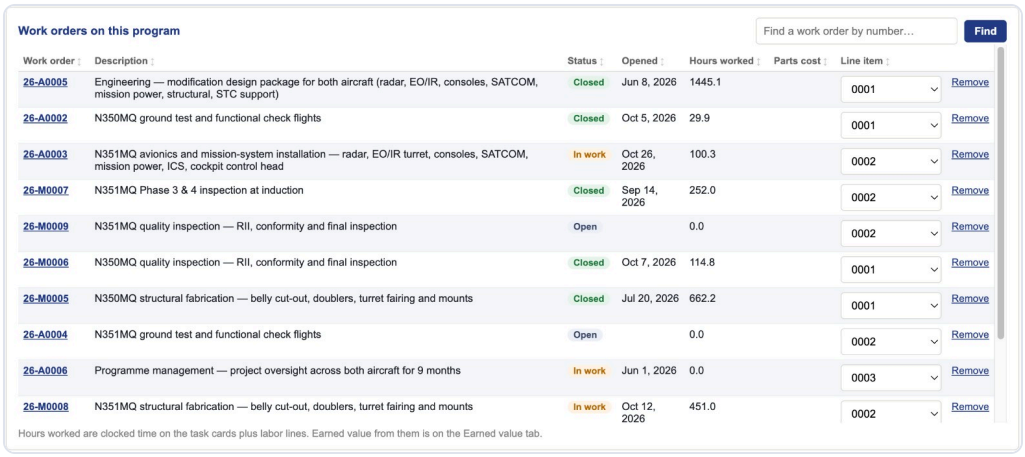
Earned value is measured against the baseline. Work is earned as task cards are signed off (or by percent complete, 0/100, 50/50 or milestones, chosen per work package), and the actuals are the hours clocked on the task cards. It can be shown in hours, at sell price or at burdened cost, and each month can be closed.



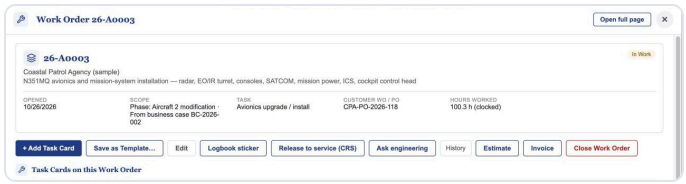
The sample at the end of October: about 69% complete, cost on track (CPI 1.00) and slightly behind schedule (SPI 0.92), which matches the late turret and the aircraft 2 avionics crunch.

6 Build: work orders and task cards

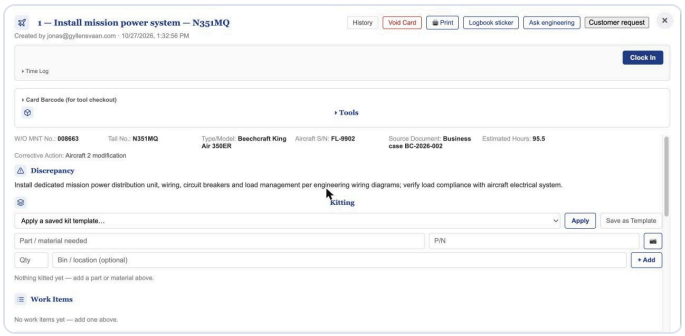
On the hangar floor the work is the work orders and task cards the plan created. Mechanics and inspectors clock in on a card, kit and request parts, issue from stores, record the work done and sign it off. Required inspection items, dual FAA and EASA sign-offs and customer approvals are supported where they apply.



The program's work orders, with status, hours clocked and the line item each one bills to.

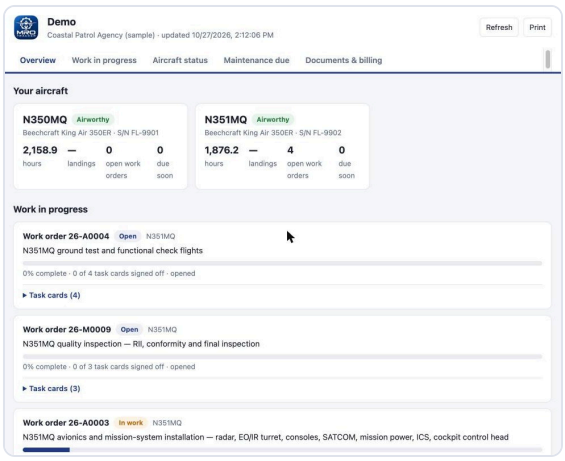


Aircraft 2's avionics work order, linked back to business case BC-2026-002.



A task card: time log, tools, kitting and the work to do.

The customer can follow along without a login. A private, read-only portal link shows their aircraft, the work in progress with task card progress, aircraft status, maintenance due and, if switched on, documents and billing.

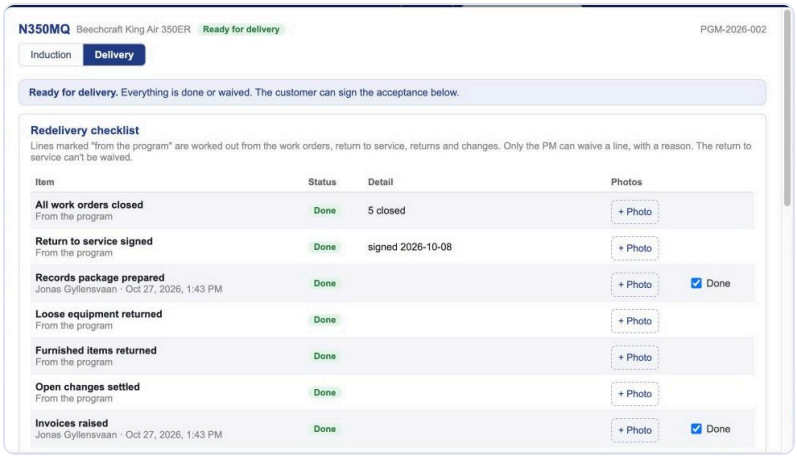


The customer portal for the sample customer.

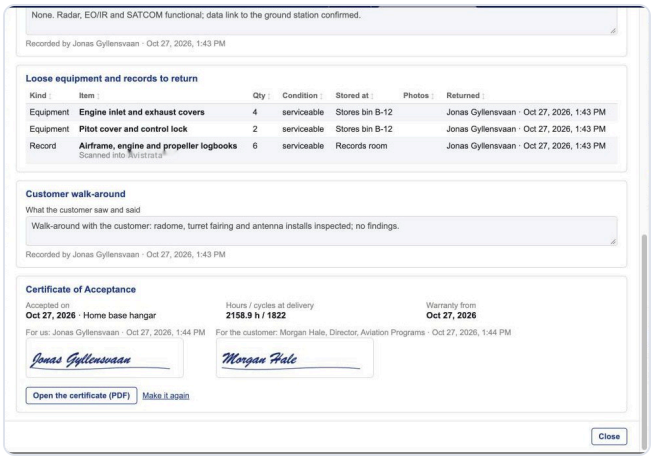
7 Deliver: induction, redelivery and acceptance

Each aircraft on the program has an induction and a delivery. At **induction** the team records the arrival (who brought it, hours and cycles), works through the incoming inspection checklist with photos and findings, lists the loose equipment and records received, and the customer signs the condition as found.

At **delivery** the redelivery checklist is worked out by the system: all work orders closed, return to service signed, loose equipment and furnished items returned, changes settled, test flight flown. Records package and invoices are ticked by the team. Only the program manager can waive a line, with a reason, and the return to service can't be waived.



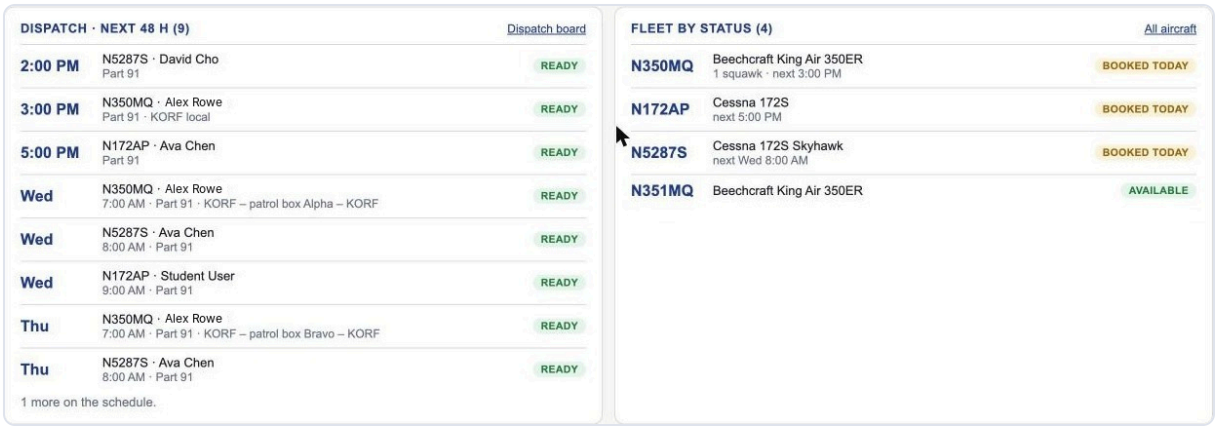
N350MQ ready for delivery: every line done.



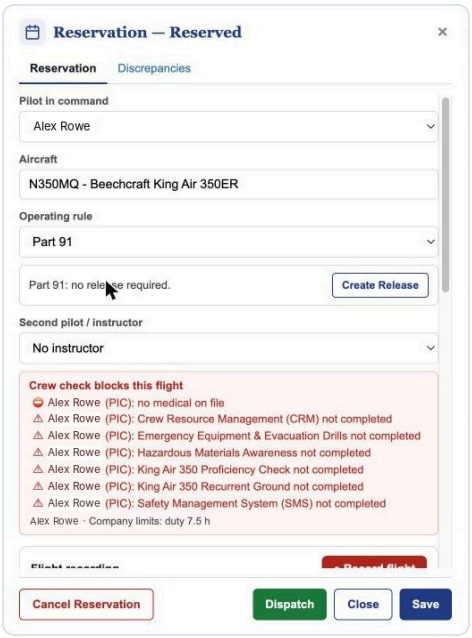
Test flight, walk-around and the Certificate of Acceptance signed by both sides. The certificate PDF is kept with the program's files, and the warranty starts on the acceptance date.

8 Fly the mission

The delivered aircraft moves straight into Operations: same tail number, same records, same hours. Dispatch sees the aircraft, the crews and the next 48 hours at a glance, with anything that needs attention flagged.



Operations overview: dispatch for the next 48 hours, including N350MQ's crew familiarization flight and the first patrol sorties, and the fleet by status.



A patrol sortie booking. The crew check blocks dispatch until the pilot's medical and the company's required training (CRM, emergency drills, King Air 350 proficiency check and recurrent ground) are on file.

Each flight is booked against the aircraft with its pilot in command, second pilot, operating rule and route, then released, dispatched and checked in with block times, Hobbs, landings, fuel and squawks.

Avistrata checks the crew against the company's dispatch rules before the flight goes: medical, training and checks, rest and duty limits. Each rule can block the flight or only warn, and a dispatcher can override a block with a reason, which is recorded.

Pilots see their own flights in My Flights, and the flights they fly come into their logbook for them to confirm.

9 The pilot's day: from booking to check-in

Pilots and dispatch work the same flight record from start to finish. Each step checks the one before it, so an aircraft or a crew that isn't ready can't be dispatched by accident.

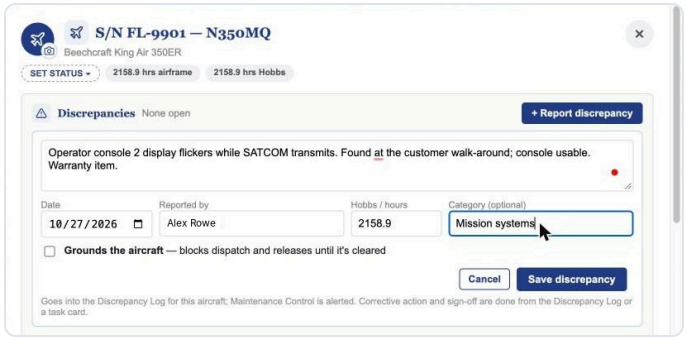
Book Aircraft, PIC, second pilot, rule, route › **Crew checks** Medical, checks, training, duty › **Release** FRAT, weight and balance, fuel, weather › **Dispatch** Sign and release; the flight is out › **Fly** Flight following, overdue alerts, hazard reports › **Check in** Times, Hobbs, fuel, squawks, duty

Step	**What** Avistrata *does*
Plan the crew	Roster, time off and swaps, rest and duty looked at 7 to 30 days ahead, and pilots needed against pilots available by aircraft type
Crew checks	At booking, dispatch and release: medical, checks, required training, an active crew profile, and flight and duty limits (135.267, 135.265, 91.1059 or company limits). Each rule blocks or warns; an override needs a reason, which is recorded
Release	A checklist of everything still blocking; a FRAT scored by the database, with FRAT approval above the limit; a load manifest the database won't finalize when overweight or out of CG; a live route brief; amendments after release
In the air	Flight following, overdue alerts every 5 minutes with the last known position, flight tracking, flight recording, and hazard reports that can be filed confidentially
Check-in	Times, Hobbs and tach, fuel, duty, squawks and remarks: aircraft hours move forward, squawks go to maintenance (a grounding one blocks the next dispatch), duty is logged and the flight waits in the pilot's logbook
Training and safety	Crew qualification files and the Training module feed the crew checks; hazard reports feed the Part 5 SMS

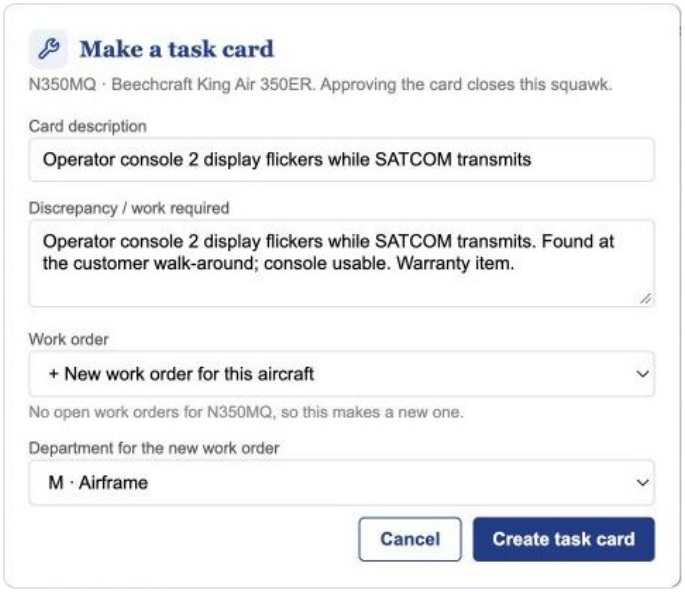
The full story. The companion brief *Life of a flight operation* follows a day in a flight department screen by screen: crew planning, booking, dispatch rules, the release with its FRAT and load manifest, flight following, check-in, crew records and training, and the safety system.

10 Keep it flying

When a pilot or operator finds a problem, it is reported against the aircraft in seconds, with a box to tick if it grounds the aircraft (which then blocks dispatch and releases until it's cleared). Maintenance Control is alerted, and one click turns the squawk into a task card on a new or open work order. Approving the card closes the squawk.



Reporting a squawk found at the customer walk-around.



From the squawk to a task card for the avionics shop.

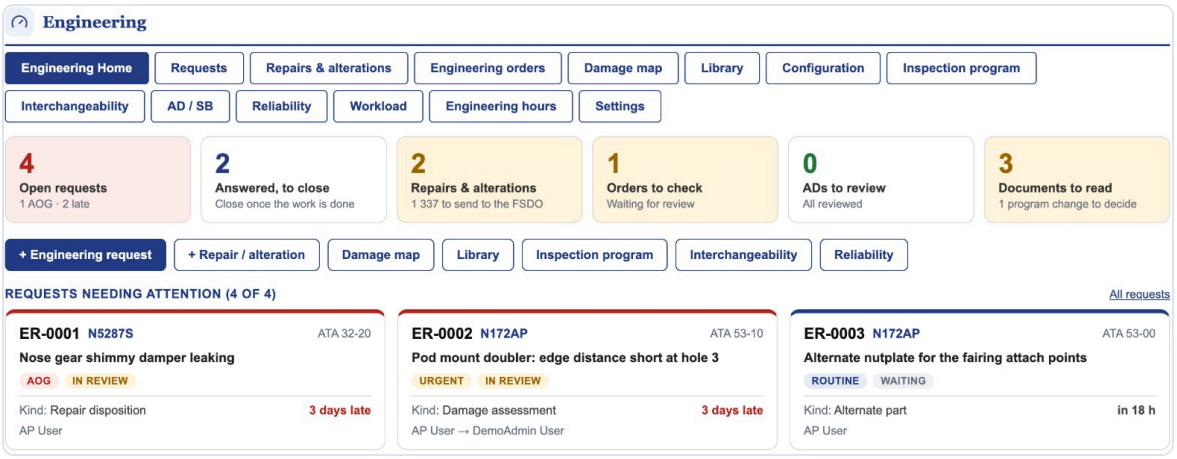
From here the aircraft is in the same loop as every other aircraft in the fleet: discrepancies and MEL deferrals, inspections and maintenance coming due, ADs and service bulletins, work orders and records, and the flights that use up its hours and cycles.

Who uses what

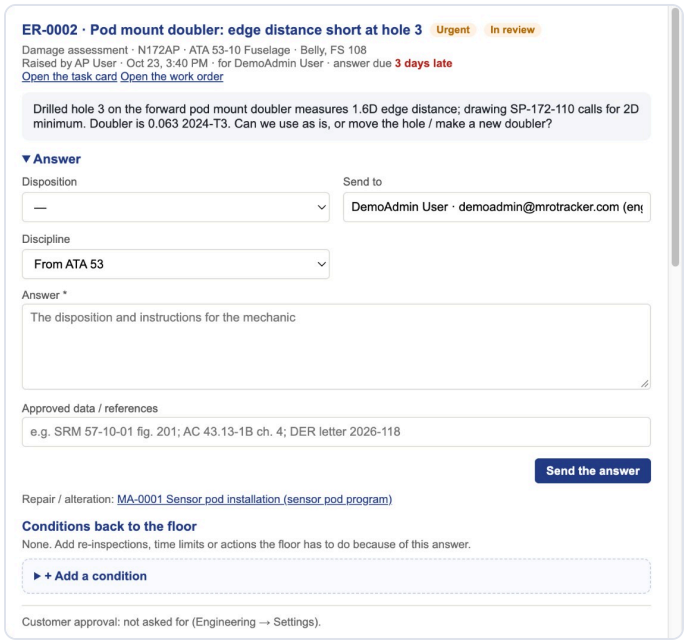
Role	Where they work in Avistrata
Business development	Leads, opportunities, activities, business cases, SIOP reviews, contracts and e-signature
Planner	AI work order plan, work orders and task cards, kitting and parts
Program manager	Program overview, line items, deliverables, risks, changes, furnished items, schedule, resources, scenarios, earned value
Mechanics and inspectors	Task cards: clock in, parts, sign-off, RII, Ask engineering
Engineers	Engineering requests, repairs and alterations, engineering orders, damage map, library, reliability
Hangar and stores	Hangar board and floor plan, equipment, kitting queue, purchasing, tools, AOG desk
Quality	Induction and redelivery checklists, conformity, return to service
Customer	Signing links, induction and acceptance signatures, read-only portal
Dispatch and pilots	Schedule, releases, FRAT, weight and balance, crew checks, flight following, My Flights, check-in, hazard reports, logbook, squawks
Chief pilot and training	Crew records, training courses and records, crew planning and duty, FRAT approvals
Safety officer	Hazard reports, SMS risk register, investigations, safety policy and emergency response plan

11 Mechanics and engineers, in one conversation

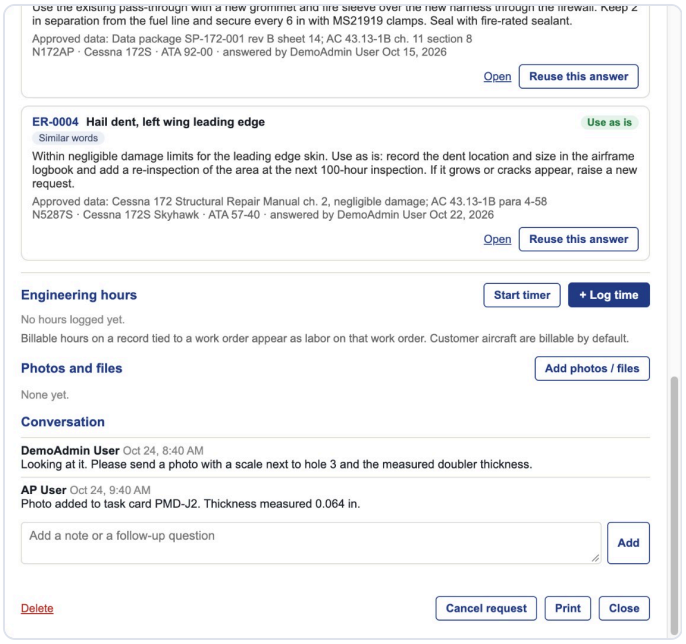
When a mechanic finds something the manual doesn't cover, they press **Ask engineering** on the task card or work order. The request opens already filled in with the aircraft, the card and the ATA chapter. The mechanic picks what they need (a repair disposition, a damage assessment, a technical question, an alternate part or a deferral) and how urgent it is: AOG gets an answer within 4 hours, urgent within a day, routine within 5 days.



Engineering Home: open requests with AOG and late ones first, answers to close, repairs and alterations, orders to check, ADs to review and documents to read.



A damage assessment from the floor: the mechanic's question, then the engineer's disposition, the answer and the approved data it rests on.



The same request further down: similar answered requests to reuse, engineering hours, photos and the conversation between the engineer and the mechanic.

- **Routed to the right engineer.** Requests go to an engineering group by kind, ATA chapter, aircraft, customer or program. AOG requests also reach the group's on-call engineer, and requests that sit unowned or late go up to the group lead, then the engineering managers.
- **A conversation on every request.** The engineer asks for a photo or a measurement and the mechanic answers on the request, with photos and files attached. Each side is told straight away by email, text, Microsoft Teams or WhatsApp, whichever they chose.
- **Answers with approved data.** Every answer carries a disposition (approved repair, use as is, replace, refer to the manufacturer, not approved) and the data behind it, such as the SRM figure, AC 43.13 paragraph or

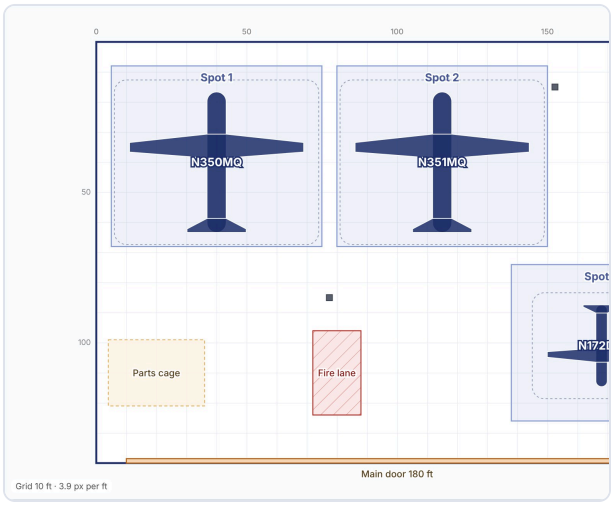
DER letter. Similar answered requests are shown for reuse, and the engineer still reviews and sends the answer.

- **Within each engineer's authority.** Each engineer's limits are set by kind, discipline, aircraft type and basis (company, FAA DER, EASA DOA). Answers that need it go to a second engineer for an independent check before the mechanic sees them.
- **Conditions back to the floor.** A repeat inspection, a time-limited repair or "before next flight" becomes a Maintenance Due item, a task card work item or a grounding squawk, so it can't be forgotten.
- **Customer approval when it's needed.** Dispositions on customer aircraft can require the customer's e-signature. The task card shows a blocking banner until they sign.

Engineering also keeps repairs and alterations with their instructions for continued airworthiness and the Form 337 worksheet, engineering orders and work instructions (steps, cautions and warnings, reviewed and approved before they're published), a damage map on each aircraft's top view, the technical library with read-and-acknowledge revisions, fleet configuration, inspection program changes, approved alternate parts, and reliability: defects per 100 flight hours by ATA chapter, repeat defects and component removals. Engineering hours can be timed and billed as labour on the work order.

12 Run the hangar floor

The same records drive the rest of Operations, so the hangar, the parts room and the AOG desk all see the same aircraft and work orders the program does.



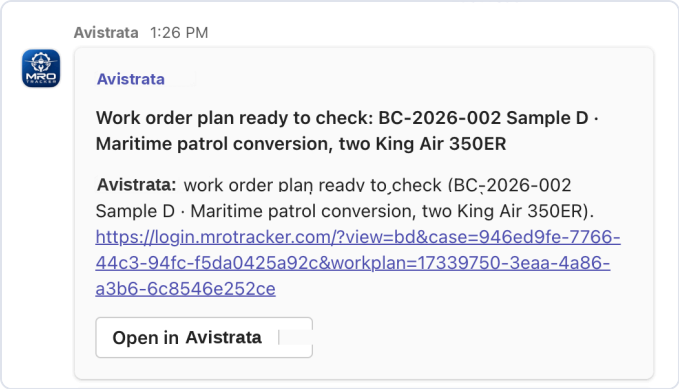
Hangar layout: a to-scale floor plan with spots, the door, columns, a parts cage and a fire lane, and each booked aircraft drawn from its wingspan and length with its clearance (sample hangar).

Area	What it does
Hangar planning	A board with a row per bay and a bar per booking, a to-scale floor plan of each hangar, and fit checks against bay and door size and clearance. Booking warns when an aircraft won't fit beside the others there. Also covers people, shifts and qualifications, equipment bookings for an aircraft, work order and person, a 90-day forecast of maintenance due against hangar capacity, storage, and door codes and keys.
Stores and kitting	A parts catalog with stock by serial, batch, location and condition, receiving with the release certificate, requests, quotes, purchase orders and vendor bills. Planners and parts staff work from a kitting queue (AOG first), with pick lists sorted by bin and parts reserved, issued and staged for each task card. Returns and stock counts are included.
Tools	The tool inventory with calibration due and overdue, history and barcodes. Tools past their calibration can't be booked, and a task card's close-out lists any tools still out.
Maintenance Due and ADs	Inspections and limits by hours, cycles and date, whichever comes first, counted from check-ins. Overdue items can block dispatch. AD and service bulletin tracking, and a one-click inspection package for the mechanic: due items, ADs, open squawks and MEL deferrals as a PDF with sign-off columns.
AOG desk	Declaring an aircraft on ground opens a grounding item that blocks dispatch. The desk tracks status, ETR, the parts being sourced (vendor, PO, tracking, 8130-3) and the bookings affected, and alerts the AOG list. An AOG can't be closed until the return to service is signed.
Electronic logbook	14 CFR 43.9, 43.11 and 91.417 entries, signed with the signer's PIN. Each entry is numbered and sealed, and linked to the entry before it, so a change shows.
Quality	The audit program with checklists and evidence, findings from audits, the FAA, customers and suppliers with root cause and corrective actions, effectiveness checks, and documents to read and sign.

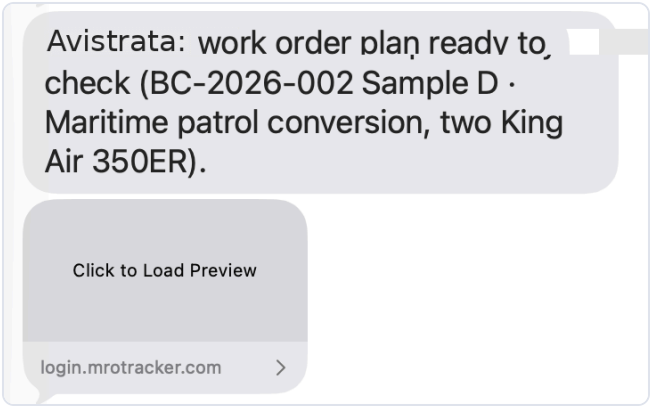
13 Everyone hears about it

People don't have to go looking for what changed. Avistrata tells the people involved by email, text message, Microsoft Teams and WhatsApp, each with a link straight to the record. Each person chooses how they want to hear about things.

The AI work order plan is ready to check

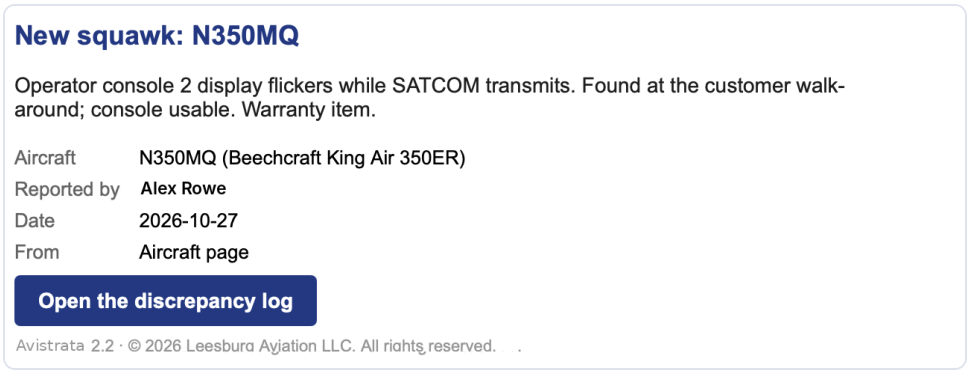


In Microsoft Teams, with an Open in Avistrata button.

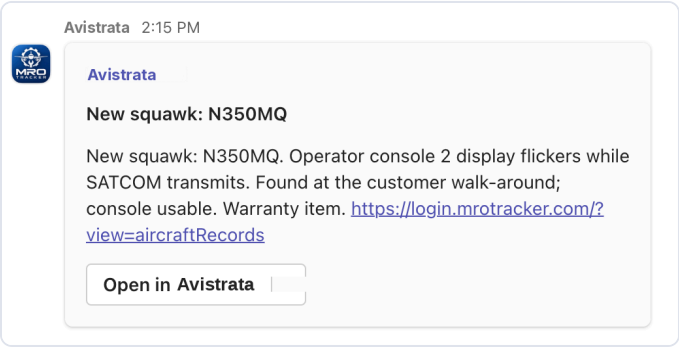


As a text message.

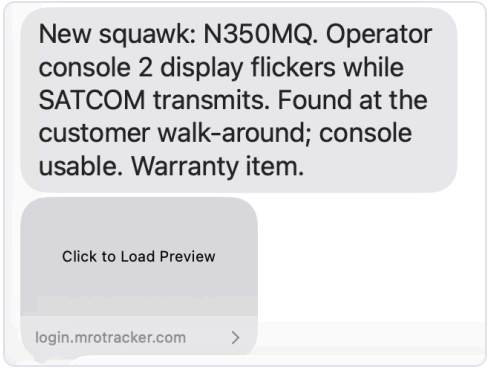
A new squawk on N350MQ



Maintenance Control's email: what's wrong, the aircraft, who reported it and when, and a button to the discrepancy log.



The same squawk in Teams.



And by text.

The sample shown uses fictional names, aircraft and figures. Avistrata 2.2 · mrotracker.com · 703.520.5040

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