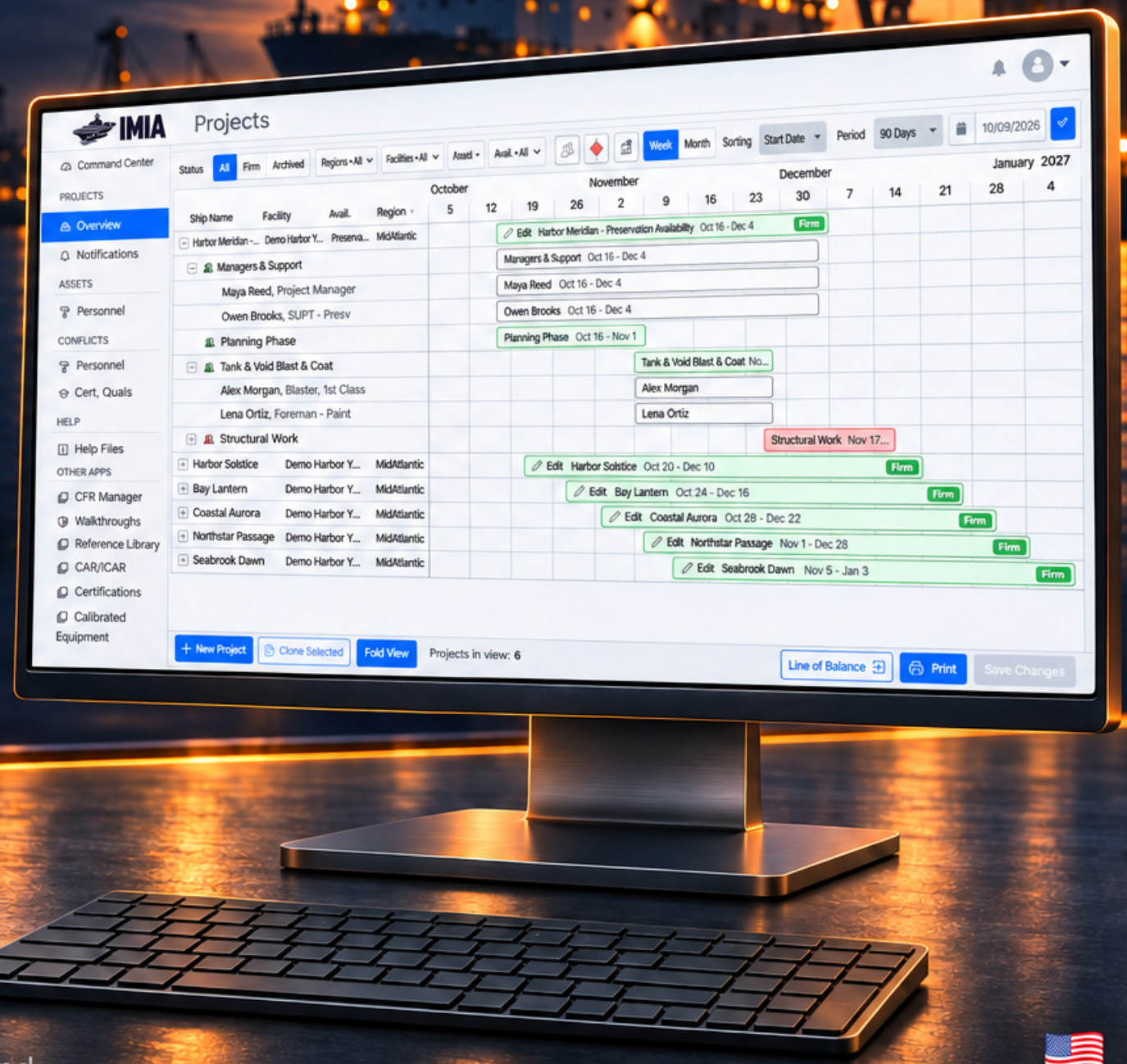
IMIA

Maritime ERP & QMS

FROM EXCEL. TO ENTERPRISE.

FIPS-compliant on AWS GovCloud



Emilian Manolache

Software Architect & Full-Stack Developer | End-to-End

End-to-End: Business requirements / Workflow & system design / Full-stack development / Ongoing maintenance

2020-present

IMIA

OPERATIONAL SCALE

ENTERPRISE SCALE
BUILT AROUND THE OPERATION

I unified fragmented Excel workflows and legacy systems into one maritime ERP and QMS.

350
staff users

1,343
employees managed

580
maritime projects completed

335,431
safety & quality discrepancy items tracked & solved

32,037
CFR reports drafted, submitted and tracked

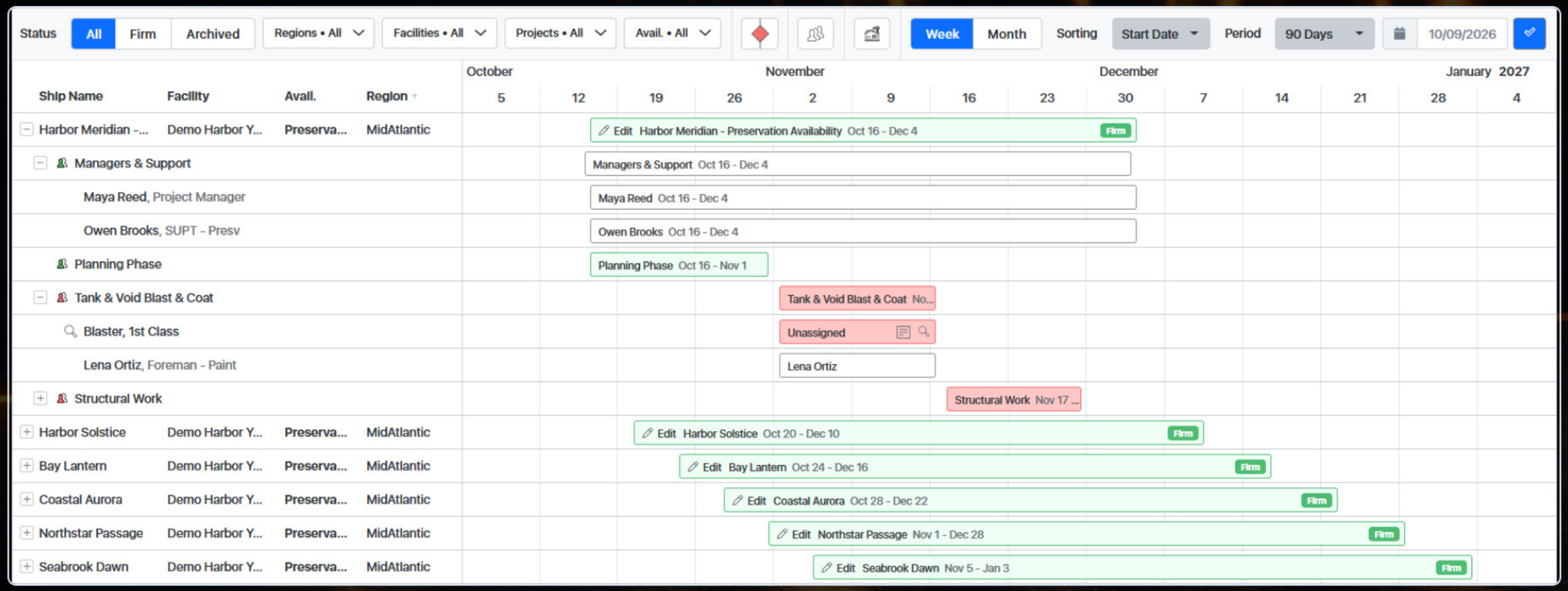
67,150
certification and authorization records

IMIA

PROJECT PLANNING

TURN REPAIR SCHEDULES INTO STAFFING DEMAND

Projects expand into management roles, work phases and dated personnel slots.



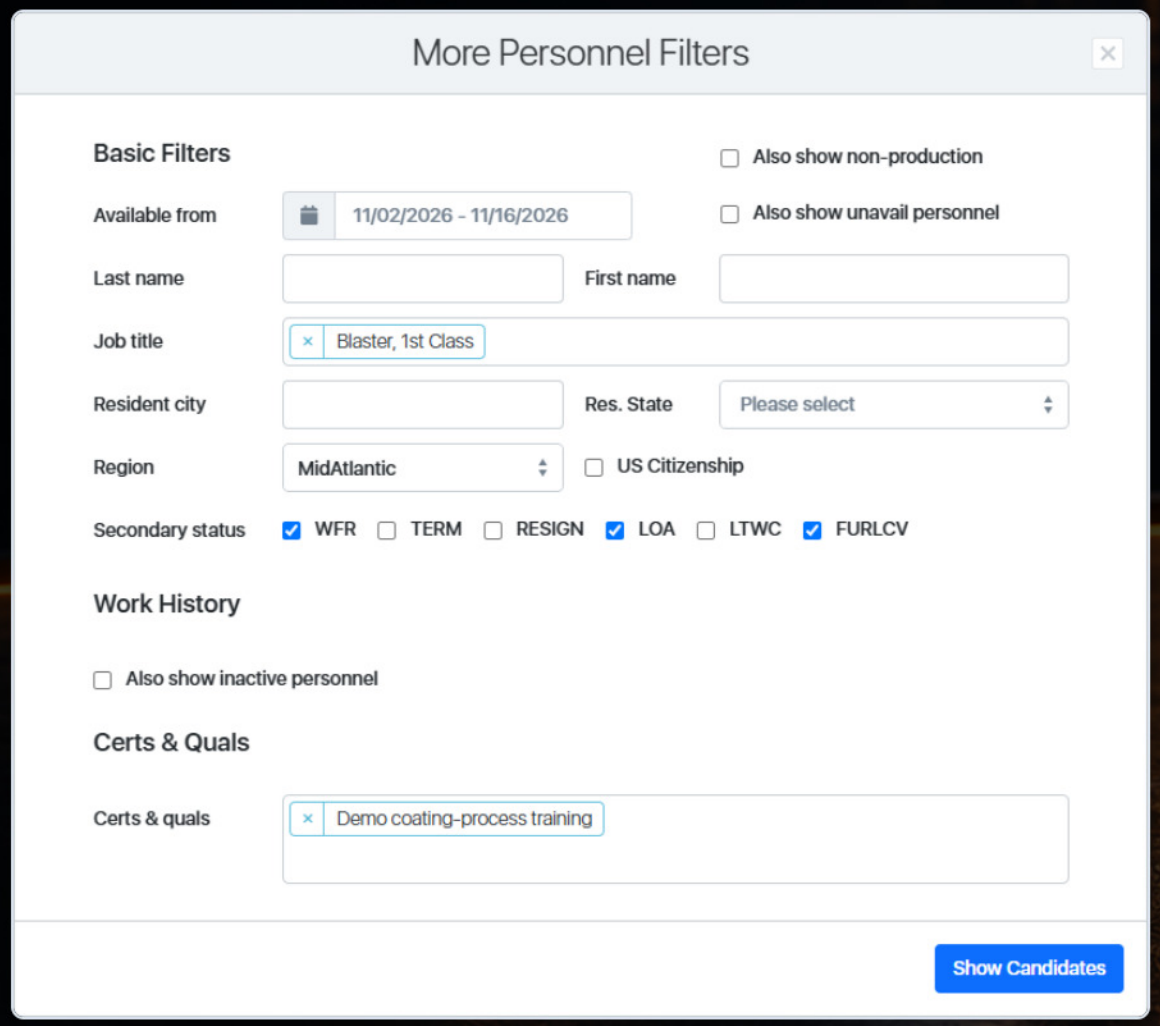
Project periods

Phases and milestones

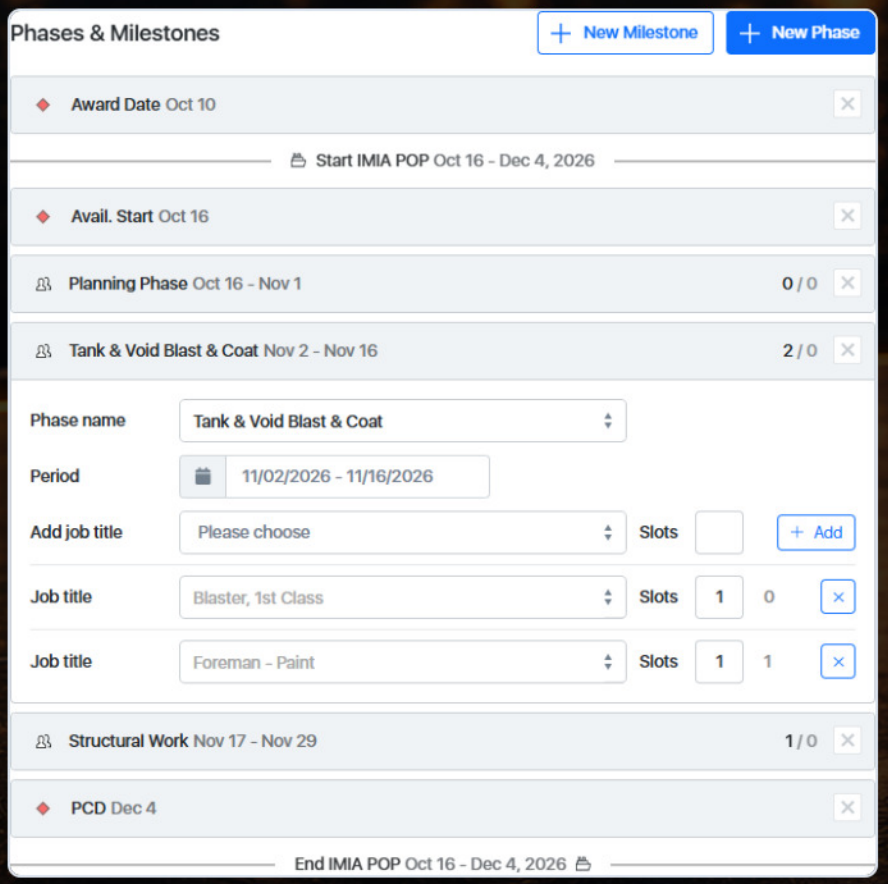
Staffing gaps

FIND PEOPLE IN THE CONTEXT OF THE WORK

Use dates, region, role, availability and selected qualifications to narrow candidates.

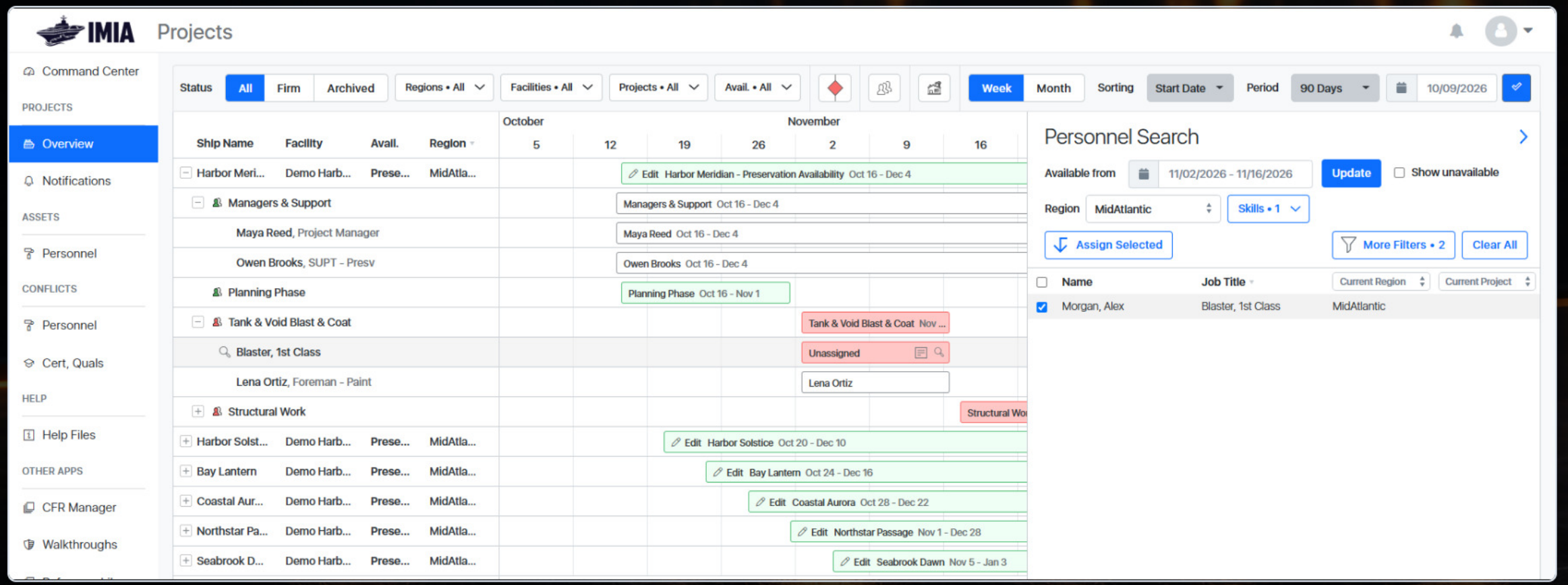


PHASE REQUIREMENTS



FROM OPEN SLOT TO SAVED ASSIGNMENT

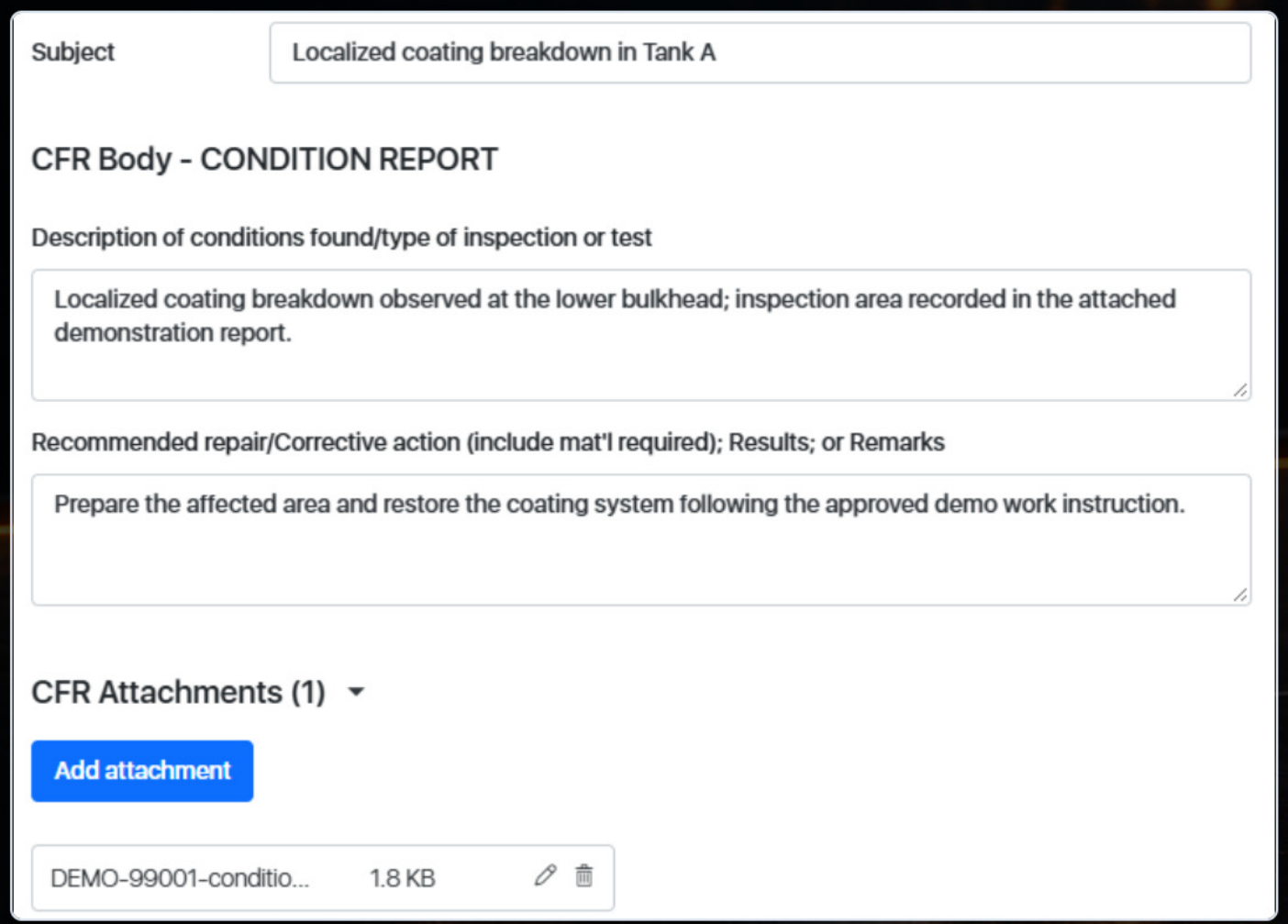
Assign the candidate to the dated role and retain the change in the project schedule.



Unassigned → **Alex Morgan · Nov 2–16**

CAPTURE THE CONDITION WITH ITS EVIDENCE

A Condition Found Report connects the finding to the job, vessel and work item.



WORK-ITEM CONTEXT

Job, location and report type stay attached to the condition.

DOCUMENT THE FINDING

Record the condition, recommended action and supporting attachment.

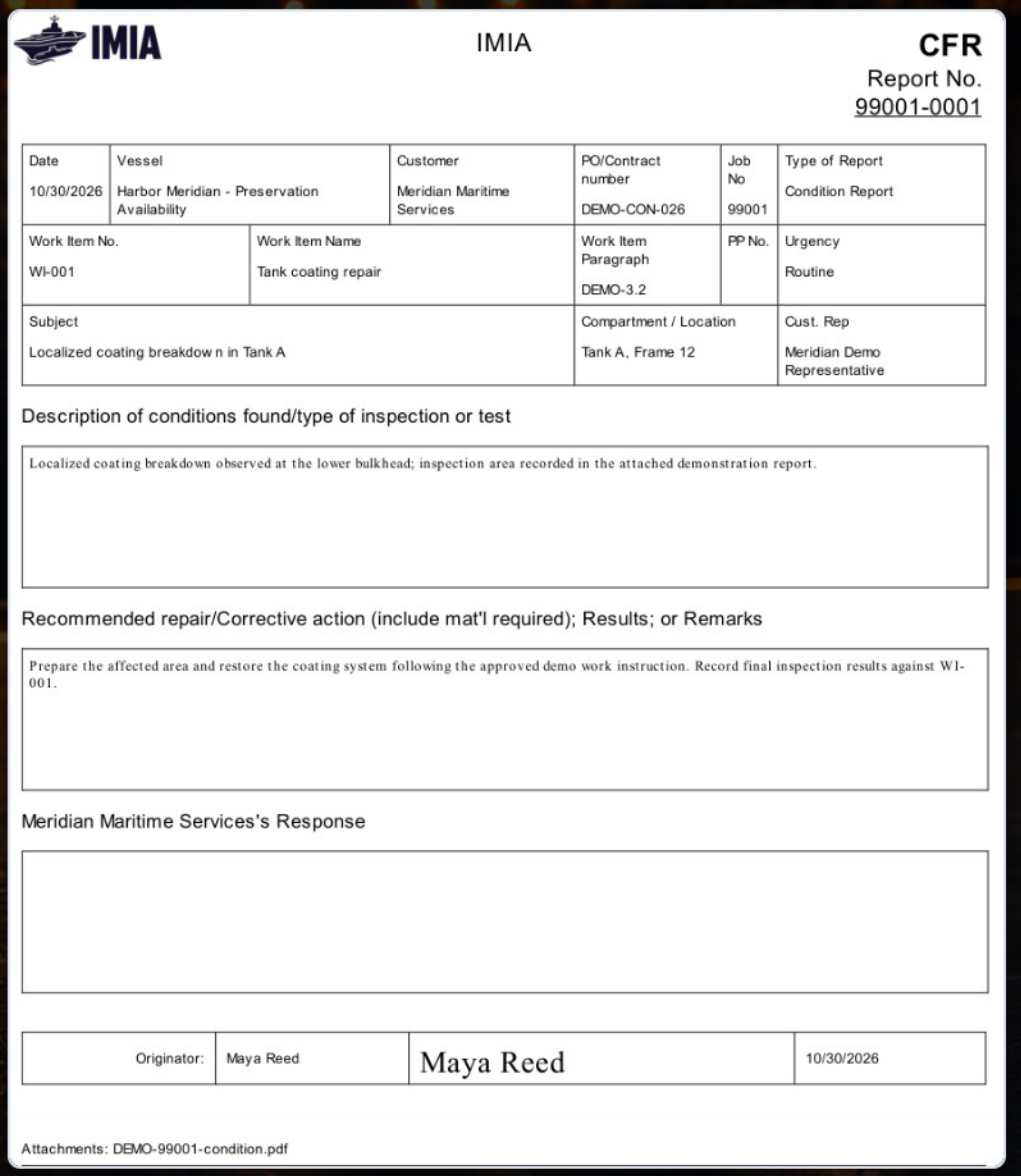
OPERATIONAL RECORDS BECOME CUSTOMER CORRESPONDENCE

GENERATED REPORT PACKAGE

The report carries the vessel, work item, condition and recommended repair forward.

Application-generated PDF

Supporting files are assembled with the report for submission.



IMIA

IMIA

CFR
Report No.
99001-0001

Date	Vessel	Customer	PO/Contract number	Job No	Type of Report
10/30/2026	Harbor Meridian - Preservation Availability	Meridian Maritime Services	DEMO-CON-026	99001	Condition Report

Work Item No.	Work Item Name	Work Item Paragraph	PP No.	Urgency
WI-001	Tank coating repair	DEMO-3.2		Routine

Subject	Compartment / Location	Cust. Rep
Localized coating breakdown in Tank A	Tank A, Frame 12	Meridian Demo Representative

Description of conditions found/type of inspection or test

Localized coating breakdown observed at the lower bulkhead; inspection area recorded in the attached demonstration report.

Recommended repair/Corrective action (include mat'l required); Results; or Remarks

Prepare the affected area and restore the coating system following the approved demo work instruction. Record final inspection results against WI-001.

Meridian Maritime Services's Response

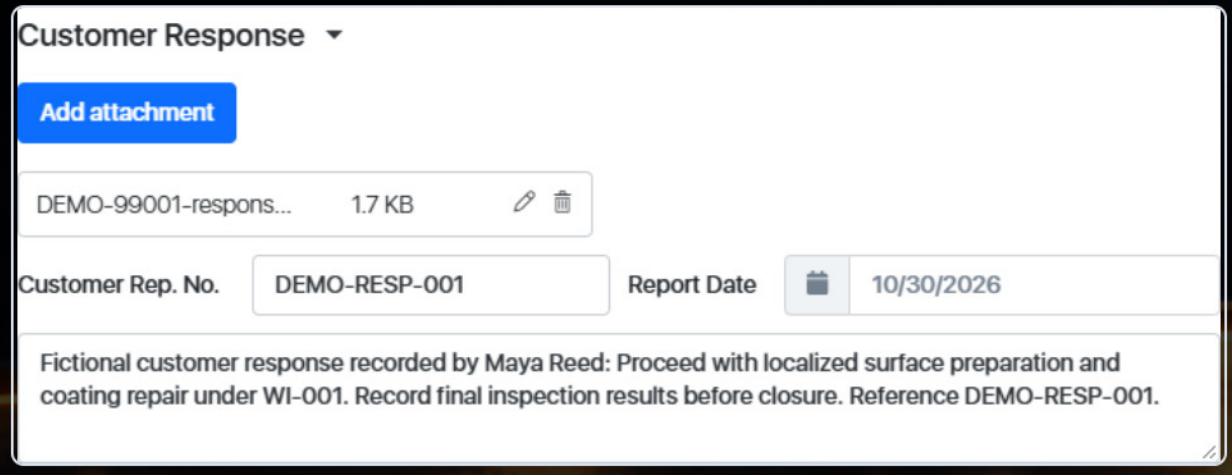
Originator:	Maya Reed	Maya Reed	10/30/2026

Attachments: DEMO-99001-condition.pdf

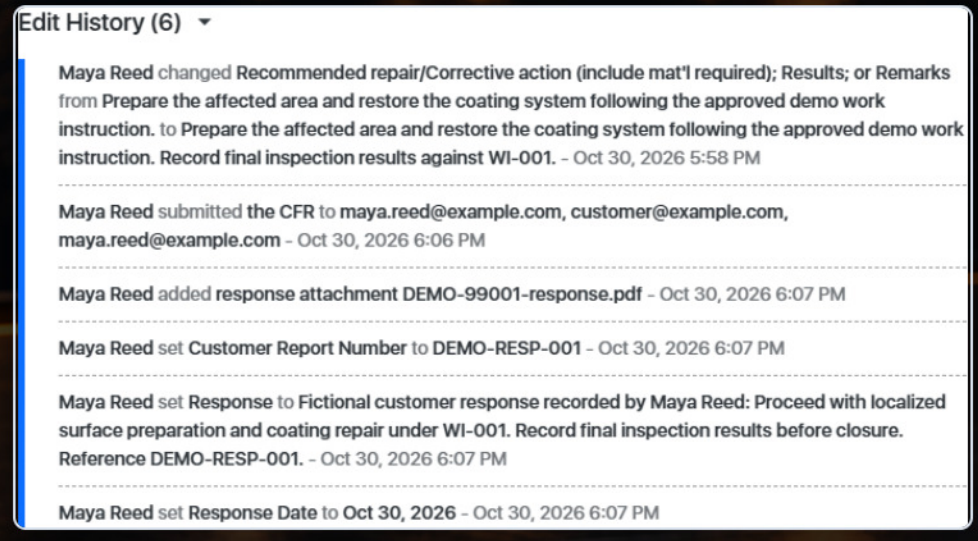
CARRY THE REPORT THROUGH RESPONSE AND CLOSURE

Draft → Submitted → Answered → Closed

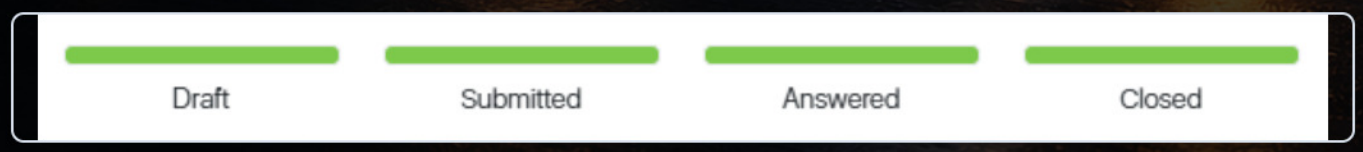
RECORDED CUSTOMER RESPONSE



FIELD AND FILE HISTORY



CLOSED STATUS AFTER SAVING



Context and follow-up remain with the report.

IMIA

SAFETY WALKTHROUGHS

OPEN DISCREPANCIES STAY VISIBLE

A walkthrough contains individual items with issue dates, locations, categories and correction status.

Date of Issue	Date Corrected	Location	Discrepancy	Corrective Action	Code
10/26/2026		Tank A, Frame 12	Temporary hose crosses the marked access route.		9 - Walking/Working Surfaces
10/26/2026	10/29/2026	Berth D2	Tool storage labels were unclear.	Replaced the storage labels and checked that the tool locations were clear.	1 - Housekeeping
10/28/2026		Berth D2	Loose packaging beside the staging area.		1 - Housekeeping

THE ISSUE

Temporary hose crosses the marked access route.

OPEN / TOTAL ITEMS

2 / 3

Job No.	Project	Type	Discr.
99001	Harbor Meridian - Preservation Av...	Int Safety	2/3

RECORD THE CORRECTION
UPDATE THE OPEN-ITEM COUNT

The same walkthrough item now carries a correction date and the action taken.

Date of Issue	Date Corrected	Location	Discrepancy	Corrective Action	Code
10/26/2026	10/30/2026	Tank A, Frame 12	Temporary hose crosses the marked access route.	Rerouted hose clear of the marked route; checked access before work resumed.	9 - Walking/Working Surfaces
10/26/2026	10/29/2026	Berth D2	Tool storage labels were unclear.	Replaced the storage labels and checked that the tool locations were clear.	1 - Housekeeping
10/28/2026		Berth D2	Loose packaging beside the staging area.		1 - Housekeeping

CORRECTIVE ACTION

Rerouted hose clear of the marked route; checked access before work resumed.

OPEN / TOTAL ITEMS

1 / 3

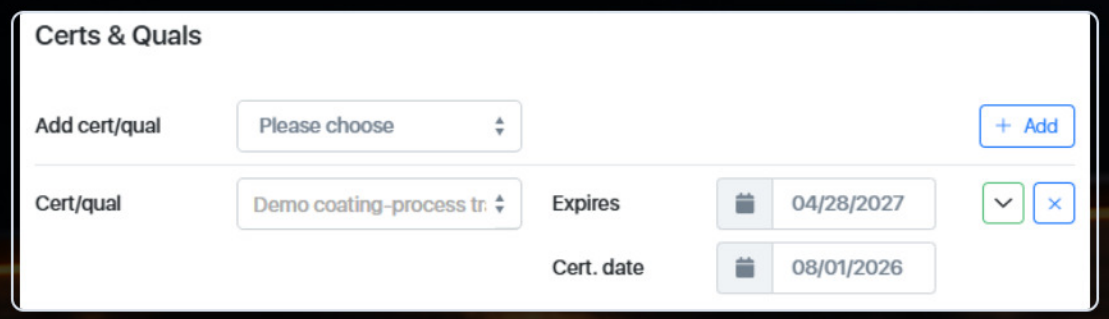
Job No.	Project	Type	Discr.
99001	Harbor Meridian - Preservation Av...	Int Safety	1/3

READINESS INFORMATION BESIDE THE PERSON

Review qualifications, certificate dates and upcoming expiries within workforce records.

CURRENT QUALIFICATION

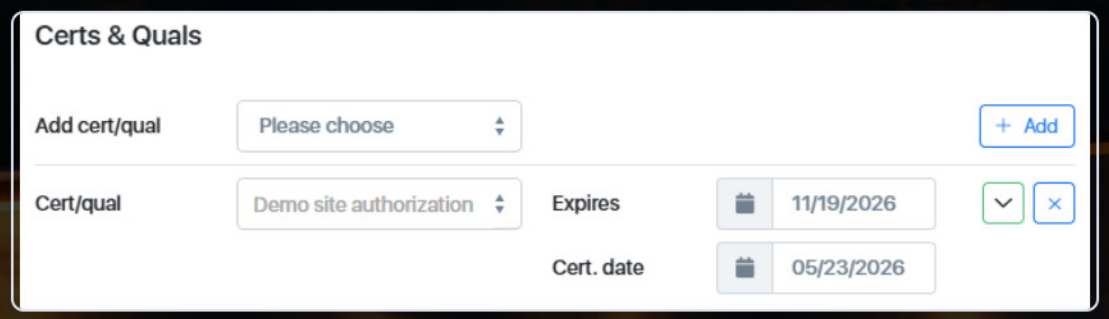
Alex Morgan



Qualification and supporting record

UPCOMING EXPIRY

Priya Chen



Expiry views support renewal planning

Use the relevant workforce context when selecting personnel for scheduled work.

IMIA

EQUIPMENT READINESS

CALIBRATION RECORDS THAT SUPPORT THE WORK

Instrument records keep due dates, certificates, status and issued-to details together.

	Type	Model	Range	Serial Number	Manufacturer	Cal Lab	Cal Date ▲	Cal Due Date	Cert File	Status	Archived	Issued To	Issued Date	Location	Department
☐															
☐	Coating-thickness g...	DemoGauge 2...	0 - 1500 mi...	DEMO-CAL-0...	Meridian D...	Meridian Demo C...	2026-05-03	2026-12-14	DEMO-CAL-0...	Active	No	Priya Chen	2026-10-23	Demo Harbor...	Quality Assur...
☐	Coating-thickness g...	DemoGauge 100	0 - 1500 mi...	DEMO-CAL-0...	Meridian D...	Meridian Demo C...	2026-05-03	2027-04-28	-	Active	No	Theo Lane	2026-10-23	Demo Harbor...	Quality Assur...

CALIBRATION CONTEXT

Serial number, manufacturer, calibration lab and certificate.

OPERATIONAL CONTEXT

Status, location, department, recipient and issue date.

Serial Number	DEMO-CAL-017	
Manufacturer	Meridian Demo Instruments	Manage
Cal Lab	Meridian Demo Calibration Lab	Manage
Cal Date	05/03/2026	
Cal Due Date	12/14/2026	
Cert File	DEMO-CAL-0...	
Status	Active	Manage
Archived	☐	
Location	Demo Harbor Yard	Manage
Department	Quality Assurance	Manage
Issued to	Priya Chen	
Issued date	10/23/2026	

IMIA

SYSTEM ARCHITECTURE

ONE APPLICATION
DISTINCT OPERATIONAL DOMAINS

A shared workspace for planning, workforce readiness, quality, safety and supporting records.

Angular / TypeScript

Desktop operational UI
dhtmlx-gantt planning

→

Node.js / Sails.js

Controllers and shared services
Workflow and access logic

→

DocumentDB

Waterline data access
Operational records

Planning + personnel

Dated staffing and workforce context

Quality + safety

CFRs, walkthroughs and CAR / ICAR

Certifications + equipment

Authorizations and calibration records

Documents + reporting

Reference library, PDFs and exports

IMIA

LARGE-DATASET ENGINEERING

PREPARE LARGE LISTS ONCE
REFRESH WHAT CHANGED

CFR lists, certification records and walkthrough items share a versioned data-delivery mechanism.

Changed records

Identify affected
data ranges.

→

Cache worker

Rebuild, compress
and upload changed chunks.

→

Amazon S3

Immutable GZIP chunks
and a versioned manifest.

↓

Browser reuse

Reuse unchanged chunks.
Assemble and filter locally.

PUBLISH AFTER UPLOAD

New chunks are available before the manifest changes.
Conditional publication detects competing writers.

Refresh affected portions instead of reconstructing every collection for every visit.

IMIA

FIPS-COMPLIANT ON AWS GOVCLOUD

Enterprise deployment supported by application access controls and protected data delivery.

Application access

Authenticated sessions and permission-controlled functions.

Protected documents

Controlled file access through application document workflows.

Encrypted S3 storage

KMS encryption and regional HTTPS FIPS endpoints.

Short-lived downloads

Signed cache URLs expire after 300 seconds.

IMIA

OPERATIONAL INTEGRATION

CONNECT EXISTING SYSTEMS AND ESTABLISHED REPORTING

The application fits the surrounding operation, including workforce feeds and familiar document formats.

WORKFORCE INPUT

Egnyte API

Retrieve the employee CSV.

→

Normalize + reconcile

Map job titles and review region / status conflicts.

→

Workforce records

Connect source changes to operational assignments.

OPERATIONAL OUTPUTS

Excel

Manning and staffing reports

CSV

Register exports

PDF

CFRs and certificate bundles

IMIA

CONTINUED OWNERSHIP

BUILT FROM REQUIREMENTS
OWNED THROUGH EVOLUTION

2020-present

Understand the business

Translate Excel and legacy processes into requirements.

Design and build

Architecture, workflow design, frontend and backend.

Stay accountable

Maintain and expand the product under a monthly retainer.

Software Architect & Full-Stack Developer | End-to-End