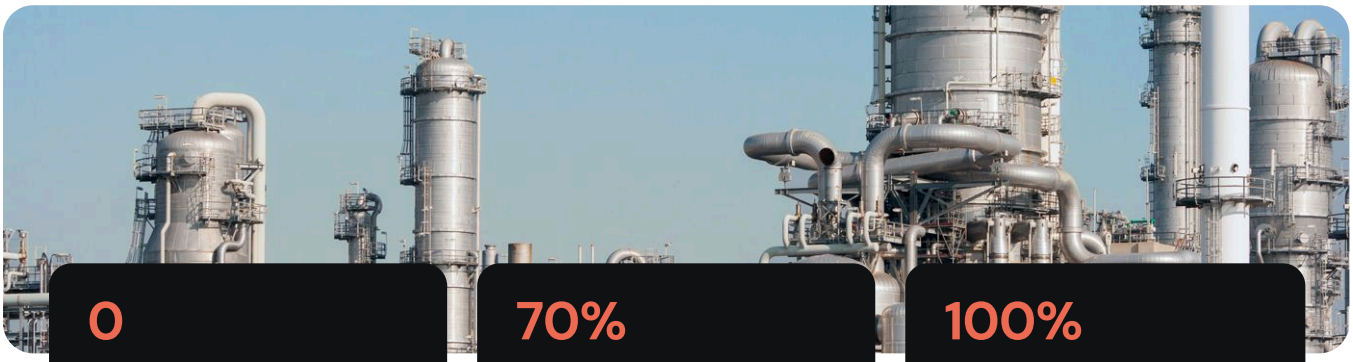
Oil & Gas · Global

An oil refinery passed its HSE audit with zero non-conformances

A large oil and gas refinery moved inspections, preventive maintenance and compliance records into one system before a critical HSE audit, and cut pre-audit preparation time by 70%.



0
non-conformances at the HSE audit

70%
less time spent on pre-audit preparation

100%
documentation readiness, nothing missing

AT A GLANCE

INDUSTRY
Oil and gas refining

ASSETS
Process units, pipelines, tanks, rotating and safety equipment

DEPARTMENTS
Mechanical, Electrical, Instrumentation, HSE

PREVIOUSLY
Excel, paper, WhatsApp photos, email

FEATURES USED
Maintenance · Assets · Insight

01 The client

The client is a major refinery operating large processing units, pipelines, storage tanks, rotating equipment, safety devices and environmental compliance systems.

It goes through regular HSE and regulatory audits, where accurate documentation and maintenance discipline decide whether it passes without penalties. In a high-risk plant, a missed inspection is a safety risk as well as a compliance one.

02 The challenge

As the refinery prepared for an HSE audit, gaps surfaced. Records lived in many formats, departments documented differently, and proving inspections were done on time was hard.

- Inspection checklists spread across Excel, paper files, WhatsApp photos and emails.
- PM gaps on pumps, compressors, ESD systems, fire hydrants and safety valves.
- Missing calibration records for gauges, sensors and critical instruments.
- Inconsistent documentation from Maintenance, Electrical, HSE and Operations.
- No view of overdue tasks or high-risk areas needing correction.

03 What they set up in Asset Infinity

The refinery ran inspections, preventive maintenance and compliance records for every department in Asset Infinity, with all evidence stored against each asset.

Maintenance

Digital inspection checklists

Dedicated checklists cover fire hydrants and extinguishers, safety showers and alarms, pressure vessels, pumps and compressors, ESD and interlocks, and evacuation routes, with required fields and photos.

Maintenance

PM for safety-critical assets

Preventive plans cover all rotating and safety-critical assets. Overdue work is escalated, and technician signatures and readings are kept as evidence.

Assets

Documents on each asset

Calibration certificates, inspection reports and maintenance logs are stored against each asset, so any record is one click away during the audit.

Insight

Pre-audit health dashboard

Overdue PM, pending inspections and high-risk areas are visible in one place, so the HSE team could correct issues before the auditor arrived.

04 How it works day to day

Here is how inspection and maintenance evidence is built up across the refinery now.

SYSTEM

Schedules inspections and PM

Preventive plans create inspection and maintenance work orders for each safety-critical asset on its due date.

FIELD TECHNICIAN

Inspects with the mobile app

The checklist for a hydrant, safety shower or pressure vessel requires each item, a photo and readings before it can be submitted.

SYSTEM

Turns a failed check into work

A failed item can raise a corrective work order for the right department, so defects are fixed and the fix is recorded.

TECHNICIAN

Signs off the work

Maintenance is closed with readings and the technician's signature, kept on the asset's record.

SYSTEM

Escalates overdue items

Inspections and PM that pass their due date are escalated to supervisors, and repeat faults are flagged for root cause analysis.

INSTRUMENTATION TEAM

Files calibration proof

Calibration certificates for gauges, sensors and instruments are attached to each asset as they are issued.

HSE TEAM

Checks readiness

The dashboard shows overdue PM, pending inspections and high-risk areas, and every document is found on its asset when the auditor asks.

05 Before and after

	BEFORE	WITH ASSET INFINITY
Inspection records	Excel, paper, WhatsApp photos, email	Mobile checklists with required fields and photos
Preventive maintenance	Gaps on safety-critical assets	Scheduled with escalation and signed evidence
Calibration proof	Missing for some instruments	Certificates stored on each asset
Departments	Each documented its own way	One standard across four departments
Audit preparation	A paperwork chase	70% less preparation time
Audit outcome	Risk of penalties	Zero non-conformances

06 How it rolled out

1

Four departments. Deployed across Mechanical, Electrical, Instrumentation and HSE with no operational downtime.

2

Inspections on mobile. Field staff were trained to carry out inspections in the mobile app.

3

History migrated. Existing logs were moved into the system so the audit trail had no gaps.

07 The results

- Zero observations from the auditors
- PM compliance reached near-perfect levels across assets
- A central compliance trail accepted by auditors without objection
- Better coordination and accountability across departments
- A repeatable audit preparation routine for future HSE cycles

08 Why it worked

Evidence at the source

Photos, readings and signatures are captured during the inspection, so there is nothing to reconstruct before an audit.

One record per asset

Every certificate, inspection and repair sits on the asset it belongs to, which is how auditors ask for it.

Problems seen early

Overdue work and high-risk areas are visible before audit day, leaving time to correct them.

09 Looking ahead

By digitizing inspections, preventive maintenance and compliance documents, the refinery passed its HSE audit with zero non-conformances and spent 70% less time preparing for it.

The next audit starts from the same records. Inspections and PM keep adding evidence every day, so audit readiness is part of normal work rather than a last-minute effort.

See it on your own assets

A 30-minute demo, set up for a refinery or process plant.

The client's name is withheld for confidentiality. Results are as reported by the client.

Book a demo

Start a 14-day free trial