

Kav AI – Real-Time Integrity Intelligence

Connect what your sensors see, what your process data says, and what the codes require – in one auditable chain.

Kav AI is a Real-Time Integrity Intelligence System for refinery and petrochemical operators. It reads the inspection imagery you already capture (RGB, thermal, optical gas imaging), reads your operational data **read-only**, and reasons across both inside a photorealistic 3D model of your plant – so your integrity team moves from inspection capture to an actionable, engineer-approved decision in **hours, not the typical 5–10 days**.

The integrity loop

Capture drone evidence (visual, thermal, gas) → **Locate** every photo at its exact spot in the 3D plant model, linked to its equipment → **Analyze** against CAD/P&ID engineering context → **Approve** – a qualified integrity engineer signs off on every finding, with reasoning on an auditable record → **Act** – approved findings become work-order packets for your CMMS → **Re-inspect** – the next campaign verifies the fix and tunes detection to your facility.

Why operators buy it

- **Unplanned shutdowns cost \$500K–\$2M per day** at a mid-sized refinery. Continuous screening surfaces emerging failures while they are still a planned-maintenance item.
- **Fewer than 10% of captured inspection imagery** is reviewed by a qualified engineer under current workflows. Kav AI is built to put all of it in front of one – triaged, ranked, and tied to the asset.
- **Findings arrive as decisions, not data.** Each high-priority anomaly carries the asset’s engineering identity, the evidence behind it, and a recommended inspection action – ranked by severity and cross-asset comparison.

What it is – and is not

Kav AI is	Kav AI is not
A decision-support layer that observes, reasons, and recommends	A control system – it never writes to SCADA or actuates equipment
Hardware-agnostic across drones, robots, sensors, and any OPC UA source	A robotics or hardware company
A complement to your RBI system of record and CMMS	A replacement for your operators or engineers

Read-only is enforced technically, and every safety-relevant output requires individual engineer sign-off – no Critical finding or remaining-life adjustment is ever finalized by the system alone.

How to evaluate it: the 90-day pilot

One asset class (pressure vessels, heat exchangers, or piping circuits), your own inspection imagery, **success criteria agreed in writing before data ingestion** – detection recall, false-positive rate, query quality, time-to-first-finding. A named Kav AI customer-success engineer, weekly written updates, and full data deletion if you do not proceed. Your data remains yours throughout.

Also available through a partner-integrated delivery model: platform plus a qualified mechanical-integrity engineering firm staffing the engineer-review seat, in a single procurement vehicle.

Kav AI Platform · PRD v3.12 · Inspection-Evidence Integrity Loop Revision · 2026-09-03 · 4 of 8 platform milestones delivered · 84 requirements on record, 15 delivered · contact: sales@kavai.net