



OAK DEFENSE — AIRPICTURE

The complete air picture — cooperative and not.

UNCLASSIFIED · ITAR-FREE · ON OAK BMS

OAK AirPicture is an air-domain awareness module on **OAK BMS**. It fuses licensed **cooperative** tracks (ADS-B / satellite) with OAK's own **passive-RF** sensing and **explainable AI** classification — so a defence analyst sees the whole air picture, including the **non-cooperative** targets consumer trackers can't show, understands what it means, and briefs it — even on a network that never touches the internet.

WHAT IT DOES

Fused picture **Cooperative + non-cooperative.** ADS-B / satellite fused with passive-RF and BMS radar into single entities.

Alerts **Explainable triage.** Geofence entry, ISR-orbit / tanker-track signatures, jamming-corridor indicators — each with a "why".

Playback **Scrub, annotate, brief.** Replay an event and export a sanitized snapshot pack for a commander's brief.

Dark target **Non-cooperative dossier.** Kinematics, source provenance & confidence, and an AI hypothesis with its reasoning.

Pattern-of-life **Tracks → intelligence.** Historical routes, timing, basing and deviations by registration or operator.

Air-gap **Offline is first-class.** Per-source data freshness & latency shown; workflows run on a disconnected enclave.

WHY IT STANDS OUT

Non-cooperative first-class

The emitter with **no ADS-B correlate** is the point, not an edge case — passive-RF cross-fixes place it and give it the same dossier as any cooperative track.

Explainable AI

Every classification is a **hypothesis with an inspectable evidence chain** — emitter-library match, no flight-plan correlate, kinematics inconsistency — with calibrated confidence and abstain.

Honest & air-gapped

Provenance, confidence and **data age on everything**; a cross-fix shows its uncertainty ellipse, not a false-precision dot. Offline is a first-class mode.

DATA SOURCES & DEPLOYMENT

Fuses **ADS-B (SBS-1)**, **satellite ADS-B**, bearing-only **passive-RF** (two-station cross-fix), **BMS radar** and an **ICAO / operator registry** — all transports **receive-only** for air-gap safety. Non-cooperative entities are classified by the OAK **AI EW Decision** physics head; detaching a bearing widens the uncertainty and lowers confidence — honest by construction. Built as a **native OAK BMS module** (PySide6 / Qt QML), so existing customers adopt it without a new platform decision. Sold **ITAR-free** to Canadian and allied mil / gov.

Cooperative + non-cooperative

Passive-RF fusion

Explainable AI · evidence chain

Provenance & uncertainty

Air-gappable

On OAK BMS

ITAR-free · sovereign

Representational · v1

Unclassified · ITAR-free · Representational. AirPicture v1 runs on notional, simulated data — no operational feeds and no classified handling. It is decision-support tooling for the analyst, not a weapons-cueing or fire-control system. All transports are receive-only. Specifications subject to change. © OAK DEFENSE LTD.

Request a live demo

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