



OAK **Mission Console** puts the whole fight on one screen: seven operator views — Common Operational Picture, Counter-UAS planning, Joint Fires, Space domain awareness, Electronic Warfare, ISR collection tasking and Logistics — wired together with **cross-view tasking** and an **assured AI decision-support** layer running OAK's own first-principles models. Offline, sovereign and ITAR-free; exercise-only simulated data with a documented seam for live feeds.

SEVEN OPERATOR VIEWS	
View	Function
COP	Live multi-category track picture (air / surface / sub-surface / UAS / EW) with heading vectors and history trails, a ship weapons-engagement zone with rules-of-engagement breach alerts, affiliation/category filters and per-track threat scoring.
C-UAS Planner	Sensor laydown around a forward base against a budget ceiling, terrain-masked line-of-sight, an approach-coverage score over twelve threat axes, and a scripted UAS raid simulation with a cumulative raid record.
Joint Fires	High-payoff target list with CARVER scoring, the F2T2EA kill-chain, munition selection, deconfliction gating, a gun-target line on ENGAGE and battle-damage assessment.
Space	Satellite ground tracks with conjunction screening (time of closest approach, miss distance, Pc, severity) and a retrograde-burn manoeuvre planner that commits an avoidance burn.
Electronic Warfare	Live 30 MHz – 18 GHz spectrum display, an emitter order of battle, and electronic-attack tasking that suppresses an emitter and cross-cues the COP.
ISR	Named areas of interest, a collection-request list with a recommended asset, asset-to-NAI tasking lines, and product hand-off to the COP.
Logistics	Unit-readiness cards, supply-class stockage, convoy tracking, and resupply / J4 actions posted to the sustainment feed.

CROSS-VIEW TASKING (C2)	
Action	Effect on the receiving view
COP → Fires	Nominate a track — it lands in Joint Fires as a CARVER-scored high-payoff target on the F2T2EA chain.
COP → C-UAS	Hand a UAS track off to the counter-UAS cell.
EW → COP	Cross-cue an emitter (with bearing) into the common picture.
ISR → COP	Post a collected product back onto the picture.
WEZ breach	A hostile/unknown penetration of the ship engagement zone raises a ROE alert.

Every cross-domain action raises a notification badge on the receiving tab and carries the track with it — the console behaves as one C2 system, not seven separate tools.

ASSURED AI DECISION-SUPPORT		
View	OAK model	Output
COP	threat_assess	Ranked threat from real kinematics — closing speed, time-to-CPA, weapon-envelope geometry, coordination.
EW	intrapulse_recognition + ai_assurance	Assured LPI emitter ID: calibrated confidence, prediction set, and an explicit ABSTAIN / out-of-distribution flag.
Fires	tactical_wta	Weapon-target assignment (exact solver at fire-control scale) minimising expected leakage vs the no-fire baseline.
ISR	sensor_tasking	Optimal asset-to-NAI collection assignment under access geometry.

AI is added only where it earns its place, and every output is reported honestly — a calibrated confidence, and the discipline to **abstain** when the input is out-of-distribution (a noise barrage jammer has no structure to classify, so the model declines rather than fabricate an answer). The models are the pure-numpy OAK core shared with the EW SUITE — no cloud, no wrapped third-party feed.



ARCHITECTURE & DEPLOYMENT

Client	Framework-free web application (HTML / CSS / ES modules) — no build step, no Node, no bundler; one JS module per view plus a shared event bus.
Launcher	Python 3 standard-library server (<i>python serve.py</i>) — preloads assets into memory and opens the default browser; no third-party dependencies.
Rendering	Leaflet (tactical maps), d3 + topojson (space ground tracks), HTML canvas (EW spectrum).
Offline	Libraries, fonts and space map data vendored locally; the only online element is the tactical map tiles — swap the tile URL for the organisation's own server for a fully disconnected deployment.
AI backend	JSON API (<i>/api/*</i>) served by the launcher, running the real OAK pure-numpy core: <i>threat_assess · intrapulse_recognition · ai_assurance · tactical_wta · sensor_tasking</i> .
Graceful degrade	The AI core is located via <i>\$OAK_CORE</i> ; if absent, <i>/api/health</i> reports unavailable and the console hides its AI panels — the rest runs unchanged.
Footprint	Pure software; no GPU; runs on a standard workstation. Keys 1–7 switch views.

DATA & INTERFACES — THE LIVE-FEED SEAM

All in-view data is simulated in the exact shapes a service layer would return — tracks, sensors, emitters, high-payoff targets, collection requests and units. The cross-view event bus is the documented seam where a real build sources those shapes from live services without changing the view wiring, and the AI panels already call the OAK core over a local JSON API. The workflow model is built first; the live feeds go behind the same seam next.

ASSURANCE & POSITIONING

Seven-domain console	Cross-view C2 tasking	F2T2EA + CARVER	Assured AI · calibrated + abstain	Real OAK pure-numpy models
Offline app · no Node · no cloud	Sovereign · ITAR-free	Representational · exercise-only		

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