An ELNAV.AI System

Aware Mate®

Early alertness monitoring for safer bridge watchkeeping (complements BNWAS)

- On-board, human-in-the-loop vigilance layer
- Retrofit in one day
- Edge-only processing - no raw video stored

Why operators deploy Aware Mate

- BNWAS verifies presence. Alertness can still drift between acknowledgements.
- Bridge work is increasingly seated and screen-centric, enabling distraction and micro-sleeps.
- DPAs and HSQE teams need leading indicators (trends and hotspots), not just post-incident reviews.

What it does on the bridge

- Monitors eyelid closure (PERCLOS), gaze stability, head position and posture from a dedicated bridge camera.
- Computes a vigilance risk score over short windows and issues graded alerts (nudge -> repeat -> escalate if sustained).
- Captures events such as phone/book-in-hand distraction (optional signal), plus movement/absence indicators where configured.

Integration & installation

- Retrofit kit: IP camera + edge computer + alarm I/O; runs on a local router (no internet required).
- Works alongside existing BNWAS; optional dry-contact relay output can trigger the standard BNWAS alarm chain earlier when risk is sustained.
- No integration with ECDIS or radar required; compatible with air-gapped bridge networks.

Crew acceptance & governance

- Edge-only by default: processing and storage stay on board; no cloud video and no raw footage retained.
- Manual override: bridge can mute/disable alerts; SOP defines acceptable pause cases (e.g., drills, training).
- Review & appeals: alerts are safety signals, not automated fitness-for-duty decisions.

Outputs (what shore teams receive)

- Minimal Tier: day-level alert counts by severity tier (no times, no identities).
- Weekly/monthly bridge alert report with trend views (heat map, weekday profile, top days).
- Higher tiers can add watch-level analytics and fleet comparisons while keeping data minimised.

Example: Minimal Tier calendar heat map (no identities)

Pilot (8-12 weeks, 1-2 vessels)

- Day 1: install, commissioning checklist, and EAR calibration (per installation - no per-person tuning).
- Week 1: silent calibration (no audible nudges except critical), tune thresholds to lighting and watch patterns.
- Weeks 2-12: active operation + weekly Minimal Tier reports; close-out memo with findings and recommendations.

Operational evidence (available on request)

- Operational bridge test (RO-PAX 'Marko Polo', Dec 2025): 72h continuous run; 98.7% uptime; P95 alert latency 2.4s; false critical alerts 0.08/h; 93% coverage; crew acceptance 4.6/5 (n=5).

▶ **35-sec demo:** https://shorturl.at/4jtuT

Contact / demo

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