

## AWARE MATE / PRODUCT OVERVIEW

# Active watchkeeping support

**Aware Mate supports the human watch on increasingly automated bridges.** It combines observable indicators of watch presence, attention and alertness with local prompts and information for operational review.

The purpose is to help crews maintain an active watch and give operators useful evidence for reviewing procedures, workload and training.

## What the system observes

|                              |                                                                                                                                                      |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Watch presence</b>        | Presence, occupancy and absence duration within the configured monitoring area. Unavailable face or eye signals are treated separately from absence. |
| <b>Attention orientation</b> | Gaze and head orientation, including sustained gaze away or down. Settings reflect the agreed watch area and operating task.                         |
| <b>Alertness cues</b>        | Sustained eye closure, head drop and other defined visible patterns. Evaluation considers persistence over time and signal availability.             |

## Local support and review

Onboard video input feeds local edge analysis and graded advisory prompts. Event logs and agreed aggregate reports support review of monitoring coverage, alert load, absence patterns and response after prompts.

### Context-aware development

We are developing operational attention zones and selected read-only navigation and alert inputs. Simulator and vessel evaluations will test how attention relates to the operational situation and whether context makes prompts more relevant.

**Human judgement remains central.** Aware Mate supports the Officer of the Watch alongside existing bridge procedures and BNWAS.

**Privacy by design:** onboard processing, no identity or emotion recognition, and no raw video ashore by default.

## TECHNICAL CONFIGURATION

# Installation and integration

Hardware and interfaces are selected and verified for the agreed vessel or simulator configuration.

## The onboard architecture

|                            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Camera input</b>        | A specified IP camera, lens and lighting arrangement for the agreed watch area. Placement must provide usable face and eye detail across the intended working positions.           |
| <b>Edge processing</b>     | An onboard computer runs the vision models, event logic and logging. Normal operation does not require internet connectivity or cloud video processing.                            |
| <b>Local network</b>       | Power, local networking and cabling sized for the selected camera, computer and alert devices. Access and maintenance paths are agreed during installation planning.               |
| <b>Local prompts</b>       | Speaker or buzzer output with configured thresholds, persistence and cooldown. Crew briefing covers alert meaning and the agreed mute, pause and override procedures.              |
| <b>Optional interfaces</b> | Selected read-only bridge inputs and alarm I/O are scoped separately. BNWAS-related outputs require review with the installed equipment manufacturer and non-interference testing. |
| <b>Operational outputs</b> | Local events and technical health logs. Period-level reports can be enabled for the agreed recipients, with data detail and export permissions defined before activation.          |

## Commissioning follows the operating environment

Installation checks cover camera view, lighting and glare, tracking coverage, local alert delivery and loss of usable signals. A silent evaluation period can be used to tune the setup before active prompting.

**Application settings:** vessel bridges, inland wheelhouses and training simulators. Each evaluation defines its operating area, tasks, monitoring windows and acceptance criteria.

The standard configuration provides advisory support. It does not control ECDIS, radar, steering or propulsion, and existing watchkeeping duties remain in force.

## EVIDENCE AND NEXT STEPS

# Operational evidence

72-hour operational RO-PAX bridge trial | December 2025

The capture, inference, local prompting and logging loop operated in a live bridge environment. The trial provides evidence for further vessel pilots.

**98.7%**

System uptime

**2.4 s**P95 eyes-closed  
alert latency**0.08/h**False Critical-tier  
alerts**93%**Usable tracking  
coverage**4.6/5**Crew acceptance  
(n=5)

Source: ELNAV operational test report for the December 2025 trial. Uptime excludes planned alongside downtime. Results relate to this trial and configuration; crew feedback involved five participants.

## What the next evaluation establishes

- **Technical fit.** Coverage across operating positions and lighting conditions, stability, signal loss and alert delivery.
- **Operational usefulness.** Prompt relevance, nuisance burden, response after prompts and crew acceptance.
- **Review value.** Whether agreed aggregate outputs help improve procedures, workload planning and training.
- **Repeatability.** Installation effort, support requirements and performance across vessels or simulator settings.

### A defined pilot and a clear decision

An indicative vessel pilot lasts 8-12 weeks, covering installation, crew briefing, configuration checks and active operation. A joint close-out review informs the decision to refine, extend or proceed with deployment.

**Product status:** pilot-ready active watchkeeping support. Context-aware functions are being developed and evaluated. Class or flag certification is not claimed.

**IP:** International patent application under the PCT filed on 13 August 2026, PCT/EP2026/074664, following European filing EP25205451.5.

**Contact:** Hrvoje Mihovilović | Founder & CEO, ELNAV.AI  
hrm@elnav.ai | +385 91 443 3348 | elnav.ai