

ASTRASKY AI // GLOBAL COMPETITIVE INTELLIGENCE			PAGE 01 // 02	
Architectural Benchmark Matrix: Peer UAS Systems vs Trinetra-X Tactical Class			STRATEGIC DEFENSE DOSSIER	
SYSTEM PARAMETER	ASTRASKY TRINETRA-X (Tactical Naval Strike)	MQ-9B SEAGUARDIAN (General Atomics - USA)	BAYRAKTAR TB3 (Baykar - Turkey)	ANDURIL FQ-44 FURY (CCA / Anduril - USA)
Tactical Role & Mission Envelope	Maritime standoff strike, coastal interdiction, passive persistent reconnaissance. Organic destroyer rail launch.	Broad-area maritime surveillance, anti-submarine (ASW) patrol. High altitude, non-penetrating.	Short-deck amphibious assault carrier ISR and light strike. Medium-altitude loiter.	Air dominance, loyal wingman Collaborative Combat Aircraft (CCA) for air-to-air & strike escort.
Takeoff Weight & Propulsion	1,850 kg (1.85-Ton MTOW) Twin Dorsal High-Thrust Turbofans	5,670 kg (5.6-Ton MTOW) Single Honeywell TPE331-10 Turboprop	1,450 - 1,600 kg MTOW Single TEI PD-170 Piston Engine	2,270 kg (5,000 lb MTOW) Single Williams FJ44 Turbofan
Velocity & Combat Radius	Sprint: 550+ km/h Cruise: 380 km/h Radius: 1,500 – 3,000 km trans-theater	Max Speed: 388 km/h Cruise: 200 km/h Radius: 2,200 km (Runway-locked)	Max Speed: 300 km/h Cruise: 230 km/h Radius: 1,900 km (Subsonic loiter)	Max Speed: Mach 0.95 (1,150 km/h) Radius: ~1,800 km (Conventional runway)
Emission & Stealth Doctrine	0 dB EMCON Alpha (Absolute silence) Zero RF, zero datalink, zero GPS broadcast.	High RF Signature Continuous Ku/Ka-band SATCOM tether. Massive radar cross-section (RCS).	Active RF C2 Datalink Relies on line-of-sight & SATCOM; vulnerable to tactical broadband EW.	Active RF Networked Mesh Continuous Lattice mesh communication; non-EMCON dependent.
Weapons Stores & Bay Mechanics	500 kg Internal Centerline Bay Sub-0.4s pneumatic doors; zero external drag.	External Wing Pylons (2,155 kg payload) Severe pylon drag; high radar visibility.	External Hardpoints (280 kg payload) Exposed light munitions; non-stealthy.	Internal & External Dual Hardpoints Carries AIM-120 / JDAM standoff weapons.
Launch Infrastructure	Naval Destroyer Catapult Rail Zero runway footprint; net/arrested recovery.	1,500m Conventional Runway Requires fixed land bases cratered on day one.	Short-Deck Ski-Jump Carrier Requires amphibious carrier decks (TCG Anadolu).	2,000m Conventional Airfield Runway-locked fighter base infrastructure.
Unit Flyaway Economics	Target: \$2.5M USD at scale \$2.5M Seed sprint to live naval flight.	\$35M – \$45M USD per airframe Prohibitive attrition risk in peer conflict.	Estimated \$5M – \$7M USD Lower cost, but sluggish 230 km/h speed.	Estimated \$15M – \$20M USD High unit cost for massed attrition deployment.
COMPETITIVE VERDICT: Trinetra-X is the only platform combining 550+ km/h transonic speed, 500kg internal bay, 0 dB EMCON, and carrier-deck rail egress at \$2.5M flyaway cost.				

Naval Architectural Moats: Why Trinetra-X Dominates Contested Littoral Corridors

1. THE MALE VULNERABILITY TRAP (MQ-9B & TB3)

The Strategic Flaw:

Legacy MALE platforms cruise at 150 to 230 km/h with high radar cross-sections and continuous RF command tethers. In contested maritime corridors (Red Sea, Taiwan Strait, Persian Gulf), modern integrated air defenses (HQ-9, S-400) and localized broadband EW neutralize them effortlessly.

The Trinetra-X Moat:

Trinetra-X operates at over 2.5x the ingress speed (550+ km/h) on twin turbofans, flies in absolute radio silence (0 dB EMCON Alpha), and launches directly from destroyer rail catapults, completely bypassing vulnerable land airstrips.

2. TARGET-EMISSION BLINDNESS & RF DEPENDENCE

The Strategic Flaw:

Conventional autonomous platforms and loitering munitions rely strictly on continuous RF/satellite telemetry links, passive radar homing, or AIS transponders. Peer warships immediately enforce strict radar silence (EMCON Alpha) and jam GPS, instantly blinding incoming strike systems.

The Trinetra-X Moat:

Bhaari AI™ is completely emission-agnostic. It processes multi-spectral EO/IR optical flow and thermal contrast directly on dual Jetson Orin silicon at 500 Hz, matching physical warship silhouettes and terrain contours even when the enemy runs completely dark.

3. RUNWAY CRATERING & EXPENSIVE ATTRITION

The Strategic Flaw:

Fixed military airbases and 1,500m concrete runways will be neutralized within the opening hours of high-intensity peer conflict. Furthermore, expending \$35M MQ-9B airframes or firing \$2.5M surface-to-air interceptors against cheap threats exhausts naval budgets and magazines rapidly.

The Trinetra-X Moat:

Trinetra-X delivers organic flight-deck rail launch capability with a modular 500kg internal centerline bay. At a projected \$2.5M production flyaway cost, it provides allied battlegroups with a sustainable, reusable transonic strike shield.

THE STRATEGIC INSTITUTIONAL THESIS // QUAD MARITIME ASYMMETRY

Naval battlegroups across the Indo-Pacific face an acute gap: they cannot risk \$35M MALE drones in dense electronic warfare zones, nor can they afford to exhaust \$2.5M VLS interceptors on disposable threats. Trinetra-X delivers the missing operational capability: an autonomous, sovereign 1.85-ton transonic strike UAS that launches from shipboard catapult rails, penetrates contested corridors under absolute radio silence (0 dB EMCON Alpha), releases standoff precision weapons from an internal bay, and returns safely to the fleet—all engineered on a capital-efficient \$2.50M USD delivery sprint.