NETRA AviSHIELD 360

The Definitive Defense System Securing Runways and Vertical Airspace Against Avian Hazards

NETRA

MAKE IN INDIA

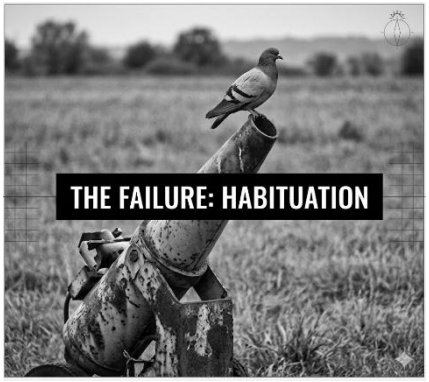
आत्मनिर्भर भारत

THE CRITICAL SECURITY GAP

Bird strikes cause catastrophic human risk, millions in engine damage, delays, and reputational harm.

Why Isolated Products Fail : The Evolution of the Threat

Traditional, single-point bird deterrent products are no longer sufficient to meet modern aviation safety standards. Today's avian hazards have adapted to isolated devices, exposing severe vulnerabilities in airport Bird/Wildlife Aircraft Strike Hazard programs.



Birds possess highly adaptive sensory systems. When airports deploy standalone, predictable noise-makers or basic gas cannons, target species quickly become desensitized. Over time, birds treat static noise patterns as background environment features, eventually using active deterrent hardware as regular perching spots

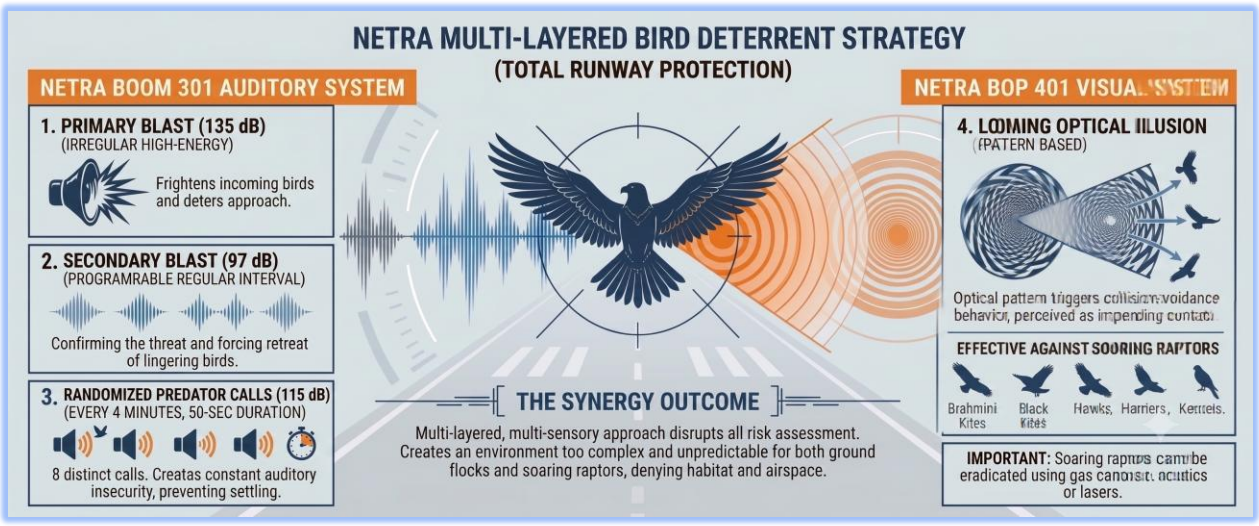
Standard ground-level bird control fails against apex raptors like Kites, Hawks, and Kestrels. These predators use runway thermal updrafts to hover in flight corridors, rendering acoustic blasts, lasers, and pyrotechnics ineffective. As they pose high damage risk, current deterrents cannot stop such high-flying threats

Highest strike rate. Highest damage probability.
Uses thermal updrafts from runways to soar at high altitudes

Relying on manual bird-scaring patrols creates an unpredictable, high-cost framework prone to human error and coverage gaps

NETRA AviSHIELD 360

4 layered Bird Strike Risk Mitigation for Airports



The NETRA AviSHIELD 360 eliminates bird strike risks by moving away from standalone devices and implementing a fully integrated, multi-sensory environment. By fusing acute acoustic shock, chronic bio-acoustic psychological stress, and vertical visual illusions, it establishes an ecosystem too complex for birds to map, adapt to, or inhabit.

4 Layered Bird Strike Risk Mitigation for Airports

Layer 1: Primary Blast (Acute Shock — 135dB)

- Emits an irregular, high-intensity sonic boom, shot at ground level that instantly startles and disperses incoming flocks across the immediate runway environment

Layer 2: Secondary Blast (Reinforcement — 97dB)

- Delivers a secondary (dual shot) acoustic echo following the primary blast at a fixed interval, confirming the threat, breaking up flock communication, and forcing lingering birds to flee

Layer 3: Randomized Predator Calls (Chronic Stress — 115dB)

- Utilizes an integrated multi-sound speaker array broadcasting a rotating matrix of 8 distinct predator vocalizations and species-specific distress calls. Operating on an automated loop (4 minutes standby / 50 seconds emission), it ensures the airfield remains highly uncomfortable between main blasts, permanently blocking habituation

Layer 4: Looming Optical Illusion (High-Altitude Vertical Space)

- Targets the exact blindspot of acoustic systems by neutralizing high-flying raptors. Deploying a passive, solar-powered mechanical threat platform, it projects a dynamic pattern-based optical illusion. Soaring predators perceive this moving pattern as an impending high-speed mid-air collision, triggering an involuntary avoidance reflex that forces them to vacate the airport's vertical approach corridors

The NETRA AviSHIELD 360 directly addresses two major points of failure in conventional Bird/Wildlife Aircraft Strike Hazard programs.

- The habituation to predictable bangs,
- The mismatch between ground-level noise and high-altitude raptor behaviour, where the threat must be projected into the airspace.

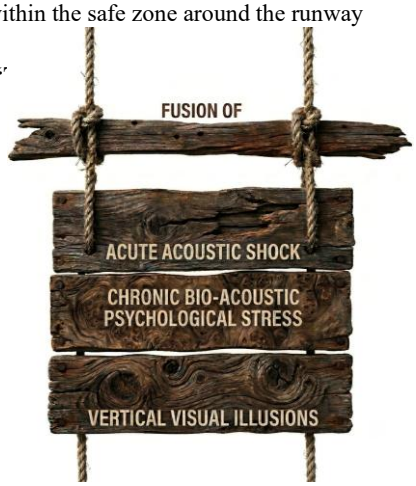
NSS 301

NBP 401

Deployment Architecture : For a 3.8 km long runway 18 units of NBP 401 & 22 units of NSS 301 would be deployed & placed in designated locations within the safe zone around the runway

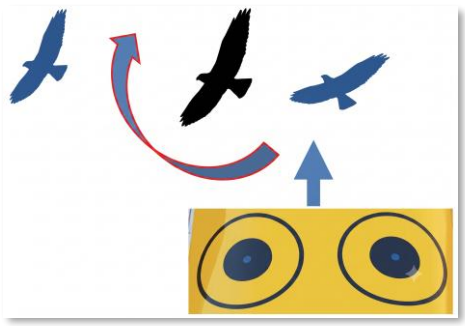
Operating in sequence the NETRA AViSHIELD 360 establish a layered "' difficult to adapt to,

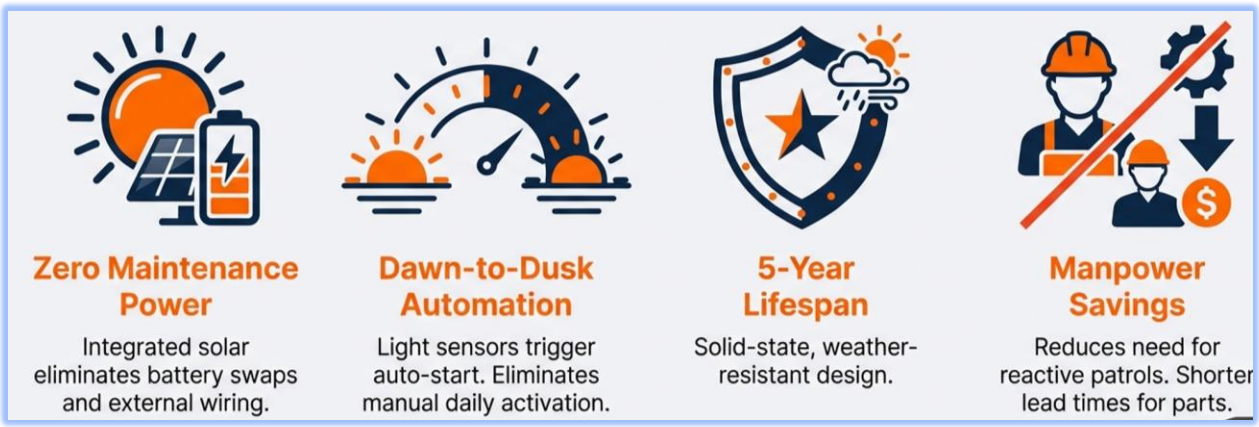
- thereby enhancing runway safety
- minimizing disruptions, and
- reducing manpower dependence through automation



PROACTIVE CONTROL FOR AIRFIELD RESILIENCE

Investing in the NETRA AviSHIELD 360 shifts airport operations from high-risk reactive bird scaring to an absolute, automated asset-protection environment.





NETRA

SECURING THE SKIES, PROTECTING THE RUNWAYS

NATIONAL EMERGING TECHNOLOGY RESEARCH & ANALYSIS (NETRA) is an established global benchmark in airport wildlife hazard management and advanced aviation defense technology. The NETRA AviSHIELD 360 represents a paradigm shift in airfield safety—delivering a comprehensive, automated defense infrastructure that eliminates habituation and locks down the vertical airspace. Deployed worldwide, it is a must-have asset for modern airport resilience. NETRA is a must-have for airport safety.

SUPPLY CHAIN ADVANTAGE & LOGISTICS SUPPORT

As an indigenous leader in aerospace defense manufacturing, NETRA guarantees superior operational uptime compared to foreign single-point products:

- Drastically shortened procurement and deployment lead times.
- Direct access to specialized, on-demand technical engineering support.
- Immediate domestic availability of genuine system spare parts.

CORPORATE IDENTITY & CONSULTATION PORTAL

Manufacturing Authority:	Developed under Make in India & Atmanirbhar Bharat frameworks
Corporate Headquarters:	NETRA Global Pvt Ltd, GINSERV, CA Site #1, HAL 2nd Stage, Leela Palace Road, Bengaluru – 560 008, India.
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