

# A SNEAK PEEK INSIDE INDIA'S FIRST AI-ENABLED INTEGRATED SMART BORDER SUITE (ISBS)

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## Quick Summary

Be it our resolve to make our armed forces unbeatable in war or be it our Nation's objectives and aspirations for the Forces – we stand firm in our support. This Newsletter tells the story of Zen responding to the nation's call, yet again.

## A Bold Announcement

On 22 May 2026, the Hon Home Minister announced the 'Smart Border Pilot Project'.

This Project transforms the traditional 'keep-watch' perception of border security into a comprehensive strategy to counter multiple threats; be it cyber threats, hybrid warfare or drone warfare. The nearly 6000 km border with Pakistan and Bangladesh is intended to be made **impregnable** using state-of-the-art-surveillance, threat-identification and real-time-response capability. The aim is to curb illegal infiltration and deal with threats of cross-border terrorism, illegal arms and drug smuggling and illicit attempts to drop weapons, and counterfeit currency using drones.

Building robust surveillance and diverse kill capability are the two pillars of this strategy.



## Zen responds to the Nation's call

Zen's latest product is an **ideal fit in the Smart Border Project**. It is India's first **Integrated Smart Border Suite (ISBS)**. Here is how it counters the threats defined above.

### ZEN TECHNOLOGIES UNVEILS INDIA'S FIRST INTEGRATED SMART BORDER SUITE (ISBS)

Designed to function as a 24x7 intelligent digital shield, enabling faster detection, tracking and neutralisation of hostile activity across difficult terrain and high-risk sectors.

The Integrated Smart Border Suite has been designed as a modular and scalable ecosystem capable of deployment across border outposts, critical infrastructure zones, and forward operating environments.

#### INTEGRATED SMART BORDER SUITE (ISBS)

AI-Powered Anti-Drone Systems

Smart Loitering Munition

Interceptor Drones

Unmanned Ground Vehicles (UGVs)

Remote Controlled Weapon Stations (RCWS)

Electro-Optical & Thermal Surveillance Systems

## Future-ready

ISBS combines many different technologies into one **AI-powered 'shield and sword'**. 'Shield' to make the border impregnable, 'Sword' to seek and destroy the drone-based threats. The system being open architecture is future-ready to integrate with new and emerging technologies.

## AI-Enabled Anti-Drone System



Know more

## The look-see capability

The **surveillance suite of ISBS has multiple sensors**. These include the RF, EO and thermal and radar sensors. The RF sensors provide full-spectrum dominance from 70 MHz to 12 GHz. This is well beyond the commercial drone frequency band of 2.4–5.8 GHz, since most of the threat drones will operate outside the commercial bands.

Also, in the EO/IR domain, our **AI-based Hawkeye multi-sensor optical platform** camera provides a surveillance range of 15+ km. This capability is also a 'cut-above' when compared to industry threshold of 8–10 km.

The radar is a state-of-the-art **X Band AESA radar** providing a detection range of 20+ km and a capability to simultaneously track a 100+ drone swarm at a time.

## The brain

The brain of ISBS is the **Data Fusion and Command Centre (DFCC)**. This AI-powered station fuses the inputs from multiple sensors, removes duplication and generates the Air Situation Picture (ASP). Using advanced algorithms it identifies the threat in the ASP and generates a response. All this process is automated and happens in near-real-time.

## The Sword – the ISBS response

The ISBS kill package has different arsenals. Here is a word about each.



### More than just an RF Jammer

First of these is the **AI-based Zen Counter UAS (C-UAS) system**. It features the RF-based soft-kill. Unlike many C-UAS systems that have RF jamming as a counter, Zen C-UAS besides RF and GNSS jamming also includes spoofing as a soft-kill option to counter the drone threat.

## Going with the latest

Another ISBS kill means is **loitering munition**. This arsenal has an operational range of 70 km and an endurance of 25 minutes to look for its prey. It is launchable using a catapult. This tandem wing machine has a speed of 50 m/s and has a capability to carry out its own surveillance, target acquisition and a precise hard-kill on its intended target.



### Killing Unmanned with Unmanned

Another vertical of the ISBS hard-kill arsenal are **interceptor drones, also called the micro-killer drones**. These drones are ideal for anti-swarm operations. Guided by the surveillance suite of the ISBS, these high-speed aerial platforms can destroy the incoming threat effectively.

## One Platform, Many Roles

Today is the era of the unmanned autonomous warfare and ISBS cannot be devoid of the same.

Its **robotic Unmanned Ground Vehicle (UGV) Vrishabh is a multi-role combat-support platform**. It can effectively carry out tasks such as casualty evacuation and logistic support. Being unmanned, allows it to be operated under high-risk environments. Its combat range of 100 km provides adequate reach and a speed of 50 km/h provides the required mobility. The UGV has a payload capability of 150 kg which is considered adequate for small logistic loads.



### Parashu – the kill machine.

ISBS has a versatile **remote-controlled weapon station or RCWS (Parashu)**.

It is equipped with auto-tracking capabilities to function effectively as an anti-drone system. This advanced technology ensures precise tracking and engagement of moving targets, enhancing situational awareness and defensive capabilities. Parashu can be equipped with various weapon calibers, including 7.62mm machine guns and 5.56mm rifles, providing flexibility for a range of mission requirements related to border security roles.

ISBS is not a system; it is Zen's humble contribution in response to the nation's call to build a robust and impregnable smart border suite.

## Zen in News

Zen Technologies develops integrated AI-powered anti-drone system

**Zen Technologies develops integrated AI-powered anti-drone system**

The smart counter-drone architecture will have a combination of interceptor drone and integrated weapon systems

By Nikhil Singh  
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Absolute Battlefield Dominance: India's New 12 GHz C-UAS System Signals a New Era of Drone Warfare

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ANALYSIS AND POLICY OF DEFENCE INDIA

**Absolute Battlefield Dominance: India's New 12 GHz C-UAS System Signals a New Era of Drone Warfare**

By Dr. Rishabh Choudhary (Defence)

On the eve of the first anniversary of Operation Gadrud, India unveiled its first 12 GHz C-UAS system, a game-changer in the skies over the Indian subcontinent. This system, developed by Zen Technologies, marks a significant leap in India's ability to counter unmanned threats, providing a robust and scalable solution to the growing drone menace.

India's defence and drone industry has already built a strong base over the last few years. Ground intelligence, supported by the 12 GHz C-UAS system, provides a comprehensive picture of the drone threat, enabling the Indian military to respond quickly to emerging security requirements.

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