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Shaurya Drone Squadrons — Army Integrates Drone Warfare with Armoured Corps

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> *The Indian Army unveiled Shaurya Squadrons — dedicated drone sub-units embedded within armoured regiments — during Exercise Amogh Jwala, a 13-day integrated mechanised manoeuvre drill conducted by the 31 Armoured Division (White Tiger Division) at the Babina Field Firing Ranges near Jhansi, Uttar Pradesh. Six Shaurya Squadrons have been activated across five Army commands, marking a doctrinal shift in how India intends to fight future land wars.*

What Are Shaurya Squadrons

Shaurya Squadrons are dedicated drone sub-units embedded at the company level within armoured regiments. They represent the first time the Indian Army has organically integrated unmanned aerial systems (UAS) with its heavy armour formations, compressing the sensor-to-shooter loop from minutes to seconds.

Each squadron comprises **20 to 25 trained personnel** operating a mix of drone platforms:

DRONE CATEGORY	ROLE	EXAMPLES
Surveillance / ISR Drones	Real-time battlefield awareness, target acquisition	Quadcopters, fixed-wing mini-UAVs
First-Person View (FPV) Drones	Precision kamikaze strikes on armour, bunkers	Indigenously developed FPV systems
Loitering Munitions	Autonomous target engagement beyond line-of-sight	Nagastra-1 (Solar Industries), Warmate (Poland), Harop (Israel)
Swarm Drone Systems	Coordinated multi-drone saturation attacks	Indigenous swarm platforms under development
Electronic Warfare (EW) Drones	Signal jamming, spectrum dominance	EW-equipped UAS

The concept was pioneered by the **White Tiger Division (31 Armoured Division)** under the **Sudarshan Chakra Corps** and validated during Exercise Amogh Jwala.

Exercise Amogh Jwala — The Proving Ground

Exercise Amogh Jwala was a pivotal 13-day drill conducted from **6 March to 19 March 2026** at the Babina Field Firing Ranges in Uttar Pradesh. Reviewed by **Lt Gen Dhiraj Seth**, General Officer Commanding-in-Chief, Southern Command, the exercise validated multi-domain, high-intensity mechanised operations.

Key demonstrations included:

- Coordinated deployment of mechanised units with attack helicopters and fighter aircraft
- Shaurya Squadrons performing real-time surveillance, swarm strikes, and coordinated firepower integration
- Precision engagements using **Pinaka multi-barrel rocket launchers** and loitering munitions
- Counter-drone grids neutralising simulated threats
- Validation of **Integrated Battle Groups (IBGs)** and brigade-level formations with IAF interoperability

The exercise proved that embedding drones at the lowest tactical level drastically enhances battlefield awareness and enables swift, decisive response in mechanised warfare.

Drone Types in Use — A Closer Look

FPV Drones: FPV (First-Person View) drones are small, agile, and extremely cheap — costing as little as **USD 400 to USD 2,000 per unit**. The operator wears goggles that stream a live camera feed, guiding the drone at speeds of 100 to 150 km/h directly into targets. In the Russia-Ukraine War, FPV drones have been responsible for over **two-thirds of Russian tank kills** in recent months.

Nagastra-1 Loitering Munition: India has indigenously developed the Nagastra-1 through **Economic Explosives Limited (EEL)** — a subsidiary of Solar Industries, Nagpur — in collaboration with Bengaluru-based startup **Z-Motion Autonomous Systems**. The Indian Army received **480 Nagastra-1 units** in December 2024.

PARAMETER	SPECIFICATION
Total system weight	30 kg (carried in two backpacks)
UAV weight	8 to 9 kg
Flight endurance	60 minutes (upgraded from initial 30 minutes)
Range (man-in-loop)	15 km
Range (autonomous mode)	30 to 40 km
Warhead	1 to 1.5 kg high-explosive fragmentation
Guidance	GPS / NavIC satellite guidance
Accuracy (CEP)	2 metres
Indigenous content	Over 80%
Recovery	Parachute recovery mechanism (mission-abort capable)
Sound signature	Near-silent above 200 metres (electric propulsion)

Swarm Drone Technology: The Indian Army has begun in-house development of **autonomous FPV drone swarms** — coordinated groups of drones that can overwhelm enemy air defences through saturation. Each of the Army operational commands has been empowered to manufacture or induct approximately **5,000 UAS**, signalling a massive scale-up.

Lessons from the Russia-Ukraine War

The Russia-Ukraine conflict has fundamentally rewritten the rules of armoured warfare. India has drawn critical lessons that directly informed the creation of Shaurya Squadrons.

Key statistics from the Ukraine theatre:

- Ukrainian FPV and bomber drones carried out nearly **820,000 confirmed strikes** in 2025 alone
- Drones struck and damaged over **29,000 heavy weapons** (tanks, artillery) and **62,000 lighter targets** (vehicles, ammunition depots)
- Over **32,000 Russian reconnaissance or strike drones** were shot down by Ukrainian drones
- FPV drones costing **USD 400** have destroyed tanks worth **USD 8 to 10 million** each — a cost asymmetry that "undermines the fundamental economic logic of armoured warfare as practised since 1940"
- In some sectors, drones accounted for up to **90% of vehicle losses**

- Ukraine produces approximately **100 long-range drones per day**; Russia produces about **300 per day**

Doctrinal implications for India:

- Tanks remain relevant but cannot operate without integrated drone cover — both offensive and defensive
- Counter-drone capability is as important as drone strike capability
- The sensor-to-shooter loop must be compressed to seconds, not minutes
- Mass production of low-cost FPV drones is a strategic imperative

India Drone Ecosystem — Policy and Industry

India has built a robust ecosystem to support its drone ambitions through a combination of policy reforms, funding, and indigenous development.

Key policy initiatives:

INITIATIVE	DETAILS
Drone Shakti (Budget 2026)	5-year incentive-based manufacturing scheme; estimated outlay of Rs 10,000 crore; dual subsidies for capex and 10 to 15% output-linked subsidy; 50 to 60% domestic content mandate
Production-Linked Incentive (PLI) for Drones	Rs 120 crore allocated; 20% incentive on value addition
iDEX (Innovations for Defence Excellence)	Launched 2018; 676 startups/MSMEs onboarded; 58 prototypes cleared for procurement worth Rs 3,853 crore; 45 procurement contracts signed worth Rs 2,326 crore; Rs 13,000 crore in cumulative business generated
Drone Security Framework (2026)	MoD draft mandating elimination of Chinese components; secure-by-design architecture; to be incorporated in DAP 2026
Liberalised Drone Rules 2021	Abolished requirement for security clearance; reduced approvals to minimal; enabled commercial drone operations

Industry snapshot:

- India drone market: **USD 1,581 million** (2024), projected to reach **USD 4,836 million by 2030** (CAGR 20.4%)
- Over **515 drone-related companies** in India, with 263 focused on components (batteries, propellers, software)

- Over **200 drone startups** have raised more than USD 140 million since 2014
- **13,000 registered drones** in the country
- Defence and security segment expected to lead with **26.4% CAGR**
- Key players: ideaForge, Garuda Aerospace, IoTech World, NewSpace Research and Technologies, Paras Aerospace

Army-level procurement scale: The Army plans to procure nearly **30,000 loitering munitions** in the coming years. Each operational command has been empowered to induct approximately **5,000 UAS**. Infantry battalions will embed dedicated drone platoons of **30 to 70 soldiers** specialising in swarm operations, FPV systems, loitering munitions, and counter-UAV defence.

Comparison with Global Drone Warfare Capabilities

COUNTRY	KEY PLATFORMS	SIGNATURE USE	SCALE
Turkey	Bayraktar TB2, Akinci, Kemankes-1	65% global military drone market share; TB2 decisive in 2020 Nagorno-Karabakh War and Libya; 27-hour endurance; 150 km range	Exported to 35+ countries
Israel	Harop, Heron, Hermes 900/450	Harop anti-radiation loitering munition; autonomous SEAD missions; AI-driven targeting	Used by India, Azerbaijan, multiple NATO allies
USA	MQ-9 Reaper, Switchblade, V-BAT	Large MALE/HALE drones; Switchblade man-portable loitering munition; AI-enabled drone swarms	Largest military drone budget globally
China	Wing Loong II, CH-5	Low-cost MALE drones exported to Middle East and Africa; largest civilian drone maker (DJI)	Dominates low-cost export market
Ukraine	FPV drones, naval USVs	Pioneered mass FPV warfare; 820,000 confirmed strikes in 2025; 100 long-range drones produced per day	War-driven innovation at scale
India	Nagastra-1, Tapas BH-201, Rustom-2, indigenous FPV systems	Shaurya Squadrons embedding drones with armour; 30,000 loitering munitions planned; Drone Shakti Rs 10,000 crore scheme	Fastest-growing defence drone market (26.4% CAGR)

India Armoured Corps — Key Context

The Indian Army Armoured Corps maintains **67 armoured regiments**, including the President's Bodyguard (the oldest and most ceremonially prominent unit). The operational tank fleet stands at approximately **5,000 vehicles** across three main platforms:

TANK	ORIGIN	NUMBERS IN SERVICE	STATUS
T-90S Bhishma	Russia (licence-produced)	~2,078	Mainstay of strike corps
T-72 Ajeya	Russia (upgraded)	~1,900	Being phased out gradually
Arjun Mk1A	Indigenous (DRDO/CVRDE)	124 Mk1 delivered; 118 Mk1A on order	Indigenous third-generation MBT

The integration of Shaurya Squadrons with these formations ensures that every armoured regiment — whether equipped with T-90s on the western front or deployed in the eastern theatre — has organic drone capability for surveillance, targeting, and strike.

Future Plans

- **All 67 armoured regiments** to eventually receive Shaurya Squadrons
- Development of **autonomous drone swarms** for anti-armour saturation attacks
- Integration of **AI-driven target recognition** for loitering munitions
- Army has ordered **iDEX solar-electric drones** for extended endurance ISR missions
- Counter-drone grids being deployed across all commands to protect armoured formations from enemy drones
- **DAP 2026** to incorporate drone security framework mandating indigenous, Chinese-component-free systems
- Mass induction of **Nagastra-1R** (upgraded variant with enhanced range and warhead) under active consideration
- Raksha Mantri Rajnath Singh has stated India must become a **global hub of drone manufacturing** within the next few years

UPSC RELEVANCE

Shaurya Squadrons, Exercise Amogh Jwala, Nagastra-1, iDEX, Drone Shakti, 31 Armoured Division, Bayraktar TB2, Harop, FPV drones, loitering munitions, Sudarshan Chakra Corps, Babina Field Firing Ranges, NavIC, PLI for drones.

MAINS GS-3:

Role of technology in internal security and defence modernisation; indigenisation of defence production; drone warfare and changing nature of conflict; lessons from Russia-Ukraine War for Indian defence planning.

📌 FACTS CORNER — KNOWLEDGEPEDIA

SHAURYA SQUADRONS — CORE DATA:

Personnel per squadron: 20 to 25 trained operators

Drone types: surveillance, FPV, loitering munitions, swarm systems, EW drones

Activated: 6 squadrons across 5 Army commands (as of March 2026)

Target: all 67 armoured regiments to be equipped

Pioneered by: White Tiger Division (31 Armoured Division) under Sudarshan Chakra Corps

EXERCISE AMOGH JWALA:

Duration: 13 days (6 to 19 March 2026)

Location: Babina Field Firing Ranges, near Jhansi, Uttar Pradesh

Conducted by: 31 Armoured Division, Southern Command

Reviewed by: Lt Gen Dhiraj Seth (GOC-in-C, Southern Command)

Focus: multi-domain mechanised warfare, IBG validation, drone-armour integration

NAGASTRA-1 LOITERING MUNITION:

Developer: Economic Explosives Ltd (Solar Industries, Nagpur) + Z-Motion Autonomous Systems (Bengaluru)

Weight: 8 to 9 kg (UAV); 30 kg total system

Range: 15 km (man-in-loop); 30 to 40 km (autonomous)

Endurance: 60 minutes

Warhead: 1 to 1.5 kg HE fragmentation

Accuracy: 2 m CEP (GPS/NavIC guided)

Indigenous content: over 80%

Units delivered to Army: 480 (December 2024)

INDIA ARMOURED CORPS:

Total armoured regiments: 67 (including President's Bodyguard)

Operational tanks: approximately 5,000

Main platforms: T-90S Bhishma (~2,078), T-72 Ajeya (~1,900), Arjun Mk1A (124 + 118 on order)

INDIA DRONE INDUSTRY:

Market size: USD 1,581 million (2024); projected USD 4,836 million by 2030

CAGR: 20.4% (2025 to 2030)

Drone companies: 515+; drone startups: 200+

Registered drones: 13,000

PLI for drones: Rs 120 crore (20% incentive on value addition)

Drone Shakti (Budget 2026): Rs 10,000 crore over 5 years

Army loitering munitions procurement target: 30,000 units

UAS per command: approximately 5,000

IDEX PROGRAMME:

Launched: 2018

Startups/MSMEs onboarded: 676

Prototypes cleared for procurement: 58 (worth Rs 3,853 crore)

Contracts signed: 45 (worth Rs 2,326 crore)

Cumulative business generated: Rs 13,000 crore

UKRAINE-RUSSIA DRONE WAR STATISTICS (2025):

Confirmed Ukrainian drone strikes: ~820,000

Heavy weapons destroyed by drones: 29,000+

Lighter targets hit: 62,000+

Enemy drones shot down by Ukrainian drones: 32,000+

FPV drone cost: USD 400 to 2,000; tank cost: USD 8 to 10 million

Ukraine daily long-range drone production: ~100; Russia: ~300

OTHER RELEVANT FACTS:

Turkey holds 65% of the global military drone market; China 26%; USA 8%

Bayraktar TB2 endurance: 27 hours; range: 150 km

Drone Security Framework 2026: MoD mandate to eliminate Chinese components from military drones

DAP 2026: Defence Acquisition Procedure to incorporate drone security norms

Liberalised Drone Rules: notified in 2021; abolished security clearance requirement

> India defence drone segment CAGR: 26.4% (fastest-growing segment)
>
> FPV drones responsible for over two-thirds of Russian tank losses in recent months (Ukraine)

Sources: The Week , The Tribune , Bharat Shakti , Indian Defence Research Wing , India Sentinels , SSBCrack , PIB , The Print

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