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WHAT IS THE AKASH MISSILE SYSTEM?



- It is a **short-range surface-to-air missile (SAM)** system.
- It is designed to **protect vulnerable areas, points and assets from a range of aerial threats**, including fighter aircraft, cruise missiles, drones, and helicopters.
- It was **indigenously designed and developed** by India's **Defence Research and Development Organisation (DRDO)** and is **produced by Hyderabad-based Bharat Dynamics Ltd. (BDL)**.
- It is currently in **service** with the **Indian Air Force (IAF)** and the **Indian Army**.
- Akash is distinguished from adjacent systems within **India's tiered air-defence grid**.
 - It **occupies the medium-range layer**, below the long-range S-400 Triumf acquired from Russia and the indigenous-Israeli Barak-8/MR-SAM, and above short-range systems such as the quick-reaction surface-to-air missiles (QRSAM) and the man-portable point-defence weapons.
- **Features:**
 - The system features a **launcher**, a **missile**, a **control centre**, an **integral mission guidance system**, a **multifunctional fire control radar**, a system arming and explosion mechanism, a **digital autopilot**, C4I (command, control, communication, and intelligence) centres, and supporting ground equipment.
 - It features a **solid-fuel, ramjet propulsion** system, capable of reaching speeds of Mach 2.5 to 3.5 (up to 4,200 km/h).
 - It covers a **range of 5 km to 25 km** and can **engage aerial threats** flying between 100 meters and **20 kilometers in altitude**.
 - It can **simultaneously engage multiple targets** in **Group Mode or Autonomous Mode**.
 - It is fully automatic, features built-in electronic counter measures, and is mobile across different terrains.

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- **Variants:**

- **Akash-1S:** Incorporates an **indigenous radio-frequency (RF) seeker** for improved terminal accuracy, moving away from pure command guidance.
- **Akash Prime: Upgraded RF seeker** and optimised for high-altitude, low-temperature operation, addressing performance gaps observed in mountainous theatres.
- **Akash-NG (New Generation):** Introduces an **active electronically scanned array (AESA) multifunction radar**, an active RF seeker, a canisterised launcher, and **extended range**.

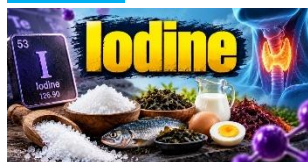
CENTRE FOR RESEARCH ON ENERGY AND CLEAN AIR (CREA)



- It is an **independent, non-profit research organisation** focused on **revealing the trends, causes, and health impacts**, as well as the **solutions, to air pollution**.
- It is **based in Helsinki, Finland**.
- CREA uses **scientific data, research, and evidence** to **support** the efforts of **governments, companies, and campaigning organisations** worldwide in their efforts to move towards clean energy and clean air.
- CREA **investigates** the sources and **trends of health-harming pollutants**, particularly those resulting from **fossil fuel combustion**, which cause millions of premature deaths annually.
- The NGO produces **regular publications and data products** addressing topics such as coal phase-out, industrial emissions, and the environmental impacts of energy production.
- CREA's research also covers geopolitical issues, such as the financing of fossil fuel imports during conflicts.
- Its works are **funded** through **philanthropic grants** and **revenue from commissioned research**.

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IODINE



- It is a **chemical element** and a **member of the halogen elements**, belonging to Group 17 (Group VIIa) of the periodic table.

- Properties:**

- It is a **nonmetallic, nearly black solid** at room temperature with a glittering, crystalline appearance.
- The molecular lattice of iodine contains **discrete diatomic molecules**, which are also present when iodine is molten or in a gaseous state.
- Iodine is a bluish-black, lustrous solid. It **volatilises at ambient temperatures** into a blue-violet gas.
- It has **ability to form stable compounds** with **both metals and nonmetals**.
 - Example:** For instance, iodine reacts with alkali metals to produce iodides.
- Occurrence:**
 - Iodine is a **naturally occurring element** that is essential for the good health of people and animals.
 - It is found in small amounts in **sea water and in certain rocks and sediments**.
- Uses:**
 - Iodine is an essential component of the **thyroid hormones thyroxine (T4) and triiodothyronine (T3)**.
 - Thyroid hormones **regulate many important biochemical reactions**, including protein synthesis and enzymatic activity, and are critical determinants of metabolic activity.
 - It is **used in nuclear medicine** for diagnostic imaging and treatment procedures, particularly due to its natural affinity for the thyroid gland.

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PM-DAKSH SCHEME



• The Pradhan Mantri Dakshata Aur Kushalata Sampanna Hitgrahi (PM-DAKSH) Yojana, is a Central Sector Scheme that was launched during 2020-21.

- **Aim:** To provide skills through good quality institutions so that candidates from its target group can find employment.
- **Target Group:** Scheduled Castes, Other Backward Castes, Economically Weaker Sections, and the De-notified Tribes in India (DNTs), 'Safai Karamcharis' or waste pickers.

Eligibility:

- **Age:** 18-45 years
- **Family Income:** OBC and EWS candidates must have a family income below Rs. 3 lakh, while there is no income limit for SC, DNT, or Safai Mitras/Waste Pickers.
- There are four types of skill development training programmes under this namely, **Up-skilling/Re-skilling, Short Term Training Programmes, Long Term Training Programmes, and Entrepreneurship Development Programme.**
- **Implementation:** It is implemented through the **National Scheduled Castes Finance and Development Corporation (NSFDC), National Backward Classes Finance & Development Corporation (NBCFDC) and National Safai Karamcharis Finance and Development Corporation (NSKFDC).**
- It has been merged with the **Pradhan Mantri Kaushal Vikas Yojana** of the Ministry of Skill Development and Entrepreneurship.

Nodal Ministry: Ministry of Social Justice and Empowerment

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EMISSIONS GAP REPORT 2026



The Emissions Gap Report 2026 warns that the 1.5°C warming threshold is now unattainable, intensifying climate risks.

- Emissions Gap Report is an **annual report** published by the **United Nations Environment Programme (UNEP)**.
- The EGR series tracks our progress in limiting global warming well below 2°C and pursuing 1.5°C in line with the Paris Agreement.
- It is launched **every year ahead** of the **UN Climate Change Conference of the Parties (COP)**.
- The EGR is **co-produced** by **UNEP, the UNEP Copenhagen Climate Centre (UNEP-CCC)** and partners.

Key Highlights of Emissions Gap Report 2026:

- **Global greenhouse gas emissions** totaled **4 billion tonnes** of carbon dioxide equivalent (GtCO_{2e}) in 2025, **around 0.16 GtCO_{2e} lower than in 2024**.
- More than **two-thirds of all GHGs** emissions are **from fossil sources**; rest being CO₂ from the land use, land-use change and forestry (LULUCF), **methane, nitrous oxide** and fluorinated gas emissions (F-gases).
- The world has **lost the opportunity to keep warming to 1.5°C above pre-industrial levels** without, or **with only limited, overshoot**.
- To reach the lowest-overshoot pathway, global greenhouse gas emissions would need to fall by: **18% by 2030, 45% by 2035 and 69% by 2040**.
- The full implementation of countries' Nationally Determined Contributions (NDCs) would reduce emissions by only **5% to 8% by 2030 and 11% to 15% by 2035**, relative to 2025.

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PHP2SHELL: HOW TWO DECADE-OLD CODE FLAWS SHOOK THE GLOBAL INTERNET

- Recently, websites worldwide went offline as a precaution, after two critical vulnerabilities in PHP, one of the internet's most widely used programming languages, were discovered.
- The flaws, collectively dubbed PHP2Shell, triggered emergency security updates and prompted governments and cybersecurity agencies worldwide to urge immediate action.

What Is PHP, and Why Does It Matter So Much?

- PHP (Hypertext Preprocessor) is a free, open-source, volunteer-maintained **programming language** that runs behind the scenes of websites — handling logins, form submissions, and online purchases.
- It powers ~70% of websites whose server-side language is identifiable.
- WordPress — which runs over 40% of all websites globally (blogs, government portals, news sites, online shops) — is itself built on PHP.
- This pervasiveness is exactly why a flaw in PHP has such outsized global impact.

- **Why It's Dangerous?**

- Attackers need no account or physical access — a single malicious request sent over the internet could, under certain conditions, make a server execute attacker-chosen instructions.
- This could expose personal information, uploaded documents, or login credentials.
- AI tools could accelerate exploitation, even though the flaws are dangerous on their own.

Why Websites Went Offline?

- Cybersecurity agencies urged immediate patching; where that wasn't feasible, temporary shutdown was the safer precaution.

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- CERT-EU advised organisations unable to patch immediately to take vulnerable systems offline.
- India's CERT-In issued a critical advisory the same day, warning of potential full system takeover and urging immediate updates.

Conclusion

The PHP2Shell episode is a stark reminder that the internet's foundational infrastructure often rests on decades-old, volunteer-maintained code — vulnerable not because of neglect, but because of sheer scale and invisibility across millions of interconnected systems.

While AI tools helped researchers find and understand the flaws faster than ever before, the same technology could equally empower attackers, compressing the window organisations have to respond.

As PHP2Shell shows, cybersecurity resilience today depends as much on visibility into sprawling, often-hidden software dependencies as on the speed of releasing a patch.

INDIA'S COUNTER-DRONE MISSILE RACE: THE ECONOMICS OF INTERCEPTION

In modern warfare, the cost of a weapon matters as much as its range or precision. The ongoing West Asia conflict has starkly exposed this “cost asymmetry”: a drone costing roughly \$10,000 can force the launch of an interceptor worth hundreds of thousands, even millions, of dollars — meaning a defender may win the engagement but lose the economics of war.

Against this backdrop, India's private sector is pushing into **cost-effective counter-drone interceptors**, exemplified by the test of Jwala.

- Jwala-MK1 is a cost-effective short-range surface-to-air missile, developed by Indian defence technology firm IG Defence, an Odisha-based start-up.
- Purpose: Primarily designed to destroy hostile unmanned aerial vehicles (UAVs) — unlike conventional air-defence missiles aimed at aircraft or high-value targets.
- First public showcase: North Tech Symposium, Prayagraj, May 2026.
- **Technical Specifications**

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- Uses a solid-fuel dual-pulse rocket motor — enabling rapid acceleration at launch and extra speed during final attack.
- Engagement range: 2–5 km.
- Altitude envelope: 50 metres to 5,000 metres.

India's Defence-Industrial Growth Context

- **Defence production** hit a record ₹1.78 lakh crore in FY2025-26, with private firms contributing ~₹42,000 crore (24%).
- **Defence exports** reached ₹38,424 crore during the same year.
- **Market potential:** As per various reports, India's counter-UAS market — valued at \$315 million in 2025 — is projected to reach \$1.09 billion by 2030, implying 28.2% annual growth.

Other Private Players in the Missile/Counter-Drone Space

- **Solar Industries India** — rockets, ammunition, loitering munitions.
- **Adani Defence & Aerospace** — building missile manufacturing infrastructure.
- **NIBE Group** — new manufacturing complex for missile and rocket systems.
- **L&T** — precision engineering, launch systems, defence electronics, weapon-platform integration.
- **Paras Defence and Space Technologies** — signed a pact with US-based Powerus to manufacture and sell the Guardian-1 counter-drone interceptor in India.

Conclusion

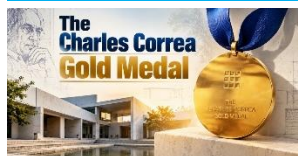
The Jwala test underscores a critical shift in India's defence strategy — recognising that future conflicts will be won or lost not just on battlefield performance, but on economic sustainability.

As cheap drones proliferate globally, India's growing ecosystem of private defence startups and established manufacturers signals a serious attempt to close the cost-asymmetry gap.

However, Jwala's true test lies ahead — in rigorous trials proving it can deliver reliable, affordable, and scalable interception, transforming early promise into a credible indigenous counter-drone capability.

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WHAT IS THE CHARLES CORREA GOLD MEDAL?



- It is an annual award initiated in 1998 by the Indian architect and urbanist Charles Correa.
- The medal recognises quality and talent among young students of architecture for their undergraduate thesis project.
- The Charles Correa Foundation (CCF) administers the Gold Medal annually.
- **Eligibility:** Final-year students pursuing undergraduate professional degree at eligible Indian architecture colleges.
- **Selection:**
 - Participating colleges nominate one student's individual thesis project.
 - The student must be the sole author of the project. Group work is not permitted.
 - The applicant college of architecture must be located in India and approved by the Council of Architecture (COA).
 - Initially the award was open only to Mumbai and Goa architecture colleges, but from 2022 forward, CCF invites all colleges across India.

Who was Charles Correa?

- He was a renowned Indian architect and urban planner.
- He was credited with the creation of modern architecture in post-Independence India.
- Understanding the needs of the urban poor, Correa used traditional methods and materials to plan the urban designs.
- His major projects include the Mahatma Gandhi Memorial at the Sabarmati Ashram, National Crafts Museum in New Delhi, Bharat Bhavan in Bhopal, Jawahar Kala Kendra in Jaipur, and the British Council in Delhi.
- He was one of the chief architects of Navi Mumbai.
- In 1984 he founded the Urban Design Research Institute in Mumbai, and a year later he became Chairman of the National Commission for Urbanisation.