



200th Jayanti Celebrations of Swami Dayanand Saraswati

[Source: PIB](#)

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Recently, the Prime Minister of India addressed a programme on the **200th birth anniversary of Swami Dayananda Saraswati**.

- Swami Dayanand Saraswati was born as Mool Shankar Tiwari on **12th February 1824** in **Tankara, Gujarat**.
- He wandered as an ascetic for **fifteen years (1845-60)** in search of truth.
 - The **DAV (Dayanand Anglo Vedic) schools** came into existence in **1886** to realise the vision of **Swami Dayanand Saraswati**.
- The first **Arya Samaj Unit** was formally set up by **Swami Dayanand Saraswati** at Mumbai in **1875** and later the headquarters of the **Samaj** were established at **Lahore**.
- He took inspiration from the Vedas and considered them to be '**India's Rock of Ages**', the infallible and the true original seed of Hinduism.
 - He gave the slogan "**Back to the Vedas**".

Read More: [Swami Dayanand Saraswati](#)

High Altitude Pseudo-Satellite (HAPS)

[Source: TH](#)

Why in News?

The [Council of Scientific and Industrial Research \(CSIR\)](#) - [National Aerospace Laboratories \(NAL\)](#) recently conducted successful tests on a **High Altitude Pseudo-Satellite (HAPS)**, marking a significant milestone in [unmanned aerial vehicle \(UAV\) technology](#).

What is High Altitude Pseudo-Satellite (HAPS)?

▪ About:

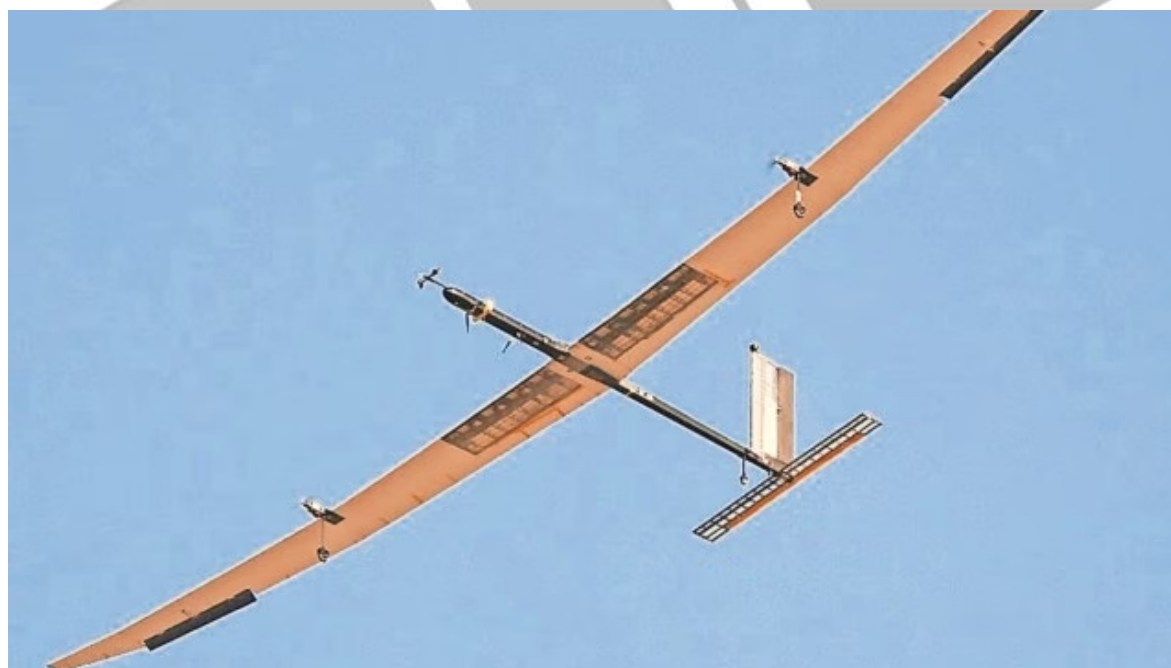
- HAPS is a solar-powered UAV. It can generate [solar energy](#) and **remain in the air for months or years**.
 - HAPS operates in the **stratosphere** (which extends from 6-50 km above the earth's surface), flying at altitudes of **18-20 km**, nearly double the heights of commercial aeroplanes. This altitude allows them to provide **surveillance capabilities akin to satellites**.
- HAPS is designed for persistent surveillance, communications, and specialist science missions.
- HAPS is a **still-developing technology**, and the successful test flight puts India among a very small group of countries currently experimenting with this technology.

▪ Need:

- The need for development of HAPS arose from the desire to have continuous surveillance of border areas to detect changes or movements, particularly in the wake of the [Doklam standoff in 2017](#).
- Previous **limitations with battery-powered UAVs** and satellites led to the development of solar-powered UAVs.
- The cost of operating HAPS is significantly **lower than traditional satellites** as it doesn't require rocket launches.

▪ Versatility and Applications:

- HAPS can be deployed in **disaster situations** and provide mobile **communication networks (5G waves)** in remote areas, if the normal networks get damaged due to any calamity.
- They can double up as **"towers in the sky"** and have more flexibility than satellites, in being able to map a piece of land from above.

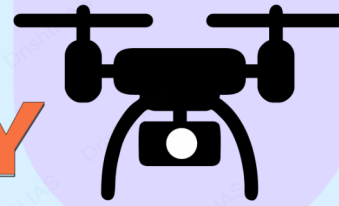


CSIR- National Aerospace Laboratories

- NAL, a constituent of the CSIR, established in 1959 in Bengaluru, is the only government **aerospace R&D laboratory** in the country's civilian sector.

- CSIR-NAL is a **high-technology-oriented institution** focusing on advanced disciplines in aerospace.
- CSIR-NAL has provided significant value-added inputs to all the **Indian national aerospace programmes**.
- CSIR-NAL's mandate is to **develop aerospace technologies** with strong science content, design and build small, medium sized civil aircraft, and support all national aerospace programmes.

DRONE TECHNOLOGY



Drone is a pilotless flying machine, using aerodynamics for lift, can operate autonomously or remotely, and may carry lethal or nonlethal cargo.

COMPONENTS

- ↳ Unmanned aircraft (UA)
- ↳ Control system (ground control station - GCS)
- ↳ Control link (specialized datalink)
- ↳ Other related support equipment



CLASSIFICATION

(as per Drone Rules, 2021)

- ↳ Nano: <250 gm
- ↳ Small: 25 kg to 150 kg
- ↳ Micro: 250 gm to 2 kg
- ↳ Large: >150 kg
- ↳ Mini: 2 kg to 25 kg

APPLICATIONS

- ↳ **Mapping & Surveying** (asset inspection, roof inspections)
- ↳ **Agriculture** (bird control, crop spraying & monitoring etc)
- ↳ Multispectral/thermal/NIR cameras, **Aerial Photo/videography** and Live streaming events
- ↳ **Emergency Response** (search and rescue, marine rescue, fire fighting)
- ↳ **Disaster** (zone mapping, disaster relief etc)
- ↳ **Mining**
- ↳ **Monitoring Poachers**
- ↳ **Meteorology**, Aviation, Payload carrying

DRONES IN DEFENCE

Purpose

- Surveillance and Reconnaissance
- Search and Rescue
- Maritime Surveillance
- Combat Drones
- Offensive (heterogeneous SWARM drones)
- Counter-Terrorism Operations

India's Counter-Drone System

- **Indrajaal** (India's inaugural autonomous drone-defense dome)
- Procurement of combat-capable **Heron drones from Israel**
- Acquisition of **MQ-9B Armed Drones from the US**

RELATED REGULATIONS

- ↳ Aircraft (Security) Rules, 2023
- ↳ Drones Rules, 2021 and Drone (Amendment) Rules, 2022



INDIA'S INITIATIVES

- ↳ Digital Sky Platform
- ↳ No-Permission-No-Takeoff (NPNT) framework
- ↳ PLI Scheme for Drones
- ↳ Drone Shakti Scheme

ISSUES

- ↳ Increased risk of armed attacks
- ↳ Data security
- ↳ **Cheaper cost** enables a larger population to procure drones
- ↳ Use of drones in warfare (**remote warfare**)
- ↳ **Procurement by non-state actors** can pose serious threats
- ↳ Ease in **delivering mass destruction weapons**



UPSC Civil Services Examination, Previous Years Questions (PYQs)

Prelims:

Q1. What is "Terminal High Altitude Area Defense (THAAD)", sometimes seen in the news? (2018)

- (a)** An Israeli radar system

- (b) India's indigenous anti-missile programme
- (c) An American anti-missile system
- (d) A defence collaboration between Japan and South Korea

Ans: (c)

Maiden India-Saudi Arabia Army Exercise

Source: TH



Recently, the **maiden joint military exercise 'Sada Tansseq'** between the Indian Army and the Royal Saudi Land Force concluded at Mahajan Field Firing Ranges.

- It was a 12-day joint exercise that aimed to achieve interoperability between the two forces and acquaint each other with operational procedures and combat drills under **United Nations (UN)** mandate.
 - Both the contingents jointly took part in the validation phase which included creation of **Temporary Operating Base**, establishing an intelligence, surveillance and reconnaissance grid and establishing mobile vehicle check post.
- Another joint exercise between India and Saudi Arabia is **Al-Mohed Al-Hindi Exercise** (naval).

Joint Military Exercises of India with Other Countries

Name of Exercise	Country
Garuda Shakti	Indonesia
Ekuverin	Maldives
Hand-in-Hand	China
Kurukshetra	Singapore
Mitra Shakti	Sri Lanka
Nomadic Elephant	Mongolia
Shakti	France
Surya Kiran	Nepal
Yudh Abhyas	USA

Read More: [India-Saudi Arabia Relations](#)

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