

# The First and Longest Running UAV Event in India

Unmanned aerial vehicles • Rules & regulations

- Control/guidance systems Electro-optics Payloads
- Target vehicle
   Training and simulation
   UAV components
- & accessories Ground support equipment



# **UAS India 2022**



#### Military Applications of UAVs.

Some of the important uses include:

- Information, Surveillance, Target Acquisition, and Reconnaissance (ISTAR).
  - Unmanned combat aerial vehicles (UCAV).
  - Radar and Communication Relay.
  - Mapping Military Logistics.
  - Nuclear Cloud Surveillance.

**Armed Drones.** ADE has completed the development of the Rustom-2 TAPAS (Tactical Airborne Platform for Aerial Surveillance) MALE UAV (a MQ-1 category drone). HAL will soon start the production of first five units of TAPAS drones.

In total 76 units of this UAV will be ordered by forces. There will be 60 drones for Indian Army, 12 for the Indian Air Force and 4 for the Indian Navy.

#### **Drone Technology**

What information technology was in the 90s, drone technology is today. Technologies that the nation needs to invest in, are:

- Powertrain Technology Brushless Direct Current Motor.
- Powertrain Technology Fuel-Run Motor
- Powertrain Technology Electronics
- Flight Controller
- Battery Technology
- Datalink Technology
- Making Bandwidth Available For Civilian Use

Some emerging technologies have the potential to enhancing effectiveness of drones, viz,

- Artificial Intelligence.
- Internet of Things (IoT).

## **Indian Air Force**

A Combat Air Teaming System (CATS) is a planned unmanned and manned combat aircraft air teaming system being developed by HAL, which is of interest to the IAF. An armed stealth drone will team up and fight alongside IAF fighters to hit high-value enemy targets. It is designed to carry out MUM-T Operations.

The Unmanned Wingman will be connected to a heavily upgraded IAF Jaguar fighter bomber.

HAL is designing & developing AI powered, stealthy autonomous swarm drones known as ALFA-S

DRDO is developing the Ghatak which is an UCAV for the IAF. The Aura UCAV will be a tactical stealth aircraft capable of delivering laser-guided strike weapons.

### **Indian Army**

The army's existing unmanned systems' fleet comprises Heron

medium-altitude, long-endurance (MALE) UAVs, and the smaller Searcher Mark II tactical drones.

The Army plans to buy high-tech unmanned aerial vehicles (UAVs) to strengthen its intelligence, surveillance and reconnaissance (ISR) capabilities and improve the effectiveness of its military operations.

#### **Indian Navy**

The Indian Navy currently operates Israeli-origin Heron and Searcher Mk-II UAVs, but neither is shipborne. It also has Sea Guardian drones on lease.

The Indian Navy announced its plans, in June 2022, to acquire 40 Naval Unmanned Aerial Systems (NUAS) for more than 100 meters long warships.

#### **Research & Development**

DRDO tested, in early-July 2022, the Autonomous Flying Wing Technology Demonstrator, which is a major step ahead of developing unmanned aerial combat vehicles (UCAV), primarily for the Indian Air Force

#### **Countering Drones**

Drones are hard to detect, do not have a significant visual, radar, infrared or noise signature, and require minimal infrastructure to launch and control. Drones are best countered by effective jamming and laser systems.

DRDO's D-4 anti-drone system can provide both "soft kill" (jamming of hostile drones) and "hard kill" (a laser-based destruction method) options to the military to tackle fast-emerging aerial threats. It has been used for VIP protection on National Days' events.

Adani Defence & Aerospace has linked with DRDO and Israel's Elbit Systems to begin deploying counter-UAS equipment in some of the country's major airports.

#### **UAV Industry**

According to the Civil Aviation Minister, by 2026, the Indian drone industry will achieve a turnover of over Rs 15,000 crore. India is home to 270 startups in the drone technologies business. He has stated that the country will be a global leader in drones by 2030.

PLI Scheme. The government announced the Production-Linked Incentive scheme on 16 Sep 2021 which provides for funding 20 per cent of the "value addition" made by the company during the next three years.

#### **Training**

Rashtriya Raksha University (RRU) signed a MoU, in July 2022, with a private drone service provider and training organisation, to set up a 'Remote Pilot Training Centre' (RPTC) to teach drone flying to defence/security forces personnel as well as citizens on a private partnership model near Gandhinagar. The RPTC will have DGCA certified drone trainers teaching the trainees regarding quadcopters with strict adherence to certification necessities.



# UNMANNED AERIAL SYSTEMS INDIA 2022 PROGRAMME



# **TUESDAY 13 SEPTEMBER 2022**

# SESSION 1 - INAUGURAL SESSION (0930-1045 hrs)

Welcome Address. Air Mshl Anil Chopra, PVSM, AVSM, VM, VSM (Retd), Director General CAPS Inaugural Address. Gen VK Singh, PVSM, AVSM, YSM, Retd, MoS for Civil Aviation, Govt of India.

Keynote Address. Air Mshl Pankaj Mohan Sinha, AVSM, VSM, DG Air Ops, Air HQ.

Theme Address. Lt Gen Ajai Kumar Suri, Director General Army Aviation

Special Address. Dr Girish S Deodhare, Director General Aeronautical Development Agency.

Sponsor's Talk. Introductory talk by Event sponsor

Sponsor's Talk. Introductory talk by Platinum sponsor

Industry Perspective. Col KV Kuber, Director Defence & Aerospace, E & Y.

Release of EY-IMR Knowledge Paper on Unmanned Aerial Vehicles.

1045 - 1115 hrs Refreshments and Exhibition.

# SESSION 2 - UAV REQUIREMENTS (1115 - 1220 hrs)

Chairman: AVM Ashutosh Dixit, VM, VSM, ACAS (Plans), Air HQ.

1115 - 1120 hrs Introduction of panelists and Chairman's Opening Remarks

1120 - 1130 hrs IAF's UAV plans. Speaker from Air HQ.

1130 - 1140 hrs Indian Army's UAV Requirements. Speaker from Army Aviation Dte, Army HQ.

1140 - 1150 hrs Navy's experience with Drones and Future Plans. Commander (AW)- RPA, ACNS (Air),

1150 - 1205 hrs Industry presentation.

1205 - 1220 hrs Discussion/ Questions & Answers.

## SESSION 3 - INDUSTRY'S POTENTIAL AND CAPABILITIES (1225 - 1345 hrs)

## Chairman: Rear Adm AN Pramod, ACNS (Air), Naval HQ

1225 - 1235 hrs Introduction to panelists and Chairman's Opening Remarks.

1235 - 1250 hrs
1250 - 1305 hrs
1305 - 1320 hrs
1320 - 1335 hrs
Industry Presentation.
Industry Presentation.
Industry Presentation.

1335 - 1345 hrs Discussion/ Q&A

1345 - 1430 hrs Lunch & Exhibition.

# SESSION 4 - COUNTER-UAVS (1430 - 1545 hrs)

Chairman: AVM Rakesh Sinha, AVSM, ACAS Ops (Offensive) Air HQ

1430 - 1440 hrs Introduction of panelists and Chairman's Opening Remarks

1440 - 1455 hrs Industry presentation.1455 - 1510 hrs Industry presentation.

1510 - 1520 hrs Countering the UAV Threat. Speaker from Army Air Defence Directorate.

1520 - 1530 hrs D-4 anti-drone system. **DRDO speakers from LRDE and DLRL**.

1530 - 1545 hrs Discussion/ Questions & Answers.

# SESSION 5 - INNOVATIONS AND RESEARCH & DEVELOPMENT (1545 – 1700 hrs)

## Chairman: Cmde SR, Naval HQ

1545 - 1555 hrs Introduction of panelists and Chairman's Opening Remarks

1555 - 1610 hrs Latest developments in UAVs. **Speaker from ADE, DRDO.** 

1610 - 1620 hrs Swarm Drones. **Speaker from Army Design Bureau**. 1620 - 1635 hrs Meher Baba drone competition. **Speaker from Air HQ**.

1635 - 1645 hrs Discussion/ Questions & Answers.

Closing Remarks. Air Mshl Anil Chopra, PVSM, AVSM, VM, VSM (Retd), Director General CAPS

Vote of Thanks. Maj Gen Ravi Arora, Chief Editor, Indian Military Review.

1700 hrs Refreshments and dispersal.

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Speaking Slot	Yes. 15 mins premium slot	Yes. 15 mins premium slot	Yes. 15 mins premium slot	Yes. 15 mins	Yes. 15 mins
Enhanced Company Profile in Show Guide	Full page plus Cover strip	700 words with logo	500 words with logo	300 words with logo	200 words with logo
Literature/gift in Delegate Bags	Unlimited	Yes. 4 items	Yes. 3 items	Yes. 3 items	Yes. 2 items
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Rs 118,000 (\$1,575) Rs 177,000 (\$2,360)

Rs 118,000 (\$1,575) Rs 10,000 (\$135) each

Rs 25,000 (\$335) each



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