



# CENTRE FOR AIR POWER STUDIES

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## Commercialisation of Air Power through Drones

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Image Source: PTI



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## **Drone Mahotsav**

The Drone Federation of India (DFI) hosted a two-day "Drone Mahotsav 2022" at Pragati Maidan in New Delhi on May 27 and 28, 2022. The magnitude of the conduct of India's biggest drone festival reflected the aspirations of the current government and also the fascination and interest of the Prime Minister in the drone sector. The event was spearheaded by the Ministry of Civil Aviation (MoCA). The event was inaugurated by the prime minister in the presence of numerous ministers, including the ministers of health, agriculture, railways, rural development, transportation, environment, forest, climate change, telecommunications, etc. This highlights the prospect of industries where drone proliferation is anticipated to occur at a rapid rate. The two-day event gathered a multitude of vendors, start-up agencies, drone pilots, and big firms in the industry.

## **Key Drivers**

The inaugural speech by the Prime Minister marked the two key drivers to be analysed and pushed further in the letter and spirit. These drivers are "technology outreach with the masses" and "exploiting the medium of air". In his address, he said that "the energy and enthusiasm in the drone sector are visible and indicate India's strength and desire to leapfrog into a leading position."<sup>1</sup> Undoubtedly, the drone sector shows great promise for employment generation, from manufacturers to distributors and operators. Earlier, technology was considered to be the domain of the elite, but the revolutionary vision of the massive proliferation of drones in India has forced the technology to be developed, exploited, and utilised by the commoners. Thus, it has expanded from the elite to the masses.

## **Technology Outreach to the Masses**

The presence of dozens of ministers from all possible ministries where drones could be used for surveillance, monitoring, connectivity, transportation, farming, etc. indicated that the medium of air could be utilised to its fullest potential for good governance and ease of public life, even in the most remote and inaccessible areas. Drones are the smart tools that are going to be part and parcel of ordinary people's lives in the times to come.<sup>2</sup> Drones operating and delivering their objectives through the medium of air are becoming the basis of a major revolution, especially in the rural sector. As PM Modi puts it, "We have made technology a key tool to impart new strength, speed, and scale to the country." Slowly and steadily, drones are becoming not only a tool for surveillance, policing, and monitoring but also a major "decision-making enabler" in a variety of fields. It is certain that the fields of farming, disaster management, medicine, logistics, tourism, and entertainment will immensely benefit from the upsurge in drone technology.

## **The Exploitation of the Medium of Air**

With its start-up prowess and manufacturing capacity, India is poised to become the global leader in drone technology in light of its likely rapid expansion. This is the first time in Indian history that a massive push has been made for a drone to enter the civil domain. Until now, Unmanned Aerial Vehicles (UAV), a common term in military aviation, have only been used for military purposes of intelligence, surveillance, reconnaissance (ISR), and targeting. However, the drone festival has given the civilian sector the confidence to fully utilise this technology. The drone festival also helped people understand the significance of using drone technology for "last-mile delivery" and the establishment of a "mid-mile hub centre" utilising an unorthodox air medium for such small aerial vehicles.

### **Drone Manufacturing Hub**

The vision of lifting all prohibitions on the use of UAVs and rolling out liberalised drone policy in 2021 has provided a new push to this industry. The enthusiasm and encouragement amongst the established companies, new start-ups, and dronopenors have further sown the seed of making India a "drone manufacturing hub" by 2030. In his speech, the PM emphasised the transformation of mindset and said that "we need to change ourselves and the systems accordingly and only then is progress possible".<sup>3</sup>

The footfall of vendors and companies of varied corpus and wherewithal at the drone festival created a sense of massive manufacturing ability and capability. The firms were discovered to be at ease with the technology of hardware assembly, software development in artificial intelligence (AI), and machine learning (ML), which were signs of this industry taking off in the right direction and reaching new heights. The nation's industry is prepared to produce drones for a variety of purposes. The cost of ownership and operations will become more affordable as technology and production facilities proliferate, reducing manpower requirements and making technology more accessible to the general public. The government intends to adopt a model in which drone services will be outsourced for a variety of functions, with the owner receiving hourly fees for operating and providing services. This will create a lot of job opportunities for start-ups and other related industries, like insurance, AI and ML, 3D printing, and repair.

### **Unresolved Concerns**

The two-day event was considered a massive success in the proliferation of the drone market in India. However, two important aspects of "Air Space Management" and "Anti-Drone Systems" will become a cause of concern, especially for the Air Force and air traffic surveillance agencies in the

country in the near future. Despite the euphoric success of the launch of the drone industry as a big opportunity for all, the core issues for the safety and security of vital areas and vital points in the national interest still remain grey with likely rogue drones or technically malfunctioned drones. Despite the fact that the second day's session included a panel discussion on these topics, no specific outcomes were reached by the end of the gathering, other than the proposal for the formation of a joint working group to identify remedial measures for these two critical issues.

### **Air Space Management and Counter Drone Systems**

Indeed, the introduction of the Digisky application in 2020, liberalised drone policy in 2021, and the Unmanned Aircraft System Traffic Management (UTM) Policy in early 2022 have made it very easy for the drone sector to prosper in all spheres. The liberalised drone policy has relaxed maximum restrictions on drone usage by the civil sector to such an extent that nearly 70% of the Indian airspace has been mapped as the "Green Zone" for drones to operate up to 400 feet. If the policy is followed in its entirety by all drone operators, it will be a revolutionary step in drone operations. However, if such benign operators go rogue, they may cause havoc in the airspace because India currently lacks the capability and adequate sensors to detect, track, monitor, and destroy such drones and nano drones. This drone festival, however, remained almost ineffective on this account, except for pacifying the growing concerns. Unfortunately, there were just a couple of companies or start-ups who were focusing on the detection and counter-drone mechanisms to map the entire country or at least "Red Zones" to start with. This is an area that requires another big push from all concerned to also create India as a "manufacturing hub for counter-drone systems."

### **Drone Assembly Vs Manufacturing Ability**

The Mahotsav has given a tremendous opportunity for the big investors to help the start-up companies stand on their feet for the manufacturing of drone components. The issue which emerged clearly is that the government's approach to the Production Linked Investment (PLI) scheme has benefited a lot. But unfortunately, the Indian emerging drone industry is still on the crutches of importing chips, sensors, power sources, silica, etc. used in manufacturing a drone. The Indian market has, by and large, acquired the ability to assemble imported parts for a drone by-product, but manufacturing its components at the desired scale is still a way ahead. Seeing the proliferation, the attainment of the drone manufacturing hub by 2030 will have to be assessed correctly.

### **Conclusion**

The top-down approach of the present government for the past three years has given an exponential rise in the awareness of the usage of drones in the civil sector, especially in the fields of soil

management, farm spraying, medicine delivery, disaster relief, data gathering, policing, etc. The government initiative of PLI has further boosted the confidence of small entrepreneurs, "dronepreneurs", and has attracted leading business companies like Adani to invest in this aerial vehicle. Such commercialisation of airpower is definitely a game-changer for the civil sector, but the challenges for the security and defence agencies, especially for the surveillance and air defence mechanisms of the country, will have to remain vigilant and adapt to the changes in rules and procedures. Rogue usage of drones will remain a threat, especially to the helicopter class of aeroplanes, if the air space management procedures are not tweaked as per the liberalised drone policy. Also, the drone industry will have to focus on creating a parallel "Counter-Drone Industry" for the Air Force so as to make this sector successful in the real sense.

**Figure 1: Prime Minister Narendra Modi inaugurates India's biggest Drone Festival**



Source: PTI Photo<sup>4</sup>

**Figure 2: PM Shri Narendra Modi flying a drone during Bharat Drone Mahotsav 2022**

Source: Drone Federation of India Twitter Handle<sup>5</sup>

## NOTES

<sup>1</sup> Press Release. “PM inaugurates India's biggest Drone Festival - Bharat Drone Mahotsav 2022” Prime Minister's Office, 27 MAY 2022 12:27PM by PIB Delhi. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1828683> Accessed on May 29, 2022.

<sup>2</sup> Ibid Note 1

<sup>3</sup> Press Release. Prime Minister's Office. “English rendering of PM’s address at inauguration of Bharat Drone Mahotsav at Pragati Maidan, Delhi” 27 MAY 2022 3:27PM by PIB Delhi. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1828729> Accessed on May 29, 2022.

<sup>4</sup> Prime Minister Narendra Modi inaugurates India's biggest Drone Festival -- 'Bharat Drone Mahotsav 2022' at Pragati Maidan in New Delhi on May 27, 2022. Credit: PTI Photo <https://www.deccanherald.com/dh-galleries/photos/bharat-drone-mahotsav-2022-pm-modi-inaugurates-indias-biggest-drone-festival-1113017#lg=1&slide=1>

<sup>5</sup> Drone Federation of India Twitter handle. @dronefed, <https://twitter.com/dronefed/status/1534140909520027648>