



Centre for Air Power Studies

**Report**  
**on**  
**15<sup>th</sup> ‘Jumbo’ Majumdar International Seminar**  
**on**  
**Aerospace Power in Future Conflicts**

### **Inaugural Session**

**Air Chief Marshal VR Chaudhari, PVSM AVSM VM ADC, Chief of Air Staff**, inaugurated the seminar. The Opening Remarks were given by **Air Marshal Anil Chopra, PVSM AVSM VM VSM (Retd)**, Director General, Centre for Air Power Studies. In his welcome remarks, Air Marshal Chopra began with the importance of aerospace power in future conflicts, especially in the context of the Russia-Ukraine conflict and Israel-Hamas conflict. As a tribute to **Wing Commander K.K Majumdar**, he briefly recounted his journey as one of India’s most indomitable fighter pilots.

The Chief of Air Staff paid his compliments to **Wg Cdr K.K Majumdar**, acknowledging his pivotal role in shaping the IAF into a formidable force. He asserted that wars of the future would be fought differently with the simultaneous application of kinetic and non-kinetic means, high degree of precision, multi-domain operations, and enhanced lethality - all under intense media scrutiny. Recognising Space as a critical domain of military operations, he addressed the inevitability of militarisation and weaponization of space for strategic advantage and the imperative of developing critical emerging technologies. He mentioned that Balakot-like operations (along with the political will), demonstrate the effectiveness of aerospace power in targeted strikes beyond enemy's lines without escalating into a full-blown conflict, even under a Nuclear overhang.

### **Session 1: Aerospace Power in Ongoing Conflict: Lessons**

**Air Vice Marshal Anil Golani (Retd), ADG CAPS**, chaired the session. The speakers for this session were **Group Captain Shailendra Singh** and **Wing Commander Amit Gaur**.

**Group Captain Shailendra Singh** spoke on Control of Air in a Contested Airspace especially in relation with Russia- Ukraine conflict and began by discussing the performance of the Russian Air Force during the conflict, which commenced in Feb 2022. This conflict has a peculiar strategic lesson that inspite of very less military prowess, Ukraine has been able to sustain a long conflict. This also came out clearly that despite initial expectations of parity with the Western Forces, Russia’s air superiority waned as the war progressed. Further, the speaker shared some insights for future wars derived from the Russia-Ukraine conflict. He also stated that given the proliferation of drone technology, Air Forces around the world must institutionalise their unmanned aerial reconnaissance operations. He concluded by asserting that to control the outcome of the land, ‘Control of the Air’ is vital.



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**Wing Commander Amit Gaur** spoke on the use of Air Power in the Israel Gaza crisis wherein he started by mentioning that conflicts in Ukraine and Israel are different. While the former is a conflict waged by a superior military power against a neighbouring nation supported by Western Powers, the latter is the fight of a sovereign nation against a non-state or a near-state actor. He emphasised the importance of gaining a deeper understanding of Israel's past experiences of the use of Air Power to understand the evolution of Israel's Air Power. He brought out that after 1948, IDF's operational doctrine took shape due to its neighbouring countries and by 1956, the Israeli Air Force started taking airpower more seriously, as demonstrated by its effectiveness during the Suez War. He further talked about the lessons Israel drew from its war with Lebanon in 2006, and conflicts in Gaza, such as Operation Cast Lead (2008), Operation Pillar of Defence (2012), Operation Protective Edge (2014) and Operation Guardian of the Walls (2021). He also brought out that Israel's approach to Urban warfare has become further refined post-2021, where there is more reliance on air defence systems, battlefield intelligence, specialised urban warfare training, and increased usage of UAVs and helicopters.

### **Session 2: Aerospace Power and India's Security Concerns**

**Air Marshal GS Bedi AVSM VM (G) VSM (Retd)** chaired the session. The speaker for the session were **Gp Capt RK Kashyap** and **Wing Commander Vikrant Deshpande**

During the opening of the second session, the chair **Air Marshall GS Bedi** offered a succinct commentary framing the discussion by elucidating the critical linkages between aerospace power and India's security imperatives, thereby laying the groundwork for an insightful exploration of pertinent issues in the aerospace domain.

**Gp Capt RK Kashyap**, the first speaker, delved deep into the historical journey of the Indian Air Force, drawing upon notable examples from India's military history. He began by highlighting pivotal moments such as the 1947 Indo-Pak War in Kashmir, the 1962 Indo-China War, the 1971 Indo-Pak War, and the Kargil War in 1998. Continuing his discourse, Gp Capt Kashyap pointed out several challenges that the Indian Air Force faced, despite its strategic aims. He highlighted the slow development of the Light Combat Aircraft (LCA) Tejas, which has been a long-standing issue plaguing India's indigenous Defense production capability. He also underscored the importance of drawing lessons from past battles, particularly regarding the vulnerability of aircraft to enemy attacks. He pointed out that the loss of aircraft in previous conflicts had highlighted the need for hardened aircraft shelters (HAS) and effective disposal plans for damaged or destroyed aircraft.

**Wing Commander Vikrant Deshpande**, the second speaker highlighted that the utility of the integrated application of firepower and cross-domain synergy involves discussing how these concepts can enhance military capabilities, improve situational awareness, increase operational flexibility, and ultimately contribute to mission success. Wg Cdr Deshpande put forth few examples such as Italian war of Independence 1848-49, German Blitzkrieg Strategy in Second World War, and Operation Desert Storm where Integration of Firepower had been done effectively and which had impacted the overall conclusion of the conflict. He delved into the fascinating evolution of firepower throughout history and began by



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tracing the earliest forms of weaponry, such as simple tools and rudimentary weapons used by early humans for hunting and self-defence.

### **Session 3: Aerospace Industry: Way Ahead**

**Vice Admiral Ravneet Singh PVSM AVSM NM (Retd)** chaired the session. The speaker for the session were **Air Cmde KA Muthana (Retd)** and **Gp Capt Ritu Raj Tyagi (Retd)**

The chair of third session set the stage for the discussion by providing a comprehensive understanding of the Atmanirbhar Bharat initiative, its objectives, and its implications for India's economic future and strategic autonomy. This context helped frame the subsequent deliberations and insights shared by the panelists during the third session.

**Air Commodore KA Muthana VSM (Retd)** began his discussion by providing an overview of the current state of indigenous aerospace development in India, with a special focus on the contributions of TATA Advanced Systems Limited (TASL) and the Adani Group. Air Cmde KA Muthana provided a comprehensive analysis of the challenges facing indigenous aerospace development in India, underscoring the importance of addressing these challenges through concerted efforts from the Government, industry, and other stakeholders to realize India's vision of self-reliance in the aerospace sector. He provided several policy recommendations aimed at addressing the challenges and advancing indigenous aerospace development in India. Policy recommendations were aimed at fostering a supportive ecosystem for indigenous aerospace development in India, with a focus on promoting innovation, enhancing collaboration, and overcoming key challenges to realize India's vision of self-reliance in the aerospace sector.

As the last speaker of the day, **Gp Capt Ritu Raj Tyagi (Retd)** used his expertise to discuss industry developments in future combat aircraft, with a particular focus on SAAB and its relevance, as well as future developmental trends in the aerospace sector. SAAB, a renowned aerospace and defense company, holds a significant position in the global market due to its innovative aircraft designs and advanced technology solutions. Gp Capt Tyagi provided a brief overview of SAAB, emphasizing its track record in developing cutting-edge combat aircraft technology like the Gripen fighter aircraft. These aircraft have garnered international recognition for their exceptional performance, versatility, and cost-effectiveness. By highlighting SAAB's contributions, he underscored the company's relevance in shaping the future of combat aircraft development in the world.

The **Closing Remarks** were given by **Air Marshal Anil Chopra, PVSM AVSM VM VSM (Retd)**, Director General, Centre for Air Power Studies. He emphasized the importance of aerospace events, stressing their vital role in National Security. Such gatherings facilitate crucial collaborations, technological advancements, policy discussions, and international partnerships essential for defense readiness.