

# SPECIAL REPORT

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**DEFSAT**  
CONFERENCE & EXPO

**27 - 29 April 2023**  
Manekshaw Centre,  
Delhi Cantt, New Delhi

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## DEFSAT INDIA 2023

27-29 APRIL 2023, MANEKSHAW CENTRE, DELHI CANTT, NEW DELHI

The DefSAT 2023 conference and expo was India's first ever-dedicated international defence and space conference and expo as described by Satcom India Association (SIA-India). It was conducted from 27th to 29th April 2023, at the Manekshaw Centre, Delhi Cantt, New Delhi, India. The event and expo were organised by SIA-India along with its knowledge partners like Centre for Joint Warfare Studies (CENJOWS), Centre for Air Power Studies (CAPS), Centre for Land Warfare Studies (CLAWS), and National Maritime Foundation (NMF).

The event's primary focus revolved around the convergence of strategy and industrialisation concerning space applications within the realm of national security. The aim to explore and enhance the synergy between strategic planning and the process of industrialisation to effectively address the requirements and challenges of space-based initiatives related to national security was the emphasis.

The SIA-India is an esteemed non-profit organisation that advocates for the welfare of India's space industry. Comprising a diverse membership, SIA-India encompasses satellite operators, manufacturers, suppliers, startups, academic institutions, and law firms, all united in their shared commitment to advancing the interests of the Indian space sector.

The event was open to a wide range of attendees, which included government departments, regulators, policymakers, the Indian Army, Indian Navy, Indian Air Force, paramilitary forces, satellite operators, service providers, satellite system integrators, launch vehicle experts, ground and terminal equipment manufacturers and suppliers, software and application developers, deep tech startups, incubators, innovation hubs, space parks and more. Additionally, academic and R&D institutions, standards bodies, law firms, and representatives of various users of Space segments like agriculture, oil and gas, railways, healthcare, banking, and fintech were present at the event, VSAT manufacturers and distributors, telecom service providers, venture capital firms, Etc. also attended the event.



MANEKSHAW CENTRE, DELHI

## VISION BEHIND THE EVENT



NATIONAL MARITIME FOUNDATION, DELHI

The significance of space has grown exponentially, encompassing commercial and military realms, resulting in substantial geopolitical transformations as nations compete for influence. The need for space-related resources and technologies, such as satellites, launch vehicles, and ground control systems, has witnessed a notable surge. Furthermore, there is an amplified emphasis on research and development. To sustain a competitive advantage in this swiftly progressing domain, it becomes imperative to synergise state-of-the-art technologies from the civil, commercial, and military space sectors. This integration is crucial for the effective utilisation, operationalisation, and safeguarding of military space capabilities in India.

The DefSat 2023, organised by SIA-India, is set to become an annual flagship event. It seeks to delve into India's aspirations in the realm of space, with a primary objective of aligning national security needs with industrialised solutions, disruptive innovations, and technological breakthroughs. This conference will serve as a platform where government

officials, military commanders, think tanks, industry experts, academia, and pioneers in disruptive technologies, both domestic and international, can converge, exchange ideas, and foster collaboration.

The main goal of the event will be to establish a comprehensive "One Stop Shop" catering to defence space requirements, serving as a platform for Government-to-Business (G2B) engagements. It will also serve as a knowledge pool to address future needs of India, while featuring exclusive Defence SpaceTech Sessions to showcase exceptional and distinctive solutions.

## INDIA'S FIRST SPACE WARGAME AS A PART OF DEFSAT 2023



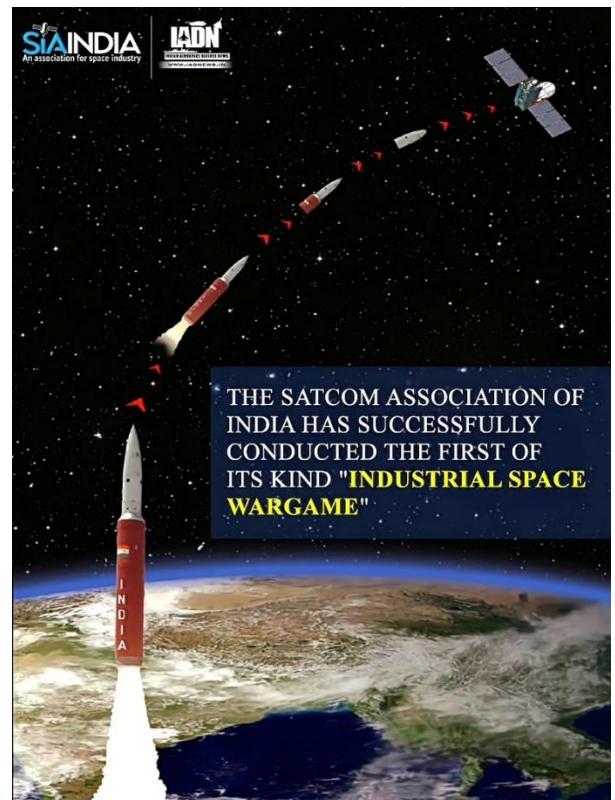
INDUSTRIAL SPACE WARGAME, MANEKSHAW CENTRE

The Satcom Association of India (SIA-India) organised India's first "Industrial Space Wargame," during the DefSAT Expo which saw active participation from representatives across diverse sectors. Esteemed government organisations such as the Indian Space Research Organisation (ISRO), the Indian National Space Promotion and Authorisation Centre (IN-SPACe), the Defence Research and Development Organisation (DRDO), and the National Institution for Transforming India (NITI) Aayog contributed

their expertise. The event also welcomed representatives from the tri-services.

Furthermore, prominent think tanks like the Centre for Joint Warfare Studies (CENJOWS), Centre for Land Warfare Studies (CLAWS), Centre for Air Power Studies (CAPS), and National Maritime Foundation (NMF) lent their support to the wargame. The objective was to simulate realistic space warfare scenarios, putting the capabilities of the Indian space industry and organisations to the test in responding to contingencies or crises. The close-door tabletop exercise was conducted under the leadership of Lt Gen V.G. Khandare, principal advisor, Ministry of Defence and the convenor of the exercise was Lt Gen PJS Pannu, former Deputy Chief IDS HQ (operations).

A simulated, scenario-based, interactive tabletop exercise that tested the capability of the space industry and organisation to come together and respond to contingency or crisis situations. Factors such as resources, logistics, sequence of action, and how long each phase of the plan will take was also tested. The defence practitioners and industry stakeholders put their heads together to assess the requisite industrialised solution, disruptive innovations and technology discovery in space and counter-space capabilities that are needed by India to protect its national security interests in simulated scenarios.



Defence practitioners and industry stakeholders collaborated to evaluate the necessary industrialised solutions, disruptive innovations, and technological discoveries in the space and counter-space capabilities domain. These evaluations were aimed at safeguarding India's national security interests in simulated scenarios. This is the first in a series of many such exercises to be unfolded periodically.

## HIGHLIGHTS FROM THE EVENT



During the thematic address on the second day, Lieutenant General PJS Pannu (Retd.) emphasised the significant potential of private space players in delivering rapid and effective solutions. He underscored the crucial role that space capabilities play in shaping the future of warfare and promoting peaceful economic growth. Lieutenant General Pannu emphasised the need for India to establish a clear space philosophy, doctrine, and strategy to chart a well-defined roadmap for the industry.

"Full potential of space for strategic purposes was not recognised earlier, as it was primarily utilised for public good and civilian use," Dr S Somanath, Secretary, Department of Space, and ISRO's Chairman was quoted as saying during the event. According to him, India possesses the capability to launch payloads in a reasonably efficient manner. However, there is a need to scale up operations and generate increased demand, as space investments

entail substantial capital requirements. The objective is to reduce the cost of space access, making it more affordable and accessible.

**Dr G Satheesh Reddy**, who serves as the Scientific Adviser to the Minister of Defence, highlighted the noteworthy advancements in space technology for defence applications worldwide. He emphasised the substantial progress in areas such as image intelligence, electronic intelligence, signal intelligence, and communication intelligence. Of particular significance to the Indian defence, especially in border regions, are Synthetic Aperture Radar (SAR) and hyper spectral technology, as they play a critical role in enhancing capabilities.

Establishing self-reliance in the space sector necessitates enduring efforts over the course of several years. India must proactively prepare to meet future technological demands and allocate resources for their development and operation. Dr. G Satheesh Reddy, emphasised the importance of clarity in determining which capabilities should be developed domestically and which should be sourced externally. To accomplish this, collaboration with existing institutes and the establishment of new ones are crucial steps towards nurturing a skilled and capable workforce that is prepared for future requirements.

**Air Marshal Surat Singh**, the Director General Air (Operations), acknowledged that the newly unveiled space policy would provide a substantial impetus to the Indian space industry. He emphasised the need for the Indian Air Force to evolve into an Indian airspace force, capitalising on space-based capabilities for intelligence, surveillance, and reconnaissance (ISR), navigation, targeting, space situational awareness (SSA), and meteorological operations. According to Air Marshal Surat Singh, this transformation would be facilitated by the advancements and opportunities presented by the space policy.

**Air Vice Marshal DV Khot**, the Director-General of the Defence Space Agency (DSA), put forward the idea that the fusion of Space and ground-based assets could greatly enhance military capabilities, granting a distinct advantage in any conflict. In order to accomplish this, it is imperative for

industry partners to establish close collaboration, effectively identifying novel technologies and capabilities tailored to address the specific requirements of the military. Furthermore, it is crucial to engage in partnerships with international counterparts, harnessing their expertise and knowledge for optimal outcomes.

**Lt. Gen Sunil Srivastava, AVSM, VSM\*\* (Retd) DG CENJOWS** discussed the growing concern over space-based weapons, which have the potential to cause catastrophic damage to both military and civilian infrastructure. As the use of space-based weapons continues to evolve, it's critical for the international community to work together to establish norms and regulations governing their use. He further emphasised as our reliance on space-based assets continues to grow, protecting those assets will become even more crucial to ensuring the safety and security of our nation.

**Brigadier Anshuman Narang**, an esteemed author and expert in the field of Intelligence, Surveillance, and Reconnaissance (ISR), emphasised the unparalleled potential of Space in facilitating Intelligence Preparation of the Battlefield (IPB), serving as the cutting-edge Common Operating Picture (COP), and serving as the foundation of the Indian Comprehensive National Power (CNP) across Diplomatic, Informational, Military, and Economic (DIME) domains at the Defence Satellite (DefSat) event. He underscored the significance of data and the inseparable connection between interoperability and policy considerations for the ultimate beneficiary of the data.

**Dr. PK Jain**, the Director of Program Management and Authorisation (PMAD) at IN-SPACe, delved into the realm of space diplomacy, highlighting its ability to unlock access to global technology and funding resources. Dr. Jain underscored the importance of active industry involvement to propel the work of the Indian Space Research Organisation (ISRO) to new heights and achieve significant advancements in the field.

Day two witnessed a remarkable highlight with a keen focus on "Space security - Philosophy, Doctrines & Strategies; connecting requirements & industrial capabilities." The session, chaired and moderated by Lieutenant



General VG Khandare (retd.), principal advisor, MoD emphasised the crucial necessity for the tri-services to remain at the forefront, leaving no room for second place in times of war.

Dr Subbarao Pavuluri, President, SIA-India emphasised on the fact that India is ushering into the commercial Space and Satellite communication era where the opportunities are humongous, enhancing its global digital footprint. The emergence of the commercial space sector and startups throw up some attractive possibilities for the country's defence requirements. While, Mr Anil Prakash, DG SIA-India quoted that space is a final frontier of warfare and a critical component of next-generation National offense and defence. The space-based capabilities are critical for adding a strategic depth to India's defence preparedness, both in times of peace and conflict. A modern and future-ready space, aerospace, and Defence sector which addresses the realities of 21<sup>st</sup> century India is the need of the hour.

The ensuing round-table conference brought together exceptional minds from the Armed Forces, particularly emphasising civil-military integration. Esteemed think tanks such as CENJOWS (Tri-Services), CLAWS (Army), NMF (Navy), CAPS (IAF), and made significant contributions to the panel, offering a wealth of wisdom to the esteemed stakeholders present at the event. Their collective insights fostered valuable synergy and enriched the ongoing conversation.

A special address by Dr. Subbarao Pavuluri, Dr. Ranjana N, and Dr. Anupam Sharma from DRDO and ISRO added another pivotal moment to this grand occasion. Other noteworthy highlights included discussions on Civil-Military Fusion, focused on catalysing the industrial base and overcoming supply chain challenges.

Lt Gen Tarun Kumar Aich, VCOAS (Strategy) said that the military utilisation of space has been on the rise since the Gulf War, with operations such as Desert Storm and Iraqi Freedom employing satellite-based communication, reconnaissance, and GPS technology. Space is being exploited by both the private and public sectors, with China rapidly

developing its own capabilities in the field. Military applications include satellite-based surveillance, precise positioning, and quantum technology for un-hackable communication. It is essential to establish a space policy that ensures national control and denies access to other countries.

Another event on the last day of the DefSAT 2023 had a conversation on "Closing capability gaps and retaining the high ground by integrating drones, HAPS and satellites" including narrow discussions on how these technologies together can provide the security landscape and help to identify and mitigate potential threats more quickly and effectively.

The session also includes a discussion on integrating drones, HAPS, and satellite coordination and a well-planned approach that considers each technology's unique capabilities and requirements. The event was Chaired and Moderated by Lt Gen PJS Pannu, PVSM, AVSM, VSM (Retd) Former Deputy Chief Indian Integrated Defence Staff (Operations) and Chair of the Aerospace and Defence Committee at SIA-India. The Keynote was addressed by Lt Gen (Dr) V. K. Saxena, PVSM, AVSM, VSM (Retd) former Director General of the Corps of Army Air Defence.



LT. GEN. VG KHANDARE (RETD.), PRINCIPAL ADVISOR, MOD



LT. GEN. SUNIL SRIVASTAVA, DG CENJOWS



MR. ANIL PRAKASH, DG SIA-INDIA

## CONCLUSION



**DR SUBBARAO PAVULURI, PRESIDENT, SIA-INDIA AND LT. GEN, VG KHANDARE (RETD.), PRINCIPAL ADVISOR, MoD**

The conference brought together distinguished representatives from high-level government, key industry players, and academia to engage in discussions, deliberations, and knowledge exchange on the space domain, with an emphasis on innovation, thought leadership, and disruptive technologies. The conference provided an ideal platform for organisations with a vested interest in advancing India's military space capability and plans.

The event prioritised enhancing military operations by delivering space domain awareness and satellite communications, addressing funding concerns for new space capabilities, expanding international partnerships, and developing a defence space strategy that aligns with the national space strategy.

The event saw active participation from over 50 industry representatives, including companies and organisations, along with the presence of over 15 prominent think tanks. All three services and the leading space-related organisations of the country, ranging from ISRO to IN-SPACe, enthusiastically participated in the event.