

फरवरी

February
2023

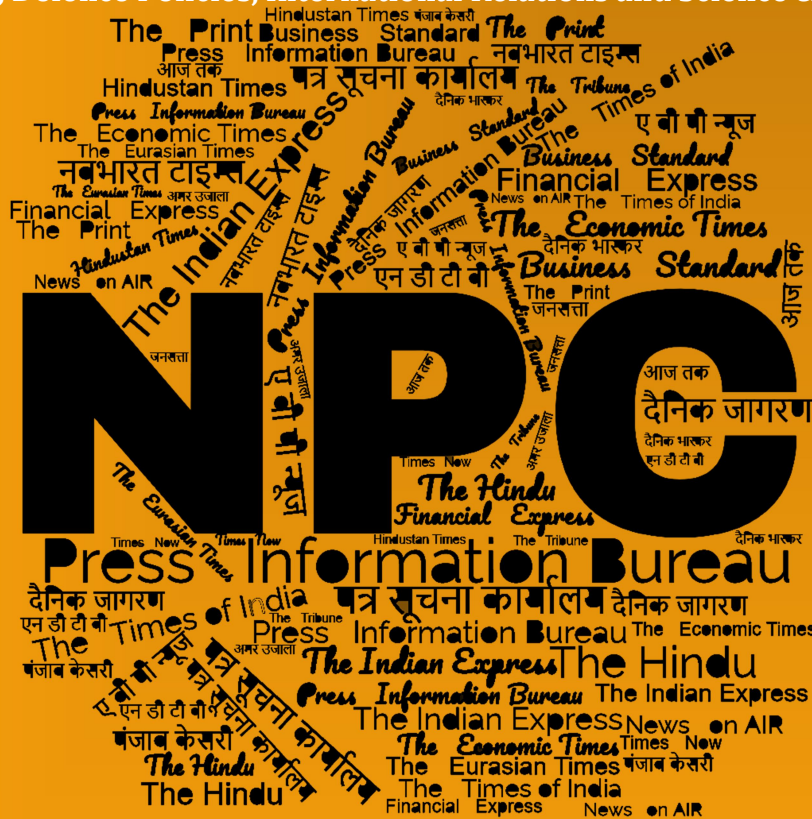
खंड/Vol. : 48 अंक/Issue : 31

14/02/2023

समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology



रक्षा विज्ञान पुस्तकालय

Defence Science Library

रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र

Defence Scientific Information & Documentation Centre

मेटकॉफ हाउस, दिल्ली - 110 054

Metcalfe House, Delhi - 110 054

CONTENTS

S. No.	TITLE		Page No.
	DRDO News		1-3
	DRDO Technology News		1-3
1.	THIS DRDO Laser Pod will Make IAF Attack Helicopters Invisible	<i>Firstpost</i>	1
2.	Aero India 2023: DRDO Plans Lightweight MPATGM	<i>Janes</i>	2
3.	Half of DRDO's Mission Mode Projects Running Behind Schedule, Parliament Informed	<i>The Times of India</i>	2
	Defence News		4-34
	Defence Strategic: National/International		4-34
4.	Prime Minister Shri Narendra Modi Inaugurates Aero India 2023 in Bengaluru; Releases Commemorative Stamp	<i>Press Information Bureau</i>	4
5.	Modi Opens Aero India, says New India Like a Fighter Pilot	<i>Hindustan Times</i>	9
6.	Three Times More Defence Exports in the Next 3 Years: PM Modi Sets Target for Indian Defence Sector	<i>Deccan Herald</i>	10
7.	Raksha Mantri Invites Global Oems to Co-develop, Co-produce, Integrate & Strengthen Supply Chains, form Joint Ventures, Set up Manufacturing in India and Make for the World	<i>Press Information Bureau</i>	11
8.	India does not Want to Remain 'Assembly Workshop' for Military Platforms: Rajnath to CEOs of Defence Majors	<i>The Economic Times</i>	12
9.	Our Aim is to Nurture a Vibrant, World-class Defence Manufacturing Industry in Country: Rajnath Singh	<i>The Times of India</i>	14
10.	'मेक इन इंडिया', 15 लड़ाकू विमान, DRDO का खतरनाक UAV... एयरो इंडिया शो में क्या-क्या है खास?	<i>आज तक</i>	15
11.	Aero India Show in Bengaluru: Surya Kirans, Fighters Dazzle; Air Chief Flies Tejas, Leads Formation	<i>The Times of India</i>	17
12.	Defence Secretary Meets UK Delegation	<i>Press Information Bureau</i>	18
13.	Defence Secretary Meets Delegations from Saudi Arabia, USA and Oman on the Sidelines of Aero India 2023	<i>Press Information Bureau</i>	19
14.	Midhani to Display Five New Nickel, Titanium Alloys at Aero-India 2023 Show	<i>The Hindu</i>	19
15.	Private Sector Must Serve as Strategic Partner to Build Defence Industrial Ecosystem: NITI Aayog	<i>Business Line</i>	20
16.	Aero India: HLFT-42 पर भगवान हनुमान की तस्वीर, लिखा- 'आ रहा तूफान'	<i>R.भारत</i>	21
17.	कैप्टन राजप्रसाद ने फिर से दिखाई Indian Army की ताकत, जानिए उनके नए इनोवेशन के बारे में	<i>R.भारत</i>	22
18.	'Defence Expenditure Rising in Absolute Terms': Govt Responds to Kharge in LS	<i>Hindustan Times</i>	24
19.	Russia's Rosoboronexport to Offer New Joint Venture Defence Projects to India	<i>ABP News</i>	25
20.	TE Connectivity's Aerospace Defence and Marine will Provide More Local Solutions to the Defence Sector	<i>Financial Express</i>	26
21.	Rolls-Royce Offers Engine Co-creation for Medium Fighter	<i>Business Standard</i>	28
22.	A Gradual Approach on Defence Spending	<i>Hindustan Times</i>	29

23.	UK Delegation Supports 'Atmanirbharta' at Aero India	<i>GOV.UK</i>	30
24.	China, Pakistan Expand Footprints in the Indian Ocean; India Unwilling to Play a Second Fiddle in QUAD	<i>The EurAsian Times</i>	32
25.	Philippines Accuses China of Using 'Military-grade' Laser Against its Vessels in South China Sea	<i>The Economic Times</i>	34
26.	NATO Defence Ministers to Address Ukraine, Stockpiles and Critical Infrastructure	<i>NATO OTAN</i>	34

Science & Technology News			35-38
--------------------------------------	--	--	--------------

27.	सूर्य की रोशनी धीमी करने की तकनीक पर उठे सवाल	<i>जनसत्ता</i>	35
28.	International Conference on Maths from March 3	<i>The Tribune</i>	36
29.	आसमान में अनजान चीजों के पीछे एलियंस?	<i>नवभारत टाइम्स</i>	37

DRDO News

DRDO Technology News

Firstpost.

Mon, 13 Feb 2023

THIS DRDO Laser Pod will Make IAF Attack Helicopters Invisible



The Defence Research and Development Organisation (DRDO) has begun work on a project to develop a high-energy laser that can be mounted on attack helicopters.

This DRDO laser pod, which can be mounted on Indian Air Force (IAF) attack helicopters such as the Apache AH-64 and Prachand, will have the ability to destroy targets before the enemy is even aware of their presence. Since attack helicopters become vulnerable to enemy fire as soon as they discharge the first round of their weapons, this laser pod will allow IAF helicopters to strike with pinpoint precision and accurate destructive power.

Although the DRDO has not revealed too much information about the new laser pod, it is expected to be a 3 to 5KW optical power laser with a beam control system.

<https://www.firstpost.com/india/this-drdo-laser-pod-will-make-iaf-attack-helicopters-invisible-12146072.html>



Mon, 13 Feb 2023

Aero India 2023: DRDO Plans Lightweight MPATGM

India's Defence Research and Development Organisation (DRDO) is designing a lightweight manportable anti-tank guided missile (MPATGM) for the Indian Army, a DRDO official told Janes at the Aero India 2023 show, which is being held in Bangalore from 13 to 17 February.

The official said that the development of MPATGM is not completed because of its weight. “We [DRDO] are looking at lowering the weight of MPATGM. Since it is manportable, its weight causes a lot of problems.”

The technology and design of the lightweight MPATGM is already decided, and will take at least 2–3 years to develop, the official added.

The official said that the organisation seeks to reduce the weight of the MPATGM by 10–30%. The MPATGM, in its current form, weighs 14.5 kg. It is a “third-generation” anti-tank missile, which has a length of 1,300 mm and a diameter of 120 mm.

According to Janes Weapons: Infantry, the missile's command launch unit (CLU) – consisting of a target acquisition system and a command control unit – weighs 14.25 kg. The fire-and-forget missile is equipped with a mid-wave infrared direct drive seeker and fired in lock-on before launch mode, and can engage a target in direct or top attack approaches.

The MPATGM is fitted with an anti-armour tandem warhead and externally features folded wings behind the main warhead and four folding control fins at the rear activated through the control actuation system. An onboard powerpack is situated mid-body between the warhead and rocket motor.

<https://www.janes.com/defence-news/news-detail/aero-india-2023-drdo-plans-lightweight-mpatgm>

THE TIMES OF INDIA

Tue, 14 Feb 2023

Half of DRDO's Mission Mode Projects Running Behind Schedule, Parliament Informed

Almost half of Defence Research and Development Organisation's ongoing 'mission mode' projects - high priority programmes based on specific operational requirements of the armed forces that have to be completed within a definite time-frame - have been delayed.

These range from the Tejas Mark-2 light combat aircraft (LCA), the naval LCA and unmanned aerial vehicles to air independent propulsion (AIP) for greater underwater endurance of submarines, light machine guns and advanced towed artillery gun systems (ATAGS), the defence ministry told Parliament on Monday.

In a written reply in Rajya Sabha, junior defence minister Ajay Bhatt said 23 of the 55 mission mode projects have been delayed. These projects, incidentally, involve technologies that are already available and readily accessible in India or abroad at short notice. The other delayed projects are in the areas of surface-to-air missiles, surface-to-surface missiles, electronic warfare (EW) systems for fighters and warships, air droppable containers, simulators, tactical radios, rockets, bombs, infantry combat vehicle-command (ICV-C), life support systems, periscopes and torpedoes. Cost escalations have taken place in 12 of the 55 projects. "However, cost escalations may not be treated as loss, as in certain cases cost has been increased for change or enhancement of scope," Bhatt said. These are the LCA for IAF and Navy, AIP, surface-to-air missiles, ATAGS, rockets, ICV-C, periscopes, torpedoes and EW systems.

The single-engine Tejas, in particular, is crucial for the IAF to stem the depletion in the number of its fighter squadrons, which is down to just 30-31 when 42 are required for the collusive threat from China and Pakistan.

IAF has inducted just over 30 of the 123 Tejas jets ordered till now, with the last Rs 46,898 crore contract for 73 improved Mark-1A fighters and 10 trainers being inked in February 2021 for delivery in the 2024-29 timeframe.

In August 2022, the Cabinet Committee on Security had sanctioned another Rs 6,500 crore, in addition to the earlier Rs 2,500 crore, to develop the much more capable Mark-2 version of Tejas with more powerful GE-414 engines.

While the lightweight Tejas Mark-1 (13.5 tonne weight) was designed to replace obsolete MiG-21s, the medium-weight Mark-2 (17.5 tonne) is supposed to eventually succeed fighters like the Mirage-2000s, Jaguars and MiG-29s in the IAF. The naval LCA, in turn, is the forerunner for the twin-engine deck-based fighter that the Navy actually wants for its aircraft carriers. It will take at least a decade to be operationally ready.

In Parliament, Bhatt outlined the various steps being taken by the government to overcome such delays. They include increased frequency of project reviews, enhanced participation of the armed forces and higher delegation of financial powers to DRDO lab directors.

<https://timesofindia.indiatimes.com/india/half-of-drdo-mission-mode-projects-running-behind-schedule-lok-sabha-informed/articleshow/97889332.cms>

Defence News

Defence Strategic : National/International



Press Information Bureau
Government of India

Ministry of Defence

Mon, 13 Feb 2023

Prime Minister Shri Narendra Modi Inaugurates Aero India 2023 in Bengaluru; Releases Commemorative Stamp

“Bengaluru sky is bearing testimony to the capabilities of New India. This new height is the reality of New India”

“Youth of Karnataka should deploy their technological expertise in the field of defence to strengthen the country”

“India will take rapid strides to be included among the largest defence manufacturing countries and our private sector and investors will play a big role in that”

**Aero India’s deafening roar echoes India’s message of Reform, Perform and Transform:
PM**

India has become a promising manufacturing destination due to its business-friendly environment & cost-competitiveness: Raksha Mantri

Shri Rajnath Singh calls upon Aero India participants to become a part of India's journey towards becoming a defence manufacturing hub

Prime Minister Shri Narendra Modi inaugurated the 14th edition of Asia’s biggest aero show - Aero India 2023 – at Air Force Station, Yelahanka in Bengaluru on February 13, 2023. A commemorative stamp was also released by the Prime Minister on the occasion. The five-day event, on the theme ‘The runway to a billion opportunities’, will showcase India’s growth in aerospace and defence capabilities. It will display indigenous equipment/technologies and forge partnerships with foreign companies, in line with ‘Make in India, Make for the World’ vision for a secure and prosperous future. Addressing the gathering, the Prime Minister said that Bengaluru sky is bearing testimony to the capabilities of New India. “This new height is the reality of New India, today India is touching new heights and transcending them too”, the Prime Minister said.

The Prime Minister said that Aero India 2023 is a shining example of India’s growing capabilities and the presence of around 100 nations at this event shows the trust that the entire world shows in India. He noted the participation of more than 800 exhibitors including Indian

MSMEs and startups along with the well-renowned companies of the world. Throwing light on the theme of Aero India 2023 'The Runway to a Billion Opportunities', the Prime Minister expressed that the strength of Aatmanirbhar Bharat keeps on growing with each passing day.

Referring to the Defence Minister's Conclave and CEOs Round Table that is being organised along with the show, Shri Modi said that active participation in the sector will enhance the potential of Aero India.

The Prime Minister underscored the importance of Aero India taking place in Karnataka which is the hub of India's technological advancement. He said that this will open new avenues for the youth of Karnataka in the aviation sector. The Prime Minister called upon the youth of Karnataka to deploy their technological expertise in the field of defence to strengthen the country.

"When the country moves forward with new thinking, new approach, then its systems also start changing according to the new thinking", the Prime Minister said as he highlighted that Aero India 2023 reflects the changing approach of New India. The Prime Minister recalled when Aero India used to be 'just a show' and a window to 'sell to India' but the perception has changed now. "Today, Aero India is India's strength and not just a show", the Prime Minister said as he stated that it not only showcases the scope of the defence industry but also showcases the self-confidence of India".

The Prime Minister said that India's successes are bearing witness to its capabilities. Tejas, INS Vikrant, advanced manufacturing facilities in Surat and Tumkur, said the Prime Minister, are the potential of Aatmanirbhar Bharat with which the world's new alternatives and opportunities are linked. "The new India of the 21st century will neither miss any opportunity nor will it lack any effort", the Prime Minister said as he noted the revolution brought in every sector with the help of reforms. He underlined that the nation which used to be the largest defence exporter for decades has now started exporting defence equipment to 75 countries in the world.

Referring to the transformation of the defence sector in the last 8-9 years, the Prime Minister said that the aim is to take defence exports from 1.5 billion to 5 billion by 2024-25. "From here India will take rapid strides to be included among the largest defence manufacturing countries and our private sector and investors will play a big role in that", the Prime Minister said. The Prime Minister called upon the private sector to invest in the defence sector which will create new opportunities for them in India and in many other countries.

"The India of today thinks fast, thinks far and takes quick decisions", Shri Modi said as he drew the analogy of India in Amrit Kaal to a fighter jet pilot. The Prime Minister said that India is a nation which is not afraid but excited to soar to new heights. India is always rooted however high it flies howsoever is its speed, the Prime Minister stressed.

"Aero India's deafening roar echoes India's message of Reform, Perform and Transform", the Prime Minister remarked. He mentioned that the entire world is taking note of the reforms made for 'Ease of Doing Business' in India and touched upon the various steps taken to create an environment that favours global investments as well as Indian innovation. He touched upon the reforms made in Foreign Direct Investments in defence and other sectors and the simplification of processes for issuing licenses to industries while also increasing their validity. The Prime Minister said that in this year's Budget, tax benefits for manufacturing units have been enhanced. The Prime Minister said where there is demand, expertise as well experience, Industry growth is natural. He assured the gathering that efforts to strengthen the sector will keep going forward

even stronger. In his address, the Raksha Mantri lauded Prime Minister Shri Narendra Modi for guiding India on the political and economic map of the world and made special mention of his unwavering commitment towards the industrial and economic growth of the country. He described Aero India as an expression of that resolve.

Shri Rajnath Singh asserted that India has become a promising manufacturing destination due to its business-friendly environment and cost-competitiveness. “India has become the fifth largest economy in the world due to the vision and determination of our Prime Minister. It is well on course to become the third largest economy in the next 4-5 years. India’s G-20 presidency this year is also a reflection of India’s growing stature on the international platforms,” he said.

The Raksha Mantri also shed light on the growth story of the Indian defence sector, saying that it has come a long way in the last few years and is marching ahead on the path of empowering the nation with full zeal and dedication. He termed Aero India as one of the pillars which has strengthened the defence sector and has given it a new identity.

Shri Rajnath Singh welcomed the Defence Ministers, Service Chiefs, CEOs, officials and delegates from many countries participating in this 14th edition of Aero India. He appreciated the fact that over 800 exhibitors from India and abroad will present showcase their products & technologies during the five-day event. He termed the huge participation as a testimony to a new confidence of the domestic and global business community in India's emerging business potential. He called upon the participants to become a part of India's journey towards becoming a defence manufacturing hub.

The Raksha Mantri also commended Karnataka Chief Minister Shri Basavaraj Bommai for organising the event on a grand scale. He described Karnataka as a pioneer in industrialisation and one of the most prominent states contributing to India’s economic growth.

Governor of Karnataka Shri Thawar Chand Gehlot, Chief Minister of Karnataka Shri Basvaraj Bommai, Union Minister for Civil Aviation Shri Jyotiraditya Scindia and Raksha Rajya Mantri Shri Ajay Bhatt were among those present on the occasion.

About the event

The five-day event will conclude on 17th February. The February 13th to 15th will be business days, while 16th & 17th have been set as public days to allow people to witness the show. The event comprises a Defence Ministers’ Conclave; a CEOs Round Table; Manthan start-up event; Bandhan ceremony; breath-taking air shows; a large exhibition; India Pavilion and a trade fair of aerospace companies.

Organised at Air Force Station, Yelahanka in a total area of around 35,000 sqm, the event, the biggest-ever till date, is likely to witness the participation of 98 countries. The Defence Ministers of 32 countries, Air Chiefs of 29 countries and 73 CEOs of global and Indian OEMs are expected to attend the event. Eight hundred and nine (809) defence companies, including MSMEs and start-ups, will showcase the advancement in niche technologies and the growth in aerospace and defence sector.

Major exhibitors & equipment

The major exhibitors include Airbus, Boeing, Dassault Aviation, Lockheed Martin, Israel Aerospace Industry, BrahMos Aerospace, Army Aviation, HC Robotics, SAAB, Safran, Rolls Royce, Larsen & Toubro, Bharat Forge Limited, Hindustan Aeronautics Limited (HAL), Bharat

Electronics Limited (BEL), Bharat Dynamics Limited (BDL) and BEML Limited. About five lakh visitors are expected to attend the event physically and many millions more will connect through Television and internet.

Aero India 2023 will showcase design leadership, growth in UAVs Sector, Defence Space and futuristic technologies. The event aims to promote export of indigenous air platforms like Light Combat Aircraft (LCA)-Tejas, HTT-40, Dornier Light Utility Helicopter (LUH), Light Combat Helicopter (LCH) and Advanced Light Helicopter (ALH). It will integrate domestic MSMEs and start-ups in global supply chain and attract foreign investments including the partnerships for co-development and co-production.

Defence Ministers' Conclave

The Raksha Mantri will host Defence Ministers' Conclave on 14th February. Defence Ministers of friendly foreign countries will participate in the meeting, which has been organised on the theme 'Shared Prosperity through Enhanced Engagements in Defence (SPEED)'. The conclave would address aspects related to deepen cooperation for capacity building (through investments, R&D, joint venture, co-development, co-production and provisioning of defence equipment), training, space, Artificial Intelligence (AI) and maritime security to grow together. The conclave is an opportunity for the defence ministers to engage with each other to carry forward the 'Make in India, Make for the World' vision.

Bilateral meetings

On the sidelines of Aero India 2023, a number of bilateral meetings will be held at the levels of Raksha Mantri, Raksha Rajya Mantri, Chief of Defence Staff and Defence Secretary among others. The focus will be on bolstering the defence & aerospace ties with friendly countries by exploring newer avenues to take the partnership to the next level.

CEOs Round Table

The 'CEOs Round Table', under the chairmanship of the Raksha Mantri, will be held on 13th February on the theme 'Sky is not the limit: opportunities beyond boundaries'. It is expected to lay the foundation of a more robust interaction between the Industry Partners and Government with an eye on bolstering the 'Make in India' campaign. It is further expected to increase 'Ease of doing business' in India and provide a favourable platform to Original Equipment Manufacturers (OEMs) for manufacturing in India.

The Round Table will witness participation from officials, delegates and global CEOs from 26 countries including global investors such as Boeing, Lockheed, Israel Aerospace Industries, General Atomics, Liebherr Group, Raytheon Technologies, Safran, General Authority of Military Industries (GAMI) etc. Domestic PSUs like HAL, BEL, BDL, BEML Limited and Mishra Dhatu Nigam Limited will also participate. Premier private Defence and Aerospace manufacturing companies from India such as Larsen & Toubro, Bharat Forge, Dynamatic Technologies, BrahMos Aerospace are also likely to be part of the event.

Bandhan ceremony

The Bandhan ceremony, which witnesses signing of Memoranda of Understanding (MoUs)/Agreements, Transfer of Technologies, Product Launches and other major announcements, will be held on February 15th. The Raksha Mantri will preside over the event. Two hundred and fifty one (251) MoUs, with an expected investment of Rs 75,000 crore, are

likely to be signed for partnerships between various Indian/foreign defence companies and organisations.

Manthan

The annual defence innovation event, Manthan, will be the flagship technology showcase event to be held on 15th February. Being organised by Innovations for Defence Excellence (iDEX), the Manthan platform will bring the leading innovators, start-ups, MSMEs, incubators, academia and Investors from defence & aerospace ecosystem under one roof. The Raksha Mantri will preside over the event.

Manthan will have many firsts, including launch of challenges on Cyber Security, establishment of iDEX Investor Hub, MoUs with investors etc. Manthan 2023 will provide an overview on the future vision/next initiatives of iDEX to galvanise the start-up ecosystem to foster innovation and technology development in the defence sector.

India Pavilion

The 'India Pavilion', based on the 'Fixed Wing Platform' theme, will showcase India's growth in the area, including the future prospects. There will be a total of 115 companies, displaying 227 products. It will further showcase the growth of India in developing an ecosystem for Fixed Wing platform which includes the demonstration of various structural modules, simulators, systems (LRUs) etc. of LCA-Tejas aircraft being produced by Private Partners. There will also be a section for Defence space, New Technologies and a UAV section which will give an insight about the growth of India in each sector.

A full scale LCA-Tejas aircraft in Full Operational Capability (FOC) configuration will be at the centre stage of India Pavilion. LCA Tejas is a single engine, light weight, highly agile, multi-role supersonic fighter. It has quadruplex digital fly-by-wire Flight Control System (FCS) with associated advanced flight control laws. The aircraft with delta wing is designed for 'air combat' and 'offensive air support' with 'reconnaissance' and 'anti-ship' as its secondary roles. Extensive use of advanced composites in the airframe gives a high strength to weight ratio, long fatigue life and low radar signatures.

Karnataka Pavilion

Aero India 2023 will have a separate Karnataka Pavilion which will showcase to the participants the opportunities available in the state.

Seminars

A number of seminars will be held during the five-day event. The themes include 'Harnessing Potential of Ex-servicemen for Indian Defence Industry; India's Defence Space Initiative: Opportunities for shaping Indian private space ecosystem; Indigenous development of futuristic aerospace technologies, including aero engines; Destination Karnataka: US-India defence cooperation innovation and Make in India; Advancement in maritime surveillance equipment and assets; sustenance in MRO and Obsolescence Mitigation and achieving excellence in defence grade drones and Aatmanirbharta in Aero Armament Sustenance.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1898656>

Modi Opens Aero India, says New India Like a Fighter Pilot

Prime Minister Narendra Modi on Monday inaugurated Asia's biggest military airshow, Aero India 2023, and likened New India to a fighter pilot who "thinks fast, thinks far and takes quick decisions" while addressing a packed audience at the Yelahanka airbase even as he highlighted the potential of Aatmanirbhar Bharat and how the country's quest for self-reliance had unlocked "new alternatives and opportunities" for the world.

"The new India of the 21st century will neither miss any opportunity nor will it be found lacking in any effort. The India of today thinks fast, thinks far and takes quick decisions like a fighter pilot. It is a country that is not afraid, but excited to scale new heights," Modi said.

The participants at the 14th edition of the biennial airshow include more than 800 defence firms, representatives of around 100 foreign countries, 32 defence ministers, air chiefs of 29 air forces, and 73 CEOs of foreign and Indian original equipment manufacturers. The grand finale of the five-day airshow is expected to be the signing of 251 memorandums of understanding (MOUs) worth more than ₹75,000 crore, with the partnerships forged here giving a new push to the government's Make in India initiative.

Modi said India, which was the largest importer of military hardware for decades, was now exporting defence equipment to 75 countries, and it was on course to increase its exports from the current \$1.5 billion to \$5 billion by 2024-25 with a sharpened focus on self-reliance in the defence manufacturing sector.

He said the transformation in the defence sector took place during the last eight to nine years, while referring to the locally built Tejas light combat aircraft, the commissioning of India's first indigenous aircraft carrier INS Vikrant last year, the setting up of a manufacturing facility by the Tata-Airbus consortium at Vadodara in Gujarat for C-295 medium transport aircraft to modernise the Indian Air Force's transport fleet, and the recent inauguration of the country's largest helicopter manufacturing facility at Tumakuru in Karnataka.

"From here India will take rapid strides to be included among the largest defence manufacturing countries and our private sector and investors will play a big role in that," he said. The airshow seeks to project India as a defence manufacturing hub and showcase the country's rising prowess in the aerospace and defence sector.

"Aero India's deafening roar echoes India's message of reform, perform and transform," Modi said, while enumerating the steps taken by government for ease of doing business in the country and making it investor friendly.

Aero India 2023 is a shining example of India's growing capabilities and the presence of around 100 countries at the airshow reflects the trust the world reposes in India, he said. "When the country moves forward with new thinking, new approach, then its systems also start changing according to the new thinking," Modi said, while stressing that Aero India 2023 reflected the changing approach of new India. He said earlier Aero India was considered to be "just a show"

and a window to “sell to India”, but that was no longer the perception. “Today, Aero India is India’s strength and not just a show.”

In his address, defence minister Rajnath Singh said India had become a promising manufacturing destination because of its business-friendly environment and cost-competitiveness. “India has become the fifth largest economy in the world. It is well on course to become the third largest economy in the next four to five years. India’s G20 presidency this year is also a reflection of the country’s growing stature,” Singh said.

Later addressing the CEOs attending the airshow, the defence minister said India does not want to remain an assembly workshop, and manufacturing cutting-edge military products was the need of the hour to boost Aatmanirbharta.

Singh assured the industry leaders that the government was open to new ideas and committed to “fully harness the energy, entrepreneurial spirit and capability” of private sector partners in the defence production sector. Chief of defence staff General Anil Chauhan, IAF chief Air Chief Marshal VR Chaudhari, navy chief Admiral R Hari Kumar and army chief General Manoj Pande also attended the CEO round-table.

“In-depth discussions took place between industry partners and the government during the meeting to bolster the ‘Make in India’ campaign. The aim was to increase ‘ease of doing business’ in India and provide a favourable platform to original equipment manufacturers to manufacture in the country,” the defence ministry said in a statement.

Singh had on Sunday indicated that India could bring more weapons and systems under an import ban, and manufacture them in the country to give a new push to self-reliance in the defence sector, with the latest “positive indigenisation list” set to come on the back of four similar lists that have barred the import of 411 military items during the last 30 months.

<https://www.hindustantimes.com/india-news/modi-opens-aero-india-says-new-india-like-a-fighter-pilot-101676312354783-amp.html>



Mon, 13 Feb 2023

Three Times More Defence Exports in the Next 3 Years: PM Modi Sets Target for Indian Defence Sector

Prime Minister Narendra Modi on Monday set out a defence export target three times higher than India’s current military export of \$1.5 billion over the next three years, a big ask considering that India remains one of the world’s top arms importers because of which military firms around the world made a beeline for Aero-India, 2023, eyeing the lucrative market.

"India has rejuvenated its defence sector in the last 8-9 years. We consider it just the beginning and aim to take defence exports to \$5 billion by 2024-25. We will strive to be one of the world’s largest defence manufacturing bases," the Prime Minister said, inaugurating the 14th edition of the biennial air show here.

Without identifying any nation, the Prime Minister said India was not just a defence market, but emerging as a suitable partner for countries looking for technologies to fulfill their security needs. He cited Tejas fighter jets, indigenous aircraft carrier INS Vikrant, HAL helicopter factory at Tumakuru and the Tata Airbus plant in Vadodara to make transport aircraft for the IAF as examples of India's strength in defence manufacturing.

Later, Defence Minister Rajnath Singh told the CEOs of the top armament companies that India did not want to remain an assembly workshop but would manufacture cutting-edge products as was the need of the hour.

Singh said the issues of both defence export and joint production will be discussed when he meets the defence ministers from 32 countries on Tuesday.

India's military export remained below par for decades before New Delhi decided to punch above its weight on the defence export targets.

India's defence exports have grown by eight times in the last five years with New Delhi exporting military hardware to over 75 countries. Some of the items that the Defence Ministry wants to export include home-grown Tejas LCA, Brahmos cruise missiles, Pinaka multi barrel rocket launcher and Dhrub advanced lightweight helicopters.

Globally the defence export market is dominated by the USA followed by Russia and France. Taken together the three countries account for almost 70% of the global defence export. The next two countries on the list, Germany and China account for almost another 10%. The ten top exporter's list don't figure India.

Officials said B2B partnerships worth Rs 75,000 crore were to be inked during Aero-India 2023, but how much of that would translate into commercial deals remained uncertain.

<https://www.deccanherald.com/business/economy-business/three-times-more-defence-exports-in-the-next-3-years-pm-modi-sets-target-for-indian-defence-sector-1190686.html>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Feb 2023

Raksha Mantri Invites Global Oems to Co-develop, Co-produce, Integrate & Strengthen Supply Chains, form Joint Ventures, Set up Manufacturing in India and Make for the World

Shri Rajnath Singh meets ceos of oems on sidelines of Aero India-2023

India offers advantages to global defence industry, such as competitive land costs, skilled human capital, vibrant start-up ecosystem & huge defence market: RM

Raksha Mantri Shri Rajnath Singh met the CEOs of Original Equipment Manufacturers (OEMs) on the sidelines of 14th Aero India on February 14, 2023. During the interaction, he highlighted

that India offers significant advantages of competitive land costs, skilled human capital, a vibrant start-up ecosystem and a huge domestic defence market to the Global Defence industry. He described this as a win-win situation where defence manufacturing companies from across the world can become a part of the Indian growth story.

Shri Rajnath Singh emphasised the importance of the defence sector for India saying, "Defence production meets the twin goals of becoming self-reliant in a critical sector as well as generating jobs for our people." He also mentioned the incentives given by Uttar Pradesh and Tamil Nadu state governments for investment in Defence Industrial Corridors, central government policies promoting FDI and defence manufacturing in India, the strong legal system protecting stakeholders' interests and improvements in ease of doing business.

"There are opportunities to co-develop, co-produce, integrate and strengthen supply chains, from Joint Ventures, set up manufacturing in India and make for the world," he said. The CEOs gave their suggestions to facilitate Global investment in Indian Defence Manufacturing and Raksha Mantri assured them of government efforts to remove regulatory hurdles for private industry.

CEOs and senior management of General Atomics, Safran, Boeing, Embraer and Rafael Advanced Defence Systems attended the interaction. Defence Secretary Shri Giridhar Aramane, DG (Acquisition) Shri Pankaj Agrawal, Additional Secretary, Defence Production Shri T. Natarajan and other senior officials of the Ministry of Defence were also present.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1899022>

THE ECONOMIC TIMES

Mon, 13 Feb 2023

India does not Want to Remain 'Assembly Workshop' for Military Platforms: Rajnath to CEOs of Defence Majors

Defence Minister Rajnath Singh on Monday conveyed to the top honchos of Indian and global aerospace majors that India does not want to remain an "assembly workshop" for military platforms and asserted that it now aims to produce cutting-edge defence hardware. Singh made the remarks while addressing a "CEOs' Roundtable" at the 14th edition of Aero India at the Yelahanka Air Force station complex on the outskirts of Bengaluru.

In his address, the defence minister called upon the industry leaders to support India's aspirations to become a leading manufacturer of key military platforms and equipment using critical technologies, in sync with the country's policy of attaining self-reliance in defence production.

Around 70 top executives of various companies attended the roundtable.

Assuring the industry leaders of all necessary support for doing business in India, Singh said the government-industry partnership is based on equality and mutual trust.

He stressed that indigenisation is the mantra for today's India, unlike in the past when import was the default option. He also extended the government's full support towards removing "obstacles" and facilitating businesses.

The five-day Aero India, considered Asia's biggest aerospace event, was inaugurated by Prime Minister Narendra Modi earlier in the day.

In his address, Modi said India has rejuvenated its defence production in the last eight-nine years and it will now move fast to join the world's largest defence-manufacturing countries, riding on favourable economic policies.

At the roundtable, Singh said India does not want to remain just an "assembly workshop" and is looking to engage with friendly countries in defence and security, based on sharing expertise and capabilities, in accordance with the prime minister's "Make in India, Make for the World" vision.

He told the industry leaders that the government is open to new ideas and committed to fully harnessing the energy, entrepreneurial spirit and capability of the private sector partners in the area of defence. Singh voiced the government's resolve of nurturing a vibrant and world-class defence manufacturing industry, terming it the key driver of the Indian economy. He enumerated a number of far-reaching reforms undertaken by the Ministry of Defence to create a business-friendly climate in the country.

These include setting up defence corridors in Uttar Pradesh and Tamil Nadu, simplification of industrial-licensing processes, a hike in the cap on foreign direct investment in defence, opening government trial-and-testing facilities for the private sector and an increase in the capital outlay for defence in the Union Budget 2023-24.

Singh also referred to the launch of the "Technology Development Fund" and "Innovations for Defence Excellence" to promote research and development.

He said these reforms will enable Indian defence products to compete with the established global defence and aerospace companies.

Singh appreciated the growing enthusiasm and greater participation of private players in defence production and expressed confidence that the roundtable will sow the seeds of successful new ventures and partnerships, boost investment, expand indigenous manufacturing and bolster the aerospace and defence ecosystem in India.

The "CEOs' Roundtable" was organised on the theme "Sky is not the limit: opportunities beyond boundaries". The participating companies included Boeing, Lockheed Martin, Israel Aerospace Industries, General Atomics, Liebherr Group, Raytheon Technologies, Safran, General Authority of Military Industries, Hindustan Aeronautics Limited, Bharat Electronics Limited, Bharat Dynamics Limited, BEML Limited, Mishra Dhatu Nigam Limited, Larsen & Toubro, Bharat Forge, Dynamatic Technologies and BrahMos Aerospace.

In-depth discussions took place between industry partners and the government during the meeting, with an eye to bolster the "Make in India" campaign, the defence ministry said.

It said the aim was to increase "ease of doing business" in India and provide a favourable platform to OEMs (original equipment makers) to manufacture various products within India.

Chief of Defence Staff General Anil Chauhan, Chief of Air Staff Air Chief Marshal VR Chaudhari, Chief of Naval Staff Admiral R Hari Kumar, Chief of the Army Staff General Manoj Pande and Defence Secretary Giridhar Aramane also attended the roundtable.

Officials said around 250 business-to-business agreements are expected to be firmed up at Aero India, which is estimated to unlock investments to the tune of around Rs 75,000 crore.

They said Aero India would promote the export of indigenous air platforms, such as the light combat aircraft (LCA) Tejas, HTT-40, the Dornier light utility helicopter (LUH), light combat helicopter (LCH) and advanced light helicopter (ALH).

A plethora of aircraft of the Indian Air Force (IAF) displayed their aerial prowess in an air show at the event. The theme of Aero India is "the runway to a billion opportunities" and the event is aimed at projecting India's growth and capabilities in the defence and aerospace sector.

The focus of the event is to showcase indigenous equipment and technologies and forging partnerships with foreign companies, in line with the government's "Make in India, Make for the World" vision, the officials said.

<https://economictimes.indiatimes.com/news/defence/india-does-not-want-to-remain-assembly-workshop-for-military-platforms-rajnath-to-ceos-of-defence-majors/articleshow/97880816.cms>

THE TIMES OF INDIA

Mon, 13 Feb 2023

Our Aim is to Nurture a Vibrant, World-class Defence Manufacturing Industry in Country: Rajnath Singh

Defence Minister Rajnath Singh on Monday said that the central government's aim is to nurture a vibrant and world-class defence manufacturing industry in the country.

The Defence Minister made this statement while addressing the 'CEO's Round Table Conclave' on the inaugural day of Aero India 2023 in Bengaluru

"To realise this goal, our government has brought far-reaching reform measures in the last few years, intended to create a business-friendly climate," he said.

Rajnath Singh also highlighted how the government and private entrepreneurs were working together for the country.

He said, "The government with its democratic legitimacy and social mandate is performing the job of policy formulation, facilitation and regulation. On the other hand, responsibility for the optimum utilization of society's resources at the firm level is being discharged by private entrepreneurs."

The defence minister further stated India's vision is to become the third-largest economy in the next five years. "India is the fifth largest economy in the world and marching on towards an exciting future. We hope to become the third-largest economy in the next five years. The Indian defence manufacturing industry is one of the key drivers of our galloping economy," he said.

"A country of India's size and global prominence cannot afford to rely on imported arms, for such reliance will inevitably compromise the strategic autonomy of our country. Since 2014, the goal of Atmanirbhar Bharat or self-reliance has been vigorously pursued," he added.

Mentioning that the government was open to new ideas, the defence minister said, "We are committed to harnessing the energy, entrepreneurial spirit and capability of our private sector partners in the area of defence production."

Prime Minister Narendra Modi on Monday inaugurated the 14th edition of Asia's biggest aero show - Aero India 2023 - at Air Force Station in Yelahanka in Bengaluru.

The five-day event, on the theme 'The runway to a billion opportunities', will showcase India's growth in aerospace and defence capabilities.

It will display indigenous equipment/technologies and forge partnerships with foreign companies, in line with the 'Make in India, Make for the World' vision for a secure and prosperous future.

<https://timesofindia.indiatimes.com/india/our-aim-is-to-nurture-a-vibrant-world-class-defence-manufacturing-industry-in-country-rajnath-singh/articleshow/97878118.cms>



Mon, 13 Feb 2023

'मेक इन इंडिया', 15 लड़ाकू विमान, DRDO का खतरनाक UAV... एयरो इंडिया शो में क्या-क्या है खास?

एयरो इंडिया का 14वां एडिशन सोमवार से शुरू हो गया. प्रधानमंत्री नरेंद्र मोदी ने इसका उद्घाटन कर दिया. शो का उद्घाटन करते हुए पीएम मोदी ने कहा कि आज एयरो इंडिया केवल एक शो नहीं है, बल्कि ये इंडिया की स्ट्रेन्थ भी है. प्रधानमंत्री मोदी ने कहा, एयरो इंडिया का ये आयोजन आज नए भारत की अप्रोच को भी दिखाता है. एक समय था जब इसे केवल 'शो' या 'सेल टू इंडिया' की विंडो भर माना जाता था, लेकिन बीते वर्षों में देश ने इस नजरिये को बदला है. पांच दिन तक चलने वाले एयरो इंडिया बेंगलुरु के येलाहांका एयरफोर्स स्टेशन पर हो रहा है. ये पूरा इलाका 35 हजार वर्ग मीटर में फैला है. इस शो में 98 देशों 100 से ज्यादा डिफेंस कंपनियां हिस्सा ले रहीं हैं. 700 से ज्यादा कंपनियां भारत की ही हैं. इस शो में 32 देशों के रक्षा मंत्री और 29 देशों के वायु सेना प्रमुख भी शामिल होंगे.

ये शो 13 से 17 फरवरी तक चलेगा. 13 से 15 फरवरी तक कारोबारी दिन होंगे, जबकि 16 और 17 फरवरी को इसे आम लोगों के लिए खोला जाएगा.

DRDO के खेमे में क्या खास?

डिफेंस रिसर्च एंड डेवलपमेंट ऑर्गनाइजेशन (DRDO) के खेमे में कई सारे हथियार हैं. इनमें सबसे खास यूएवी TAPAS-BH है. इसका पूरा नाम टैक्टिकल एरियल प्लेटफॉर्म फॉर एडवांस्ड सर्विलांस- बीयॉन्ड होरिजन है.

एयरो इंडिया में पहली बार TAPAS-BH उड़ान भरेगा. DRDO के मुताबिक, तीनों सेनाएं इसका इस्तेमाल कर सकेंगे. ये ड्रोन 28 हजार फीट की ऊंचाई तक 18 घंटे से ज्यादा लंबे समय तक उड़ान भरने में सक्षम है. इतना ही नहीं, TAPAS-BH से एक बार में 350 किलोग्राम के पेलोड भी भेजा जा सकता है.

इसके अलावा DRDO के पवेलियन में लड़ाकू विमान और यूएवी, मिसाइल सिस्टम, इंजन एंड प्रपल्शन सिस्टम, एयरबोर्न सर्विलांस सिस्टम, सेंसर इलेक्ट्रॉनिक वॉरफेयर एंड कम्युनिकेशन सिस्टम जैसे 330 से ज्यादा प्रोडक्ट्स को शोकेस किया जाएगा.

#DRDOUpdates | Witness the path-breaking technologies on Combat Aircrafts and UAVs during #AeroIndia2023 in DRDO Hall 'D', Yelahanka Air Force Station. @DefenceMinIndia @SpokespersonMoD pic.twitter.com/yuUtrgV8xr

— DRDO (@DRDO_India) February 10, 2023

मेक इन इंडिया 15 लड़ाकू विमान उड़ान भरेंगे

एयरो इंडिया शो में हिंदुस्तान एयरोनॉटिक्स लिमिटेड (HAL) मेक इन इंडिया 15 लड़ाकू विमानों को प्रदर्शन करेगी. इसमें एडवांस्ट लाइट कॉम्बैट हेलिकॉप्टर (LCH) 'प्रचंड' और लाइट यूटिलिटी हेलिकॉप्टर (LUH) भी शामिल है.

HAL के पवेलियन में अट्रैक्शन का केंद्र इंडियन मल्टी रोल हेलीकॉप्टर, नेक्स्ट जनरेशन HLFT-42 और LCA Mk 2 के मॉडल्स, हिंदुस्तान टर्बो-शाफ्ट इंजिन-1200, RUAV, LCA ट्रेनर, और हिंदुस्तान- 228 रहेंगे.

प्रचंड मल्टी रोल और छोटा लड़ाकू हेलिकॉप्टर है. इसमें कई खतरनाक हथियारों को तैनात किया जा सकता है. इसमें चिन-माउंटेड गन, 68 मिमी के रॉकेट, बम, एयर टू एयर और एयर टू ग्राउंड मिसाइलों को तैनात किया जा सकता है.

वहीं, लाइट यूटिलिटी हेलिकॉप्टर 220 किलोमीटर प्रतिघंटे की रफ्तार से उड़ान भर सकता है. इसमें एक बार में 500 किलो के पेलोड ले जाए जा सकते हैं.

और क्या-क्या होगा खास?

एयरो इंडिया शो में कई विदेशी कंपनियों भी अपना जलवा दिखाएंगे. इस शो में राफेल भी उड़ान भरेगा. भारत के पास 36 राफेल फाइटर जेट हैं. इसे फ्रांस से खरीदा गया है, जिसे वहां की कंपनी दसॉल्ट एविएशन ने बनाया है.

इसके अलावा, इसमें अमेरिकी कंपनी लॉकहीड मार्टिन का F-35 भी उड़ान भरेगा. ये सिंगल सीटर, सिंगल इंजन मल्टी रोल लड़ाकू विमान है. इससे कई खतरनाक मिसाइलों को छोड़ा जा सकता

है. साथ ही F-16 भी उड़ेगा, जिसे अमेरिका कंपनी जनरल डायनामिक्स ने बनाया है. ये सिंगल इंजन मल्टीरोल लड़ाकू विमान है.

शो में HAL का बनाया हुआ हार्वर्ड ट्रेनर-291 (HT-291) विमान भी दिखाई देगा. ये भारतीय वायुसेना का विंटेन विमान है, जिसने 1989 में आखिरी उड़ान भरी थी. इसे 1943 में बनाया गया था और 1947 में वायुसेना में शामिल किया गया था. इन सबके अलावा एयरो इंडिया शो में अमेरिकी कंपनी बोइंग का बनाया हुआ अपाचे AH-64(E) भी अपनी क्षमताएं दिखाएगा. 2019 में इसे भारतीय वायुसेना में शामिल किया गया था. ये दुनिया के सबसे खतरनाक अटैक हेलिकॉप्टर में से एक है.

एयरो शो से इतर क्या-क्या होगा?

इस शो में 32 देशों के रक्षा मंत्री शामिल हो रहे हैं. 14 फरवरी को रक्षा मंत्रियों की बैठक होगी. इसके अलावा 26 देशों की डिफेंस कंपनियों की CEOs की राउंड टेबल मीटिंग भी होगी.

इस मीटिंग में बोइंग, लॉकहीड मार्टिन, इसरायल एयरोस्पेस इंडस्ट्रीज, जनरल एटॉमिक्स, रथेऑन टेक्नोलॉजी, सैफरान और जनरल अथॉरिटी ऑफ मिलिट्री इंडस्ट्रीज जैसी विदेशी कंपनियों के CEOs शामिल होंगे

साथ ही हिंदुस्तान एयरोनॉटिक्स लिमिटेड, भारत इलेक्ट्रॉनिक्स लिमिटेड, भारत डायनामिक्स लिमिटेड और मिश्रधातु निगम लिमिटेड जैसी घरेलू कंपनियों के CEOs हिस्सा लेंगे.

इसके अलावा इस शो में हजारों करोड़ रुपये के रक्षा सौदे होने की भी उम्मीद है. रक्षा मंत्रालय के मुताबिक, भारतीय और विदेशी रक्षा कंपनियों के बीच 75 हजार करोड़ रुपये 250 से ज्यादा समझौते होने की उम्मीद है.

<https://www.aajtak.in/india/news/story/aero-india-show-2023-pm-narendra-modi-hal-make-in-india-fighter-jets-drdo-tapas-drone-defence-news-ntc-1635674-2023-02-13>

THE TIMES OF INDIA

Tue, 14 Feb 2023

Aero India Show in Bengaluru: Surya Kirans, Fighters Dazzle; Air Chief Flies Tejas, Leads Formation

The first flying display at this edition of Aero India was dominated by fighter jets - Tejas, Su-30 - with Chief of Air Staff VR Chaudhari flying the Tejas in the Gurukul formation on Monday. But the Surya Kiran Aerobatic Team (SKAT) garnered the most applause. While the Tejas, Su-30, Jaguar, IJT and Rafale participated in the flypast along with a host of helicopters and SKAT, the flying display only saw Tejas and Su-30 among the fighters. In fact, Sarang, IAF's helicopter

display team, which has always been an eye-catcher, gave the display a miss despite being listed for performance.

Air Chief Marshal Chaudhari, also a qualified flying instructor, piloted the Tejas which was flanked by the Hawk-i, Intermediate Jet Trainer (IJT) and Hindustan Turbo Trainer-40 (HTT-40) aircraft. While there was no official confirmation of whether this was the first time an air chief was piloting an aircraft in a flying display, it certainly was a first for Aero India in all 14 editions. The flypast began with the Tiranga formation with three Kiran-Mk2 aircraft, followed by Dhvaj formation with four Mi-17 helicopters carrying the tricolour, IAF flag and the G20 flag. Another highlight was the debut of Tactical Aerial Platform for Advanced Surveillance (Tapas) unmanned aerial vehicle. While nobody got to see the UAV, Tapas watched everybody, capturing the ground and air display during the inaugural flypast from a height of 12,000 feet. It had taken off from the Aeronautical Test Range in Chitradurga to reach the air show venue.

Tapas, as reported by TOI, is DRDO's solution to the tri-services' ISTAR (Intelligence, Surveillance, Target Acquisition & Reconnaissance) requirements. The multi-mission vehicle has an endurance of 24-30 hours.

Other key highlights from the flypast were the light combat helicopter (LCH), advanced light helicopter (ALH), Netra-Airborne Early Warning and Control System (AEW&CS), MiG-29, Jaguars, Mirage 2000s and the Boeing P-8i.

While all the performances had viewers glued, SKAT's signature heart-in-the-air stole the show.

<https://timesofindia.indiatimes.com/city/bengaluru/surya-kirans-fighters-dazzle-air-chief-flies-tejas-leads-formation-in-bengaluru/articleshow/97896529.cms>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 14 Feb 2023

Defence Secretary Meets UK Delegation

Defence Secretary Shri Giridhar Aramane had a bilateral meeting with UK Minister of State for Defence Procurement Mr Alex Chalk. The meeting was conducted on the side-lines of the Aero India 2023 which was inaugurated by Hon'ble Prime Minister on 13 February 2023. A number of ongoing and future defence cooperation issues were discussed including areas for potential defence industrial cooperation. The UK Minister was accompanied by British High Commissioner to India Mr Alex Ellis.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1898992>



**Press Information Bureau
Government of India**

Ministry of Defence

Mon, 13 Feb 2023

Defence Secretary Meets Delegations from Saudi Arabia, USA and Oman on the Sidelines of Aero India 2023

Defence Secretary Shri Giridhar Aramane held bilateral meetings on 12 February 2023 with three defence delegations on the sidelines of Aero India 2023 at Bengaluru.

Defence Secretary met Mr Engr Turki Saad, General Manager Industrial Relations, Kingdom of Saudi Arabia, and discussed a number of bilateral defence cooperation issues.

A US delegation led by Mr Jedijiah P. Royal, Principal Deputy Assistant Secretary of Defence for Indo-Pacific Security Affairs, and accompanied by Ambassador Elizabeth Jones, Charge D'Affairs US Embassy and Maj Gen Julian Cheator, US Air Force, met the Defence Secretary.

A wide range of ongoing and future defence cooperation issues were discussed. US is participating in Aero India with a number of officials, companies and aircrafts.

Later, Defence Secretary met a delegation from Oman led by HE Dr Mohammed Nasser Al Zaabi, Secretary General, Ministry of Defence. The ongoing defence cooperation was reviewed and possible opportunities for increasing the depth and scope of engagements was discussed.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1898613>



Mon, 13 Feb 2023

Midhani to Display Five New Nickel, Titanium Alloys at Aero-India 2023 Show

Midhani or Mishra Dhatu Nigam Limited, the defence public sector metallurgy unit, will be showcasing its latest five new nickel and titanium metal alloy products of high strength, light weight, anti-corrosive and malleable for use in strategic sectors of defence and aero-space as well as various other civilian uses during the ongoing 'Aero-India 2023' show in Bengaluru.

“Every year we are developing four-five special material products to make us stand out in the market. Last year, we have launched six metal alloys in the show, and this year, there will be a massive demonstration of aero-space metal alloys developed by us,” informed Chairman and Managing Director S.K. Jha, in an exclusive interaction.

The Hyderabad firm will be showcasing the special grade alloy materials of about 14 varieties being used in the manufacture of indigenous Light Combat Aircraft (LCA) Mark 1 and Mark 2 by the Hindustan Aeronautics Limited (HAL), and also the very recent making of gear boxes and

bearings for the Light Combat Helicopters (LCH), Light Utility Helicopters (LUH), along with other variants. “All these were being imported earlier. We are now supplying the key materials like five varieties of steel developed in house for every kind of helicopter being manufactured by the HAL. We have also developed titanium alloy material for Advanced Medium Combat Aircraft (AMCA), and all the materials grades into making the engine and other parts of the Sukhoi fighter jets,” said the CMD.

A new UAV - unmanned aircraft vehicle developed by the DRDO, having a high payload capacity for carrying arms and ammunition made with Midhani-made material, high compressor disc of titanium alloy for aero-engines, nickel-based turbine blades and others, are going to be on display during the event.

The aero-space sector is growing and there is a lot of demand for special materials like nickel, titanium and special steels, hence, the challenge is to develop them in a short time.

“Midhani has a long and successful history in making many metal grades for different manufacturing processes, undergoing stringent quality tests and getting certified by the regulatory agencies,” explained Mr. Jha.

It has well established facilities to make the alloy metals in the form of bars, rings, sheets or plates, wires and castings. “We are setting up new titanium plant to double our capability to 1,000 tonnes per annum and increase the nickel alloy production to another 1,500 tonnes from the current 1,000 tonnes capacity,” he said. Midhani is not only capable of handling rising demand through in house manufacturing facilities but is also open to collaborations with the private sector, especially in the “finishing” stages, like it has outsourced grinding and finishing plates and rings for the Indian Space Research Organisation (ISRO).

The CMD is also expecting to firm up business deals with foreign firms like Rolls Royce, Pratt & Whitney, Boeing and others for supply of special materials. “Their representatives have visited our facilities recently, certified our processes suggesting some changes. Initially, it will be at a small scale, but we hope to build from there,” he added.

<https://www.thehindu.com/news/national/telangana/midhani-to-display-five-new-nickel-titanium-alloys-at-aero-india-2023-show/article66503865.ece>

The logo for BusinessLine, featuring the word "BusinessLine" in a large, blue, serif font. Above the word "BusinessLine" is the text "THE HINDU" in a smaller, blue, sans-serif font.

Mon, 13 Feb 2023

Private Sector Must Serve as Strategic Partner to Build Defence Industrial Ecosystem: NITI Aayog

The private sector must serve as a long-term strategic partner in investing in the manufacturing sector and building a robust defence industrial ecosystem, according to NITI Aayog.

Ahead of Aero India 2023, a biennial Aero India International Seminar was organised on ‘Aerospace and Defence Technologies: Way Forward’ by Defence Research and Development Organisation (DRDO) in association with the Aeronautical Society of India (AeSI). During the event, VK Saraswat, Member, NITI Aayog, highlighted the role of the private sector in building

a strong defence industrial ecosystem. Additionally, he emphasised taking lessons from the past to prepare our vision for emerging technologies and future warfare.

“Futuristic technologies are likely to shape future warfare. Therefore, in addition to unmanned aerial systems and tactical drones, more, disruptive technologies such as artificial intelligence and additive manufacturing in hypersonic aircraft, directed energy weapons, robotics, and autonomous systems must also be adopted,” he added. The seminar also noted trends in airborne surveillance technologies, power and propulsion technology, machine learning models in complex airborne systems, verification of AI systems, and high-end aerospace instrumentation.

Somanath, Secretary, Department of Space, and Chairman, ISRO, discussed ISRO’s latest programs, Chandrayan-3 and Gaganyaan. Later, he elaborated on the challenges faced in space programmes and methods to overcome them. The one-day event saw participation from more than 600 delegates from academia, business, research and development organisations, entrepreneurs, and students.

<https://www.thehindubusinessline.com/economy/private-sector-must-serve-as-strategic-partner-to-build-defence-industrial-ecosystem-niti-aayog/article66502907.ece>



Mon, 13 Feb 2023

Aero India: HLFT-42 पर भगवान हनुमान की तस्वीर, लिखा- 'आ रहा तूफान'

आत्मनिर्भरता के क्षेत्र में सशक्त तरीके से कदम बढ़ा रहा भारत (Indian Defense Power) पूरी दुनिया को आज अपनी धमक दिखा रहा है। सोमवार 13 फरवरी को शुरू हुए एयरो इंडिया शो (Aero India Show) में भी ऐसे ही सशक्त भारत की तस्वीर देखने को मिलेगी। इस शो में भारतीय वायु सेना (Indian Air Force) अपने नए सुपरसोनिक फाइटर ट्रेनर एयरक्राफ्ट (Supersonic Fighter Trainer Aircraft) HLFT-42 को प्रदर्शित करेगा। इस पर पवन पुत्र हनुमान की तस्वीर देखने को मिलेगी।

HLFT-42 पर भगवान हनुमान की तस्वीर देखने को मिलेगी। इस नए सुपरसोनिक फाइटर ट्रेनर एयरक्राफ्ट को पहली बार एयरो इंडिया शो में पहली बार प्रदर्शित करेगी। इस विमान के टेल पर जहां बजरंगबली की तस्वीर लगी है, वहां लिखा है- 'The Storm is Coming'।

पहले एयरक्राफ्ट का नाम रखा था 'मारुत'

इस एयरक्राफ्ट को भारतीय वायु सेना के पायलटों के ट्रेनिंग के लिए हिंदुस्तान एयरोनॉटिक्स लिमिटेड (HAL) ने बनाया है। इससे पहले 60 के दशक में भी जब भारत ने अपना पहला लड़ाकू विमान बनाया था, तो उसका नाम 'मारुत' रखा था।

एयरो इंडिया शो में आत्मनिर्भर भारत की झलक

एयर शो 13 फरवरी से शुरू होकर 17 फरवरी तक चलेगा। इसमें आत्मनिर्भर भारत (Aatmanirbhar Bharat) के साथ-साथ दुनिया भर के युद्धक विमानों की धमक देखने को मिलेगी। इस शो में एयरोस्पेस और डिफेंस सेक्टर (Defense Sector) के हथियारों की प्रदर्शनी भी देखने को मिलेगी। इसके साथ ही अलग-अलग फॉर्मेशन में एयरक्राफ्ट करतब दिखाते हुए नजर आएंगे।

आत्मनिर्भर फॉर्मेशन ने किया पीएम मोदी का स्वागत

एयरो इंडिया शो का उद्घाटन प्रधानमंत्री नरेंद्र मोदी ने किया। पीएम के स्वागत के लिए हिंदुस्तान एयरोनॉटिक्स लिमिटेड में तैयार हुए 15 हेलीकॉप्टर एक विशेष फॉर्मेशन बनाया। इस फॉर्मेशन का नाम आत्मनिर्भर फॉर्मेशन दिया गया है। इस फॉर्मेशन में एडवांस लाइट हेलीकॉप्टर (ALH), लाइट यूटिलिटी हेलीकॉप्टर (LUH) और लाइट कॉम्बैट हेलीकॉप्टर (LCH) शामिल थे। पहली बार इस फॉर्मेशन को एयरो इंडिया 2023 में पेश किया गया।

DRDO का India Pavallion

रक्षा मंत्रालय के अनुसार, DRDO मंडप 12 अलग-अलग क्षेत्रों में उप-वर्गीकृत 330 से अधिक उत्पादों को प्रदर्शित करेगा। श्रेणियों में आर्टिफिशियल इंटेलिजेंस मशीन लर्निंग एंड साइबर सिस्टम्स, एयरबोर्न सर्विलांस सिस्टम्स, सेंसर्स, कॉम्बैट एयरक्राफ्ट एंड यूएवी, मिसाइल एंड स्ट्रैटेजिक सिस्टम्स, इंजन एंड प्रोपल्शन सिस्टम्स, इलेक्ट्रॉनिक वारफेयर एंड कम्युनिकेशन सिस्टम्स, पैराशूट एंड ड्रॉप सिस्टम्स, मैटेरियल्स, लैंड सिस्टम्स एंड म्यूनिशन शामिल हैं।

<https://bharat.republicworld.com/india-news/general-news/aero-india-lord-hanuman-picture-on-supersonic-fighter-trainer-aircraft-hlft-42-written-the-storm-is-coming>

R. भारत

Mon, 13 Feb 2023

कैप्टन राजप्रसाद ने फिर से दिखाई Indian Army की ताकत, जानिए उनके नए इनोवेशन के बारे में

आत्मनिर्भरता की ओर कदम बढ़ा रही भारतीय सेना (Indian Defense Forces) के अधिकारी भी इस मिशन में जमकर योगदान दे रहे हैं। इसका सबसे बड़ा उदाहरण है थल सेना के अधिकारी कैप्टन राजप्रसाद, जिन्होंने एयरो इंडिया शो में लगे इंडिया पवेलियन की प्रदर्शनी में अपने

इनोवेशन को प्रदर्शित किया है। कैप्टन राज ने स्वदेशी रूप से विकसित उत्पाद को प्रदर्शित किया है।

कैप्टन राजप्रसाद ने अपने इस इनोवेशन को 'विद्युत रक्षक' नाम दिया है। यह प्रोडक्ट बिजली बचाने में काफी सहायक साबित हो सकता है। यह एक IoT-आधारित जनरेटर मॉनिटरिंग, सुरक्षा और कंट्रोल सिस्टम है। इस प्रोडक्ट को मुख्य रूप से कई जनरेटर को एक मॉड्यूल में इंटीग्रेट करने के लिए डिजाइन किया गया है।

कैप्टन राजप्रसाद, जो कि भारतीय सेना के आर्मी डिजाइन ब्यूरो (ADB) के एक अधिकारी हैं। उन्होंने अपने प्रोडक्ट के बारे में जानकारी देते हुए कहा, "इस इनोवेशन को 'विद्युत रक्षक' कहा जाता है। यह एक IoT-आधारित जनरेटर निगरानी, सुरक्षा और नियंत्रण प्रणाली है। यह वास्तव में कई जनरेटर को एक मॉड्यूल में इंटीग्रेट करने के लिए डिजाइन किया गया है, ताकि इसे लंबी दूरी से ऑटोमेटिक तरीके से नियंत्रित किया जा सके।"

This innovation is called 'Vidyut Rakshak'. It is an IoT-based generator monitoring, protection and control system. It is actually designed to integrate multiple generators into a single module so that it can be controlled autonomously from a long-range: Captain Rajprasad (12.02) <https://t.co/HoloQ1LPba pic.twitter.com/GC3J7TZ4jd>

— ANI (@ANI) February 12, 2023

कैप्टन राजप्रसाद ने आगे कहा, "इसका सबसे बड़ा फायदा यह होगा कि एक ही प्वाइंट से हम सभी जनरेटर की स्वास्थ्य स्थिति जान सकते हैं और हम एक दूर से जनरेटर को चालू और बंद कर सकते हैं।"

Defense Expo में भी दिखाया था अपना आविष्कार

कैप्टन राजप्रसाद ने इससे पहले Defense Expo के 12वें संस्करण में अपने इनोवेशन को प्रदर्शित किया था। कैप्टन प्रसाद ने स्वदेशी रूप से विकसित लॉन्ग रेंज विस्फोट प्रणाली 'अग्निअस्त्र' (Long-range Detonation System 'AgniAstra') को प्रदर्शित किया। अग्निअस्त्र एक मल्टी-टारगेट रिमोट-कंट्रोल्ड ब्लास्टर के श्रेणी में रखा गया है। अग्निअस्त्र का उद्देश्य काउंटर इंसरजेंसी और काउंटर टेरर ऑपरेशन में उपयोग करना है। साथ ही इसका उद्देश्य माइंस के डिफ्यूजल और इंप्रोवाइज्ड विस्फोटक उपकरणों (IED) को निष्क्रिय करने में मानव हस्तक्षेप को कम करना है।

इससे पहले आर्मी डिजाइन ब्यूरो के कैप्टन राजप्रसाद ने पहले खदानों का पता लगाने और IED के डिफ्यूजल के लिए मानव रहित रोबोटिक प्लेटफॉर्म विकसित किए थे। इसके अलावा, उन्होंने लक्ष्यों की लंबी दूरी की फायरिंग के लिए वायरलेस इलेक्ट्रॉनिक डेटोनेशन सिस्टम भी विकसित किया था। अधिकारी के इनोवेशन को भारतीय सेना ने 2021 में सेना दिवस पर प्रदर्शित किया था।

आर्मी डिजाइन ब्यूरो क्या है?

भारतीय सेना की मेक-इन-इंडिया पहल का नेतृत्व करते हुए, सेना डिजाइन ब्यूरो (ADB) अधिग्रहण और विकास के लिए टेक्नोलॉजी स्कैन और टेक्नोलॉजी की पहचान करता है। इसके अलावा, ADB उद्योगों, शिक्षाविदों, DRDO और DPSU के साथ रिसर्च और डेवलपमेंट कार्यों की सुविधा प्रदान करता है, और ऐसे इनपुट प्रदान करता है, जो उन्हें उद्योग के साथ डिजाइन और विकास के मामलों की शुरुआत करते समय उपयोगकर्ता की आवश्यकताओं को समझने में सक्षम बनाता है।

<https://bharat.republicworld.com/india-news/general-news/aero-india-2023-captain-rajprasad-of-army-design-beuro-showed-his-new-innovation-vidyut-rakshak>



Mon, 13 Feb 2023

‘Defence Expenditure Rising in Absolute Terms’: Govt Responds to Kharge in LS

Union minister of state for defence Ajay Bhatt told Parliament on Monday that the defence expenditure as a percentage of gross domestic product (GDP) had declined since 2014, due to an increasing trend in the country’s economic growth.

MoS Bhatt was replying to a question asked by leader of opposition Mallikarjun Kharge if the government was aware of the decline in expenditure under the defence ministry.

“It is seen from the above data that defence expenditure as a percentage of GDP may appear to be decreasing due to increasing trend in the growth of GDP. However, defence expenditure is increasing in absolute terms, implying higher spending”, Bhatt said in a reply to LoP Kharge.

Kharge also asked if the government was considering to create a non-lapsable defence capital fund account to ease and streamline multi-year capital acquisition processes, MoS Bhatt said, “Government is considering to create a non-lapsable defence capital fund account to ease and streamline multi-year capital acquisition processes.”

In the union budget, the government had allocated ₹2.95 lakh crore to defence forces which is estimated to be around 1.58% of the country’s GDP. A separate allocation of ₹1.08 lakh crore was set aside for defence pensions. In 2020-21, the ministry of defence was allocated ₹4,71,378 crore that included expenditure for salaries of armed forces and civilians, pensions, modernisation of armed forces, production establishments, maintenance and research and development organisations. This allocation was by far the highest allocation among all ministries of the central government.

The expenditure on defence constitutes 15.5% of the central government’s budget and 2.1% of India’s estimated GDP for 2020-21.

However, in this year's budget, the ministry of defence was allocated a total budget of ₹5.25 lakh crore, which is 13.31% of the total budget.

This includes an amount of ₹1.19 lakh crore for defence pensions.

<https://www.hindustantimes.com/india-news/defence-expenditure-rising-in-absolute-terms-govt-responds-to-kharge-in-ls-101676290776008.html>



Mon, 13 Feb 2023

Russia's Rosoboronexport to Offer New Joint Venture Defence Projects to India

Not just the US, Russia is also vying to grab its share of the 'Make In India' pie by offering a raft of projects under this programme of the Narendra Modi government, according to Russia's state-owned Rosoboronexport.

Rosoboronexport, a permanent exhibitor at Aero India, is the organiser of Russia's collective display at the Aero India 2023 at the Yelahanka Air Force Station in Bengaluru.

"The military-technical cooperation between Russia and India is an example of industrial partnership with a number of completed and ongoing joint projects for all services of the (Indian) armed forces," said Alexander A. Mikheev, Rosoboronexport Director General on the sidelines of the ongoing Aero India show that began today.

Mikheev also said, "Today we are offering new points of cooperation within the joint development and production of high-tech products along with the Indian companies under the 'Make in India' programme in compliance with all localisation and technology transfer requirements."

This time Rosoboronexport is exhibiting 200 advanced Russian made armaments and military hardware, including the advanced Su-57E fifth-generation, multifunctional fighter, the Checkmate light tactical aircraft, the IL-76MD-90A(E) military transport aircraft and the IL-78MK-90A tanker aircraft, the Su-35 and the MiG-35D multifunctional frontline fighter.

This comes in the backdrop of National Security Advisor Ajit Doval's recent meeting with Russian President Vladimir Putin last week. The NSA was in Moscow from February 7-9 during which period he also met Secretary of the Russian Security Council Nikolai Patrushev even as both sides vowed to work towards enhancing India-Russia special and privileged strategic partnership. The Russian defence giant will also present the Ka-226T light utility helicopter, the production of which is expected to be launched under the 'Make in India' programme, which has been pending for a long time. The negotiations to produce the Russian Kamov Ka-226T choppers under \$1 billion deal have been going on for almost 10 years now. The idea was to manufacture 160 Kamov choppers out of 200 procured for the Indian Army and the Indian Air Force while replacing the Cheetah and Chetak helicopters.

Meanwhile, India is now looking at Hindustan Aeronautics Ltd.'s (HAL) Light Utility Helicopter (LUH), which has slowed the talks for buying the Kamov.

Russia is also planning to sell to the Indian armed forces the upgraded versions of Ka-52E and Mi-28NE attack helicopters and Mi-171Sh military transport helicopters.

According to Rosoboronexport, there is a growing demand for Ka-52E, Mi-28NE and Mi-171Sh choppers in the Asia-Pacific region.

Russia is also showcasing specialised military drones at the ongoing Aero India such as Orion-E strike unmanned aerial vehicle (UAV), Orlan-10 reconnaissance UAV and Orlan-30, which is a new UAV launched by Moscow in 2022.

“Rosoboronexport plans to hold substantive meetings and negotiations with the Ministry of Defence and other security agencies of India (for these products),” the company said in a statement.

It added, “The company expects to work extensively with state-owned and private enterprises of the Indian defence industry with a view to expanding the scope of industrial partnership between Russia and India in accordance with the ‘Make In India’ requirements,” it added.

<https://news.abplive.com/india-at-2047/russia-s-rosoboronexport-to-offer-new-joint-venture-defence-projects-to-india-aero-india-2023-1581873>



Mon, 13 Feb 2023

TE Connectivity’s Aerospace Defence and Marine will Provide More Local Solutions to the Defence Sector

On the eve of launching Radio Over Fibre Product, which is critical for converting RF signals over long distance, Bengaluru based TE Connectivity’s Aerospace Defence and Marine (ADM) says that the company focuses on end-to-end solutions and provides solutions that powers not just electric vehicles but also aircraft and digital factories. This company has two sites which are into manufacturing critical defence components under the ‘Make in India’ initiative. And has plans to unveil their RFoF (RF over Fibre) module on Tuesday (Feb 14, 2023). These are used for converting the RF signals over long distance and these are used in Antenna remoting, SAT Com systems, Radar, and EWS.

For decades, “TE Connectivity has served defence customers and a wide range of applications from ground vehicles to military aircraft, naval marine and space. TE Connectivity’s portfolio of sub-assemblies features the latest in materials science and product design standards,” says Rajesh Aravind, Director & General Manager, Aerospace, Defence & Marine Business.

Following are excerpts from an interaction:

How is TE Connectivity contributing to the government’s ‘Make in India’ initiative for defence manufacturing?

TE Connectivity's Aerospace Defence and Marine (ADM) business unit has been present in India for over 15 years. Our ADM business unit has two manufacturing plants in Bangalore, India. While one plant focuses on Connectors & Wiring harness and the other plant focuses on relays. The ADM business unit (Deutsch India Power Connectors) is already named as "Indian Offset Partner" by the Ministry of Defence which will allow us to provide more local solutions to meet offset obligations.

How does TE Connectivity play a role in providing solutions?

India has laid the foundation for domestic defence manufacturing with Union Budget 2023 earmarking 68 percent of the defence budget for domestic equipment, a rise of 10 percent from FY22. As a global leader in interconnection systems, providing solutions that power electric vehicles, aircraft, and digital factories, we see this as an exciting opportunity to participate in India's 'Atmanirbhar' mission towards becoming self-reliant in defence manufacturing.

In line with the government's plan of raising local manufacturing worth USD 22Bn by 2025, our Aerospace Defence and Marine (ADM) business unit focuses on serving Indian customers with End-to-End solutions. Our leading-edge products and innovative solutions will help build design capabilities, testing capabilities & world class manufacturing capabilities. Self-reliance in defence manufacturing will be a key aspect in India's USD 5 Trillion-dollar economy goal.

How can TE play a pivotal role in India's defence manufacturing ecosystem?

TE Connectivity is already a trusted partner in providing cutting edge solutions for various defence programs. We are in a unique position to bring world class technologies & products to India. By leveraging our strong local presence, TE Connectivity is well equipped to provide complete local solutions in terms of design, manufacturing and understanding local market requirements.

For critical defence components, every millimetre makes a difference and that's why defence equipment needs to be lighter, faster, and robust. For decades, we have been serving defence customers with a wide range of applications from ground vehicles to military aircraft, naval marine and space. Our product portfolio of sub-assemblies features the latest in materials science and product design standards.

TE's overall growth and expansion plans in the ADM business vertical.

India is one of the key markets for the company's ADM business unit. Considering the defence market growth planned in the future, we are investing in lab capabilities and manufacturing investments for new product lines. These investments will help us cater towards the growing needs of local manufacturing requirements from various government programs. More product lines and capabilities are planned in near future like machining and other manufacturing capabilities considering the future growth of defence eco system in India which will expand local market coverage with Indigenous solutions.

<https://www.financialexpress.com/defence/fe-exclusive-te-connectivitys-aerospace-defence-and-marine-will-provide-more-local-solutions-to-the-defence-sector/2980181/>

Business Standard

Tue, 14 Feb 2023

Rolls-Royce Offers Engine Co-creation for Medium Fighter

While a large number of global original equipment manufacturers (OEMs) echo the Indian government's Make in India and Atmanirbhar Bharat (self-sufficient India) slogans, British engine company Rolls-Royce has thrown its hat in the ring to design and develop engines for the Advanced Medium Combat Aircraft (AMCA), which will form the backbone of the IAF's fifth-generation fighter fleet starting a decade from now.

"This is about co-creating the intellectual property (IP) that goes into a new fighter engine. This will be a greenfield design and will take a decade to create," says Kishore Jayaraman, who heads Rolls-Royce India.

There is little appetite amongst combat aircraft engine makers to share the IP that results from a co-creation project. The US and India had begun a project to co-develop a fighter engine under the Defence Trade and Technology Initiative (DTTI), but the American firms decided against sharing IP. French engine maker, Safran, was unwilling to cooperate with the DRDO to co-create the Kaveri engine. "We are keen to partner India for the co-development of combat engine technology in the country. We believe that such a partnership should result in the transfer of both know-how and know-why, with all IP for critical combat engine technology resting with India, allowing future customisation and improvisations," says Jayaraman.

Rolls-Royce, however, points out that it has been acting in accordance with the principles of Atmanirbharta for almost a century.

Jayaraman says the first delivery of mail by air, which was done from Karachi to Bombay in 1932, was flown by JRD Tata in a Puss Moth aircraft with Rolls-Royce engines. In 1936, the first squadron of the Indian Air Force (IAF) was raised, flying Westland Wapiti aircraft with Rolls-Royce engines.

In 1956, Hindustan Aeronautics (HAL) began a 50-year partnership with Rolls-Royce for manufacturing the Orpheus engine. In 1981, the IAF began inducting the Jaguar deep penetration strike aircraft, which was powered by the Rolls-Royce Adour 804/811 engines.

"We have worked shoulder-to-shoulder with HAL to keep the Adour 804/811 in service for some 45 years. How many OEMs stand ready to support an engine for that long," says Jayaraman.

In the 2000s, HAL began manufacturing the Hawk trainer, while also building the Rolls-Royce Adour 871 engines that powered it.

Now, says Jayaraman, Rolls-Royce is ready to take the next step, which is to design and develop aero engines in partnership with Indian firms. "We want to develop intellectual property in India," he says.

Currently, some 750 Rolls-Royce engines power aircraft in service with the IAF, the Indian Navy, and HAL.

Rolls-Royce is offering marine engines for the Indian Navy, including its MT-30 turbines, which Rolls-Royce's Alex Zino describes as one of the world's most power-dense engines. The MT-30 provides all-electric drive to both the Royal Navy's Queen Elizabeth-class aircraft carriers.

The next Indian aircraft carrier is being conceived as a 65,000 tonne vessel, similar to the Queen Elizabeth-class. Rolls-Royce subsidiary, MTU, which has been acquired by Rolls-Royce Power Systems, might also provide its MB 838 engine for a new 35-40-tonne light tank that DRDO is developing for Indian troops in places such as Eastern Ladakh, where the Indian Army found itself confronting Chinese armour.

https://www.business-standard.com/article/companies/aero-india-rolls-royce-offers-engine-co-creation-for-medium-fighter-123021301225_1.html



Tue, 14 Feb 2023

A Gradual Approach on Defence Spending

By Pranay Kotasthane

Another defence budget zoomed past us this month. Since then, analyses have focused on how defence spending for the coming year departs from the previous one. Some have waved a red flag as defence spending has fallen below 2% of the Gross Domestic Product (GDP) for the first time in many years. On the other hand, the defence ministry's post-budget statement emphasised a 44% increase in operational spending, which it said will close critical gaps in combat capabilities and equip the forces in terms of ammunition, sustenance of weapons and assets, and military reserves. The ministry also highlighted that the capital outlay for modernisation and infrastructure development rose by a handsome 57% over the last five years.

How do we make sense of these seemingly conflicting narratives?

Comparing allocations year-by-year gives us a confusing picture. Any interest group can pull up a number from the budget to suit their pre-formed narrative. Taking a step back and going beyond the numbers will reveal that this budget didn't indicate any significant change in the defence posture, and unlike Japan, which has announced a doubling of its military spending in the next five years, India's approach focuses on gradually improving the operational efficiency of its armed forces. To put numbers into context, let's use an earlier year (FY16). FY16 is a useful reference point as it predates two major developments: China's visibly aggressive posture on the border and the budgetary commitments arising from the One Rank One Pension (OROP) scheme. Three observations follow from such an analysis.

One, not only has defence spending fallen as a proportion of GDP, but it has also fallen as a percentage of government expenditure. In other words, defence has slipped in priority relative to non-defence functions.

Two, the China challenge hasn't led to any spectacular change in the composition of defence expenditure. Defence spending can be divided into four major components: Salaries, pensions, capital outlay, and others. As Figure 2 shows, capital outlay was being squeezed by rising pension expenditure over the last few years. For two consecutive years (FY19 and FY20), more money was spent on pensions than on capital acquisition and modernisation. The balance has

now been marginally restored since FY21, after the Galwan crisis flared up. Crucially, the rises in pension and capital expenditures have come at the cost of operational and maintenance expenditure, including ammunition stores (under the others category). It is hence not surprising that the latest budget is trying to arrest this decline in combat capabilities.

Three, this period has been relatively better for the Indian Navy in terms of capital expenditure. Since the procurement of new platforms happens over multiple years, a temporal view is useful in analysing how capital outlay is split between the three armed forces. Our analysis suggests that the big change in the last four years is in the capital outlay for the Indian Navy, with the FY24 figure having doubled in absolute terms since FY20.

By connecting these dots over the last five years, a clearer picture emerges. The government seems to firmly believe that China can be handled without a rapid rise in defence expenditure. The latest budget serves as a bellwether indicator for this claim. It was the first budget of the post-pandemic period, at a time when the economic prospects for India have improved considerably. The government achieved better than expected buoyancy in both income taxes and Goods and Services Tax in the current financial year, and the cooling of global fertiliser prices led to a decline in the projected subsidy bill. Consequently, the government, for the first time in many years, had some fiscal room to play with. It used that space to increase the overall capital outlay to ₹10 lakh crore, almost three times the outlay in 2019-20. Despite this increase, the defence budget resembles the middle overs of a one-day cricket match.

From a financial savings perspective, there have been just two important changes over this period in the defence domain. The first was the announcement of the Agnipath scheme. It might reduce the pension burden, but these savings will reflect only after a decade-and-a-half. Other proposals, such as theatre commands, haven't come to fruition yet. The proposal to create a non-lapsable fund for modernisation — a proposal the Union government gave an in-principle nod to way back in February 2021, still hasn't found a mention in the latest budget.

Probably, the defence budget is a wrong place to infer India's strategic posture against China. Perhaps, the government considers other tools of statecraft — diplomatic, economic, or non-conventional — more suitable for the purpose. This point needs deeper reflection. Many parliamentary standing committees and defence organisations have argued that defence expenditure should be raised to 3% of GDP. If anything, the change is in the opposite direction. We hope that the government is investing heavily in sharpening other tools at its disposal to counter the China threat.

<https://www.hindustantimes.com/opinion/a-gradual-approach-on-defence-spending-101676298678102.html>



Mon, 13 Feb 2023

UK Delegation Supports 'Atmanirbharta' at Aero India

Over the course of the week, the delegation will engage a range of Indian stakeholders to reiterate the UK's ambition to not only make in India but also to 'Create in India'. The UK delegation will take discussions forward on key offers that are being explored for collaboration,

such as strategic partnership for a jet engine development programme and maritime electric propulsion technology.

The Royal Air Force (RAF) looks forward to welcoming the Indian Air Force (IAF) to the UK for exercise Cobra Warrior next month. This will be the first time that the IAF would be participating in the multilateral air combat exercise, which will see participation of air forces from 17 nations.

The UK delegation, which is led by Minister for Defence Procurement Alex Chalk, comprises representatives from Government, military, and the defence industry. This includes Air Vice-Marshal Richard Maddison of the Royal Air Force and British manufacturing giants such as Rolls Royce, BAE Systems, MBDA UK, Thales UK, Collins Aerospace and Leonardo.

The delegation travelled to Bengaluru following their participation at the UP Global Investors Summit, of which the UK was a country partner, to unlock investment potential in India's northern defence corridor.

Alex Chalk, Minister for Defence Procurement, said:

As we continue to build the UK-India Comprehensive Strategic Partnership, I'm hugely excited to attend Aero India – another key opportunity to demonstrate the UK's commitment to developing strong bilateral relations and deliver on the 2030 Roadmap.

Recent collaborations on exercise with the Indian Navy, Army and Air Force underpin the strength of our two nations' commitment to working together to promote a free, open and secure Indo-Pacific region.

Alex Ellis, British High Commissioner to India, said:

I heard today Prime Minister Modi's vision to build India's indigenous defence capabilities; the UK is the right partner to realise that ambition – through sharing knowledge, increasing interoperability, more training and exercising – and through increased industrial collaboration, including through design and make in India. The UK is committed to partner with India in its journey towards becoming atmanirbhar in its defence and security needs.

Further Information

Free-to-use high resolution images of the UK delegation at Aero India will be uploaded here.

The British companies at Aero India are: Rolls Royce, BAE Systems, MBDA UK, Thales UK, Leonardo, Smiths Detection, Strongfield Technologies, ASL, Reliance Precision and Ricardo.

The UK-India Defence Industry Joint Working Group, which held its inaugural meeting at Defence Expo in Gandhinagar last year, is helping accelerate collaboration between the countries, including through the integration of Indian defence suppliers by UK industry into their global supply chain.

The Royal Navy's offshore patrol vessel, HMS Tamar, sailed to the Andaman and Nicobar Islands on 6 January as part of its permanent deployment in the Indo-Pacific. It also conducted a maritime exercise with the Indian Navy. HMS Tamar is one of two Royal Navy vessels on permanent deployment in the Indo-Pacific as set out in the UK's Integrated Review.

In September 2022, the Royal Air Force conducted a subject matter expertise exchange with India's Defence Research and Development Organisation (DRDO) during the visit of

Eurofighter Typhoon, Voyager and A400 in New Delhi and also held joint-flying exercises with the Indian Air Force (IAF).

UK's first Open General Export Licence (OGEL) in the Indo-Pacific was issued to India last year. The OGEL helps reduce bureaucracy and shorten delivery times for defence procurement.

<https://www.gov.uk/government/news/uk-delegation-supports-atmanirbharta-at-aero-india>



Tue, 14 Feb 2023

China, Pakistan Expand Footprints in the Indian Ocean; India Unwilling to Play a Second Fiddle in QUAD

By KN Pandita

AUKUS, the adjunct to Quad-4, created unease in two of its members, Japan and India. France, not a member of the Quad-4, was angry about discriminatory policy regarding protecting democracy against the onslaughts of totalitarianism.

India wants to overcome the deficiency in its naval establishment. It would wish to convey a message to the US that as a vital link in the Quad-4 owing to its strategic location as the primary power status in the Indian Ocean Region (IOR), it would not lag in having a navy strong enough to play a key role in the security demands of the IOR.

Apart from this, India's compulsion to tick its naval strength lies in extraordinary efforts underway in two of its adversarial neighbors to make their navies powerful and effective.

China's increasing footprints in the Indian Ocean pose a challenge to India's sphere of influence in the region and a security risk to India's Exclusive Economic Zone (EEZ), as these deployments could spy on Indian naval facilities and vessels in the Bay of Bengal and the Arabian Sea.

Prakash Panneerselvan, assistant professor at the National Institute of Advanced Studies in Bengaluru, wrote: "The Indian Ocean is an attractive area of operations for the PLA-N, which, unlike the Western Pacific where the US and Japanese navies heavily patrol, is relatively safe for PLA-N submarines to operate."

Moreover, he adds China's naval base in Djibouti is facilitating those operations. The growing presence of China's hydrographic and surveillance ships and underwater drones in the Indian Ocean may be mapping underwater features and passageways for future submarine operations there.

Pakistan & China: Dual Threat

Pakistan is significantly modernizing its submarine fleet so as not to be far behind India. Pakistan is not content with its military asymmetry with India. Apart from China, Turkey is also helping Pakistan build a strong navy.

In August 2021, Pakistan's Center for International Strategic Studies published an article that said that historically Pakistan Navy had operated a smaller number of ships, submarines, and aircraft vis-à-vis the Indian Navy, with the latter having more resources, assets, and ambitions of controlling the Indian Ocean.

In line with this strategy, Pakistan ordered eight Hangor-class conventional submarines from China, the export variant of China's 039A/041 Yuan Class AIP submarines equipped with Stirling engines, reported Naval News in December.

The report notes that four of the submarines are currently under construction at China's Wuchang Shipbuilding Industry Group (WSIG) and that work on the first of the four submarines built in Pakistan by Karachi Shipyard & Engineering Works (KS&EW) began in December 2022, with the first four to be delivered in 2022-23 and the final four in 2028.

This shows that Indian Navy has to be strong enough to meet twin threats in the Indian Ocean. This being so, there is another compulsion that forces Indian policy planners to take the question of the security of the IOR very seriously.

In January 2022, The Times of India reported that one of India's four Russian-made Kilo-class submarines was sent for refit to Russia, where it got stuck up owing to the Ukraine war. The plan is to sail to Norway, where a sea-lift vessel will bring it to India.

India Reducing Defense Dependence On Russia?

The same newspaper reported that India pushed to reduce its dependence on Russian military equipment. Russia has suffered heavy losses in a war against Ukraine, and its priority would be to refurnish the losses.

The paper said. "Concerns about the effectiveness of its Russian weapons due to heavy losses in Ukraine, the possibility that weapons orders may be redirected or delayed to replace battle losses, and sanctions on Russia's arms industry are all factoring into India's rethink about Russia's viability as its primary weapon provider." The Print of January 30 reported that France and India had signed an agreement to cooperate on air-independent propulsion (AIP) technology to upgrade the latter's Kalvari class submarines, deepening the growing strategic relationship between the two countries.

DRDO statement says that senior officials of DRDO New Materials Research Laboratory and Naval Group (of France) signed the agreement to extend cooperation for the detailed designed phase of integrating India's indigenous AIP into the INS Kalvari with Naval Group certifying the integration.

Asia Times has reported France's assistance to India's 5th generation fighter. At the same time, India's Kalvari class submarines are built under a 2005 technology transfer program with France.

While all these efforts of the Indian government align with its responsibilities in the security of the Indian Ocean Region, more needs to be done.

An article published by The Print in July 2022 reported that India needs help with its ambitious program to acquire 24 submarines by 2030, including its 18 conventional and six nuclear-powered submarines. India operates only 16 submarines, with one nuclear ballistic missile submarine and no AIP subs.

<https://eurasianimes.com/china-pakistan-expand-footprint-in-indian-ocean-india-is-unwilling/>

Tue, 14 Feb 2023

Philippines Accuses China of Using 'Military-grade' Laser Against its Vessels in South China Sea

China should restrain its forces to prevent them committing any "provocative act", the Philippine military said on Monday, after Manila accused China's coast guard of using a laser to try to disrupt a resupply mission to troops in the South China Sea.

The Philippine Coast Guard (PCG) said its vessel was assisting a navy mission to deliver food and supplies to troops on an atoll in the disputed waterway on Feb. 6 when a Chinese coast guard ship directed a "military-grade laser" at the ship, temporarily blinding its crew on the bridge.

"I think it's time for the Chinese government to restrain its forces so that it does not commit any provocative act that will endanger the lives of people," military spokesperson Medel Aguilar told reporters. Aguilar quoted the Philippine defence chief as saying the Chinese action was "offensive and unsafe. The incident took place at the Second Thomas Shoal, 105 nautical miles (195 km) off the Philippine province of Palawan. The shoal is home to a small Philippine military contingent on board a rusty ship. The 100-metre long (330-ft) World War Two ship was intentionally grounded on the shoal, known in the Philippines as Ayungin, in 1999 to reinforce Manila's sovereignty claims in the Spratly archipelago.

<https://economictimes.indiatimes.com/news/defence/philippines-accuses-china-of-using-military-grade-laser-against-its-vessels-in-south-china-sea/articleshow/97888903.cms>



Mon, 13 Feb 2023

NATO Defence Ministers to Address Ukraine, Stockpiles and Critical Infrastructure

NATO Defence Ministers are meeting in Brussels this week (14-15 February 2023) to strengthen the Alliance's deterrence and defence, and step up and sustain for Ukraine. Previewing the meeting on Monday (13 February 2023), NATO Secretary General Jens Stoltenberg noted the urgency of delivering key capabilities to Ukraine before Russia can seize the initiative on the battlefield.

"We are in a race of logistics," he said, stressing that "speed will save lives." Ministers are expected to agree a new level of ambition for NATO defence planning and address ways to increase defence industrial capacity and replenish stockpiles. They will also take steps to increase the protection of critical undersea infrastructure and discuss ways to maintain and step up defence spending across the Alliance.

https://www.nato.int/cps/en/natohq/news_211691.htm

सूर्य की रोशनी धीमी करने की तकनीक पर उठे सवाल

हाल में वैज्ञानिकों के एक समूह को सूर्य की रोशनी धीमी करने की तकनीक विकसित करने के लिए बड़ा निवेश मिला है। इस शोध को लेकर दुनिया भर में बहस छिड़ गई है। हालांकि, शोध में जुटा वैज्ञानिकों का समूह सूर्य को मद्धम कर देने को 'ग्लोबल वार्मिंग' का हल मान रहा है। दूसरी ओर, वैज्ञानिक बिरादरी में ही काफी लोग इससे असहमत हैं। जिन देशों में यह शोध हो रहा है उनमें नाइजीरिया और चिली के अलावा भारत भी शामिल है।

'ग्लोबल वार्मिंग' को रोकने के एक तरीके के रूप में कुछ वैज्ञानिक धूप की तेजी को कम करने की तकनीक पर काम कर रहे हैं और उन्हें बड़ा निवेश मिला है। बहुत से अन्य वैज्ञानिक इस तरीके को खतरनाक मानते हैं और कहते हैं कि यह बारूदी सुरंग पर पांव रखने जैसा है, इसलिए इस शोध को फौरन रोका जाना चाहिए। इस शोध को 'सोलर जियो इंजीनियरिंग' कहा जाता है। सैद्धांतिक रूप से इसमें वैज्ञानिक विमानों या विशाल गुब्बारों के जरिए स्ट्रैटोस्फीयर यानी वायुमंडल की ऊपर परत पर सल्फर का छिड़काव करने की योजना पर काम कर रहे हैं। सल्फर सूर्य की किरणों को परावर्तित कर देगा। इस तरह धरती तक धूप उतनी तेज नहीं पहुंचेगी कि तापमान जरूरत से ज्यादा बढ़ सके।

आगाह किए जाने के बावजूद इस तकनीक पर शोध लगातार जारी है। पिछले सप्ताह को ब्रिटेन की एक समाजसेवी संस्था डिग्रीज इनिशिएटिव ने एलान किया कि 15 देशों में सोलर इंजीनियरिंग पर हो रहे शोध के लिए नौ लाख डालर यानी करीब साढ़े सात करोड़ रुपए उपलब्ध कराए जाएंगे। जिन देशों में यह शोध हो रहा है उनमें नाइजीरिया और चिली के अलावा भारत भी शामिल है। संस्था ने कहा कि यह धन सोलर इंजीनियरिंग के मानसून से लेकर तूफानों और जैव विविधता पर होने वाले प्रभावों का अध्ययन करने के लिए कंप्यूटर मॉडलिंग तैयार करने के लिए दिया जा रहा है। सोलर इंजीनियरिंग को सोलर रेडिएशन माडिफिकेशन भी कहा जाता है। इससे पहले 2018 में भी इस संस्था ने शोध के लिए दस देशों के वैज्ञानिकों को इतना ही धन मिला था। उस वक्त शोध का मकसद दक्षिण अफ्रीका में बढ़ते सूखे या फिलीपींस में चावल की खेती को बढ़ते खतरों का अध्ययन करने के लिए दिया गया था।

अब तक सोलर इंजीनियरिंग संबंधी शोध पर अमीर देशों का ज्यादा अधिकार रहा है और हार्वर्ड व आक्सफर्ड जैसे विश्वविद्यालय इस शोध के अगुआ रहे हैं। 'डिग्रीज इनिशिएटिव' के सीईओ और संस्थापक एंडी पार्कर ने कहा, संस्था द्वारा उपलब्ध कराया जा रहा धन एक साझी परियोजना के लिए है, जिसे 'डिग्रीज इनिशिएटिव', 'ओपन फिलैंथ्रोपी' व 'वर्ल्ड अकैडमी आफ साइंसेज' मिलकर मिलकर चला रहे हैं।

इस तकनीक को लेकर वैज्ञानिकों के एक वर्ग में संदेह जताया जा रहा है। आलोचकों के मुताबिक, जलवायु परिवर्तन से निपटने का एक संभावित रास्ता जीवाश्म ईंधन कंपनियों को कुछ ना करने का बहाना दे सकता है। साथ ही, इस तकनीक से मौसम का चक्र बिगड़ सकता है, जिससे गरीब देशों में गरीबी और बढ़ सकती है।

नाइजीरिया की 'आलेक्स एक्वेमे फेडरल यूनिवर्सिटी में सेंटर फार क्लाइमेट चेंज एंड डेवलपमेंट' के निदेशक चुकवुमेरिये ओकेरेके के मुताबिक, मैं ऐसी सौ चीजें बता सकता हूं जो ग्लोबल वार्मिंग को कम कर सकती हैं और सोलर इंजीनियरिंग उनमें से एक नहीं होगी। वे कहते हैं कि पिछले साल जब जलवायु परिवर्तन पर संयुक्त राष्ट्र के विशेषज्ञों की 48 पेज की रिपोर्ट आई तो उन लोगों ने एसआरएम का जिक्र तक नहीं किया।

एसआरएम के समर्थक कहते हैं कि यह तकनीक ज्वालामुखियों से प्रेरित है। मिसाल के तौर पर 1991 में फिलीपींस में माउंट पिन्याटूबो नाम का ज्वालामुखी फटा था तो आसमान में बिखरी राख ने वैश्विक तापमान को एक साल तक काबू में रखा था। पिछले आठ साल में इतिहास के सबसे गर्म साल गुजरे हैं और औसत तापमान औद्योगिक क्रांति से पहले की तुलना में 1.2 डिग्री सेल्सियस बढ़ चुका है। 2015 के पैरिस समझौते के तहत इसे 1.5 डिग्री सेल्सियस से ज्यादा ना बढ़ने देने की बात कह गई थी। इसलिए वैज्ञानिक तापमान बढ़ने से रोकने के लिए जल्द से जल्द कोई तरीका खोजने पर जोर दे रहे हैं।

<https://www.jansatta.com/national/questions-raised-technique-slowng-down-sunlight/2658366/>

The Tribune

Mon, 13 Feb 2023

International Conference on Maths from March 3

A two-day international conference on "Mathematics in Space and Applied Sciences" will be organized at Netaji Subhash Chandra Bose Memorial Government College here from March 3.

Dr GC Rana, coordinator, said that the objective of this international conference was to provide a platform to academicians, doctors, physicists, astrophysicists, geologists, biologists, engineers and researchers to discuss applications of mathematics in space technology and applied sciences in general. The deliberations of the conference will include invited lectures and paper

presentations by eminent scientists, mathematicians, engineers, doctors, scholars from India and abroad. The main topics of the conference will include applications of mathematics in various fields such as space and defence technology, physics, chemistry, biology, economics, geography, physical education, chemistry, astrophysics, mechanical engineering, electrical and civil engineering, commerce and management, data analysis, modeling and estimation, operational analysis, etc. Dr Chandan Bhardwaj, Principal of the college, said that there would be about 10 invited lectures during the conference. These would include lectures from Prof G P Rao from United Arab Emirates, Prof Malkoswki from Germany, Prof Kimura from Japan, Prof Hazal from Turkey, Dr SK Paul from DRDO, Prof Gajender Pratap Singh from JNU, New Delhi, Dr Rajesh Verma, Deputy Director Forensic Science Lab, Mandi, Prof J Pratap Kumar from Gulbarga University and Prof JS Dhiman from Himachal Pradesh.

He said about 200 scientists, mathematicians, engineers, doctors, educationists and research scholars would also participate in the conference.

<https://www.tribuneindia.com/news/himachal/international-conference-on-maths-from-march-3-479567>

नवभारत टाइम्स

Tue, 14 Feb 2023

आसमान में अनजान चीजों के पीछे एलियंस?

चीनी गुब्बारे के बाद तीन अनजान चीजें गिराई गईं।

F-16 विमान

10 फरवरी डेडहॉर्स, अलास्का

11 फरवरी युकोन, कनाडा

12 फरवरी लेक हुरोन, मिशिगन

4 फरवरी मिर्टल बीच पर गिरा था चीनी गुब्बारा

अमेरिकी जनरल ने कहा- इससे इनकार नहीं, तीन दिन में तीसरी चीज गिराई

हम इस संभावना से इनकार नहीं कर रहे हैं कि मार गिराई गई चीजों का नाता एलियंस से नहीं है। -जनरल ग्लेन वानहर्क (अमेरिकी वायुसेना)

■ पीटीआई, वॉशिंगटन

अमेरिका-कनाडा बॉर्डर के पास रविवार को आसमान में एक और अनजान दिखी, जिसे अमेरिकी वायुसेना ने अपने F-16 विमान से देर रात मार गिराया। तीन दिन में यह तीसरा ऑब्जेक्ट है, जिसे यों गिराया गया है। एक दिन पहले शनिवार को कनाडा के ऊपर नजर आई बेलनाकार चीज को गिराया गया था। उससे पहले शुक्रवार को अमेरिका ने अपने अलास्का के ऊपर उड़ती चीज को गिराया था। लेकिन ये चीजें क्या हैं और इनका मकसद क्या है, इन सवालों के जवाब नहीं मिल सके हैं। अमेरिका के साथ कैरलाइन में 4 फरवरी को चीनी गुब्बारे को मार गिराने के बाद से ऐसी घटनाओं ने रहस्य गहरा दिया है। इन अनजान आसमानी चीजों ने एलियंस की मौजूदगी को भी हवा दी है।

- **मुद्दा क्यों है अहम:** उत्तरी अमेरिका यानी अमेरिका और कनाडा के आसमान में अनजान फ्लाईंग ऑब्जेक्ट्स दिखने और उन पर अमेरिकी वायुसेना के हमलों की संख्या बढ़ने से नए सवाल खड़े हुए हैं। हाल की तीन चीजों के मलबे को अभी तक तलाशा भी नहीं जा सका है। न तो अमेरिका और न ही कनाडा, इस बारे में कोई ठोस बात कहने की स्थिति में है। अमेरिका में विपक्ष इसे राष्ट्रपति जो बाइडन के खिलाफ मुद्दा बना रहा है।
- **चौथी चीज कहाँ गिराई?** अमेरिकी रक्षा विभाग पेंटागन ने कहा कि मिशिगन की हूरोन झील के ऊपर यह ऑब्जेक्ट करीब 20 हजार फुट की ऊंचाई पर उड़ रहा था। यह अष्टकोणीय चीज थी, जिसमें कुछ तार लटके थे। इससे यात्री विमानों को खतरा था। इसके आबादी के ऊपर भी गिरने की आशंका थी, इसलिए इसे मार गिराया गया।

अमेरिकी राष्ट्रपति जो बाइडन के निर्देश पर वायुसेना के F-16 लड़ाकू विमान ने AIM9X मिसाइल से इस ऑब्जेक्ट पर हमला किया। अमेरिकी प्रशासन ने इस मामले से जुड़ी कोई फोटो या विडियो जारी नहीं की है। अमेरिका ने इस बारे में संकेत नहीं दिया है कि यह वस्तु जासूसी क्षमताओं से लैस थी, लेकिन इस बात से अभी इनकार भी नहीं किया गया है। अमेरिकी मीडिया में कहा गया है कि इस बारे में कोई संकेत नहीं है कि इन अज्ञात चीजों का चीनी जासूसी गुब्बारे से कोई संबंध है, लेकिन लगता है कि राष्ट्रीय सुरक्षा पर अधिकारी तनाव में हैं।



अमेरिका ने चीन को गुब्बारे का मलबा नहीं दिया है।

एलियंस पर क्या बोले अफसर?

चौथे ऑब्जेक्ट को गिराए जाने के बाद उत्तरी अमेरिकी हवाई क्षेत्र की निगरानी करने वाले अमेरिकी वायुसेना के जनरल ग्लेन वानहर्क ने कहा कि एलियंस या किसी अन्य वस्तु के होने से इनकार नहीं किया जा सकता है। मैं खुफिया एजेंसी और काउंटर इंटेलिजेंस को इसके बारे में पता लगाने को कहूंगा, मैंने किसी भी चीज से इनकार नहीं किया है। हम हर संभावित खतरे का आकलन करना जारी रखेंगे। हम तुरंत यह तय करने में असमर्थ हैं कि आखिरी तीनों फ्लाईंग ऑब्जेक्ट कहाँ से हमारे देश के हवाई क्षेत्र में आए। हम उन्हें ऑब्जेक्ट कह रहे हैं, गुब्बारा नहीं। 4 फरवरी को अमेरिका में मोंटाना के एयर बेस के ऊपर कई दिन तक उड़ने के बाद चीनी गुब्बारे को साउथ कैरलाइना के तटीय क्षेत्र में गिराया गया था।

10 बार हमारे एयर स्पेस में घुसे अमेरिकी गुब्बारे: चीन

■ **एएफपी, पेइचिंग:** गुब्बारे पर अमेरिका से तलखी के बीच चीन ने सोमवार को आरोप लगाया कि जनवरी 2022 से अब तक 10 बार से ज्यादा हमारे हवाई क्षेत्र में अमेरिका ने जासूसी गुब्बारे भेजे हैं। चीन के विदेश मंत्रालय ने कहा कि किसी भी बैलून का दूसरे देश में घुस जाना सामान्य बात है। साल 2022 से अब तक 10 अमेरिकी गुब्बारे चीन में घुस चुके हैं। जब उनसे पूछा गया कि चीन ने उन कथित घुसपैठ का कैसे जवाब दिया? तो प्रवक्ता ने कहा कि चीन का इन घटनाओं से निपटने का तरीका जिम्मेदारी से भरा और पेशेवर था। अगर आप चीन के हवाई क्षेत्र में अवैध रूप से प्रवेश करने वाले उच्च ऊंचाई वाले गुब्बारों के बारे में अधिक जानना चाहते हैं, तो मेरा सुझाव है कि आप अमेरिका को देखें। अमेरिका ने चीन के आरोप को गलत बताया है।

मस्क ने कहा, एलियंस मिलने आ रहे हैं



■ उत्तरी अमेरिका में अनजान चीजों के दिखने के बीच ट्विटर के मुखिया इलॉन मस्क ने कहा कि चिंता मत करिए, मेरे कुछ एलियंस दोस्त मुझसे मिलने आ रहे हैं। मस्क का यह ट्वीट सोशल मीडिया पर वायरल हो रहा है।

© The news items are selected by Defence Science Library, DESIDOC from Print Newspapers and Authentic Online News Resources (mainly on DRDO, Defence and S&T)