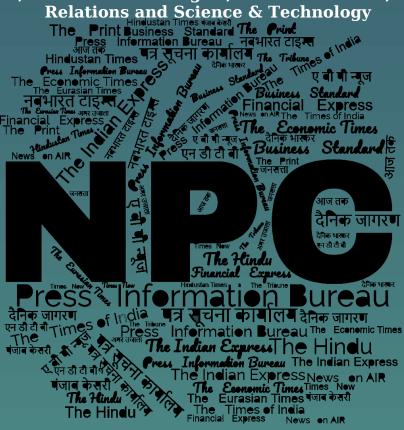
दिसंबर Dec 2023 खंड/Vol.: 48 अंक/Issue: 232

12/12/2023

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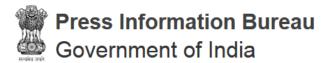
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Defence News

Defence Strategic: National/International



Ministry of Defence

Mon, 11 Dec 2023

Indian Armed Forces Contingent Reaches Hanoi for Joint Military Exercise "VINBAX-2023"

The Indian Armed Forces contingent comprising 45 personnel reached Hanoi, Vietnam to take part in the fourth edition of Joint Military Exercise VINBAX-2023. The exercise will be conducted at Hanoi, Vietnam from 11th to 21st December 2023. The Indian contingent comprises 39 personnel from an Engineer Regiment of Bengal Engineer Group and six personnel of Army Medical Corps. The Vietnam People's Army contingent will also be represented by 45 personnel.

Exercise VINBAX was instituted in 2018 and the first edition was conducted at Jabalpur, Madhya Pradesh. It is an annual training event conducted alternatively in India and Vietnam. Last edition was conducted at Chandimandir Military Station in August 2022.

Aim of the exercise is to foster collaborative partnership, promote inter- operability and share best practices between the two sides under Chapter VII of United Nations Charter on Peace Keeping Operations. The exercise will be conducted as a Command Post Exercise cum Field Training Exercise with focus on deployment and employment of an Engineer Company and a Medical Team.

The joint exercise will encourage exchange of ideas and both contingents will jointly rehearse tactics, technique and procedures. Ideas will be exchanged on modern methods to construct roads, culverts, helipads, ammunition shelter and observation posts in operational areas. In addition, rehearsals will be carried out for drills related to combat engineering and combat medical tasks.

The Exercise will culminate with a Validation Exercise, wherein standards attained by both contingents will be showcased. Both sides will conduct technical military operations in accordance with scenarios akin to worldwide deployment of United Nations' contingents.

The joint exercise will help in promoting understanding and interoperability between the two contingents and further strengthen the defence cooperation between the friendly armies.

https://pib.gov.in/PressReleasePage.aspx?PRID=1984894



Mon, 11 Dec 2023

Defence Ministry's Technology Development Fund Sanctions 70 Projects Involving Rs 291 Crore so far

The Technology Development Fund (TDF) scheme under the Ministry of Defence, which aims to boost MSMEs and startups' engagement in designing and development of various defence technologies indigenously, has so far sanctioned 70 projects amounting to Rs 291.25 crore to various industries. In addition, 16 defence technologies have been successfully developed/realised under the scheme, informed Ajay Bhatt, Minister of State in the Defence Ministry in a written reply to a question in the Lok Sabha.

Launched in 2016 and executed by the Defence Research and Development Organisation (DRDO) under the Make in India programme, the scheme provides grant-in-aid to industries, including MSMEs and startups along with academic and scientific institutions for the development of defence and dual-use technologies currently not available with the Indian defence industry.

Bhatt said the scheme aims to engage with the private industries especially MSMEs and startups to bring in the culture of design & development of military technology and create a bridge amongst the armed forces, research organizations, academia and qualifying/certifying agencies with private sector entities.

As of August 2023, the government has allocated Rs 260 crore under the scheme since its inception. Sharing the data in the Bhatt had informed that out of the amount allocated, Rs 64.35 crore was disbursed as a grant-in-aid to industries, FE Aspire had reported.

The scheme enables two funding mechanisms; first, the DRDO share of the project cost is paid in a maximum of five instalments in the form of reimbursement upon successful achievement of milestones by businesses. Second, advance funding of the project subject to a maximum of five milestones of the project.

Importantly, Defence Minister Rajnath Singh at an event in November this year had said the government has reserved 75 per cent of the defence capital acquisition budget for purchases from local companies, which will strengthen MSMEs. The 75 per cent reservation amounts to around Rs 1 lakh crore, Singh had said inaugurating the three-day India Manufacturing Show in Bengaluru jointly organised by Laghu Udhyog Bharti & IMS Foundation.

Meanwhile, during the monsoon session of the parliament this year, Bhatt had informed the Lok Sabha that over 30,000 defence items by defence public sector units (DPSUs) and services on the Srijan portal (which lists items that can be taken up for indigenisation by the private sector) were offered to the industry including MSMEs to become partners in the indigenisation process.

The defence ministry had nearly doubled its online procurement of goods and services from MSMEs and other sellers in FY23 from the previous fiscal via the Government e-Marketplace (GeM) marketplace. The ministry had made purchases worth Rs 28,732.9 crore in FY23, up by 90.4 per cent from Rs 15,090.8 crore worth of goods and services bought in FY22, according to GeM, FE Aspire had reported.

https://www.financialexpress.com/business/sme/defence-ministrys-technology-development-fund-sanctions-70-projects-involving-rs-291-crore-so-far/3335170/

THE TIMES OF INDIA

Tue, 12 Dec 2023

IMA Prepares Ground for Induction of Female Cadets

With a notable change in nomenclature of addressing trainees from 'gentlemen cadets' to a more gender-neutral 'officer cadets' at the recent passing out parade at the Indian Military Academy (IMA), decks are being cleared to induct female cadets in the elite institution in near future, Army sources confirmed to TOI on Monday.

One of the senior army officers attached to the ministry of defence said the move is to "introduce gender-neutrality in the academy considering the probability of female cadets being enrolled in future."

The officer added: "Significant changes have already been made in key institutes such as the National Defence Academy (NDA) and the Rashtriya Indian Military College (RIMC) which have allowed admission of girls. This is the first move in this direction as far as IMA is concerned. There will be more steps as per the institution's requirement."

The move at IMA was also reflected in the official press communique issued by the academy on Saturday in which it addressed the trainees as 'officer cadets', making a departure from the term 'gentlemen cadets' or GCs which is how the trainees had been addressed till now.

Notably, the Centre allowed girls in the NDA a couple of years ago. RIMC also admitted two female students in its July 2022 batch, making it a first in the institution's over 100-year history.

Meanwhile, veterans termed the development as "a significant one". "Considering similar steps taken by NDA and RIMC in the recent past, it is a welcome move which would help promote further inclusivity in the Army," said Lt Gen Mohan Bhandari (retd).

 $\underline{https://timesofindia.indiatimes.com/city/dehradun/ima-prepares-ground-for-induction-of-female-cadets/articleshow/105916388.cms$



Mon, 11 Dec 2023

Indian Army, Vietnamese Forces Begin 11-Day Military Exercise in Hanoi

The Indian and Vietnamese armies began an 11-day military exercise in Vietnam on Monday, in sync with the expanding strategic engagement between the two countries against the backdrop of common concerns over China's increasingly aggressive behaviour in the South China Sea.

The aim of the exercise is to foster a collaborative partnership and promote interoperability between the two forces, the Indian Army said.

'The joint exercise will help in promoting understanding and interoperability between the two contingents and further strengthen the defence cooperation between the friendly armies,' it said.

In reflection of the growing strategic ties, India gifted its in-service missile corvette, INS Kirpan, to Vietnam in July.

Vietnam, an important country of the ASEAN (Association of Southeast Asian Nations), has territorial disputes with China in the South China Sea region.

India has oil-exploration projects in the Vietnamese waters in the South China Sea.

The military exercise -- 'VINBAX-23' -- between the two armies will take place from December 11 to 21 in Hanoi.

The Indian contingent comprises 45 personnel -- 39 from an engineer regiment of the Bengal Engineer Group and six from the Army Medical Corps.

The Vietnam People's Army has deployed 45 personnel for the drill.

VINBAX was instituted in 2018 and the first edition of the joint military exercise was conducted at Jabalpur in Madhya Pradesh.

It is an annual training event conducted alternately in India and Vietnam.

The last edition was conducted at the Chandimandir military station in August 2022.

"The aim of the exercise is to foster collaborative partnership, promote interoperability and share best practices between the two sides under Chapter VII of UN Charter on Peacekeeping Operations," the Indian Army said in a statement.

"The exercise will be conducted as a command post exercise-cum-field training exercise with focus on deployment and employment of an engineer company and a medical team," it added.

The Army said the exercise will encourage exchange of ideas and both contingents will jointly rehearse tactics, technique and procedures.

"Ideas will be exchanged on modern methods to construct roads, culverts, helipads, ammunition shelters and observation posts in operational areas. In addition, rehearsals will be carried out for drills related to combat engineering and combat medical tasks," it said.

The drill will culminate with a validation exercise, wherein the standards attained by both contingents will be showcased.

"Both sides will conduct technical military operations in accordance with scenarios akin to worldwide deployment of United Nations' contingents," the Army said.

https://www.deccanherald.com/india/indian-army-vietnamese-forces-begin-11-day-military-exercise-in-hanoi-2805754

THE ECONOMIC TIMES

Mon, 11 Dec 2023

Captain Fatima Wasim Becomes First Woman Medical Officer to be Deployed to Operational Post on Siachen Glacier

Captain Fatima Wasim of the Siachen Warriors created history by becoming the first woman medical officer to be deployed to an operational post on the Siachen Glacier, said the Indian Army's Fire and Fury Corps in a post on X.

"She (Captain Fatima Wasim) was inducted to a post at an altitude of 15,200 feet after undergoing rigorous training at Siachen Battle School, which speaks of her indomitable spirit and high motivation," Fire and Fury Corps posted on X.

The Indian Army's Fire and Fury Corps also uploaded a video in the post to further highlight Captain Fatima Wasim's achievement and celebrate it.

Earlier this month, Captain Geetika Koul from the Snow Leopard Brigade became the first woman medical officer of the Indian Army to be deployed at the world's highest battlefield, Siachen, after successfully completing the induction training at Siachen Battle School.

Siachen Glacier is known as the highest-altitude battle site in the world and is situated near the Indo-Pak Line of Control.

It is the largest glacier in India and the second-largest in the world. It is the highest battleground on earth.

https://economictimes.indiatimes.com/news/defence/captain-fatima-wasim-becomes-first-woman-medical-officer-to-be-deployed-to-operational-post-on-siachen-glacier/articleshow/105895102.cms



Mon, 11 Dec 2023

Indian Navy's Operational Demo in Andhra Showcases Maritime Prowess

Visakhapatnam's RK Beach came alive with the celebration of Navy Day as the Eastern Naval Command showcased an Operational Demonstration (Op Demo) featuring maritime combatants. The event, held annually, treated the gathered crowds to an evening filled with action-packed displays by Indian Navy personnel.

Spectators flocked to the venue to witness the demonstrations, providing a firsthand look at the Navy's operational capabilities and commitment to maritime security. The Navy Day Operational Demonstration, usually scheduled for December 4 every year, was postponed due to heavy rains caused by Cyclone Michaung and took place on Sunday. State Governor S Abdul Nazeer attended the celebrations as the chief guest, accompanied by ENC Flag Officer Commanding-in-Chief (FOC-in-C) Vice Admiral Rajesh Pendharkar.

The Navy Day commemorates the Indian Navy's pivotal role in the 1971 Indo-Pak war, specifically its triumph in 'Operation Trident'. The Op Demo unfolded as a flagship event in the city, featuring tactical manoeuvres executed by warships and submarines and a captivating display of air power, highlighting fighter aircraft, reconnaissance planes, and helicopters.

The Navy's Marine Commandos (MARCOS) demonstrated simulated combat operations against mock enemy targets, showcasing precision and expertise. The active participation of numerous indigenous platforms underscored the Navy's commitment to an 'Aatmanirbhar Bharat'. Notable elements of the event included the Detonation of Charge/Water Plume, Hawk Bomb Burst, Submarine Sail Past, Horn Pipe Dance by SCC, Amphibious Demo, Manoeuvres by Fleet Ships, SAR Demo, Helicopter Landing Demo, High-speed Run by ISVs and FICS, Anti-Submarine Rocket Firing, Composite Fly Past, Beating Retreat, etc.

The demonstration culminated in a spellbinding beating retreat by the Navy's Band during the Sunset Ceremony, complemented by the silhouette illumination created by the ships. The public's response was marked by enthusiasm and appreciation, evident through audible cheers.

The daredevil commandos, displaying remarkable skill in skydiving, descended to the ground with the Indian flag and Naval flag and later presented a souvenir to Governor Abdul Nazeer. The sunset ceremony and ship illumination served as a fitting conclusion, leaving spectators with a sense of satisfaction.

Following the Op Demo, Vice Admiral Rajesh Pendharkar, hosted a distinguished 'At Home Function' at Navy House in Visakhapatnam. During the event, the Governor interacted with flag officers, civil dignitaries, and distinguished guests.

https://www.newindianexpress.com/states/andhra-pradesh/2023/dec/11/indian-navys-operational-demo-in-andhra-showcases-maritime-prowess-2640481.html

THE ECONOMIC TIMES

Tue, 12 Dec 2023

India-USA-Taiwan Launch Workshop on Cyber Security Ahead of Polls in 3 Countries in 2024

The Taipei Economic and Cultural Center (TECC) in India in collaboration with the United States Embassy and the United Service Institution of India organised a workshop on collaboration on Cyber Security under the Global Cooperation and Training Framework(GCTF) on 11 and 12 December 2023.

It was conducted in a hybrid seminar cum interactive discussion format, covering core aspects of cybersecurity, information infrastructure and processes need to sustain the increasingly digital

base of economic activity and development. The workshop was attended by key policy makers, technical specialists, and the private sector with an international background.

The opening remarks by BK Sharma DG USI highlighted the efforts being made by the USI and about its Cyber Centre of Excellence in collaboration with CyberPeace Foundation. Baushuan Ger, Taiwan Representative to India stressed on the need for collaborative efforts to counter the growing threat of cyber-related attacks. "Especially Taiwan, India and the US will have General Elections in 2024, cooperation on cyber threats among democratic and like-minded countries is crucial for our shared prosperity and security," according to a statement by TECC.

US Ambassador to India, Eric Garcetti, remarked that technological collaboration was essential to safeguard cyberspace in US, India and Taiwan and highly value the semiconductor partnership with Taiwan and iCET with India. The former National Cyber Security Coordinator, Gen Rajesh Pant delivered the keynote address. He pointed out the high risk of geopolitics on cyber security and the importance of supply chain friend shoring. Anshuman Tripathi, Member National Security Advisory Board, PMO spoke highly of the Taiwanese secure cyber system,

US advanced technology and abundant engineers from India. Close tri-partnership will be hugely beneficial for dealing with future challenges and opportunities.

The sessions focussed on Building a Sustainable Digital Economy based on AI, and Dealing with Cyber Crime. Dr Chia-Mu Yu, of the National Institute of Cybersecurity, Ministry of Digital Affairs, Mr Jian-Lung Lin, Director of High-Tech Crime Center of the Taiwan Ministry of Interior Affairs spoke on mitigation measures for crime prevention and Mr Ming-Jen Wu of the Department of Communications and Cyber Resilience also spoke on safeguarding critical information infrastructure.

As India goes digital in almost all spheres of commercial and individual activity, the urgency to address cybercrime and the dark side of the digital world has risen in focus. Maj Gen Pawan

Anand, said that this workshop under the GCTF framework is a stepping stone to larger collaborative frameworks required by like-minded state actors despite the borderless nature of cyberspace.

https://economictimes.indiatimes.com/news/india/india-usa-taiwan-launch-workshop-on-cyber-security-ahead-of-polls-in-3countries-in-2024/articleshow/105921572.cms



Mon, 11 Dec 2023

Iran Bolsters its Air Defence Capabilities with Drones Armed with Majid Missiles

Images released by the Iranian Defense Ministry show the launch and demonstration of Karrar drones, which are equipped with air-to-air missiles, according to state media reports. The drones have an operational range of up to 1,000 kilometres and can fly at an altitude of 49,000 feet. Images also show the drone destroying an airborne target.

https://www.wionews.com/videos/iran-bolsters-its-air-defence-capabilities-with-drones-armed-with-majid-missiles-668565



Mon, 11 Dec 2023

PLAAF J-16 Brigade Adopts AR for Maintenance

Another Chinese People's Liberation Army Air Force (PLAAF) air brigade has converted from legacy aircraft to new 4.5-generation Shenyang Aircraft Corporation (SAC) J-16 fighter aircraft. During the transition, the brigade also adopted augmented reality (AR) and "intelligent" maintenance technologies, state-owned media said.

In footage aired on 7 December, the Chinese state-owned broadcaster, China Central Television (CCTV), said the unit is part of the PLA's Eastern Theater Command. Janes, which has assessed the video imagery and geolocated the airbase, has determined that this unit is likely the 84th Air Brigade at Jiaxing.

This makes the 84th Air Brigade the 12th combat brigade in the PLAAF equipped with J-16s (apart from three training brigades equipped with the type), according to Janes inventory and orbat data. Jiaxing is about 90 km southwest of Shanghai. This air brigade was previously equipped with Xi'an Aircraft Company (XAC) JH-7A attack aircraft.

CCTV said the brigade has been provided with what the PLAAF calls a "Mixed Reality Maintenance Centre". The imagery showed PLAAF personnel conducting maintenance assisted by AR technologies. "Changing the aircraft engine is a very complex day-to-day work that requires not only foolproof quality but precision and reliable speed," a member of the air brigade said. "Through long-term use, the brigade has studied and innovated the use of mixed reality maintenance systems. A virtual disassembly of the engine prior to inspection has been realised."

https://www.janes.com/defence-news/news-detail/plaaf-j-16-brigade-adopts-ar-for-maintenance

Science & Technology News



Mon, 11 Dec 2023

How Aditya L1's SUIT Pictured Sun? New ISRO Video Reveals Operation

The Indian Space Research Organisation (ISRO) has released visuals showcasing the shutter operation of the Solar Ultraviolet Imaging Telescope (SUIT) instrument aboard Aditya L1. This instrument has recently achieved success in capturing the first full-disk images of the Sun in the 200-400 nm wavelength range.

The video, captured on December 5 by onboard camera, shows the opening and closing of the SUIT probe's aperture, facilitating the entry of solar radiation into the payload and to the thermal filters.

"If all of the radiation from the Sun is allowed to enter the optical cavity, the mirrors and the detector would get damaged due to overheating," said Manish Purohit, former ISRO scientist.

To prevent this, Purohit added, a metal-dielectric thermal filter is employed, reflecting the majority of solar flux below 200 nm and above 400 nm. Only 1 per cent of the flux in this range is transmitted to SUIT's main optical chamber, he added.

Purohit detailed the use of two filter wheels with distinct filters to balance fluxes at the detector across frequency bands.

"There are two filter wheels with different filters to balance the fluxes at the detector in different frequency bands. The two filter wheels can be driven independently to achieve the desired combination. The shutter mechanism is used to control the exposure with different filter combinations to achieve the desired signal-to-noise ratio," he explained.

The SUIT probe on Aditya-L1 provided scientists with insights into sunspots and various regions on the Sun, aiding in the study of its outer layers—the photosphere and chromosphere. These observations are crucial for understanding the interconnection of the Sun's magnetic atmosphere and the impact of solar radiation on Earth's climate.

Launched on September 2 by the ISRO, Aditya L1 is India's inaugural space mission to study the Sun. To be positioned in a halo orbit around Lagrange point 1 (L1) of the Sun-Earth system, approximately 15 lakh km from Earth, the spacecraft boasts a unique advantage of continuously observing the Sun without interruptions.

This unobstructed view enables real-time monitoring of solar activities and their impact on space weather, marking a significant stride in solar research.

https://www.hindustantimes.com/technology/how-aditya-l1-s-suit-pictured-sun-new-isro-video-reveals-operation-101702300930490.html



Mon, 11 Dec 2023

Is this the Future of Aviation? 'Blended Wing Design' Promises a Sustainable Leap forward by 2030

In the relentless pursuit of more sustainable aviation solutions, industry giants Airbus and Boeing are reportedly exploring groundbreaking designs to significantly reduce carbon emissions and fuel consumption. The latest contender said to be gaining traction is the "blended wing design," which promises a staggering 50 percent reduction in fuel burn and carbon emissions. This innovative concept is capturing the attention of aviation enthusiasts and has prompted California-based company JetZero to capitalize on the potential of this groundbreaking technology.

The blended wing design is not a new concept; its origins can be traced back to the late 1920s in Germany. However, it wasn't until American aircraft designer Jack Northrop's creation in 1947 that the concept gained momentum. Today, companies like JetZero are perfecting and advancing the blended wing design, with over 120 successful test flights conducted between 2007 and 2012.

Key features and advantages

The blended wing design, resembling the B-2 bomber but with a more voluminous middle section, presents a radical departure from traditional aircraft structures. The wide, flattish fuselage seamlessly integrates with the wings, eliminating the conventional separation between the two. This design reduces drag, significantly improving fuel economy, increasing payload capacity, and creating a unique cabin space.

JetZero asserts that the blended wing aircraft, with a wingspan slightly greater than a Boeing 747, can operate from existing airport terminals. Additionally, it is projected to weigh less, generate less noise and emissions, and cost less to operate compared to conventional transport aircraft with similar technological advancements.

Environmental impact and sustainability

The environmental implications of the blended wing design are profound. According to Tom O'Leary, co-founder and CEO of JetZero, achieving a 50 percent reduction in fuel burn and carbon emissions represents a groundbreaking leap forward for the aviation industry. With the global push for carbon neutrality, the blended wing design could play a pivotal role in mitigating the environmental impact of air travel.

"We feel very strongly about a path to zero emissions in big jets, and the blended wing airframe can deliver 50 per cent lower fuel burn and emissions. That is a staggering leap forward in comparison to what the industry is used to," O'Leary told CNN.

NASA's endorsement of the blended wing design further emphasizes its potential to revolutionize air travel. The reduction in drag not only increases fuel efficiency but also creates opportunities for larger payload areas in the central body of the aircraft. This could lead to more efficient cargo and passenger transportation, contributing to a greener and more sustainable aviation industry.

The road ahead

JetZero envisions the first blended wing aircraft taking to the skies by 2030. Positioned as a replacement for the Boeing 767, the futuristic jet aims to accommodate at least 250 passengers and boast a range exceeding 5,000 nautical miles. As the aviation industry braces for the future, the

blanded wing decign represents a promising step towards achieving gave emissions in lay	ran inta			
blended wing design represents a promising step towards achieving zero emissions in lar aligning with the industry's commitment to sustainable practices.	ge jets,			
The blended wing design emerges as a beacon of hope in the quest for environmentally co aviation. With the potential to redefine air travel, reduce carbon emissions, and enhance ope efficiency, this innovative concept offers a glimpse into the future of sustainable flight. As and other industry players work towards bringing the first blended wing aircraft to reality, the of 2030 may witness a transformative shift towards a greener and more sustainable era in av	rational JetZero ne skies			
https://newsable.asianetnews.com/world/is-this-the-future-of-aviation-blended-wing-design-				
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