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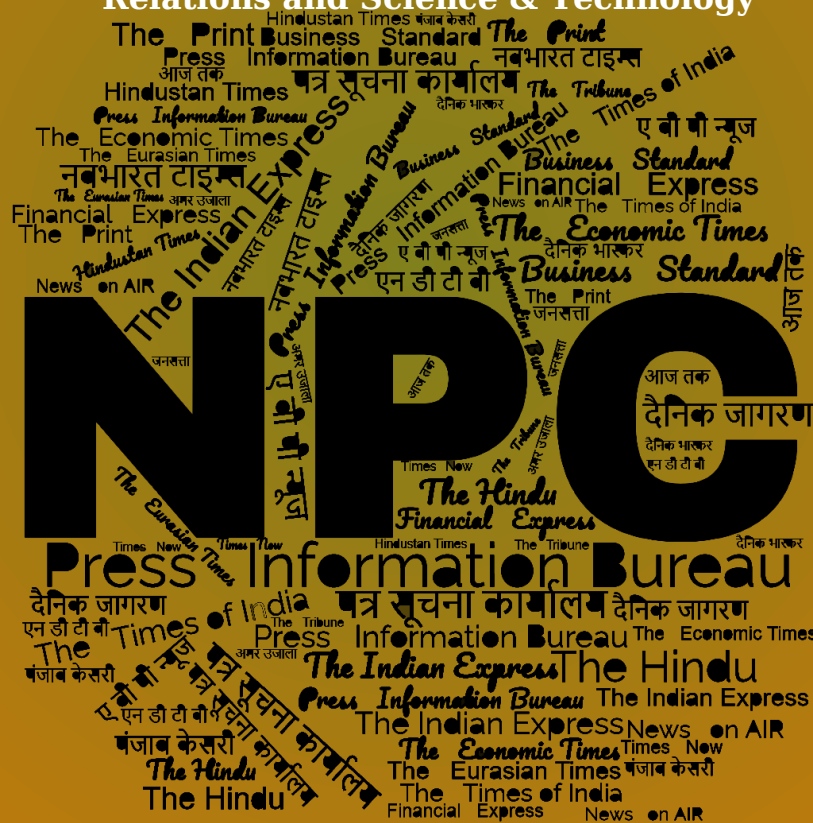
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डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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THE ECONOMIC TIMES

Tue, 13 Feb 2024

New Fighter Jet Version by March, LCA Mk2 by 2027

The latest version of the indigenous Light Combat Aircraft (LCA) is likely to be ready for delivery by next month and work on an even more capable version is underway, with production likely to commence by 2027, senior defence officials have told ET.

The LCA Mk1A, which was cleared for procurement by the Centre in 2021, will add the much-needed numbers to the fighter jet strength of the Air Force and is much more capable than the earlier version, as it is equipped with new age radars, electronic warfare systems and mid-air refuelling features.

Officials said that the project is on track to meet the deadlines and the first of the 83 LCA Mk1A jets on order is likely to be ready by next month. By August this year, at least four of the jets are likely to be delivered. Production could taper down next year as there have been some delays in deliveries of engines for the jets but efforts are being made to minimise the gap.

Besides the 83 aircraft on order, the government is also processing a case to acquire an additional 97 of the jets, which will require a significant scaling up of the production rate. As of now, the country has the capability to produce eight fighter jets a year, which is being scaled up to 16 a year. Plans are in place to scale this up further to 24 LCA Mk1A fighter jets annually.

Sources said that the broad plan is to complete all deliveries of the Mk1A at the shortest possible time to ensure that production capacity is available for the next version — the LCA Mk2. This version will be powered by more capable engines — the GE 414 — which will also be produced in India under a technology transfer deal.

Officials said the first LCA Mk2 is expected to be ready for serial production by 2027 and work is already underway to get the prototype ready. They added that jigs and fixtures to produce the aircraft are already in place and work is progressing as per schedule for the first flight. The MK2 will be capable of staying in the air longer than previous versions and will also have significantly more weapons payload capacity.

For the next generation Advanced Multirole Combat Aircraft (AMCA), officials said that final clearances are being processed and the project would follow the Special Purpose Vehicle (SPV) model. This will see an SPV formed between DRDO, Hindustan Aeronautics Limited and a private sector company.

<https://economictimes.indiatimes.com/epaper/delhicapital/2024/feb/13/et-poli/new-fighter-jet-version-by-march-lca-mk2-by-2027/articleshow/107639591.cms>



Press Information Bureau
Government of India

Ministry of Defence

Mon, 12 Feb 2024

Raksha Rajya Mantri Shri Ajay Bhatt Visits HQ Western Command, NCC Group HQ and Terminal Ballistics Research Lab in Chandigarh

Raksha Rajya Mantri Shri Ajay Bhatt visited the Headquarters Western Command in Chandimandir on 12 February 2024. He was briefed on Operational & Security situation and the administrative aspects by Lt Gen Manoj Kumar Katiyar, GOC-in-C Western Command. Shri Ajay Bhatt also visited 474 Engineer Brigade, where he was briefed on operational capabilities & readiness of the Kharga Sappers. He witnessed the training activities and later interacted with troops of both Zirakpur and Chandimandir military stations.

Shri Ajay Bhatt commended the yeoman service being done by Western Command in running a Rehabilitation Centre at Mohali and a Senior Veterans' Home at Panchkula. He appreciated the operational preparedness and high state of morale of troops and exhorted them to continue to serve and defend the nation with the same zeal and enthusiasm.

Earlier, Raksha Rajya Mantri visited the NCC Group Headquarter, Chandigarh. He inspected the ceremonial guard and witnessed a cultural programme presented by NCC cadets. Speaking on the occasion, he exhorted the NCC cadets to excel in all walks of life and become good citizens. He shared his experience as an NCC cadet with the 250 cadets gathered there.

Later, Raksha Rajya Mantri visited the Terminal Ballistics Research Laboratory (TBRL), Chandigarh and took stock of the ongoing research and projects. TBRL is one of the major DRDO labs in the field of armament studies, conducting basic and applied research in the fields of high explosives, detonics and shock waves. It is also involved in evolving data and design parameters for new armaments, as well as assessing the terminal effects of ammunition.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2005381>



**Press Information Bureau
Government of India**

Ministry of Defence

Mon, 12 Feb 2024

IAF Team Inducts for the Singapore Air Show 2024

A team of 71 personnel of Indian Air Force's (IAF) Sarang Helicopter Display Team landed at the Paya Lebar Air Base of Singapore to participate in the Singapore Air Show 2024. The world renowned Sarang Helicopter Display Team will be showcasing its spectacular aerobatics manoeuvres at this event with five Advanced Light Helicopters (ALH) also known as 'Dhruv'. The induction was carried out with the IAF's C-17 Globemaster III heavy lift transport aircraft.

The biennial Singapore Air Show is scheduled to commence on 20 Feb 24 and shall conclude on 24 Feb 24. The show features various aerial displays from participants from all over the globe.

The Sarang Helicopter Display Team was formed in 2003 and it is noteworthy that their very first International public performance was in 2004, at Asian Aerospace Show Singapore itself. Initially formed and raised as a three helicopter formation, the Sarang team now boasts of a thrilling five-helicopter display and has performed over 1200 displays at more than 385 venues all around the globe.

The 'Dhruv' helicopter, designed and conceived by Hindustan Aeronautics Limited is an all-weather, multi-mission capable helicopter. It features rigid, hinge-less rotors making it highly manoeuvrable and suitable for military roles. The variant of ALH flown by Sarang team is ALH MK-I. The other variants are ALH Mk-II, ALH MK-III and the latest variants is ALH MK IV, an armed version.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2005395>



**Press Information Bureau
Government of India**

Ministry of Defence

Mon, 12 Feb 2024

Raksha Mantri Unveils the Statue of India's First Chief of Defence Staff Late General Bipin Rawat in Dehradun

General Rawat will always be an inspiration to future generations: Shri Rajnath Singh
“Govt upholds the dignity of soldiers & honours their invaluable contribution to nation building”

Raksha Mantri Shri Rajnath Singh unveiled a life-size statue of late General Bipin Rawat - the country's first Chief of Defence Staff (CDS) - at TonsBridge School, Dehradun in the presence of Uttarakhand Chief Minister Shri Pushkar Singh Dhami on February 12, 2024. He paid floral tributes to General Rawat at the statue, terming him as a courageous soldier and a good human being, who will always be an inspiration to the future generations.

Recalling the incident when General Rawat was wounded due to a gunshot at a remote border post in J&K, the Raksha Mantri said the episode prompted the decorated officer to strengthen the functioning of the Indian Army near the Line of Control and Line of Actual Control when he was the Army Chief and later became the CDS. General Rawat was a true symbol of the country's military tradition, wherein a soldier, irrespective of the birth place, remains dedicated to the security of the nation, he added.

Shri Rajnath Singh remembered the last moments of General Rawat, stating that it signified the true meaning of 'Die with your boots on'. "The demise of General Rawat is an irreparable loss to the nation. Even in his last moments, he was on duty, serving the nation. His commitment, dedication, and patriotism could be felt until the very end," he added.

The Raksha Mantri added that General Rawat was appointed as the first CDS which is one of the most significant reforms in the military history of the country. The creation of this post reflects the Government's commitment towards bolstering the Armed Forces.

Shri Rajnath Singh described 'upholding the dignity of the soldiers and honouring their contribution' as the duty of the Government, asserting that "Under Prime Minister Shri Narendra Modi's leadership, we are honouring the valour and sacrifices of our soldiers." He emphasised that while the Government is equipping the Armed Forces with state-of-the-art weapons/platforms, it has also constructed the National War Memorial in New Delhi to pay a fitting tribute to the bravehearts.

Appreciating the idea of installing the statue inside the school premises, the Raksha Mantri stated that the objective is to take the stories of valour of the Armed Forces to the children and instil patriotism & dedication in them. "Statues hold a significant importance in our society & culture. It is a part of our rich heritage, which also serves as an inspiration for the future. Schools not only provide education but also shape the personality of students. Every child can learn from personalities such as Father of the Nation Mahatma Gandhi, former President APJ Abdul Kalam & General Bipin Rawat and contribute to nation building," he added.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2005371>



Press Information Bureau
Government of India

Ministry of Defence

Mon, 12 Feb 2024

General Manoj Pande, Chief of Army Staff Departs on an Official Tour to the United States of America

General Manoj Pande, the Chief of Army Staff (COAS), embarks on a significant official tour to the United States of America from 13th February to 16th February 2024. This visit underscores the deepening military cooperation and strategic partnership between India and the United States, aiming to further strengthen defence cooperation and foster stronger bonds between the armies of both nations.

During his visit, the COAS will engage in high-level discussions and interactions with General Randy George, United States Chief of Staff of the Army (CSA) and other senior military leaders. Highlights of the tour include a prestigious US Army Honour Guard ceremony, a solemn laying of the wreath at the Tomb of the Unknown Soldier in Arlington National Cemetery, and a

comprehensive tour of the Pentagon. These engagements symbolise the respect and mutual commitment towards global peace and security shared between the two countries.

Ideas will be exchanged on crucial topics such as the “Transformation in the Indian Army,” “Global Threat Perception,” “Transformation to Army-2030/2040,” “Human Resource Challenges,” “Future Force Development and Modernisation,” and “Co-Production & Co-Development Initiatives.” These discussions are aimed at sharing insights, ideas, and best practices between the two armies.

Further, the itinerary includes a visit to the ‘Army Geospatial Centre’ at Fort Belvoir, the ‘National Defence University’ at Fort McNair, and interactions with leadership at Headquarters 1 Corps. He will also engage with units at the forefront of military innovation and strategy, including the Stryker Unit, 1st Multi-Domain Task Force, the 1st Special Forces Group at Seattle and the Defence Innovation Unit in San Francisco. A visit to the California National Guard is also planned, highlighting the comprehensive nature of the visit aimed at exploring avenues for more significant training, co-development and co-production engagements.

General Randy George, US CSA, had recently visited India for the Indo-Pacific Army Chiefs Conference (IPACC) that was jointly hosted by the Indian Army and the US Army. The conference was attended by 18 Chiefs of Armies and 12 countries represented by Heads of Delegations.

During IPACC, General Randy George and General Manoj Pande engaged in constructive dialogue, addressing a wide range of issues related to military cooperation, synergising approaches to HADR, increasing military exchange endeavours and other issues of mutual interest. Their interactions, including a joint press conference, underscore the deepening cooperation and collaborative spirit between the military leadership of the two nations, setting a positive backdrop for General Pande's current visit to the United States.

This visit is another milestone in the Indo-US defence relationship, reflecting a mutual desire to enhance military collaboration, exchange strategic perspectives on global threat perceptions, and work together toward future force development and modernisation. The engagements between General Manoj Pande and senior leadership of the United States Army are poised to yield substantive outcomes, fostering an environment conducive to shared security interests and defence cooperation.

The Indian Army and the United States Army share a commitment to peace, democracy, and stability across regions. This tour epitomises the shared values and interests that underpin the partnership between India and the United States, aiming at a future of enhanced cooperation and mutual development in defence and security domains.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2005175>

ThePrint

Mon, 12 Feb 2024

Army Chief Gen Pande Visits US, Focus on New Tech, Precision Munition and Infantry Combat Vehicles

Army chief General Manoj Pande, who has left on a three-day visit to the US starting tomorrow, will focus on key modernisation issues, including co-development and co-production with the American defence industry, particularly on armoured infantry vehicles and long-range precision artillery munitions.

The Army in a statement said that Gen. Pande will engage in high-level discussions with General Randy George, the United States Chief of Staff of the Army (CSA) and other senior military leaders.

The visit entails a US Army Honour Guard ceremony, a solemn laying of the wreath at the Tomb of the Unknown Soldier at the Arlington National Cemetery, and a comprehensive tour of the Pentagon.

“These engagements symbolise the respect and mutual commitment towards global peace and security shared between the two countries,” the Army said in the statement.

It added that ideas would be exchanged on crucial topics such as the transformation in the Indian Army, global threat perception, transformation to Army by 2030/2040, human resource challenges, future force development and modernisation, and co-production and co-development initiatives.

ThePrint first reported in February last year that the US and India were focussing big time on co-development and co-production projects.

National Security Adviser Ajit Doval pushed for greater technology transfer in the defence and space domain during his talks with American counterpart Jake Sullivan in Washington last February and insisted on deliverables in a time-bound manner.

Key projects which came up for discussion included transfer of technology (ToT) for jet engines, long-range precise artillery munitions and Stryker-armoured personnel carriers.

The deal for jet engines has already been announced and sources said the big project next could be the Stryker.

During the 2+2 Dialogue in November last year, External Affairs Minister S. Jaishankar had said the initial offer on several infantry combat vehicles systems came from the US. India, in turn, expressed its interest in carrying out further discussions to co-develop and co-produce these vehicles.

US Defence Secretary Lloyd Austin had told the media earlier that both countries would co-produce infantry combat vehicles as part of the defence industrial cooperation.

Sources said another project that both sides were exploring was the possibility of jointly developing and manufacturing a variant of the M777 ultra-lightweight howitzer with an extended range, as reported first by ThePrint last year.

<https://theprint.in/defence/army-chief-gen-pande-visits-us-focus-on-new-tech-precision-munition-and-infantry-combat-vehicles/1963739/>



Mon, 12 Feb 2024

TASL to Make Detailed Parts and Sub Assemblies for Airbus Defence and Space in Hyderabad

Tata Advanced Systems Limited (TASL) will manufacture detailed parts and sub-assemblies for Airbus Defence and Space at various locations in India. Towards this, the latter received an approval from the Directorate General of Aeronautical Quality Assurance (DGAQA), the Indian regulatory authority, to produce detailed parts and sub-assemblies in India.

The certificate of approval was presented by Sanjay Chawla, director general of aeronautical quality assurance, to Michael Schoellhorn, CEO of Airbus Defence and Space, and Masood Hussainy, head, aero-structures and aero-engines, TASL, at the C295 main components assembly facility in Hyderabad.

"All detailed parts for the C295 will be manufactured domestically under exacting quality standards. We continue to work in strong partnership with TASL to apply a robust and comprehensive framework for the successful aircraft manufacturing in India," said Jorge Tamarit Degenhardt, VP, head of C295 India Programme, Airbus Defence and Space.

India formalised acquisition of 56 Airbus C295 aircraft to replace the Indian Air Force (IAF) legacy AVRO fleet, in September 2021. Airbus will deliver the first 16 aircraft in 'fly-away' condition from its final assembly line in Seville, Spain.

The remaining 40 aircraft will be manufactured and assembled by TASL in India as part of an industrial partnership between the two companies. The first C295 aircraft was delivered to the Indian Air Force last September.

<https://www.deccanchronicle.com/nation/tasl-to-make-detailed-parts-and-sub-assemblies-for-airbus-defence-and-space-in-hyderabad-881918>



Mon, 12 Feb 2024

Quality Management in Defence Sector: Best Practices and Challenges

By Sanjeev Kumar

India is renowned for being the world's third-largest military power. Recently, it has set another benchmark for itself in the intricate landscape, witnessing an eight-fold increase in defence exports since 2016-17. Along with this, the central government is also targeting total defence exports of Rs 35,000 crore by 2024-25. Marked by a journey towards self-reliance through a series of proactive policy initiatives aimed at promoting indigenous equipment design, development, and production, India has paved the way for a robust defence manufacturing ecosystem.

Although the sector is undergoing an exponential growth trajectory, an astounding lack of robust quality management has posed to be a considerable hurdle in the journey towards 'Self-Reliance'. In the deep-rooted peripherals of the defence manufacturing realm, quality is considered to be paramount, as it lays the groundwork for enhanced security since top-notch quality helps overcome quality falters which can have severe national security consequences. In that scenario, effective quality management can go a long mile in strengthening the process of security and safety compliance.

Navigating the Intricacies of Quality Management

Undoubtedly, India's defence sector has solidified the country's position as a global leader. Despite the remarkable progress made by the sector given the avid role played by both public and private players, the defence manufacturing industry continues to be permeated by poor quality management. This has become the most daunting obstacle in achieving higher export targets. In tandem with this, increased reliance on imports not only opens doors to security espionage but also facilitates economic stagnation.

Furthermore, the goods produced by some indigenous manufacturers fail to comply with international standards as quite often quality is compromised for cost reduction. This not only jeopardizes export potential but also tampers with India's reputation at a global level. Additionally, the time requirement and the number of clearances required to establish a defence manufacturing unit in India are still below global quality standards, necessitating the need for immediate reforms curbing the obstacles imposed by improper quality management.

The Age of 'Make In India'

In continuation of the success of 'Make in India', India's honorable Defence Minister, Rajnath Singh, recently called upon all Indian Defence Manufacturers to foster a culture of quality in defence production, labeling it as a prerequisite to compete with the international market. Elevating the theme of 'Quality Odyssey for Self-Reliance in Defence Products', the plenary session of the DRDO Quality conclave has mandated that cost-control should be given importance but not at the expense of quality, as top-notch quality will not only bolster exports but enhance India's reputation as the manufacturer of high-quality military systems that are reliable, effective and safe.

Committed to bolstering the 'Make in India' spirit whilst allowing India's military power to flourish high, System for Advanced Manufacturing Assessment and Ranking (SAMAR) certificates will be provided to representatives of qualified industries. Furthermore, necessitating rigorous testing and trials of Indian products as per international standards, India has worked towards setting up an independent nodal umbrella body that caters to meet the wide-ranging requirements of trial, testing, and certification.

In tandem with this, the quality assurance of defence items under the DDP (Department of Defence Production) has been entrusted to DGQA which provides quality assurance cover for the entire range of Arms, Ammunition, Equipments, and Stores supplied to the Army and those stores for Navy and Air Force. Additionally, DGAQA delivers quality assurance for Military Aircraft, Unmanned Aerial Vehicles (UAVs), Aero Engines, Airborne Systems, Avionics, Armaments, Consumables (FOL Stores), Allied Ground Systems, and Missiles during Design & Development, Production, Repair, Modification and Overhaul/ Repair at various Defence PSUs, Ordnance Factories and Private Firms.

International Industry Compliance Standards

With proactive efforts being made to reform the quality assurance process, the concept of self-certification and utilization of third-party inspection services are being introduced in DPSUs. At the international certification levels, Indian defence manufacturing units need to adhere to DO-254 standards developed by the Radio Technical Commission for Aeronautics (RTCA) – a certification of complex electronic hardware used in avionics systems. With this, local manufacturers will be able to avail guidance for the design, verification, and validation of airborne electronic hardware to ensure its safety, reliability, and compliance with regulatory standards.

Apart from DO-254, endemic manufacturing units can excel in their quality game, transcending the boundaries of international standards via ISO 9001 and ISO 26262. ISO 9001 is a globally accepted quality management standard, which helps organizations of all sectors improve their performance whilst demonstrating readiness for quality improvement. On the other hand, ISO 26262 is a standard about the safety of electric systems within an automobile and has the potential to address possible hazards caused by the malfunctioning of safety-related systems.

Moving Ahead

With quality management at its forefront, indigenous defence manufacturing is poised to witness unprecedented growth, which will contribute towards bolstering economic growth, making India the third-largest economy in the world. Realizing the dream of 'Atmanirbhar Bharat', the

government of India has taken significant strides to elevate India's position in terms of quality military equipment, marked by reliability, longevity, and international safety compliance.

<https://www.financialexpress.com/opinion/quality-management-in-defence-sector-best-practices-and-challenges/3391615/>



Mon, 12 Feb 2024

World Defense Show: चीन ने दिखाया नया हथियार... तोप, मिसाइल और लेजर एक साथ खत्म करेंगे हवाई हमला

सऊदी अरब के रियाद में चल रहे वर्ल्ड डिफेंस शो-2024 में चीन की रक्षा कंपनी नॉरिंको (Norinco) ने अपने लेटेस्ट एयर डिफेंस सिस्टम का प्रदर्शन किया. इसका नाम LD35 है. इसमें 35 मिलीमीटर का ऑटोमैटिक कैनन है. एयर डिफेंस मिसाइल सिस्टम है. इसके अलावा लेजर वेपन से लैस है. यह एक नए तरह का एयर डिफेंस सिस्टम है. LD35 अपनी तरह का सबसे नया एयर डिफेंस सिस्टम है. यह किसी भी मौसम में काम कर सकता है. किसी भी तरह के हवाई हमले को रोक सकता है. उसे नष्ट कर सकता है. 8x8 पहियों वाले मोबाइल प्लेटफॉर्म की वजह से इसे कहीं भी ले जाया जा सकता है. इस सिस्टम को कई तरह के हवाई हमले को रोकने के लिए बनाया गया है.

किसी भी तरह के हवाई हमले का दुश्मन

यह फाइटर जेट, हमलावर हेलिकॉप्टर, क्रूज मिसाइल, ड्रॉन्स और यूएवी के हमले को कम ऊंचाई पर रोक सकता है. उन्हें मार गिरा सकता है. इस सिस्टम का सबसे खतरनाक कॉम्बीनेशन है 35 मिलीमीटर की ऑटोमैटिक कैनन और मिसाइल का इंटीग्रेटेड सिस्टम. ये दोनों मिलकर कई तरह के हमलों को नष्ट कर सकते हैं. यहां तक कि क्रूज मिसाइल को भी गिरा सकते हैं.

LOC पर तैनाती बढ़ाएगी भारत की मुश्किलें

इसकी ऑटोमैटिक कैनन एक बार में तीन राउंड गोली फायर करती है. जो किसी भी तरह के हवाई टारगेट को बचने का मौका नहीं देती. चाहे वह ड्रोन हो या किसी तरह का एयरक्राफ्ट. यह हथियार चीन को अलग लेवल के डिफेंस सिस्टम की तरफ ले जा रहा है. अगर यह हथियार भारत की सीमा के पास ऊंचाई वाले इलाके में तैनात होता है तो मुश्किल बढ़ेगी.

<https://www.aajtak.in/defence-news/story/china-introduced-norinco-air-defence-system-ld35-with-automatic-cannon-missile-laser-weapon-1877911-2024-02-12>

 South China Morning Post

Mon, 12 Feb 2024

China Displays FC-31 Fighter at Saudi Defence Show in Bid to Increase Exports as Middle East Nations Explore Options

China's state-owned aircraft manufacturers were out in force in Saudi Arabia last week, showcasing their latest in fighter jet technology with the hope of exporting more orders to the region.

One major source of interest at the World Defence Show in Riyadh was a model of the FC-31, China's newest fifth-generation fighter jet built by the Aviation Industry Corporation of China (Avic) and China National Aero-Technology Import and Export Corporation (Catic).

The jet is designed for use on aircraft carriers and is still in the development phase but its makers see it as a potential rival to fifth-generation US jets, the aircraft of choice for many countries in the region.

A Catic official at the show, who asked not to be named, said the FC-31 was not yet in service with the People's Liberation Army Air Force but would soon be in operation. The threat of a wider regional conflict could encourage Middle Eastern countries to expand their fighter jet forces but according to observers, China will face big challenges in its bid to chip away at US dominance and fierce competition from other contenders.

FC-31 fighter jets feature stealth technology and are known as the Chinese equivalent of Lockheed Martin's fifth-generation fighter jet, the F-35.

While the F-35 has a lower maximum speed than the FC-31 – at 1.6 Mach versus 1.8 Mach – it is considered to have a longer combat range of 1,240km (770 miles) compared with the Chinese jet's 1,207km (750 miles).

The display of China's latest aircraft at the World Defence Show coincides with Middle Eastern countries seeking to expand their air-force capabilities in the face of growing regional conflicts in the Gaza Strip and the Red Sea. At Riyadh's Ministry of Defence pavilion, a military official said the Saudi Arabian military was most interested in strengthening air force and air-defence capabilities. "We would like to raise cooperation with other countries to [strengthen these areas]," the official said.

Timothy Heath, a senior international defence researcher at the US-based think tank Rand Corporation explained why fighter jets drew buyers' attention.

"With Iran and its proxies increasingly willing to use force, and Sunni countries eager to constrain Iran, there are strong incentives in many countries to build up their militaries," Heath said.

"Air forces are particularly attractive because they can serve a variety of roles, including air-to-ground support, air-to-air combat, reconnaissance and anti-ship strikes. They can also reach long distances very rapidly and travel over both land and water."

The Middle East maintains strong ties with US arms contractors, and both Lockheed Martin and Boeing had a noticeable presence at the defence show. According to the latest report from a Swedish think tank, Stockholm International Peace Research Institute (SIPRI), some 41 per cent of US arms exports went to the Middle East between 2018 and 2022.

During Donald Trump's presidency, the United Arab Emirates reached a deal with the US to buy 50 F-35s in return for establishing diplomatic ties with Israel, the only Middle Eastern country with the fighter in operation.

However, the deal was halted after US President Joe Biden came to power in 2021 because of the UAE's relationship with China and the possibility that technological secrets would be leaked.

Kostas Tigkos, head of mission systems and intelligence at global military intelligence company Janes, said that as US export restrictions raised the bar for buying the F-35, Middle Eastern countries sought other arms exporters, including China, to sell fighter jets in the region.

"From a market perspective, [Chinese fighter jets] will compete against not only F-35 but also Russian Sukhois and even Turkish KAAAN. Especially against the F-35, it will allow access to a modern fifth-generation platform for nations that otherwise would not be able to either afford, or be allowed, to import the F-35," Tigkos said.

“Most countries in the Middle East operate fourth-generation fleets and need to quickly transition to fifth-generation platforms to stay current and improve survivability of their aircraft against modern and integrated air defences.”

Last month, Pakistan’s Air Chief Marshal Zaheer Ahmed Baber Sidhu announced that Pakistan planned to buy the FC-31 among efforts to modernise its air force, but did not give further details of the procurement.

The Catic official at the defence show in Riyadh also declined to provide any further details about the FC-31 deal with Pakistan.

Tigkos said China had an edge in price and export restrictions because of Washington’s delay in approving exports of the F-35 to the Middle East allowing “plenty of room for competition to step in and offer other designs”.

However he said introducing a Chinese or Russian stealth platform was likely to be “detrimental” for the importers because it was likely to sour relations with the US and prevent them from accessing other advanced equipment.

“Let’s consider [that] the major Middle East nations have all purchased advanced air defence and infrastructure from the US while also operating almost exclusively US fighters,” Tigkos said.

“If they buy Chinese, they risk a clash with the US, which could, in turn, result in perhaps sanctions. That would be very bad for their current equipment or modernisation plans.

“So China could, for example, target countries like Pakistan, and even Iraq [with less reliance on the US]. But others like UAE, Saudi and Egypt are too reliant on US equipment to break away and go for an advanced platform from an adversary nation, regardless of how cheap or capable it might be. “Turkey, South Korea, and other perhaps European projects are much more viable and palatable,” he said.

Torbjorn Sjogren, Boeing’s vice-president and general manager of international government and defence, said Riyadh was interested in a “number of products in [the company’s] portfolio”, including F-15EX fighter jets.

The Saudi military reportedly operates more than 400 Boeing-built aircraft, including more than 200 fourth-generation F-15s in its air force.

South Korea is also an emerging arms contractor trying to increase its presence in the Middle East.

South Korean Defence Minister Shin Won-sik made the trip to Saudi Arabia for the defence show and signed a memorandum of understanding on long-term defence industry collaboration between the two countries.

An official from South Korean fighter jet engine manufacturer Hanwha Aerospace who declined to be named said there was potential in the region for his company’s product.

“There is demand in the Middle East, and they have mainly used fighter jets from Europe and the US. So, we are working ... for exports in the region once the sixth generation [of fighter jets] is developed and put into service,” the official said.

“Saudi Arabia is very interested in this [sixth-generation fighter jets]. We intend to use this opportunity to jointly cooperate with Saudi Arabia to build fighter jets.”

Despite the competition and containment from the US and other potential competitors, Heath said China was likely to continue stepping up arms sales to the Middle East.

“It is the easiest and lowest risk way for China to protect its interests in the area. The danger, of course, is that a heavily militarised Middle East could result in a high level of instability and conflict, which could endanger Chinese interests,” he said.

“Another reason is that China seeks to build up its relations with all countries in the area, and arms sales are one way to do that. Arms sales could build ‘client’ relations between Middle East countries and China, which could pay off with lucrative deals in petroleum exports to China.”

<https://www.scmp.com/news/china/military/article/3251765/china-displays-fc-31-fighter-saudi-defence-show-bid-increase-exports-mideast-nations-explore-options>



Mon, 12 Feb 2024

Russia is Ramping up its Military Drone Production, Says Defence Minister Sergei Shoigu

Russian Defence Minister Sergei Shoigu said in footage published by his ministry on Saturday that the country's production of military drones had ramped up in the past year, though certain technical issues still needed tackling.

Russia has made extensive use of drones in the course of the almost two year-long military campaign in Ukraine, but has often had to rely on cheap Iranian-made Shahed drones.

"The production capacities that have been created allow us to complete most of the tasks that we are faced with today," Shoigu said during a tour of drone production facilities in the Volga river region of Udmurtia.

He was shown telling a meeting of officials that issues related to the use of artificial intelligence (AI) in drones and electronic warfare still needed to be resolved.

Moscow has in recent months been signalling that its military industrial complex has stepped up production, as Russia seeks to break months of military deadlock in Ukraine.

Ukrainian commanders have said drones will be vital to gaining the upper hand in the conflict, while military analysts say heavy use of the weapons by both sides is making it difficult for troops to make land advances.

<https://www.wionews.com/world/russias-military-drone-production-ramping-up-says-defence-minister-689005>

Science & Technology News

THE HINDU
BusinessLine

Mon, 12 Feb 2024

KPP Nambiar Award Conferred on ISRO Chairman S Somanath

Institute of Electrical and Electronic Engineers (IEEE) Kerala Section, has conferred the KPP Nambiar Award for 2024, on S Somanath, Chairman, Indian Space Research Organisation (ISRO),

at a function held here on Saturday. The award is named after KPP Nambiar, doyen of electronics industry and founder-chair of IEEE Kerala Section.

Remembering Nambiar

The annual award is instituted to honour individuals or groups in Kerala, for their significant contributions to the IEEE vision of advancing technology for humanity, Muhammad Kasim, Chair, IEEE, Kerala section, said. Somanath was chosen for the pivotal role he played in steering Chandrayaan-3, ISRO's lunar exploration programme, the award committee observed. He also served various VSSC and ISRO missions, including as Project Manager, Polar Satellite Launch Vehicle (PSLV) and Project Director, Geosynchronous Satellite Launch Vehicle (GSLV Mk - III), Kasim said.

ISRO culture

In his acceptance speech, Somanath stressed on the importance of learning from mistakes and acknowledged a supportive environment at the premier organisations. He emphasised ISRO's culture of embracing failures as opportunities for improvement. "Those who work and do things, make mistakes. The organisation chose to stand by them. In this manner, we could achieve growth, technically and managerially." As Chairman, he said he had navigated significant challenges, including transitioning towards greater openness and collaboration within the space sector.

Need to embrace change

Somanath highlighted the importance of embracing change and fostering a collaborative ecosystem." By allowing others to grow, you will also grow." Under his leadership, ISRO successfully fostered partnerships with private companies, leading to the emergence of more than 200 start-ups in the space sector. He emphasised ISRO's commitment to leveraging expertise of private entities, to expand the space ecosystem in India. He expressed confidence in the potential for private companies, in undertaking routine tasks such as rocket launches that helps free up ISRO resources to focus on innovation and exploration.

Other award winners

IEEE Kerala Section, gave away the Amarnath Raja Humanitarian Technology Award to Jawahara Fathima and team, MA College, Kothamangalam for the project 'Light for lives'. Outstanding Woman Engineer Award went to Athuladevi S, Deputy Director, Avionics, VSSC; Outstanding Industry Contribution Award to Suresh Nair; Outstanding Teacher Award to Bos Mathew Jos, Principal, MA College, Kothamangalam; Friend of IEEE award to PV Unnikrishnan, Member Secretary, K-DISC; Outstanding Start-up Award to Open Financial; Industry Academy Collaboration Award to Synthite; Outstanding Researcher Award to Jayaprakash P, Principal, GEC, Kannur. Outstanding student volunteer awards and professional awards were also distributed.

Among those who spoke on the occasion were G Vijayaraghavan, Founder-CEO, Technopark; Muhammed Karim, Chair; Biju K, Secretary; Bijina Kunju, Vice-Chair, and R Srinivasan, Chair Awards Committee, IEEE Kerala Section; Mini Ulanat, Suresh Nair and Sameer SM, former Chairs; and Nandan S.

<https://www.thehindubusinessline.com/news/kpp-nambiar-award-conferred-on-isro-chairman-s-somanath/article67837378.ece>

How ISRO Plans to Enhance Ocean Monitoring with INSAT-3DS Mission

The Indian Space Research Organisation (ISRO) is gearing up for the scheduled launch of the INSAT-3DS satellite aboard the GSLV-F14 rocket.

This mission, fully funded by the Ministry of Earth Sciences (MoES), represents a critical step forward in India's meteorological capabilities.

Slated for liftoff on Saturday, February 17, 2024, at 17:30 IST from the Satish Dhawan Space Centre (SDSC-SHAR) in Sriharikota, the INSAT-3DS is the latest addition to India's third-generation meteorological satellites in geostationary orbit.

The upcoming launch will see the GSLV-F14 deploying the satellite into a Geosynchronous Transfer Orbit (GTO), with subsequent maneuvers designed to position it in a Geo-stationary Orbit.

What will INSAT-3DS do in space?

The INSAT-3DS is engineered to enhance meteorological observations and monitor land and ocean surfaces, thereby improving weather forecasting and disaster warning systems.

It will work in conjunction with the currently operational INSAT-3D and INSAT-3DR satellites, augmenting the meteorological services provided by these predecessors. The Indian industry has played a substantial role in the construction of this advanced satellite, showcasing the nation's growing self-reliance in space technology.

The satellite's primary objectives are multifaceted and crucial for environmental monitoring and safety. It is equipped to monitor Earth's surface and carry out oceanic observations in various spectral channels that are vital for meteorological analysis.

Additionally, it will provide vertical profiles of atmospheric parameters such as temperature and humidity, which are essential for accurate weather predictions.

Data Collection Platforms (DCPs) will benefit from the satellite's data collection and dissemination capabilities, enhancing the reach and efficiency of information gathering. Moreover, the INSAT-3DS will offer Satellite Aided Search and Rescue services, contributing to emergency response efforts.

Various departments under the MoES umbrella, including the India Meteorology Department (IMD), National Centre for Medium-Range Weather Forecasting (NCMRWF), Indian Institute of Tropical Meteorology (IITM), National Institute of Ocean Technology (NIOT), and Indian National Center for Ocean Information Services (INCOIS), will utilise the data provided by INSAT-3DS.

These agencies and institutes anticipate that the satellite's advanced capabilities will lead to significantly improved weather forecasts and meteorological services.

<https://www.indiatoday.in/science/story/isro-to-launch-insat-3ds-on-gslv-f14-this-week-what-will-it-do-in-space-2500722-2024-02-12>

