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CONTENTS

DRDO News

DRDO Technology News

Mon,13 Jun 2022

BrahMos Hypersonic Missile: भारत बना रहा है 'महाबली' मिसाइल, PAK-चीन की हालत हो जाएगी पस्त

भारत और रूस का ज्वाइंट डिफेंस वेंचर ब्रह्मोस एयरोस्पेस (BrahMos Aerospace) हाइपरसोनिक मिसाइल बनाने में सक्षम है. भारत पांच से छह साल में पहली हाइपरसोन ब्रह्मोस मिसाइल बनाने में सफल हो जाएगा. ये जानकारी 13 जून 2022 को ब्रह्मोस एयरोस्पेस ने दी है.

ब्रह्मोस एयरोस्पेस के सीईओ और एमडी अतुलतु राणे ने कहा कि हम हाइपरसोनिक मिसाइल बनाने में सक्षम हैं. पांच से छह साल के अंदरअं हम पहले हाइपरसोनिक ब्रह्मोस मिसाइल बना देंगे. अतुलतु ब्रह्मोस मिसाइल के सिल्वर जुबजुली (1998-2023) सेलिब्रेशन कार्यक्रर्य म में बोल रहे थे. ब्रह्मोस मिसाइल दुनिदु या की सबसे ताकतवर और रफ्तार में चलने वाली क्रूज मिसाइल है.

BrahMos को दुनि दु या का सबसे तेजते , बेस्ट और सबसे सटीक घातक हथियार है. 12 जूनजू 2022 को ब्रह्मोस मिसाइल की पहली सुपर सु सोनिक उड़ान के 21 साल पूरेपूरेहो गए हैं. 12 फरवरी 2023 को ब्रह्मोस रेजिंग डे के दिन सिल्वर जुब जु ली ईयर मनाया जाएगा. इस दौरान कई कार्यक्रर्य म किए जाएंगे. आइए जानते हैं कि ब्रह्मोस हाइपरसोनिक मिसाइल की खासियत क्या होगी.

रूस और भारत मिलकर ब्रह्मोस-2 हाइपरसोनिक मिसाइल बना रहे हैं. इसमें वही स्क्रैमजेट इंजन लगाया जाएगा, जो इसे शानदार गति और ग्लाइड करने की क्षमता प्रदान करेगा. इस मिसाइल की रेंज 600 किलोमीटर होगी. जिसे बढ़ाकर 1000 किलोमीटर किया जा सकता है. लेकिन इसकी गति बहुत ज्यादा होगी. यह मैकमै -8 यानी 9800 किलोमीटर प्रतिघंटा की रफ्तार से दुश् दु मन पर धावा बोलेगी!

ब्रह्मोस-2 हाइपरसोनिक मिसाइल एंटी-शिप, लैंडलैं अटैक, सतह से सतह पर मार करने वाली हाइपरसोनिक क्रूज मिसाइल होगी. इसे युद्धयु पोत, पनडुब्बी, फाइटर जेट या जमीन पर मौजूदजू मोबाइल

लॉन्चर से दागा जा सकेगा. इसका फायदा ये होगा कि चीन या पाकिस्तान के टारगेट्स को खत्म करने में इसे सेकेंड्स भी नहींलगेंगे. इसकी गति इतनी ज्यादा होगी कि रडार पकड़ भी नहींपाएंगे.

ब्रह्मोस-2 हाइपरसोनिक मिसाइल बीजिंग की हवाई सुरसु क्षा को भेदते हुए ऐसे निकलेगा जैसेजै सेमक्खन के बीच से छुरी निकल जाती है. यह हवा में अपनी दिशा बदल सकती है. टारगेट का पीछा करके उसे खत्म कर सकेगी. इसके लिए मिसाइल टेक्नोलॉजी कंट्रोल रिजीम (MTCR) तकनीक को अपग्रेड किया जा रहा है, ताकि ब्रह्मोस-2 हाइपरसोनिक क्रूज मिसाइल को नियंत्रित किया जा सके.

आम भाषा में हाइपरसोनिक हथियार का मतलब होता है ध्वनि की गति से 5 गुना ज्यादा स्पीड में चलने वाला हथियार. यानी जो हथियार हवा में 6115 किलोमीटर प्रतिघंटा की गति से उड़ सके, उसे हम हाइपरसोनिक हथियार कहेंगे. अगर यह हथियार समुद्रमु से कुछ ऊपर 1220 किलोमीटर प्रतिघंटा की रफ्तार से उड़ता है, तो इस पर हमला करना मुश्किल हो जाएगा. हाइपरसोनिक हथियार की खासियत होती है कि यह कम ऊंचाई पर भी उड़ सकता है. आसानी से टारगेट का पीछा कर सकता है, भले ही टारगेट भाग रहा हो. यानी यह पीछा करके अपने निशाने को ध्वस्त कर देता है.

भारत हाइपरसोनिक ग्लाइडर हथियार बना रहा है, उसका परीक्षण भी कर चुका चु है. रक्षा अनुसं नु धान और विकास संगठन (डीआरडीओ) ने मानव रहित स्क्रैमजेट का हाइपरसोनिक स्पीड फ्लाइट का सफल परीक्षण साल 2020 में किया था. इसे एचएसटीडीवी (हाइपरसोनिक टेक्नोलॉजी डिमॉन्स्ट्रेटर व्हीकल-Hypersonic Technology Demonstrator Vehicle) कहते हैं. हाइपरसोनिक स्पीड फ्लाइट के लिए मानव रहित स्क्रैमजेट प्रदर्शन विमान है. जो विमान 6126 से 12251 किमी प्रतिघंटा की रफ्तार से उड़े, उसे हाइपरसोनिक विमान कहते हैं.

भारत के एचएसटीडीवी (HSTDV) का परीक्षण 20 सेकंड से भी कम समय का था. हालांकि, फिलहाल इसकी गति करीब 7500 किलोमीटर प्रति घंटा थी, लेकिन भविष्य में इसे घटाया या बढ़ाया जा सकता है. इस यान से यात्रा तो की ही जा सकती है, साथ ही दुश् दु मन पर पलक झपकते ही बम गिराए जा सकते हैं. या फिर इस यान को ही बम के रूप में गिराया जा सकता है.

भारत का यह पहला हाइपरसोनिक ग्लाइड व्हीकल होगा. फिलहाल यह कॉन्सेप्ट के स्तर पर है. उम्मीद जताई जा रही है कि यह मैकमै -5 यानी करीब 4000 किलोमीटर प्रतिघंटा की रफ्तार से उड़ेगा ड़े . भारत सरकार के साथ एक निजी कंपनी मिलकर इस प्रोजेक्ट पर काम कर रही है. इसका आधिकारिक नाम HGV-202F रखा गया है. इसके डिजायन की तस्वीर सामने नहींआई है.

https://www.aajtak.in/india/news/photo/brahmos-aerospace-ceo-india-will-have-first-hypersonic-missile-soon-tstrd-1481115-2022-06-13-10

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Mon, 13 Jun 2022

India Will Have First Hypersonic Missile Soon Brahmos CEO

India will have its first hypersonic missiles in five to six years, according to the India-Russia defence joint venture BrahMos Aerospace. BrahMos Aerospace began the 'Silver Jubilee Year' celebrations (2022-2023) on June 13, coinciding with India's 75th anniversary of independence, to commemorate the incredible journey of one of India's most successful, cutting-edge military partnership programmes, which has produced the world's best, fastest, and most powerful modern precision strike weapon, the BrahMos. "BrahMos Aerospace is capable of making hypersonic missiles. In five to six years, we will be able to have our first hypersonic missile by BrahMos," said Atul Rane, CEO and MD, BrahMos Aerospace. Rane was speaking at a ceremony to mark the start of India's 'Silver Jubilee Year' celebration (1998-2023), which will commemorate one of the country's most successful, cutting-edge military partnership programmes, which has produced the world's best, fastest, and most powerful modern precision strike weapon, the BrahMos.

The 'Silver Jubilee Year' celebrations would begin on June 12 to commemorate 21 golden years since the invincible BrahMos' first supersonic launch, and would end on February 12, 2023, on 'BrahMos Raising Day.' Several key events, meets, and national-level competitions are planned as part of the celebrations, including an industry partners' meet to recognise and highlight the invaluable contributions made by BrahMos' key industry partners as part of the missile manufacturing industry ecosystem within the country. Besides, there will be a user interaction meeting to acknowledge the contribution and professionalism of the Indian Armed Forces operating the world's best supersonic cruise missile system.

A National-level Competition on cutting-edge technology and its application in the missiles and aerospace field are to be held with an aim to orient and nurture young talent in the field of missile technology. The grand celebrations will culminate on February 12, 2023, (BrahMos Raising Day) during which important events would take place. As part of the Silver Jubilee Year celebrations, the company has announced to spend a fair share of its Corporate Social Responsibility (CSR) funds for women empowerment-related programmes and projects across India. In over the two decades of its spectacular journey, BrahMos Aerospace has achieved numerous historic milestones and realised many "firsts" in the country. Charting out the course for the next phase of this ambitious journey, the JV has started work on its new, state-of-the-art BRAHMOS manufacturing centre to come up in Lucknow, Uttar Pradesh as part of the UP Defence Industrial Corridor (UPDIC) Project.

On June 3, Prime Minister Narendra Modi performed a ground-breaking ceremony to mark the initiation of all major industrial projects under the UPDIC, including the setting up of the dedicated BrahMos facility which would design, develop and produce the highly advanced BRAHMOS Next-Generation (NG) weapon system. BrahMos Aerospace has received around 80 hectares of land in Uttar Pradesh for the establishment of the new manufacturing centre with an initial investment of ₹300 crore. The company plans to complete all manufacturing-related work for the new facility by the mid of 2024. Once fully operational, this dedicated facility will produce 80-100 BrahMos systems every year.

Work on the BRAHMOS-NG missile has also progressed and it would be ready for serial production in the next three to five years. The BRAHMOS-NG manufacturing centre would further bolster the Missile Industry Consortium in India and help galvanise the defence ecosystem for high-end missile technology. It would also position India as one of the top-ranking defence technology centres in the world. The supersonic cruise missile has been successfully operationalised in all three Services of the Indian Armed Forces (in the Indian Navy in 2005; in the Indian Army in 2007; in Indian Air Force in 2020).

BrahMos Aerospace has received around 80 hectares of land in Uttar Pradesh for the establishment of the new manufacturing centre with an initial investment of ₹300 crore. The company plans to complete all manufacturing-related work for the new facility by the mid of 2024. Once fully operational, this dedicated facility will produce 80-100 BrahMos systems every year. Work on the BRAHMOS-NG missile has also progressed and it would be ready for serial production in the next three to five years. The BRAHMOS-NG manufacturing centre would further bolster the Missile Industry Consortium in India and help galvanise the defence ecosystem for high-end missile technology. It would also position India as one of the top-ranking defence technology centres in the world.

The supersonic cruise missile has been successfully operationalised in all three Services of the Indian Armed Forces (in the Indian Navy in 2005; in the Indian Army in 2007; in Indian Air Force in 2020). After charting one after other incredible milestones and spectacular successes, the world-class BrahMos brought the first and foremost major breakthrough in India's military exports front by becoming the first full-scale weapon to be exported to a responsible, friendly nation. On January 28, BrahMos Aerospace signed a historic contract with the Republic of the Philippines to deliver a shore-based anti-ship BRAHMOS system to the Philippine Navy. As a proud flag-bearer of 'Make-in-India' and 'Design-in-India', BrahMos Aerospace is now going to 'Make-for-the-World' -a first for the JV entity and a proud first for India. The multi-million-dollar BrahMos export deal has paved the way for India's aspiration to emerge as a top-notch military manufacturer and exporter in the world in the next few years.

https://www.livemint.com/news/india/india-will-have-first-hypersonic-missile-soon-brahmos-ceo-11655109423268.html

Defence News

Defence Strategic: National/International

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Ministry of Defence

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Greater Civil-Military Jointness Must to Further Strengthen National Security & Deal With Future Challenges, Says Raksha Mantri at the Inauguration of 28th Joint Civil-Military Training Programme at LBSNAA

Calls to Break Silos of Civil Administration & Armed Forces to Deal With Hybrid Threats

India Is A Peace-Loving Nation, But Will Give A Befitting Reply to Anyone Who Casts an Evil Eye: Shri Rajnath Singh

Raksha Mantri Shri Rajnath Singh has called for greater jointness of civil administration and Armed Forces to further strengthen national security and deal with future challenges that may emanate from the ever-evolving global situation. He was addressing the participants of 28th Joint Civil-Military Training Programme at Lal Bahadur Shastri National Academy of Administration (LBSNAA) in Mussoorie, Uttarakhand on June 13, 2022. The Raksha Mantri pointed out that the concept of national security has broadened, as many non-military dimensions have been added to the more general aspect of protection from military attacks.

Shri Rajnath Singh described the Russia-Ukraine situation and other similar conflicts as proof that the world is witnessing challenges far beyond conventional warfare. “War and peace are no longer two exclusive states, but a continuum. Even during peace, war continues on many fronts. A full-scale war is lethal to a country as much as it is for its enemies. Therefore, full scale wars have been avoided in the last few decades. They have been replaced by proxies and non-combat wars. Technology, supply line, information, energy, trade system, finance system etc. are being weaponised, which can be used as a weapon against us in the coming times. People’s cooperation is needed to deal with this widened scope of security challenges,” he said, while emphasising on the need to adopt ‘Whole of the Nation’ and ‘Whole of the Government’ approach to overcome these challenges.

The Raksha Mantri asserted that the full-fledged process of civil-military jointness has been started by the Government with the creation of the post of Chief of Defence Staff and establishment of Department of Military Affairs. He said, these decisions are proving to be

helpful in making the country ready for future challenges. He added that the steps taken to modernise the Armed Forces and make the defence sector 'Aatmanirbhar' have started to yield results. Now, India is not only manufacturing equipment for its Armed Forces, but is meeting the needs of friendly countries as well, in line with the Prime Minister Shri Narendra Modi's vision of 'Make in India, Make for the World', he said.

Shri Rajnath Singh was of the view that unless the silos of the civil administration and Armed Forces are broken to deal with hybrid threats, the nation cannot expect adequate preparedness to respond to future challenges. He, however, maintained that synergy does not mean infringing upon each other's autonomy; it means working together while respecting one's identity, like the colours in a rainbow. "India is a peace-loving nation which does not want war. It has never attacked any country, nor has it captured an inch of anyone's land. However, if anyone casts an evil eye on us, we will give a befitting reply," said the Raksha Mantri. Shri Rajnath Singh exuded confidence that programmes such as the Joint Civil-Military Programme at LBSNAA will play a crucial role in the journey of civil-military integration, which has started under the present Government. He hoped that the programme will prove to be beneficial for civil servants and Armed Forces officers in developing an understanding of coordination and collaboration in the domain of national security.

The Raksha Mantri was of the view that after independence, India followed the old stream of governance and it led to the creation of various social, economic & political institutions and ministries/departments for the security and prosperity of the people. He added that while the division of work was necessary for the smooth functioning of a vast country like India, over a period of time departments and ministries started to work in silos.

Shri Rajnath Singh stressed that the approach of working in silos has been changed by Prime Minister Shri Narendra Modi who focusses on working with jointness. This new approach, with which the Government is now working, has ensured holistic development of the Nation, he stated. Terming the service rendered to the nation by LBSNAA over the last several decades as unparalleled, the Raksha Mantri asserted that the institution, through its training, is nurturing the civil services officers, known as the steel frame of the country's system, and is contributing to the prosperity of the nation.

Shri Rajnath Singh also paid glowing tributes to former Prime Minister Lal Bahadur Shastri who dedicated his life for the upliftment of the Nation. "Shastri ji had revered an idea of 'unity' and 'oneness' in the country. From public to administration, he believed in looking at work from the point of view of unity. This joint civil military programme, being conducted for the last two decades, is carrying forward that vision of Shastri ji," he added. The Joint Civil-Military Programme was initiated in 2001 with the aim of fostering structured interface between civil servants and Armed Forces officers for a shared understanding of national security. Participants are drawn from the Civil Services, Armed Forces and Central Armed Police Forces. The objective is to familiarise the participants with challenges to management of national security, emerging external and internal security environment and impact of globalisation; to provide an opportunity for the participants to interact and exchange ideas on the subject and expose them to the imperatives of civil-military synergy.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1833513

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Mon,13 Jun 2022

Rajnath Singh Backs Joint Civil-military Programmes; 'India Peace-loving, But Can Retort'

“India is a peace-loving nation, it does not want war. However, if anyone cast an evil eye, we will give a befitting reply," Defence Min Rajnath Singh said. Union Defence Minister Rajnath Singh expressed optimism on June 13 that the Joint Civil-Military Program will go a long way to help civil servants and Armed Forces officers have a better grasp of coordination and collaboration in the domain of national security. The Bharatiya Janata Party-led Central government launched the Joint Civil-Military Programme in 2001 with the goal of developing a structured interface between civil officials and Armed Forces personnel for a shared understanding of national security.

The participants in the programme are drawn from the Civil Services, Armed Forces, and Central Armed Police Forces, with the goal of familiarising them with challenges in national security management, the emerging external and internal security environment, and the impact of globalisation, as well as providing an opportunity for them to interact and exchange ideas on the subject and expose them to the imperatives of civil-military synergy. World facing difficulties that go beyond traditional warfare: Union Min Rajnath Singh

While adressing the participants at the 28th Joint Civil-Military Training Programme held at Lal Bahadur Shastri National Academy of Administration (LBSNAA) in Mussoorie, Defence Minister Rajnath Singh stated that since many non-military elements have been incorporated to the more general aspect of protection from military attacks, the concept of National Security has broadened. He also described the situation between Russia and Ukraine, as well as other such crises, as an indication that the globe is facing difficulties that go beyond traditional warfare.

"War and peace are no longer two distinct states, but rather a continuous one. The conflict continues on numerous fronts even while the country is at peace. A full-scale conflict is as deadly to a country as it is to its adversaries. As a result, full-fledged battles have been avoided in recent decades. Proxy conflicts and non-combat wars have taken their place," the Defence Minister said. When emphasising the need to adopt the 'Whole of the Nation' and 'Whole of the Government' approach, Rajnath Singh said, “Technology, supply line, information, energy, trade system, finance system etc. are being weaponised, which can be used against us in the coming times. People’s cooperation is needed to deal with this widened scope of security challenges.”

With the introduction of the post of Chief of Defence Staff and the establishment of the Department of Military Affairs, the Union Defence Minister said that the government has begun a full-fledged process of civil-military jointness. He apprised, “These decisions are proving to be helpful in making the country ready for future challenges." The initiatives taken to modernise the Armed Forces make the Defence sector 'Aatmanirbhar' have already started to bear fruit. The Defence Minister averred that “unless the silos of the civil administration and Armed Forces are broken to deal with hybrid threats, the nation cannot expect adequate preparedness to respond to the future challenges.” He, however, sustained that “synergy does not mean infringing upon each other’s autonomy, it means working together while respecting one’s identity, like the colours in a

rainbow." 'India is a peace-loving country, but if anyone casts an evil eye, we will give a befitting reply' "India is a peace-loving nation which does not want war. It has never attacked any country, nor has it captured an inch of anyone's land. However, if anyone casts an evil eye on us, we will give a befitting reply," the Union Minister said. "After independence, India continued on the ancient path of governance, which resulted in the establishment of different social, economic, and political institutions and ministries/departments for the people's protection and prosperity... While task division was important for the proper functioning of a large country like India, departments and ministries began to work in silos over time," Defence Minister Singh stated. Defence Minister Rajnath Singh emphasised that Prime Minister Narendra Modi has transformed the paradigm of working in silos by focussing on collaboration. "This new method, with which the government is now working has assured the nation's holistic development," he said. The Minister also paid homage to former Prime Minister Lal Bahadur Shastri, who devoted his life to the nation's upliftment.

https://www.republicworld.com/india-news/general-news/rajnath-singh-backs-joint-civil-military-programmes-india-peace-loving-but-can-retort-articleshow.html

FINANCIAL EXPRESS
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Mon,13 Jun 2022

Drone Mahotsav 2022: Need for defence Focused Technology to Achieve Indigenization

By Milind Kulshreshtha

With the mega Bharat Drone Mahotsav 2022 at New Delhi inaugurated by Prime Minister Narendra Modi, the message regarding the arrival of a mature Drone Industry in India was loud and clear. The vision of Budget 2022 highlighting the 'Drones' as a sunrise sector and 'Drone Shakti' through varied applications like Drone-As-A-Service (DrAAS) was much evident. The presence of numerous Agricultural drone companies was a sound reflection of 'Kisan Drones' for crop monitoring and spraying of insecticides. The drone popularity attracted Defence personnel, commercial users, along with school and college going students. Under the Atmanirbhar Bharat effort of the government, the event showcased a mix of products, sub-systems and components for military and commercial purposes and some dual use technologies.

The representation of big names like Adani's to MSMEs and start-ups on the same platform reflected the multitude of opportunities in India not only for Drone business but also the acknowledgment of talent for indigenous innovations. The MSMEs and Start-ups were able to showcase their unique products and take a peek at the competition already existing in the indigenous drone market. Interesting to note was the drone support ecosystem too evolving in India, like while a start-up was fielding drone designing software packages, another was displaying a gambit of drone related electronics (including Satellite communications) for drones.

Drones in Warfare Tactics

The drones already possess unprecedented reconnaissance capabilities and the ability to pinpoint a target. The exploitation of weaponized drones and Unmanned Combat Aerial Vehicles (UCAVs) are a well established warfare tactic as these have the capability to stealthily penetrate an enemy air space carrying onboard an explosive payload or missile. A weaponized drone with an advanced navigation/control feature combined with an effective optical day/night sensor is a lethal weapon against enemy targets as already noted in the ongoing Ukraine-Russia conflict. With a few hundred dollars' worth of a commercial drone in their hands, even a Ukrainian civilian considers himself an air warrior by assisting Ukrainian forces with ISR (Intelligence, Surveillance and Reconnaissance) operations against Russian troops. It is changing times for warfare, with the drones and anti-drone solutions being fielded at the frontlines and making a difference in the outcome of day-to-day military operations.

The use of drones in warfare has already effected changes in the COMSEC (Communication Security) and TRANSEC (Transmission Security) and Electronic Warfare (EW) policies. Every modern Air Defence (AD) system with SAMs (Surface-to-Air Missiles) explicitly caters for drone hunting capabilities and buyers in the Arms market keenly look out for such specifications in the equipment brochures. The evolution of computation on the edge has already unfurled the Artificial Intelligence (AI) applications onboard the drones itself. Overall, today the rapid evolution of swarms of drones technology coupled with AI tilts the scale towards attacking drones, with anti-drone capabilities still few years behind before they catch up, if ever. With indigenisation push from Government, India today is on the right trajectory for future warfare, but the journey is not going to be easy. Local manufacturing industry shall be playing a critical role here and the drone component manufacturing MSMEs hold the key to success.

Military Vs Commercial Drone Technology

Year 2021 saw a rapid sequence of steps by the government for the growth of indigenous drone industry. This included the liberalised Drone Rules, 2021, Drone Airspace Map, Drone PLI scheme, National Unmanned Aircraft System Traffic Management (UTM) policy framework, followed by 2022 Drone certification scheme and single window DigitalSky Platform. In Feb '2022, Directorate General of Foreign Trade (DGFT) banned the import of drones primarily to boost the 'Made-in-India' initiative. This included a ban on the popular Chinese DJI drones from the top drone maker globally. However, certain exceptions were allowed in the rule allowing drone imports for R&D, defence and security purposes after necessary import clearances. The import of drone components was allowed due to lack of availability of local drone components manufacturers for niche technologies. A relevant example here is the popular drone communication protocol MAVLink (Micro Air Vehicle Link). During their flight, the drones typically communicate through wireless links with a Ground Control Station (GCS) to report status for drone control during flight. The Drone design caters for this special onboard autopilot hardware and software application that controls the motion of the drone and monitors its status, while further communicating this to the ground control station using a telemetry or WiFi link. The open source MAVLink protocol is extensively used by major drone autopilot systems like *PixHawk* (PX4) and *ArduPilot*. In India, the IIT Delhi incubated start-up Botlab Dynamics (the drone light show firm) fields the Jynx Flight controller. This embedded solution is based on the ARM Cortex-M4 processor, which is a commercial processor especially developed to address the need for control and signal processing capabilities. The push for manufacturing of such niche components may be the next level for the indigenous drone industry. Indian Armed

Forces have been using foreign made military drones for over two decades now and are keen to induct secure and reliable indigenous drones. The requirement to field military grade drone airframes and ruggedised Ground Controllers seemed to be well addressed by the Indian drone industry. However, the Defence forces are also focussed on the indigenous embedded solutions like the drone Flight Controller meeting the MIL standards to effectively achieve self-reliance.

Conclusion

As a way ahead, the indigenous military drone suppliers not only require to tweak their airframes and ruggedise the external hardware, but also suitably perform a cybersecurity penetration testing to identify potential security weaknesses in the existing solutions. The MIL grade standardisation and certification of embedded solutions for drones too are essential to make the indigenous industry prepared for Indian defence forces. Whereas, the need to weed out Chinese-made subsystems from Drones being manufactured in India is a well established fact, the supply of cost effective alternatives to the Chinese components is always a challenge for the local Drone manufacturers. Today, the government's move to give an impetus to the local drone industry can be considered more than a mere technology initiative but a step of geostrategic significance to develop an indigenous warfare toolin the near future.

https://www.financialexpress.com/defence/drone-mahotsav-2022-need-for-defence-focused-technology-to-achieve-indigenisation/2559003/lite/

FINANCIAL EXPRESS
Read to Lead

Mon,13 Jun 2022

Indian Army to Get 6 AH-64E Apache Attack Helicopters; Suspense Over Super Hornet Fighters for INDIAN Navy

In what will be a government to government deal, US aerospace giant Boeing Company says that the F/A-18E/F Super Hornet fighter will be a better choice for the Indian Navy which is in the process of identifying fighter jets to operate off its aircraft carriers.

Will they be made in India?

The numbers of the aircraft the Indian Navy is seeking is not confirmed so far. The original requirement was for 57 aircraft but this number is likely to be revised as the focus is on indigenous Twin Engine Carrier Based Deck Fighter. "To manufacture in India is a decision which will be dependent on the numbers that are being ordered. The deal when it happens will be through government-to-government," Torbjorn Sjogren, vice president, International Government and Defence, Boeing, told Financial Express Online in an exclusive interaction in New Delhi.

According to him "The US Navy goes with Super Hornet and it is already invested in the Block III version of the F/A-18 E/F and is set for more production, and life extension programme." "India is a big focus for Boeing. We are waiting to hear from the Indian Navy about the Super Hornets trials," Torbjorn Sjogren, said. Last month, the company had flown two Super Hornets to INS Hansa, Goa for trials on the Indian Navy's Shore Based Test Facility (SBTF). During the

trials the aircraft showcased their ski-jump ability and compatibility to operate from the first Indigenous Aircraft Carrier (IAC) of India. Financial Express Online has reported earlier that several innovative solutions which are related to the aircraft's carrier compatibility are being currently developed by the Boeing's technology teams in the Bengaluru located Engineering and Technology centre.

Boeing's growing presence in India

During an exclusive interaction Torbjorn Sjogren, shared details about the growing presence of the company in India from Civil aviation to military aircraft. The US based aerospace giant Boeing started with a partnership with state-owned Hindustan Aeronautics Limited (HAL) in 2007 for producing parts for commercial and defense aircraft. And its presence in the Indian Air Force and the Navy has gone up. Today, the Indian Air Force (IAF) is operating 11 C-17s, 22 AH-64 Apaches, 15 CH-47 Chinooks, 12 P-8Is for the Indian Navy, 3 VVIP aircraft and two Head of State aircraft, all Boeing platforms.

"The footprint in India is increasing. Additional six AH-64E Apache attack helicopters which will have indigenous fuselages are coming in for the Indian Army. Boeing is already sourcing over USD one billion per year from a large and growing base of over 280 suppliers manufacturing critical systems and components for some of the most advanced products."

Engaging with India

He also confirmed that the company is engaging with its defence customers here in India for not only the current requirements but also for future requirements for national security. The company is engaging with India and showcasing their portfolio which can be delivered to India to develop capabilities they require for the execution of their missions.

What is the company offering to India?

Besides fielding its F/A-18 Super Hornet Block III for the Indian Navy, the company is also in the race for the IAF's requirement of fighter jets. As has been reported earlier, Boeing is fielding its F-15EX as well as F/A-18 Super Hornet Block III for the IAF. Also on offer are additional P-8Is, Apaches and Chinook Helicopters, KC-46 aerial refuellers, performance based logistic solutions, additional training, and sustainment.

Operational capability and readiness

Through sustenance contracts the company is already working with IAF and Indian Navy to provide operational capability and readiness for the P-8Is, C-17s, Apaches, Chinooks and Head of State aircraft.According to the company, investments in R&D will help in building capabilities indigenously to drive innovation and to also contribute to the growth of Indian aerospace and defence sector. This includes new-age technologies to replace the traditional approaches — next-generation airplane health management, environment-friendly coatings, advanced networks and secure-communication. In a first of its kind outside the US, Boeing has invested USD 200 million in the new upcoming Boeing India Engineering & Technology Center.

'Make in India' 'Make for World'

Among the company's global supply chain around 26 percent of the Boeing suppliers are MSMEs and they have raised the bar to deliver world class quality critical systems and components which are being used globally on major platforms. There are huge demands for Chinook and Apache Helicopters from Germany, Poland, and Australia. This means, "Several

critical components including Wire Bundles which are made in India will be fitted onboard the helicopters which the company is in the process of manufacturing," Torbjorn Sjogren said.

As has been reported earlier in Financial Express Online, Tata Boeing Aerospace Limited (TBAL), in Hyderabad, is already producing aero-structures for Apache helicopters and this includes fuselages, secondary structures and vertical spar boxes. These are for the global and Indian customers as well as the US Army. There are almost 1,100 suppliers, sub-suppliers working with Tata. This means more jobs, more work for the Indian industry and the MSMEs.

https://www.financialexpress.com/defence/indian-army-to-get-6-ah-64e-apache-attack-helicopters-suspense-over-super-hornet-fighters-for-indian-navy/2559379/lite/

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Tue, 14 Jun 2022

Rafale, 2 Boeings, JAS-39 Gripen & F-21 - 5 In Race for IAF's Multi-Role Fighter Aircraft Deal

The main contender is the Rafale fighter which the IAF is already accustomed to, since 36 of these fighters, bought under a 2016 government to government deal and costing Euro 7.8 billion are already in use by the IAF. Known as an omni-role aircraft — one which can conduct complex combat assignments, including ground attacks, beyond visual range (BVR) air-to-air combats or interceptions, during the same sortie — the Rafale fighter is a '4.5 generation aircraft', with a top speed of 1.8 Mach, nearly double the speed of sound. It is the most potent aircraft currently in use by the IAF, in terms of range, radar and weaponry.

The Rafale is a twin-engine, canard-delta wing, multi-role fighter aircraft, fit for varied purposes, such as reconnaissance, providing ground support to troops, in-depth strikes, and anti-ship strikes.The Rafale has a ferry range of 3,700 km and is equipped with internal and external fuel tanks. In terms of weaponry, the Rafale has 14 hard points to carry different types of missiles, including the the Meteor air-to-air missiles — which come with a Beyond Visual Range (BVR) of about 150 KMs and the deadly air to surface Scalp which has a range of over 500 KMs. The Rafale has been used by the French Air Force in multiple campaigns across Afghanistan, Libya, Mali, the Central African Republic, Iraq and Syria.

F/A-18 Block III Super Hornet

Recently featured in the superhit Hollywood film Top Gun: Maverick — which shows actor Tom Cruise manoeuvring the craft to evade enemy's surface-to-air missiles whilst fulfilling a seemingly impossible mission — the F/A-18 Bock III Super Hornet is being touted as a "game-changer" for Indian military, if acquired. The F/A-18 has been the leading aircraft for the US Navy for nearly four decades. It is designed as both a fighter and attack aircraft and Block-III is its latest version. Currently, the US Navy has over 700 F/A-18s, which are operational worldwide. The original Block I Hornet was introduced into service in 1984. The version under consideration by the IAF— the F/A-18 Block-III Super Hornet — is a twin-engine, carrier-capable, multirole fighter aircraft. Block-III comes in two versions, the F/A-18 E which is a single-seater and the double-seater F/A-18 F. Both versions have been built for high-loading and high-stress operations.

A major upgrade in the Block-III, from the earlier F/A-18, is its “advanced cockpit system”, which is operated via a customisable 10×19-inch touch screen. Essentially, this system has replaced hard displays in the cockpit with iPad-like features. This enables smoother flight operations and decision-making, giving the pilot more time to assess the battlefield. Further, to store weapons, Block-III has an “enclosed, external weapons pod built to carry up to 2,500-pounds of weapons”. From the pod, various missiles and bombs can be fired, which include the “AIM 9X Sidewinder air-to-air missile, the AIM 120 Advanced Medium-Range Air-to-Air Missile (AMRAAM), the AGM-154 Joint Standoff Weapon (an air-to-ground missile), the Small Diameter Bomb and the Mark-84 bomb, among others”.Block-III has a life of approximately 10,000 flying hours. However, the drawback is that the F/A-18s lack stealth capabilities. Boeing is waiting for the IAF to come out with its technical requirements before deciding whether they will offer the Super Hornet or the F-15 EX.

F-15 EX

The F-15 EX is the upgraded replacement of the F-15C. It is referred to as the “Eagle-II”. The F-15 EX is also developed by Boeing and is another contender from their portfolio for the MRFA. The original F-15s were first deployed by the United States Air Force in the mid-1970s. Today’s version includes multiple upgrades and enhancements. Specifically, the F-15EX includes enhancements to “manoeuvrability, acceleration, durability, computing power, and weapons carriage ability of the F-15C”. According to Boeing, the F-15 EX “includes a best-in-class payload, range and speed”. Payload refers to the carrying capacity of a jet, including cargo, munitions, etc. An article published in the Air Force Magazine claimed that the advanced specs of the Eagle-II entail “digital fly-by-wire flight controls, a large area display glass-cockpit, and an APG-82 AESA radar”. Further, the F-15EX is built with an open mission system software, which allows the operating network of the fighters to undergo rapid upgrades and capability enhancements. Ensuring it is never outdated from the latest standards in the industry.

The Congressional Research Service (CRS), a public policy research institute of the US Congress, explains that the F-15EX have “stronger airframes, more powerful processors and advanced flight control systems” than any other fighter operated by the United States Air Force. The F-15EX is capable of firing AMRAAM. The US Air National Guard conducted a successful firing of the AIM-120D AMRAAM from the F-15EX over the Gulf of Mexico in February 2022. The F-15 EX also boasts a flying life of 20,000 hours, much longer than the average flying time of fighters, which ranges between 6,000-to 8,000 hours.

F-21

The F-21s are a product of the US defence conglomerate Lockheed Martin. The F-21 is an adapted and advanced version of the F-16 and is specially tweaked by the manufacturer to cater to the needs of the IAF. The F-16 is commonly called the “Fighting Falcon”. However, the F-21 is a fighter on paper and has not been manufactured yet. The F-21 has been touted as a multi-role fighter. From the original, the F-21 retains the nose-mounted radar fit, wide-view canopy, and a single-engine installation. The F-21 comprises both single-seater and double-seater variants. It includes three underwing hardpoints (the area on an airframe that is used to carry external and internal load). Two of these hardpoints are for reserve fuel tanks, which can be used in case travel ranges increase.Further, the F-21 also comes with wingtip missile hardpoints, which like the F-15EX support the AIM-20D AMRAAM. It also entails a triple launcher to fire these

AMRAAM missiles. The F-21 is equipped with a retractable fuel probe, an essential element for IAF fighters to ensure smooth fuelling at their bases.

SAAB JAS-39 Gripen

The SAAB JAS-39 Gripen is a light, single-engine, multirole fighter aircraft manufactured by Swedish aerospace and defence company, SAAB AB. It was introduced into the Swedish Air Force in 1996 and is described as an "affordable non-stealth aircraft". According to an article published in The Express, UK, the Swedish Air Force currently operates between 1,000 to 2,000 of these fighters. The JAS-39 was the first fighter to be loaded and capable of firing the Meteor air-to-air missile, a beyond visual range (BVR) weapon, capable of striking targets up to 150 kilometres. Different variants of the Gripen can carry different loads of meteor missiles. The Gripen-C can carry four, whereas the Gripen E can carry seven. Alluding to the modern operating system that the Gripen runs on, SAAB's website explains, "Gripen's unique avionics architecture is the definition of smart. It means we can reconfigure the inside of Gripen without affecting the airframe. Or put another way, we can rapidly upgrade Gripen's avionics whenever new technology becomes available." Beyond Sweden, the Gripen is currently operational in the Czech Republic, Hungary, South Africa, and Thailand.

http://www.indiandefensenews.in/2022/06/rafale-2-boeings-jas-39-gripen-f-21-5.html?m=1

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Tue, 14 Jun 2022

21 Glorious Years of India-Russia 'Brahmos Aerospace' Military Partnership

India-Russia defence Joint Venture BrahMos Aerospace has embarked on a glorious milestone as it completes 25 years since its formation in 1998. Coinciding with India's 75 years of Independence, BrahMos Aerospace has commenced the 'Silver Jubilee Year' celebrations, for 2022-2023, to mark the incredible journey of one of India's most successful, cutting-edge military partnership programs that have produced the world's best, fastest and most powerful modern precision strike weapon BrahMos. Starting on June 12, to mark 21 years of the maiden supersonic launch of unbeatable BrahMos, the 'Silver Jubilee Year' celebrations would culminate on February 12, 2023, on the 'BrahMos Raising Day'. "BrahMos is capable of making hypersonic missile. In 5 to 6 years we'll be able to have the 1st hypersonic missile by BrahMos," Atul Rane, CEO and MD, BrahMos Aerospace said during the event.

In the field of defence, India has longstanding and wide-ranging cooperation with Russia. India-Russia military-technical cooperation has evolved from a buyer-seller framework to one involving joint research, development and production of advanced defence technologies and systems. BrahMos Missile System as well as the licensed production in India of SU-30 aircraft and T-90 tanks are examples of such flagship cooperation.The defence cooperation between India and Russia is historically deep and built on trust. In 2021-22, there was a sustained momentum in India's traditionally close ties with Russia and other countries in the Eurasian region despite the negative impacts of the pandemic. The special role of Russia in India's foreign

policy was highlighted by the successful visit of the Russian President, Vladimir Putin, to India for the 21st India-Russia Annual Summit and the holding of the first India-Russia 2+2 Dialogue of Foreign and Defence Ministers, as well as the 20th meeting of India- Russia Inter-Governmental Commission on Military Technical Cooperation in New Delhi on 6 December 2021. During the year, there were regular high-level exchanges between India and Russia at the Ministerial and senior official levels, including a number of virtual meetings. Russians and Indians, both value and share values like friendship and loyalty, and this is something that unites the people of the two countries and especially the members of their permanent bureaucracies in ways that outside observers rarely ever realize. The particularly privileged strategic partnership between the two countries has become stronger and more diversified over a period of time.

http://www.indiandefensenews.in/2022/06/21-glorious-years-of-india-russia.html?m=1

Tue, 14 Jun 2022

Defence PSU, BEL Showcasing Capabilities in International Trade Fair

Navratna Defence PSU Bharat Electronics Limited (BEL) is showcasing its capabilities in Defence at the India Pavilion at Eurosatory, the international weaponry industry trade fair being held in Paris, France, from June 13-17, 2022. On display are BEL's state-of-the-art products in the field of Radars, Military Communication, Electro Optics, Homeland Security, Jammers, and other strategic sectors, including Weapon Locating Radar, Software Defined Radio (Manpack), 3X BAND QUAD T/R Module, BEL NAVIC 705, IR Jammer Fiber Laser Source, Aviation Goggles, Hand Held Thermal Imager With LRF, Passive Night Vision Binocular, Spotter Scope and various technology modules. The entire set of equipment on display is a force multiplier for any Defence force.

His Excellency Mr Jawed Ashraf, Ambassador of India to the Republic of France and Principality of Monaco , inaugurated the India Pavilion, co-ordinated by BEL. The BEL delegation to the expo is led by Mr Vinay Kumar Katyal, Director (Bangalore Complex – second from right), and (L-R) Mr Ciril Gleetus J D, Sr DGM (Finance), Mr Hari Haran E A, DGM (Corporate Communication), and Mr Srinivasa Rao H P, AGM (International Marketing). Apart from BEL, other companies showcasing their strengths at the India Pavilion are Bharat Dynamics Limited, Munitions India Limited, SMPP Pvt Ltd and Entremonde Polycoaters Limited.

https://www.psuconnect.in/news/bel-showcasing-capabilities-in-international-trade-fair/32972

THE ECONOMIC TIMES

Mon,13 Jun 2022

Navies of India, Indonesia Begin Coordinated Patrol Exercise

The navies of India and Indonesia on Monday began an 11-day coordinated patrol in Andaman Sea and Malacca Strait. The 38th edition of the exercise IND-INDO CORPAT, conducted for the first time after the COVID-19 pandemic, will take place till June 24, a statement issued by the Andaman and Nicobar Command (ANC) said. As part of the exercise, Indonesian naval units will visit the ANC headquarters at Port Blair from June 13-15, followed by a sea phase in Andaman Sea and then a visit by Indian **Navy** units at Sabang in Indonesia from June 23-24.

Indian Navy conducts coordinated patrol with other littoral countries of the Andaman Sea along their respective Exclusive Economic Zones (EEZ) with an aim to enhance regional maritime security, the statement said. India and Indonesia have enjoyed especially close relations, covering a wide spectrum of activities and interactions which have strengthened over the years, it said. The two navies have been carrying out CORPAT along their International Maritime Boundary Line (IMBL) since 2002. This has helped build understanding and interoperability between both the navies and has facilitated measures to prevent and suppress illegal unreported unregulated fishing, drug trafficking, maritime terrorism, armed robbery and piracy, the statement said. The IND-INDO CORPAT contributes towards forging strong bonds of friendship across the Andaman Sea and Malacca Strait, it added.

https://economictimes.indiatimes.com/news/defence/navies-of-india-indonesia-begin-coordinated-patrol-exercise/articleshow/92185609.cms?from=mdr

The Tribune

Mon,13 Jun 2022

India Appears to Be Expanding its Nuclear Arsenal, Claims Stockholm-Based Defence Think Tank SIPRI

India had 160 nuclear warheads as on January 2022 and it appears to be expanding its nuclear arsenal, Stockholm-based defence think tank SIPRI claimed on Monday. Similarly, Pakistan also appears to be expanding its nuclear arsenal, the Stockholm International Peace Research Institute (SIPRI) said in a statement. “China is in the middle of a substantial expansion of its nuclear weapon arsenal, which satellite images indicate includes the construction of over 300 new missile silos,” SIPRI’s statement noted.

China had 350 nuclear warheads in January 2021 as well as January 2022, it stated. “Even though SIPRI’s estimate of China’s total inventory is the same as for January 2021, the number of stockpiled warheads potentially available for use has changed because new launchers became operational during 2021,” it noted.

While India's nuclear stockpile increased from 156 in January 2021 to 160 in January 2022, Pakistan's nuclear stockpile has remained at 165 in January 2021 and January 2022, it claimed. "India and Pakistan appear to be expanding their nuclear arsenals, and both countries introduced and continued to develop new types of nuclear delivery system in 2021," it claimed. India does not share official data on its nuclear arsenal. "The availability of reliable information on the status of the nuclear arsenals and capabilities of the nuclear-armed states varies considerably...India and Pakistan make statements about some of their missile tests but provide no information about the status or size of their arsenals," the SIPRI's statement said.

There are total nine countries that have nuclear weapons—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—it said. The armed forces of India and China have been engaged in a tense border standoff in eastern Ladakh since May 5, 2020, when there was a violent clash between the two sides in the Pangong lake area India and China have held 15 rounds of military talks so far to resolve the eastern Ladakh standoff. As a result of the talks, the two sides completed the disengagement process last year on the north and south banks of the Pangong lake and in the Gogra area. However, each side currently has around 50,000 to 60,000 troops along the Line of Actual Control (LAC) in the sensitive sector.

https://www.tribuneindia.com/news/nation/india-appears-to-be-expanding-its-nuclear-arsenal-claims-stockholm-based-defence-think-tank-sipri-403568

TIMES NOW

Mon, 13 Jun 2022

China's Defence Minister Blames India for LAC Standoff, Says Responsibility Does Not Lie With Beijing

Even as *India* and *China* continue to hold diplomatic- and military-level talks over the standoff at several points along the Line of Actual Control in eastern Ladakh, Beijing has blamed New Delhi for the ongoing tensions along the *LAC*. Chinese Defence Minister *Wei Fenghe* Sunday absolved his country of any blame and said the responsibility for the standoff does not lie with his nation. Speaking at the International Institute for Strategic Studies' 19th Shangri-La Dialogue here on Sunday, Wei sought to blame India for the border tensions and said: "The merits of the China-India border conflicts are very clear, and the responsibility does not lie with China." The remarks were reported by state-run Global Times. Wei stressed that it is in both India's and China's interest to maintain good ties as both are neighbours. China is actively striving to have good ties with India, he added.

The Chinese defence minister said he had, in his earlier talks with his Indian counterpart *Rajnath Singh*, categorically stated that the responsibility for the standoff does not lie with China. "China and India are neighbours, and maintaining a good relationship meets the interests of both countries," a PTI news agency report quoted Wei as saying. The Chinese minister stated that both India and China were working together to maintain peace along the LAC. India has maintained since the standoff began in May 2020 that China's People's Liberation Army was responsible for the situation after it transgressed into several areas along the LAC, in the initial

months of the COVID-19 pandemic that started in China. The Indian government has also stressed that peace and tranquillity along the LAC were key to maintaining overall bilateral relations.

https://www.timesnownews.com/world/chinas-defence-minister-blames-india-for-lac-standoff-says-responsibility-does-not-lie-with-beijing-article-92172909

ThePrint

Mon,13 Jun 2022

Beijing's 25 Fighter Jets, Upcoming Airfields India-China Border Row Is Far From Over

The People's Liberation Army displays the Hongjian-10 anti-tank missile system across Eastern Ladakh. Xi Jinping visits the headquarters of the PLA's Western Theatre Command. Chinese defence minister Wei Fenghe said India's weapons were found on the 'Chinese side'. The US and China clashed at the Shangri La Dialogue. Tangshan assault incident starts public debate. A lot happened in China—and the world—this past week, and *Chinascope* helped you navigate through it all.

China over the week

Sichuan province is often referred to as the doorway to Tibet and Xinjiang. It is also known for its agricultural abundance, and China has relied on the province to feed millions.

President Xi Jinping was on an inspection tour of the province's Chengdu region, during which he sent out messages about ensuring food security. "Xi Jinping emphasised that the Chengdu plain has been known as the 'land of abundance' since ancient times. It is necessary to strictly abide by the red line of cultivated land, protect this treasure land, and grasp the grain production as soon as possible, so as to build a higher-level 'granary of Tianfu' in the new era," *Xinhua* quoted Xi as saying. Xi also met the top military brass of the Western Theatre Command. Welcomed by commander Wang Haijiang, Xi inspected the gathered officers and took a group photo. Also present were Li Fengbiao, the political commissar of the Western Theatre Command, and General Xu Qiliang, the senior vice-chairman of the Central Military Commission. Chengdu city acts as a crucial nodal base for PLA activities in Tibet and Xinjiang, including the headquarters of the Western Theatre Command.

The Xinjiang military district displayed a wheeled chassis-mounted version of the Hongjian-10 anti-tank missile system in the Karakorum region. The weapon system, first revealed during the 70th anniversary military parade in 2019, has been deployed at 4,500 metres and is a sign of China enhancing its war-fighting capabilities despite the relative thaw in border tensions. China has also reportedly deployed 25 advanced fighter jets, including J-11 and J-20, replacing the MiG-21 class fighters. As per media reports, India is keeping an eye on dual-use airports such as Ngari Gunsa, Kashgar, Gonggar Dzong, Nyingchi Mainling and Pengshan Air Base in Tibet and Xinjiang. The sources who spoke to the media revealed that China is building new airfields close to the Indian territory, which can allow them to carry out missions from lower altitudes.

Besides the military hardware upgrades, Xinhua reported about the enhancement of China National Highway (G219), which connects Xinjiang to Tibet. “More than 70 western counties and cities and more than 30 national first-class ports are connected by the new 219 National Highway, building the western artery,” the report said. A J-7 fighter jet crashed near Laohekou Airport in Hubei province, killing one person and injuring two. *Xinhua* shared the video of the burning jet after it had turned several houses into rubble.

In other news, a video of a group of men assaulting women in Tangshan city is drawing all-round condemnation on Chinese social media. Four women were assaulted at a restaurant after a man slapped one of them for resisting inappropriate behaviour. The incident led to an uproar. Chen Jizhi—the main accused—and eight other assailants were arrested. The top six trends on *Weibo* platform were related to the assault. The hashtag ‘Tangshan beatings’ was viewed over 3.2 billion times.

China in world news

The Shangri-La dialogue is a one-of-its-kind international security conference that has, in the past years, become a platform overshadowed by US-China geopolitical rivalry. However, returning to the in-person format this year, the much-anticipated participation of the Chinese defence minister Wei Fenghe caught the world’s attention. At the summit, General Fenghe made remarks about the India-China border.

“The merits of the China-India border conflicts are clear, and the responsibility does not lie with China. I have personally experienced the start and end of the frictions as a defence minister. We have found a lot of weapons owned by the Indian side. They have also sent people to the Chinese side,” said Wei while responding to a question. At the conference, Washington and Beijing clashed over the fate of Taiwan.

“The Chinese government and military will resolutely deter any attempt for ‘Taiwan independence’ and safeguard the reunification of the motherland,” said General Wei Fenghe.

When asked about China’s nuclear weapons programme, Wei said, “I wonder if you have seen China’s 70th anniversary of the National Day military parade, and the new weapons and equipment displayed.” “Many countries are testing weapons. There is no surprise that China is doing so,” Wei added. Besides Wei, the PLA’s top military delegation included Lieutenant General Zhang Zhenzhong, who said “the US wants to maintain regional hegemony through its Indo-Pacific strategy.”

If China was outspoken about its interests at the Shangri-La Dialogue, the US didn’t hold back either. US Secretary of Defense Lloyd Austin cited a “steady increase in provocative and destabilising military activity near Taiwan”. “Our policy hasn’t changed, but unfortunately, that doesn’t seem true for the PRC.” In a first-of-its-kind statement, the defence ministers of Japan, South Korea, and the US spoke about the importance of peace and stability in the Taiwan strait at the Shangri-La dialogue. As Wei’s remarks at the dialogue suggest, the India-China border conflict is far from resolved. On 6 June, India tested nuclear-capable Agni IV, which has a range of 4,000 kilometres, which covers the northern reaches of China. “The successful test reaffirms India’s policy of having a ‘Credible Minimum Deterrence’ capability,” said the Ministry of Defence in a press release.

Experts this week

"In terms of economic and trade relations, although China is India's largest trading partner, the trade volume between China and India only accounts for 2% of China's export trade volume. India's special restrictions on Chinese foreign investment are more political metaphors than economic ones. There is no need to be very nervous about the protective posture of Chinese capital towards India because China-India economic and trade relations can only achieve the status of 'icing on the cake' for China," wrote Li Lairu, associate professor, Overseas College, Yunnan University of Finance and Economics, in the *South Asia Research* newsletter, published on *WeChat*.

https://theprint.in/opinion/beijings-25-fighter-jets-upcoming-airfields-india-china-border-row-is-far-from-over/993994/

ThePrint

Mon,13 Jun 2022

Militaries of Pakistan & China Agree to step Up Defence And Anti-Terrorism Cooperation Amidst 'Challenging Times'

Islamabad/beijing, jun 13 (pti) china and pakistan have agreed to step up their defence and counter-terrorism cooperation amidst "challenging times", as Pakistan Army chief General Qamar Javed Bajwa held wide-ranging talks with the Chinese military leadership to further cement their all-weather strategic partnership. Gen Bajwa, accompanied by top Pakistani defence officials, held talks with the Chinese team led by Vice Chairman Central Military Commission General Zhang Youxia in Qingdao, the capital city of east China's Shandong province on Sunday.

The tri-service military delegation of Pakistan visited China from June 9 to 12 where it held wide-ranging discussions with senior officials of the Chinese military and other government departments, according to a statement by the Pakistan Army. The Apex Meeting was held on Sunday where the Pakistani side was headed by Gen Bajwa, while the Chinese side was led by General Zhang. "Both sides discussed their perspectives on the international and regional security situation, and expressed satisfaction on defence cooperation between the two countries," according to the statement.

"Pakistan and China reaffirmed their strategic partnership in challenging times and agreed to continue the regular exchange of perspectives on issues of mutual interest. Both sides also vowed to enhance their training, technology and counterterrorism cooperation at the tri-service level," it added. "China and Pakistan are all-weather strategic cooperative partners," said Gen Zhang, noting that over the years, both sides have kept close coordination and firmly supported each other on issues concerning each other's core interests.

During the talks, Gen. Zhang said China is willing to strengthen communication, reinforce cooperation, deepen pragmatic exchanges with Pakistan, and properly deal with the complicated factors in the regional situation, so as to push the military-to-military relations for further development, the Chinese military said in a statement. In the meeting, both sides strongly condemned the terrorist attack on the shuttle van of the Confucius Institute at the University of

Karachi in Pakistan in April and stressed that any attempt to undermine the China-Pakistan friendship is doomed to fail, the statement said.

Three Chinese teachers were killed when an explosion triggered by a burqa-clad woman suicide bomber from the Baluchistan Liberation Army (BLA) ripped through a van of the Confucius Institute at the prestigious University of Karachi on April 26. The separatist BLA said it opposes Chinese investment in Pakistan's resource-rich Balochistan province, saying locals do not benefit.

The BLA has targeted Chinese nationals on a number of occasions, as has the Pakistani Taliban. China is heavily involved in large infrastructure projects across Pakistan, including in the Balochistan province. Gen Bajwa said that the Pakistan-China friendship is unbreakable and rock-solid. Pakistan will stand firmly with China at any time, no matter how the international and regional situation changes. He stressed that Pakistan is ready to enhance dialogue and coordination with the Chinese military, carry out mutually beneficial cooperation, crack down on the terrorist forces, strive to improve the capabilities of both sides in dealing with various security challenges, safeguard the common interests of two countries, and make contributions to regional peace.

The visit was part of the Pak-China Joint Military Cooperation Committee (PCJMCC) – its apex committee is the highest military cooperation body. The committee has two sub committees that include Joint Cooperation Military Affairs (JCMA) and Joint Cooperation Military Equipment & Training (JCMET). Relations between the two countries have grown steadily in all fields despite concerns by the West regarding China's growing influence in the region. Pakistan relies on China for military equipment and recently Beijing provided J-10 fighter jets to counterbalance the strategic edge India gained after buying Rafale jets from France.Their multifaceted cooperation has gained more importance in the context of fast-changing regional situations. PTI SH ZH NSA AKJ PMS PMS

https://theprint.in/world/militaries-of-pakistan-china-agree-to-step-up-defence-and-anti-terrorism-cooperation-amidst-challenging-times-2/994953/

THE ECONOMIC TIMES

Mon,13 Jun 2022

'Worrying Trend': Post-Cold War Drop in Nuclear Weapons Could Be Over

A Swedish arms watchdog says the world's stockpiles of nuclear weapons are expected to increase in coming years, reversing a decline seen since the end of the Cold War. The Stockholm International Peace Research Institute, or SIPRI, said Monday that all nine nuclear-armed countries are increasing or upgrading their arsenals. "There are clear indications that the reductions that have characterized global nuclear arsenals since the end of the Cold War have ended," said Hans M. Kristensen, a researcher with SIPRI's Weapons of Mass Destruction Program and director of the Nuclear Information Project at the Federation of American Scientists.

The U.S. and Russia, which hold 90% of the world's atomic weapons, saw their inventories decline in 2021 due to the dismantling of warheads retired from military service years ago. Their useable military stockpiles remained relatively stable and within the limits set by a nuclear arms reduction treaty, SIPRI said. The research institute said that the other nuclear states - Britain, France, China, India, Pakistan, Israel and North Korea - are either developing or deploying new weapon systems, or have announced their intention to do so. Israel has never publicly acknowledged having such weapons. "All of the nuclear-armed states are increasing or upgrading their arsenals and most are sharpening nuclear rhetoric and the role nuclear weapons play in their military strategiessaid Wilfred Wan, the director of SIPRI's Weapons of Mass Destruction Program. "This is a very worrying trend."

https://economictimes.indiatimes.com/news/defence/worrying-trend-post-cold-war-drop-in-nuclear-weapons-could-be-over/articleshow/92176603.cms

Science & Technology News

The Indian EXPRESS

Mon,13 Jun 2022

18 Out of every 100 Indians Victim of Data Breaches: SurfShark

India has become a hub for cyber-attacks, ranking as the sixth most breached country since the first recorded digital attacks in 2004, revealed a new report by cybersecurity company Surfshark. To put in perspective, 18 out of every 100 Indians had their personal contact details breached. “In a country which has lost over 962.7 million peoples’ contact details to data breaches over the past 18 years and lacks strong data protection laws, this poses serious cybersecurity concerns,” the company said in its report. This report comes after Surfshark became the second major virtual private network (VPN) provider **to shut down its servers in India** in response to the country’s new cybersecurity directive which requires VPNs to store user data for a period of five years.

According to Surfshark, since 2004, over 14.9 billion accounts have been leaked and a striking 254.9 million of them belong to users from India. In 2022’Q1, 304 accounts were being breached every minute. In the present quarter (2022’Q2), however, breach rates are 6.7 per cent higher. As of June 1 2022, only two months into the quarter, India’s breach rate is now 740 per cent higher than in 2022’Q1, rising from 5 to 42 breached accounts per minute. Surfshark’s data shows that Indians lose 3.8 data points per every breached account, while the global average is only 2.3. Some of the reasons for this could be user habits or extensive data collection practices of Indian online services and applications. “Lack of privacy legislation puts India’s users’ data in danger of being sold, reused, or exploited in offences. While the country’s tech industry proves to be affluent, the protection of personal digital data falls short when compared with international standards. Authoritative news sources suggest that current legal acts are outdated and require

revamping, and digital privacy continues to weaken with newly introduced bills," the cyber security firm added.

Commenting on the recent VPN directives, where **CERT-In directed several companies** to collect and store users' data — names, addresses, contact numbers, email, and IP addresses — for up to five years and hand over this information if requested, Gytis Malinauskas, Head of Legal at Surfshark said that taking such radical action that highly impacts the privacy of millions of people living in India will most likely be counterproductive and strongly damage the sector's growth in the country. "Ultimately, collecting excessive amounts of data within Indian jurisdiction without robust protection mechanisms could lead to even more breaches nationwide."

https://indianexpress.com/article/technology/tech-news-technology/18-out-of-every-100-indians-affected-by-data-breaches-surfshark-7967560/lite/

Tue, 14 Jun 2022

नासा करेगी उड़नतश्तरियों की जांच

दुनिया भर में 50 साल से जिस बात को लगातार खारिज किया जाता रहा है, उस पर अमेरिका गंभीर हो गया है। उड़नतश्तरियों के बारे में जांच की जिम्मेदारी नासा ने उठाई है। अमेरिका की अंतरिक्ष एजंसी नासा अब 'यूएफओ' यानी उड़नतश्तरियों की जांच करेगी। दुनिया की सबसे आधुनिक और सबसे बड़ी अंतरिक्ष एजंसी ने बीते हफ्ते गुरुवार को एलान किया कि वैज्ञानिकों की एक टीम का गठन किया जाएगा, जो उड़ने वाली ऐसी चीजों का अध्ययन करेगी, जिनके बारे में पता नहीं चल पा रहा है कि वे कहां से आई हैं।

अमेरिकी एजंसी ने कहा कि इस अध्ययन का केंद्र बिंदू उपलब्ध डेटा की पहचान करना, भविष्य में मिलने वाले डेटा को समझने के सबसे अच्छे तरीकों की पहचान करना और यह जानना होगा कि इस सूचना का लाभ वैज्ञानिक समझ को बेहतर बनाने में कैसे किया जा सकता है। नासा ने इस दल का नेतृत्व करने के लिए डेविड श्पेरगल को चुना है, जो प्रिंसटन यूनिवर्सिटी के 'एस्ट्रोफिजिक्स डिपार्टमेंट' के अध्यक्ष रह चुके हैं। अध्ययन का जिम्मा डेनियल इवान्स को सौंपा जाएगा जो नासा के 'साइंस मिशन' निदेशालय में वरिष्ठ शोधकर्ता हैं। ईवान्स के मुताबिक, आने वाले महीनों में वैज्ञानिकों का यह दल अपनी पहली बैठक करेगा और लगभग नौ महीने लगाकर एक रिपोर्ट तैयार करेगा। नासा इस पूरे काम पर कई हजार डालर खर्च करेगा, लेकिन यह रकम एक लाख डालर से ज्यादा नहीं होगा।

नासा की 'साइंस यूनिट' के प्रमुख थामस जुरबूखेन के मुताबिक, 'हम पृथ्वी को नई नजर से देख रहे हैं। हम अन्य तरीके भी खोज रहे हैं। यह हम बस यही कोशिश कर रहे हैं एक जांच शुरू की जाए। नतीजों के बारे में हमने अभी नहीं सोचा है।'नासा के इस दल के गठन का एलान उस रिपोर्ट के आने के एक साल बाद आया है, जिसे अमेरिका सरकार के 'डायरेक्टर आफ नेशनल इंटेलिजेंस' ने नौसेना के एक विशेष बल के

साथ मिलकर तैयार किया था। इस रिपोर्ट में नौसैनिकों लारा देखी गई उड़ती हुई अनजान चीजों के बारे में ही ज्यादा बताया गया था। रक्षा मंत्रालय के दो अधिकारियों ने इस बारे में अमेरिकी संसद की एक समिति के सामने बयान भी दिया था, जो 50 साल में इस मुद्दे पर हुई पहली बैठक थी। अमेरिका सरकार ने इन उड़ती हुई अनजान चीजों को देश की सुरक्षा का मसला माना है, जिस पर नासा ने भी सहमति जताई है। एक बयान जारी कर नासा ने कहा, 'आसमान में उड़ती हुई अनजान चीजें राष्ट्रीय सुरक्षा का भी मसला है और हवाई सुरक्षा का भी।'पिछले साल आई रिपोर्ट में कहा गया था कि अमेरिकी रक्षा और जासूसी एजंसियों के विशेषज्ञों के पास इतना समुचित डेटा नहीं है कि इन यूएपी या यूएओ के बारे में कोई निष्कर्ष निकाला जा सके, जिन्हें विमान चालकों ने देखा है।

इसलिए यह कह पाना मुमकिन नहीं है कि पायलटों ने जो देखा वो पृथ्वी पर ही विकसित की जा चुकी कोई अत्याधुनिक तकनीक है या फिर उसका उद्गम बाह्य अंतरिक्ष में कहीं है। कांग्रेस में हुई सुनवाई में अमेरिकी रक्षा अधिकारियों ने माना था कि उड़नतश्तरियों के बहुत से मामले ऐसे हैं, जिनकी विशेषज्ञों के पास कोई व्याख्या नहीं है। नासा ने अपने बयान में कहा कि ऐसा कोई सबूत नहीं है कि बाह्य अंतरिक्ष से कोई उड़नतश्तरी आई। जुरबूखेन ने कहा कि एजंसी की कोशिश और ज्यादा डेटा उपलब्ध कराना है जिसके लिए नासा के वैज्ञानिक, उपग्रह और सेंसर आदि का इस्तेमाल किया जाएगा। ईवान्स ने कहा, 'पहला कदम तो यह तय करना है कि हमारे पास क्या डेटा उपलब्ध है।'

https://www.jansatta.com/national/nasa-will-investigate-flying-saucers/2221807/

Mon,13 Jun 2022

Research Shows That Robotic Surgery Is Safer and Improves Patient Recovery Time by 20%

A new study has found that robotic surgery is less dangerous and has a faster recovery period for patients Robotic surgery, also known as robot-assisted surgery, enables surgeons to conduct a variety of complicated operations with more precision, flexibility, and control than traditional approaches allow. Robotic surgery is often associated with minimally invasive surgery, which involves procedures carried out through small incisions. It's also occasionally employed in certain traditional open surgical procedures. The most common clinical robotic surgical system consists of a camera arm and mechanical arms with surgical tools attached. While sitting at a computer station beside the operating table, the surgeon controls the arms. The console provides the surgeon with a magnified, high-definition 3D view of the operative site.

A first-of-its-kind clinical trial led by scientists at University College London and the University of Sheffield found that using robot-assisted surgery to remove and rebuild bladder cancer allows

patients to recover much faster and spend considerably (20%) less time in hospital.The study, which was published in JAMA on May 15th and funded by The Urology Foundation with a grant from the Champniss Foundation, also discovered that robotic surgery cut the chance of eadmission in half (52%) and revealed a “striking” four-fold (77%) reduction in the prevalence of blood clots (deep vein thrombus & pulmonary emboli) – a significant cause of health decline and morbidity – when compared to patients who had open surgery. Patients’ stamina and quality of life also improved and their physical activity increased which was measured by daily steps recorded on a wearable smart sensor.

Unlike open surgery, which involves a surgeon working directly on a patient and large incisions in the skin and muscle, robot-assisted surgery enables doctors to remotely guide less invasive tools using a console and 3D view. It is currently only offered at a few UK hospitals. Researchers say the findings provide the strongest evidence so far of the patient benefit of robot-assisted surgery and are now urging the National Institute of Clinical Excellence (NICE) to make it available as a clinical option across the UK for all major abdominal surgeries including colorectal, gastrointestinal, and gynecological. Co-Chief Investigator, Professor John Kelly, Professor of Uro-Oncology at UCL’s Division of Surgery & Interventional Science and consultant surgeon at University College London Hospitals, said: “Despite robot-assisted surgery becoming more widely available, there has been no significant clinical evaluation of its overall benefit to patients’ recovery. In this study we wanted to establish if robot-assisted surgery when compared to open surgery, reduced time spent in hospital, reduced readmissions, and led to better levels of fitness and quality of life; on all counts, this was shown.

“An unexpected finding was the striking reduction in blood clots in patients receiving robotic surgery; this indicates a safe surgery with patients benefiting from far fewer complications, early mobilization and a quicker return to normal life.” Co-Chief Investigator Professor James Catto, Professor of Urological Surgery at the Department of Oncology and Metabolism, University of Sheffield, said: “This is an important finding. Time in hospital is reduced and recovery is faster when using this advanced surgery. Ultimately, this will reduce bed pressures on the NHS and allow patients to return home more quickly. We see fewer complications from improved mobility and less time spent in bed.

“The study also points to future trends in healthcare. Soon, we may be able to monitor recovery after discharge, to find those developing problems. It is possible that tracking walking levels would highlight those who need a district nurse visit or perhaps a check-up sooner in the hospital.” “Previous trials of robotic surgery have focused on longer-term outcomes. They have shown similar cancer cure rates and similar levels of long-term recovery after surgery. None have looked at differences in the immediate days and weeks after surgery.” Open surgery remains the NICE “gold standard” recommendation for highly complex surgeries, though the research team hopes this could change.

Professor Kelly added: “In light of the positive findings, the perception of open surgery as the gold standard for major surgeries is now being challenged for the first time. “We hope that all eligible patients needing major abdominal operations can now be offered the option of having robotic surgery.” Rebecca Porta, CEO of The Urology Foundation said: “The Urology Foundation’s mission is simple – to save lives and reduce the suffering caused by urological cancers and diseases. We do this through investing in cutting-edge research, leading education, and supporting the training of health care professionals to ensure that fewer lives will be devastated. “We are proud to have been at the heart of the step change in the treatment and care

for urology patients since our inception 27 years ago, and the outcomes of this trial will improve bladder cancer patients' treatment and care."

Bladder cancer is where a growth of abnormal tissue, known as a tumor, develops in the bladder lining. In some cases, the tumor spreads into the bladder muscle and can lead to secondary cancer in other parts of the body. About 10,000 people are diagnosed with bladder cancer in the UK every year and over 3,000 bladder removals and reconstructions are performed. It is one of the most expensive cancers to manage.

Trial findings

Across nine UK hospitals, 338 patients with non-metastatic bladder cancer were randomized into two groups: 169 patients had robot-assisted radical cystectomy (bladder removal) with intracorporeal reconstruction (the process of taking a section of bowel to make a new bladder), and 169 patients had open radical cystectomy. The trial's primary end-point was the length of stay in the hospital post-surgery. On average, the robot-assisted group stayed eight days in the hospital, compared to 10 days for the open surgery group – so a 20% reduction. Readmittance to the hospital within 90 days of surgery was also significantly reduced – 21% for the robot-assisted group vs 32% for open. A further 20 secondary outcomes were assessed at 90 days, six- and 12 months post-surgery. These included blood clot prevalence, wound complications, quality of life, disability, stamina, activity levels, and survival (morbidity).

All secondary outcomes were improved by robot-assisted surgery or, if not improved, almost equal to open surgery.This study, and previous studies, show both robot-assisted and open surgery are equally as effective in regard to cancer recurrence and length of survival.

Next steps

The research team is conducting a health economic analysis to establish the quality-adjusted life-year (QALY), which incorporates the impact on both the quantity and quality of life.

Patient case studies

John Hammond, retired, age 75, from Doncaster, said: "I left my symptoms too long, and found out that I had a tumor in the bladder. I was lucky to see Professor Catto and after being given options, I chose the operation to have my bladder removed and a stoma in place. "I had the operation in August 2019 and was aware that it was robotic surgery in a trial and was keen to take part; in fact, I was pleased to be in a position to help anybody else in the future with this type of surgery. The operation was successful, and the whole team was hugely supportive.

"Amazingly, I was walking the next day and progressed excellently, improving my walking each day. I was in no pain and just had to adjust to the stoma bag. I have fully recovered from the operation and throughout I knew I was in professional hands. I was home about five days after surgery and am grateful to Professor Catto and his team that I did not have to stay in hospital for longer than necessary." Frances Christensen Essendon, from Hertfordshire, said: "I was diagnosed with bladder cancer and after a course of chemotherapy it was suggested that I have my bladder removed. Under Professor John Kelly I underwent robotic surgery to remove my native bladder which was replaced with a new bladder made out of the bowel. The operation was a success, and I was up and walking soon after surgery. Having had the operation in April I was back to work and the gym in the middle of June. I have gone on to lead a normal active life and am eternally grateful to Prof Kelly and his team for their care and support."

The trial took place from March 2017 to March 2020 and involved 29 surgeons at nine UK hospital trusts namely; University College London Hospitals NHS Foundation Trust, Sheffield Teaching Hospitals NHS Foundation Trust, Guys and St Thomas' NHS Foundation Trust, NHS Greater Glasgow and Clyde, Royal Berkshire NHS Foundation Trust, St James University Hospital Leeds, Royal Liverpool and Broadgreen University Hospitals NHS Trust, Royal Devon and Exeter NHS Trust, and North Bristol NHS Trust.

Reference: "Effect of Robot-Assisted Radical Cystectomy With Intracorporeal Urinary Diversion vs Open Radical Cystectomy on 90-day Morbidity and Mortality Among Patients With Bladder Cancer" by James W. F. Catto, Pramit Khetrapal, Federico Ricciardi, et al., 15 May 2022, JAMA. ***DOI: 10.1001/jama.2022.7393***

https://scitechdaily.com/research-shows-that-robotic-surgery-is-safer-and-improves-patient-recovery-time-by-20/