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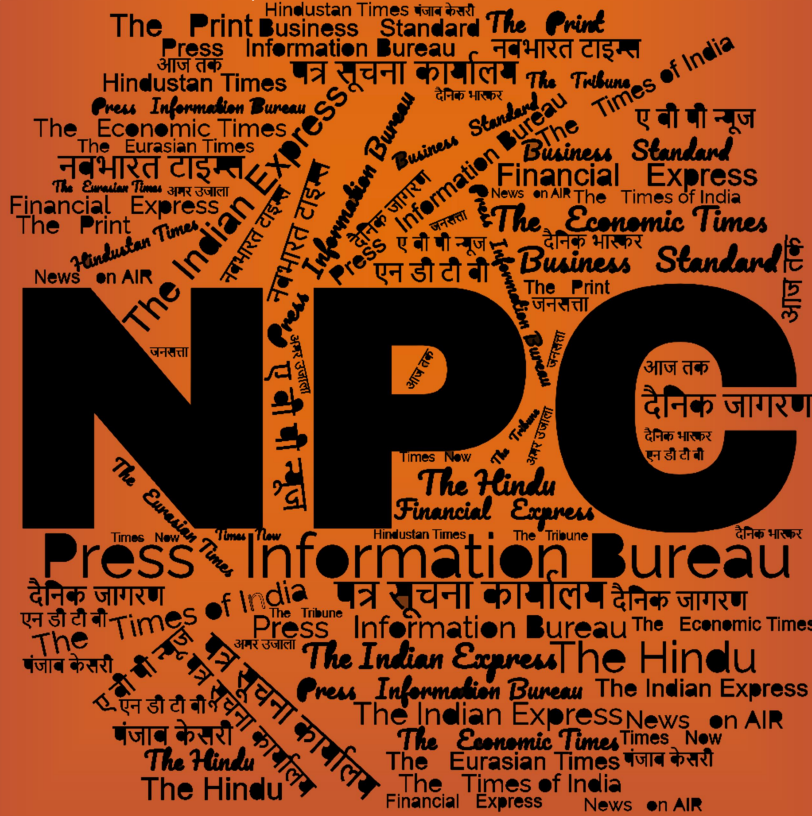
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# समाचार पत्रों से चयित अंश Newspapers Clippings

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

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## CONTENTS

S. No.	TITLE		Page No.
	<b>DRDO News</b>		<b>1-3</b>
	<b>DRDO Technology News</b>		<b>1-3</b>
1.	Technology Transfer by DRDO	<i>Press Information Bureau</i>	1
2.	साढ़े तीन साल में निजी कम्पनियों को तकनीक हस्तांतरण के 670 करार किए डीआरडीओ ने	<i>पत्रिका</i>	1
3.	DRDO Transferring Technology to Encourage Mass Production in Defence Sector	<i>Business Standard</i>	2
	<b>DRDO on Twitter</b>		<b>3</b>
	<b>Defence News</b>		<b>4-16</b>
	<b>Defence Strategic: National/International</b>		<b>4-16</b>
4.	Innovations for Defence Excellence (iDEX) Scheme	<i>Press Information Bureau</i>	4
5.	Three iDEX Winners Secure Contracts from Army, Navy & Air Force	<i>Business Line</i>	4
6.	Replacement of Artillery Guns with State-of-the-Art Guns Progressing at Slow Pace: CAG Report	<i>The Economic Times</i>	5
7.	IAF Makes Big Push for 'Atmanirbhar Bharat' via Procurement Bid for Medium Power Radars	<i>RepublicWorld.com</i>	7
8.	PM Modi to Address Combined Commanders Conference this Week	<i>Financial Express</i>	8
9.	Indian Defence Sector Persevering to Counter China's Hypersonic Weapons: Report	<i>RepublicWorld.com</i>	9
10.	Small Arms for the Indian Armed Forces: Can the Private Industry Deliver?	<i>Financial Express</i>	11
11.	Address Systemic Issues in the Armed Forces Archives	<i>Hindustan Times</i>	13
12.	North Korea Launches Ballistic Missile, Stokes Concerns of Threat Against US	<i>Mint</i>	14
13.	Vladimir Putin Ally says Russia has Weapons to Destroy US if its Existence is Threatened	<i>The Economic Times</i>	15
	<b>Science &amp; Technology News</b>		<b>16-17</b>
14.	ISRO to Ink New Deal to Identify Ram Setu, other Archeological Sites	<i>India Today</i>	16

## DRDO News

## DRDO Technology News



Press Information Bureau  
Government of India

Ministry of Defence

Mon, 27 Mar 2023

### Technology Transfer by DRDO

DRDO undertakes design and development of products for use by Indian Armed Forces. After successful product trial and evaluation, the technology of the same is transferred to Indian industries for mass production by signing a Licensing Agreement for Transfer of Technology (LATOT). The current DRDO policy for Transfer of Technology (ToT) came into force on 19 August 2019. Till date, DRDO has signed 670 Nos of LATOTs with industries under this policy.

DRDO transfers both Defence and dual use technologies to private companies. As per the LATOT signed between DRDO and the industry for transfer of DRDO developed technology, the recipient industry is bound not to transfer or sublicense the know how/technology obtained from DRDO to any party without prior written approval of DRDO. Moreover, the LATOT bounds the industry to take all necessary measures to ensure that the technology is not passed on, disclosed, or given access to, except to such of their Directors, Officers and employees and their subcontractors to whom it is necessary to pass on, disclose or give access to, for the purpose of execution or manufacture of the product under the said LATOT.

As per the 'Security Manual for License Defence Industries', issued by Department of Defence Production, the Licensee industry is required to put in place the prescribed minimum standards of security and other safeguards for production and sale of defence items, in the interest of National safety and security. This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Derek O' Brien in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1911125>



Mon, 27 Mar 2023

### साढ़े तीन साल में निजी कम्पनियों को तकनीक हस्तांतरण के 670 करार किए डीआरडीओ ने

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने पिछले लगभग साढ़े तीन साल में देश की 670 निजी कम्पनियों को अपने यहां विकसित रक्षा उत्पाद तकनीक हस्तांतरित की है। निजी क्षेत्र

की मदद से रक्षा उत्पादन तेजी से बढ़ाने के लिए केंद्र सरकार ने 19 अगस्त 2019 से डीआरडीओ को तकनीकी हस्तांतरण निजी कम्पनियों को भी करने की अनुमति दी थी।

रक्षा राज्यमंत्री अजय भट्ट ने सोमवार को राज्यसभा में पेश एक लिखित जवाब में यह जानकारी दी। उन्होंने कहा कि डीआरडीओ में देश की सशस्त्र सेनाओं के उपयोग के लिए लिए रक्षा उत्पाद डिजाइन व विकसित करता है। इनके सफलतापूर्वक उत्पादन परीक्षण के बाद इनके बड़ा पैमाने पर उत्पादन के लिए तकनीक देश की निजी कम्पनियों को हस्तांतरित की जाती है। इसके लिए निजी कम्पनी व डीआरडीओ तकनीक हस्तांतरण के लाइसेंस अनुबंध पत्र पर हस्ताक्षर करते हैं। इसके बाद तकनीक निजी कम्पनी को हस्तांतरित की जा सकती है। डीआरडीओ 19 अगस्त 2019 से इस नीति पर काम कर रहा है और अब तक इसके तहत 670 अनुबंधों पर हस्ताक्षर किए जा चुके हैं।

### **नहीं कर सकते उजागर**

उन्होंने बताया कि डीआरडीओ निजी कम्पनी को रक्षा व द्विउपयोगी तकनीक हस्तांतरित करता है। अनुबंध के तहत निजी कम्पनी इस तकनीक को बिना पूर्वानुमति के किसी अन्य को हस्तांतरित नहीं कर सकती। अनुबंध में यह प्रावधान भी किया गया है कि तकनीक सम्बन्धित लोगों के अलावा किसी अन्य के सामने उजागर भी नहीं की जाएगी। साथ ही रक्षा उत्पादन विभाग की ओर से दिए जाने वाले रक्षा उत्पादन लाइसेंस के सुरक्षा मैनुअल में भी यह अनिवार्य शर्त जोड़ी गई है कि लाइसेंसी कम्पनी रक्षा उत्पादों के उत्पादन व विपणन में राष्ट्र की सुरक्षा के मद्देनजर सभी जरूरी न्यूनतम सुरक्षा मापदंडों का सख्ती से पालन करेगी।

<https://www.patrika.com/new-delhi-news/drdo-signed-670-agreements-for-transfer-of-technology-to-private-compa-8128629/>

## **Business Standard**

*Mon, 27 Mar 2023*

### **DRDO Transferring Technology to Encourage Mass Production in Defence Sector**

To encourage mass production in the defence manufacturing sector, the Defence Research and Development Organisation (DRDO) is working on a technology transfer policy under which the technology of successfully tested products are being transferred to Indian industries for mass production by signing a licensing agreement. Till now, the DRDO has signed 670 agreements with industries under this policy, Minister of State for Defence, Ajay Bhatt, said in a written reply in the Rajya Sabha on Monday.

According to the Ministry of Defence, DRDO undertakes design and development of products for use by the Indian armed forces. After successful product trial and evaluation, the technology of

the same is transferred to the Indian industries for mass production by signing a licensing agreement for transfer of technology. The current DRDO policy for transfer of technology came into force on August 19, 2019.

Bhatt said in his reply that DRDO transfers both defence and dual use technologies to private companies. As per the licensing agreement for transfer of technology signed between the DRDO and the industry, the recipient industry is bound not to transfer or sublicense the technology obtained from the DRDO to any party without prior written approval of the DRDO.

Moreover, the licensing agreement bounds the industry to take all necessary measures to ensure that the technology is not passed on, disclosed, or given access to, except to their directors, officers and employees and their subcontractors to whom it is necessary to pass on, disclose or give access to, for the purpose of execution or manufacture of the product under the said licensing agreement.

[https://www.business-standard.com/india-news/drdo-transferring-technology-to-encourage-mass-production-in-defence-sector-123032701064\\_1.html](https://www.business-standard.com/india-news/drdo-transferring-technology-to-encourage-mass-production-in-defence-sector-123032701064_1.html)

## DRDO on Twitter



## Defence News

### Defence Strategic : National/International



**Press Information Bureau**  
Government of India

**Ministry of Defence**

*Mon, 27 Mar 2023*

### **Innovations for Defence Excellence (iDEX) Scheme**

Innovations for Defence Excellence (iDEX) framework was launched by the Government with the aim to foster innovation and technology development in Defence and Aerospace Sector by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes and academia to promote self-reliance. Up to 28 February 2023, 139 iDEX winners have been provided grants/fund. The Services, after successful trials, have placed supply orders on three iDEX winners. Moreover, the Ministry has also accorded Acceptance of Necessity (AoN) for 13 more iDEX products.

iDEX offers technical handholding through 19 associated Partner Incubators of iDEX, easier and faster access to test facilities/infrastructure available with various Government agencies, co-creation and co-innovation using smooth operating procedures and minimal documentation, to the iDEX winners, thus making the entire regime conducive for them. iDEX has launched challenges on frontier technologies/ domains like artificial Intelligence, Augmented Reality (AR)/ Virtual Reality (VR), Autonomous/ Unmanned Solutions, Stealth, Domain Awareness, Secure Communications, Simulation, Navigation, Predictive Maintenance, Space, Cyber Security etc. to ensure that the Services enjoy a technological edge over their adversaries.

This information was given by Raksha Rajya Mantri Shri Ajay Bhatt in a written reply to Shri Abir Ranjan Biswas in Rajya Sabha today.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1911124>

THE HINDU  
**BusinessLine**

*Mon, 27 Mar 2023*

### **Three iDEX Winners Secure Contracts from Army, Navy & Air Force**

The Ministry of Defence selected 139 innovators for providing funds under innovations for defence excellence (iDEX) schemes over last five years, the government told Parliament on

Monday. The three services -- Army, Navy and Air Force -- after successful trials have placed orders on three of the 139 iDEX winners shortlisted till February 2023 , the Minister of State for Defence Ajay Bhatt said in a written reply to Abir Ranjan Biswas, the All India Trinamool Congress MP of Rajya Sabha. Other than that the Ministry has also accorded acceptance of necessity (AoN) for 13 more iDEX products which are aimed at promoting self-reliance in the defence sector, Ajay Bhatt told parliamentarians.

The winner innovators get technical handholding through 19 associated partner incubators of iDEX, easier and faster access to test facilities/infrastructure available with various government agencies, co-creation and co-innovation using smooth operating procedures and minimal documentation, said the Minister. The idea is to make the entire regime conducive for them.

iDEX has launched challenges on frontier technologies/ domains like artificial intelligence, augmented reality (AR)/ virtual reality (VR), autonomous/ unmanned solutions, stealth, domain awareness, secure communications, simulation, navigation, predictive maintenance, space, cyber security etc. to ensure that the services enjoy a technological edge over their adversaries.

### **DRDO's technology transfer**

Since August 2019, the Defence Research and Development Organisation (DRDO) has signed 670 Licensing Agreement for Transfer of Technology (LATOT) with industries for the production of an equipment for the armed force's use, MoS Bhatt told Trinamool Congress MP Derek O' Brien in the Upper House. The current DRDO policy for Transfer of Technology (ToT) came into force on 19 August 2019.

The technology is transferred with one of the condition that recipient industry will not handover the know how to any party without prior written approval of the DRDO, the Minister stated. In fact, the confidentiality clause bounds the company not to disclose technology to anyone but for their directors, officers and concerned employees, the Centre advocated.

<https://www.thehindubusinessline.com/news/national/3-idex-winners-secure-contracts-from-army-navy-air-force/article66668258.ece>

## **THE ECONOMIC TIMES**

*Mon, 27 Mar 2023*

### **Replacement of Artillery Guns with State-of-the-Art Guns Progressing at Slow Pace: CAG Report**

The Comptroller and Auditor General of India has flagged that the replacement of existing artillery guns with state-of-the-art guns has been progressing at a "slow pace" for over last two decades. The Report of the Comptroller and Auditor General on Union Government (Defence Services) - Army and Ordnance Factories was presented in the Parliament on Monday.

"C&AG's Report No. 6 of 2023, Union Government (Defence Services) - Army and Ordnance Factories for the year ended March 2020 was laid on the table of Lok Sabha and Rajya Sabha," the audit body said in a statement.

This report contains the results of audit of the transactions for the year ended March 2020 pertaining to the Department of Defence, the Indian Army, the Inter-Services Organisations such as Military Engineer Services (MES), Canteen Stores Department (CSD), etc., the Defence Research and Development Organisation (DRDO) and the Ordnance Factories under the Ministry of Defence, it said.

The CAG has also shared about its findings on the acquisition of artillery gun system among other areas.

"The replacement of the existing artillery guns with state-of-the-art guns has been progressing at a slow pace for over the last two decades.

"Of the six proposals for acquisition/upgradation of artillery guns, only three culminated into contracts constituting 17 per cent out of the total numbers of artillery guns planned for acquisition. The acquisition process suffered from delays at various stages of procurement," the statement said.

Requests for Proposal (RFP) were issued, retracted, and again issued due to "poor response/non-compliance to the qualitative requirements" by the vendors, it said.

Further, the process of the field evaluation was not standardised with respect to the time period involved, it said.

The delays underscore the need for the ministry/Army headquarters to ensure that qualitative requirements for capital acquisition of weapon systems are formulated on realistic basis by predicating the entire process on a rigorous technology scan, and also devising a mechanism for speedy field/staff evaluations, the statement said.

Among other findings, it said the audit of 13 out of 62 Cantonment Boards (CBs) in the country revealed "several lacunae" in the civic amenities provided by the boards to their residents, according to the statement by the CAG.

It said only one CB had a functional sewage treatment plant and five CBs had solid waste processing plants for scientific disposal of solid waste.

Eleven CBs were inadequately equipped to provide medical services to their residents, it said.

Two CBs were heavily dependent on grants-in-aid. Allocation against the demands of funds for creation of capital assets was meagre in the selected CBs, it said.

Further, an amount of Rs 2461.16 crore was outstanding against the Defence Services and other central/state government departments on account of municipal taxes and service charges raised by these CBs, the statement said.

Besides, construction of three twin Igloos, four explosive store houses and allied works were taken up in May 2003. However, due to ambiguity in contract documents leading to dispute (May 2007) with the contractor, construction of the assets could only be completed in December 2013, it said.

"Further, despite an expenditure Rs 4.01 crore, the Igloos were also not built to the desired concrete specifications and the net explosive content of Igloos was downgraded. "Moreover, only one Igloo was put to use in June 2022, which also suffered from profuse leakage and seepage in monsoon. Thus the intended benefits of constructing Igloos for storage of ammunition could not be derived," it observed in the statement.



Snow and Avalanche Establishment (SASE) under the aegis of DRDO is responsible to provide avalanche forecasting support to the services including advice on avalanche control measures.

"Although SASE was aware (2017) of the need to increase the number of Manual Observatories (MO)/Automatic Weather Stations (AWS) to improve forecasting accuracy, a comprehensive plan of action for the purpose was yet to be finalised," it flagged.

The sanction of a new Ordnance Factory at Korwa was accorded (October 2007) by the Ministry of Defence for manufacture of two types of carbines viz. Close Quarter Battle (CQB) carbines through import with Transfer of Technology (ToT) and of Protective carbines through indigenous production.

"However, neither of the carbines could be developed (March 2022) as per Army's specification even after a lapse of 14 years of the project sanction," it said.

"Ordnance Factory Khamaria (OFK) was unable to successfully test the indigenously developed Arming Device of an ammunition even after a lapse of 17 years of the Transfer of Technology (ToT) contract with the OEM due to inordinate delay of more than 10 years in procurement of the Flight Data Recorder.

"Despite lack of prescribed testing infrastructure, OFK injudiciously procured bulk quantity of raw material and manufactured bulk quantity of Arming Devices which resulted in idle investment of Rs 77.11 crore," the statement said.

Canteen Stores Department Head Office (CSD HO) processes bills for payment to the suppliers through an outdated software programme, it said.

The continued use of the outdated software, coupled with inadequate controls enabled multiple entries of the same bills in the system resulting in "several instances of double payments" to suppliers, it said.

<https://economictimes.indiatimes.com/news/defence/replacement-of-artillery-guns-with-state-of-the-art-guns-progressing-at-slow-pace-cag-report/printarticle/99041654.cms>



*Mon, 27 Mar 2023*

## **IAF Makes Big Push for 'Atmanirbhar Bharat' via Procurement Bid for Medium Power Radars**

In a major boost to the Indian government's 'Atmanirbhar Bharat' initiative, the Indian Ministry of Defence has signed a contract with one of India's leading electronics companies Bharat Electronics Limited (BEL). The contract worth Rs 2,841 Crores was signed by the Indian MoD on March 23, 2023. It aims the procurement of Medium Power Radars for the Indian Air Force under the Buy (Indian-IDD) category, the Indian Defence Ministry revealed in a press release.

Notably, the Medium Power Radars are indigenous developments designed by the Defence Research and Development Organisation (DRDO) and manufactured by BEL. According to the Indian Defence Ministry, the Indian Air Force has already carried out successful trials of the

Medium Power Radars. Named 'Arudhra', the Medium Power Radar is a 4D multi-function phased array radar with electronic steering in both elevation and azimuth. Arudhra is capable of detection and tracking of aerial targets. According to the Ministry of Defence, Arudhra MPR will also have target identification capability based on an Identification Friend or Foe (IFF) system.

### **IAF to acquire state-of-the-art indigenous RWRs**

The Indian Defence Ministry signed another contract with Bharat Electronics Limited aiming the acquisition of 129 Radar Warning Receivers (RWR) for the Indian Air Force. Categorized under the Buy-Indian (IDDM) Category, the overall cost of the acquisition bid is around Rs 947 Crores. DRDO's Combat Air System- Design & Integration Centre (CASDIC) is responsible for the design and development of the "state-of-the-art" Radar Warning Receivers. As per the Indian MoD's press release, the equipment for the development of the RWRs will be manufactured by Bharat Electronics Limited following the Transfer of Technology from CASDIC.

Notably, the addition of Arudhra Medium Power Radars and Radar Warning Receivers will considerably enhance Indian fighter aircraft's Electronic Warfare (EW) capabilities. Furthermore, the majority of parts and sub-assemblies for the manufacturing of the RWRs and MPRs are sourced from indigenous manufacturers. The Indian MoD termed the development a "significant leap forward" in developing EW capabilities within the nation. The two indigenous projects will act as catalysts for the enhancement of India's manufacturing capability and develop the nation's industrial ecosystem. "The projects essentially embody the spirit of 'Atmanirbhar Bharat' and will help facilitate realizing our country's journey towards self-reliance in defence manufacturing," the Indian Defence Ministry stated.

<https://www.republicworld.com/india-news/general-news/iaf-makes-big-push-for-atmanirbhar-bharat-via-procurement-bid-for-medium-power-radars-articleshow.html>



*Mon, 27 Mar 2023*

## **PM Modi to Address Combined Commanders Conference this Week**

State is all set for Prime Minister Narendra Modi to address the senior commanders of the three armed forces – Army, Navy and Air Force later this week at the 21 Strike Corps headquarters located in Bhopal, Madhya Pradesh.

The senior commanders of the three forces will be meeting from March 30-April 1, 2023 and will be deliberating over several issues including the long pending integration of services, and influence of new and emerging technologies over future wars and also how prepared are the forces to deal with the emerging geopolitical threats.

The three-day Combined Commanders Conference (CCC) serves as a main platform for the interaction of the top political leadership with the military brass.

### **What to expect?**

According to sources in the defence and security establishment during his interaction at the CCC PM Modi is likely to review the progress made so far in the integration of the forces, joint operations, as well as most importantly the progress on setting up the theatre command.

In 2019 the post of Chief of Defence Staff (CDS) was announced following which the Modi government had set a timeline to address critical issues that were “holding back” jointness and the integration of the forces. And to bring about the necessary changes in the jointness of operations, support and logistic services the new CDS at that time (Late) Gen Bipin Rawat was given three years.

As has been reported earlier by Financial Express Online as per the government directive the CDS was given the task to facilitate “restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands”.

Unfortunately the three year deadline has not been met due to the untimely death of Gen Rawat in a helicopter accident. Now a new CDS has been appointed

India joined a select group of countries when it announced setting up the office of CDS. So far countries like the US and China as per the information in the public domain have integrated theatre or joint commands.

#### **Why the need for Joint Commands/Integrated Theatre?**

Once these are established then all the assets whether land, air and sea are put under the command of one officer assigned to a geographical area based on the military and strategic needs of the country.

#### **How many commands does China have?**

It has around five commands and India which has lesser territory and smaller force has 19 commands across the three services.

<https://www.financialexpress.com/defence/pm-modi-to-address-combined-commanders-conference-this-week/3023794/>



*Mon, 27 Mar 2023*

## **Indian Defence Sector Persevering to Counter China's Hypersonic Weapons: Report**

Hypersonic Weapon Systems (HWS) have been in the limelight since the onset of the ongoing Russia-Ukraine conflict. The HW systems gained notable prominence after Russia used them against Ukraine on March 15, 2022. Notably, China is also included in the short list of nations currently in possession of Hypersonic Weapon Systems. Considered a game changer in the conduct of modern warfare, Hypersonic Weapon Systems are capable of causing maximum damage to the adversary through a combination of speed, manoeuvrability, accuracy, range and payload. According to the India-based think tank CLAWS (Centre for Land Warfare Studies), the capabilities possessed by HWS can be evolved into existing cruise and ballistic missiles.

However, in the unpredictable and fragile geo-political scenario, the security implication of China's possession of the Hypersonic Weapon Systems technology has prompted the Indian defence manufacturing sector to overhaul the research and development of indigenous Hypersonic Weapon Systems as a means of deterrence. Indian defense companies such as Bharat Electronics Limited (BEL), Larsen & Toubro (L&T), and Tata Advanced Systems Limited (TASL) are involved in the development of various subsystems and components that go into making a HWS. Furthermore, Indian academic institutions and research centers including the Indian Institute of Technology (IIT) Bombay, IIT Kanpur, and the Defense Institute of Advanced Technology (DIAT), are also conducting research on hypersonic technology and its applications.

### **What Are Hypersonic Weapons**

Hypersonic weapon systems are advanced military technologies that can travel at extremely high speeds, typically defined as Mach 5 or higher (five times the speed of sound). These weapons are designed to be extremely manoeuvrable, able to change course quickly and evade enemy defences, and can travel long distances in a very short amount of time. Furthermore, HWS are capable of carrying out launches from a variety of platforms, including ground-based systems, aircraft, and submarines. They are typically designed to carry conventional or nuclear warheads and are seen as a potential game-changer in military operations, particularly in terms of their speed, range, and ability to penetrate enemy defences.

According to CLAWS, HWS are capable of a sustained endo-atmospheric flight at hypersonic speeds. This means that hypersonic weapons can travel below an altitude of 100 kilometres. Notably, existing ballistic missiles also travel at hypersonic speeds. However, the flight path of ballistic missiles is exo-atmospheric, implying an altitude of over 100 kilometres. Furthermore, the tendency of traditional ballistic missiles of following a pre-planned parabolic flight path renders them incapable of being considered Hypersonic weapons, CLAWS stated.

### **India's Hypersonic Weapon Systems program**

India is actively working on the development of hypersonic weapon systems and has made significant progress in the domain. As per the CLAWS report, there are two types of hypersonic weapon systems— Hypersonic Glide Vehicle (HGV) and Hypersonic Cruise Missile (HCM). In recent years, India has conducted several successful tests of hypersonic technology, including both hypersonic cruise missiles and hypersonic glide vehicles.

One of India's most advanced hypersonic missile systems is the BrahMos-II missile, which is being developed in collaboration with Russia. The BrahMos-II is expected to be capable of travelling at speeds of up to Mach 7 and has a range of over 300 miles. It is being designed to be launched from multiple platforms, including land, air, and sea.

India is also working on the development of a hypersonic glide vehicle, known as the HSTDV (Hypersonic Technology Demonstrator Vehicle), which is designed to be launched from a missile and can travel at speeds of up to Mach 6. An Indian Defence Ministry press release dated September 7, 2020, informed of the successful test of the HSTDV by the Defence Research and Development Organisation (DRDO). "On this successful demonstration, the country enters into the hypersonic regime paving way for advanced hypersonic Vehicles," the Indian Ministry of Defence said in the press release. The development of hypersonic weapon systems is seen as a priority for India's military, as it seeks to modernize its defence capabilities and keep pace with other major powers in the region. Amid the changing power dynamics in the global spectrum, the

development of HW systems will assist India by enhancing deterrence, ensuring precision strike capability, reducing response time in a battle scenario and improving the nation's overall standoff capability.

<https://www.republicworld.com/india-news/general-news/indian-defence-sector-persevering-to-counter-chinas-hypersonic-weapons-report-articleshow.html>



*Mon, 27 Mar 2023*

## **Small Arms for the Indian Armed Forces: Can the Private Industry Deliver?**

*By Manish Kumar Jha*

The Indian defence and law enforcement agencies have been largely dependent on foreign Original Equipment manufacturers (OEMs) for their weapons and ammunition. India has been unable to manufacture a quality infantry assault rifle – the most rudimentary of weapons for the Indian Armed Forces. However, the scenario is changing.

While the Defence Public Sector Undertakings (DPSUs) hold responsibilities for arms and ammunition, the Government of India did open up the same to private players.

Other companies, too, have already tied up with foreign OEMs. The domestic defence entities have either set up plants or are in the process of doing so. This includes the Kalyani Group, which has a tie-up with French firm Thales. The Adani Group has collaborated with Israel Weapon Systems (IWI). Another private entity, one of the largest stainless steel manufacturing companies, Jindal Group has tied up with a Brazilian firm called Taurus Armas S.A. and Neco Desert Tech, a joint venture between Indian and American firms.

### **Policy for small arms manufacturing**

The Department of Industrial Policy and Promotion (DIPP) obtained a decision from the Cabinet during 2001-02 for manufacturing small arms and ammunition for the private sector. Boosting it further, the GOI has since then opened up the FDI up to 76% and on a case-to-case basis it is even 100%.

The Indian army is in the midst of a massive modernisation drive that will re-equip over a million troops with advanced personal arms. In parallel, the country's paramilitary forces, comprising a million soldiers, need a replacement for the redundant INSAS.

The modernization drive requires the upgradation of pistols, carbines, close-quarter battle weapons, assault rifles, sniper rifles, and light, medium, and heavy machine guns with matching ammunition. In fact, the Army Design Bureau(ADB) is focusing on indigenous technologies and solutions in the areas of small arms and ammunition. But the challenges remain for the domestic OEMs to navigate through the regulatory process.

To address the challenges, the Indian industry needs to gear up and set up the complete ecosystem for the modern-day combat soldier.

The heavy investment cycle in defence manufacturing pushes the industry to the edge. The expectations remain on receiving early orders from the Armed forces which allow the domestic players to sustain and spend on research and development.

“This would be unfair to firms that have already invested their money and time to set up a manufacturing facility and have been waiting for orders,” said the head of the Indian defence entity.

### **Innovation in small arms— Indian industry**

Despite the ‘lost decades, the Indian private defence industry has seized some of the opportunities in this domain.

Kalyani Strategic Systems (KSSL)’ Assault Rifle 7.62 x 39 mm is power packed. The key differentiator here is the self-illuminated target tritium sights for faster target acquisition at low light conditions. The Assault Rifle also adds the provision for attachment of Underbarrel Grenade launchers and firing with them.

In addition to the Assault Rifle, the KSSL has launched the Light Machine Gun. The 7.62mm MG-M2 is an automatic weapon designed to be used against enemy troops, light armoured targets, and aerial targets by firing in single and automatic fire mode.

The MG-M2 does come up with innovative technologies like the integration of a cold forged barrel and a rail for the attachment of optical sight or night vision. The key addition is the Interchangeable spare barrel.

One of the milestones in small arms is the development of Masada 9mm pistols for the Indian Navy’s marine commandos which are led by the Adani Group. While it has been under the joint development program with Israel Weapon Systems (IWI), the JV is a step forward in manufacturing the range of IWI weapons such as Tavor assault rifles, X95 assault rifles, Galil sniper rifles, Negev light machine guns and Uzi submachine guns.

On-time delivery has been the salient aspect after the Indian navy placed an order for over 500 pistols in November 2021 under fast-track procurement.

Indian defence entity — SSS Defence— has produced small and medium-calibre ammunition with impeccable performance. It has come up with hi-tech small arms, ammunition and military optics as platforms, including the Saber, a .338 Lapua Magnum long-range sniper weapon; the Viper, a 7.62X51 mm tactical sniper weapon; and the P-72 family of rifles.

The advantage is all about leveraging the core competence which exists in India. The manufacturing capability of high-end metallurgy and processes is fundamental to achieving military-grade

Advanced metallurgy allows us to produce lightweight alloys, and it saves cost as asper out industrial-scale production.

“That is how we have been making a mark with our advanced-level expertise in metallurgy,” said Baba Kalyani, Chairman and Managing Director, Bharat Forge during an interaction.

“If we can design a gun, which is 3 tons all over the world to 900 kilograms, you think we can’t design a tank, which is 50 tons to 25 tons,” Kalyani emphasized.

<https://www.financialexpress.com/defence/small-arms-for-the-indian-armed-forces-can-the-private-industry-deliver-nbsp/3023849/>



Mon, 27 Mar 2023

## Address Systemic Issues in the Armed Forces Archives

*By Anit Mukherjee*

The Indian military, in fits and starts, is undergoing its most significant transformation yet — with the creation of the offices of chief of defence staff, department of military affairs, an expectation of joint theatre commands and the unexpected and controversial Agnipath recruitment scheme. Despite some misgivings about implementing these reforms, and the jury still out on their effectiveness, the Narendra Modi government deserves credit for most of these initiatives. However, these institutional reforms must be matched by an even more important procedural undertaking — a willingness to declassify documents, facilitate scholarly engagement, and be open to research scrutiny. Only then can the military create opportunities for a much-needed intellectual transformation necessary to fulfil the promise of current reforms and deal with future challenges.

A few months ago, the director-general of the National Archives, Chandan Sinha, highlighted what is common knowledge to India’s (minuscule) tribe of military historians — the archives do not have any records about the 1962, 1965 or 1971 wars. To be sure, over the last few years, the military and the defence ministry have made a concerted effort to transfer older files to the archives. In addition, the United Services Institution of India is digitising some historic files. These are positive and welcome developments. Nonetheless, they also belie a lack of understanding of the value of scholarly research and its role in professional military education.

Nothing illustrates this better than a simple pop quiz — ask any serving Army officer what military lessons were learnt from Operation Parakram, launched in the aftermath of the terrorist attack on Parliament in 2001. More specifically, ask where our three-strike corps were deployed, why they were redeployed and whether their operational lessons were a part of their professional military education. This is not just an academic question; analysing this crisis should logically draw lessons for our current operational plans. Most officers will brush away the question, citing secrecy concerns but deep down most will struggle to answer these questions. The fact of the matter is this — the Army does not ask such searching questions or provide its officers with a historically grounded analysis. On the contrary, most formations will struggle to locate records about this operation, in which, according to the government’s admission in the Rajya Sabha, India suffered around 1,874 casualties.

But this is not just about Operation Parakram, which occurred more than two decades ago but pertains to events even before that. Many senior military officers do not understand the concept or value of archives and scholarly research. As a result, hundreds and thousands of documents

and dissertations about training, operations, administration, and logistics lie unexamined in formations, units, and schools of instruction across the country.

Egregiously, when space becomes a constraint or as a matter of bureaucratic habit, the military convenes a board of officers drawn from local units to oversee the destruction of documents. These officers are not historians and most cursorily go through the motions without understanding the potential value of such documents. In all this, the ministry of defence has shrugged off responsibility. Their hands-off attitude facilitates a classic catch-22 situation. When quizzed about declassification, military officers ask for guidance from the ministry to do so. On the other hand, ministry officials correctly claim that only the classifying agency can declassify, putting the onus back to the military. All this buck-passing effectively leaves India's strategic community worse off, with historically minded officers overly reliant on self-convenient biographies and organisational myths.

Addressing these systemic issues will require attention from the top. The defence minister and chief of defence staff should promulgate an integrated records management policy for all three services. Such a document should specify a systematic declassification policy and appoint nodal officers to oversee it. Indeed, transferring records to the public domain is a statutory requirement. As a first step, the defence ministry may also need to empower professional historians — and not necessarily serving officers — to help decide what records should remain classified. To its credit, the Indian Navy has created a naval history division but unfortunately does not allow civilian researchers to access it.

In all this, the military must understand the value of sharing information and open up to scholarly scrutiny and inputs. Such organisational self-knowledge is necessary to intellectually prepare future leaders for emerging challenges. Otherwise, the military will continue perpetuating a half-baked, sanitised version of its past — fearful of the past and, thereby, hesitant about its future.

<https://www.hindustantimes.com/opinion/address-systemic-issues-in-the-armed-forces-archives-101679929893781.html>

**mint**

*Mon, 27 Mar 2023*

## **North Korea Launches Ballistic Missile, Stokes Concerns of Threat Against US**

North Korea has reportedly test-fired a suspected ballistic missile, in a continuation of its recent spate of missile launches. The missile was launched towards the east of the Korean peninsula on March 27, according to South Korea's Joint Chief of Staff. Japan's Coast Guard has also confirmed that it detected a suspected ballistic missile launch, but further details are not yet available.

According to Chinese defence scientists, North Korea's military capabilities are cause for concern. The experts have warned that North Korea possesses a ballistic missile that could cause destruction on US soil in just 33 minutes.



The missile in question is the Hwasong-15, which is a nuclear-capable weapon that was recently launched by North Korea near the Japan border. If the US missile defence network fails to intercept the missile, it could reach Central America in just under 33 minutes, the experts claim.

North Korea reportedly fired a suspected missile towards the sea on March 19, with Japan's Defense Ministry and coast guard confirming the launch. South Korea's military also reported that North Korea fired a ballistic missile towards its eastern waters, according to Yonhap news agency.

It was the third round of weapons tests conducted by North Korea since the US and South Korean militaries began joint military drills, which North Korea views as a practice for an invasion.

North Korea has been carrying out a series of missile launches over the past few weeks. On February 20, South Korea reported that North Korea had launched two ballistic missiles off its east coast. This launch followed just two days after North Korea launched an intercontinental ballistic missile into the ocean off the west coast of Japan in what it described as a "sudden launching drill".

North Korea fired three possible ballistic missile-like projectiles, according to Japan's Coast Guard. However, all three projectiles were intercepted within a short period of time and landed outside of Japan's exclusive economic zone.

The missile launches have caused concern in the international community. The United States has responded by conducting bilateral joint air exercises with Japan and South Korea in response to North Korea's ICBM launch.

<https://www.livemint.com/news/world/north-korea-launches-ballistic-missile-stokes-concerns-of-threat-against-us-11679874107954.html>

## THE ECONOMIC TIMES

*Mon, 27 Mar 2023*

### **Vladimir Putin Ally says Russia has Weapons to Destroy US if its Existence is Threatened**

An ally of President Vladimir Putin has warned that Russia has the weapons to destroy any enemy, including the United States, if its own existence is threatened, accusing Washington of underestimating Moscow's nuclear might.

The comments from Nikolai Patrushev, the influential secretary of Russia's Security Council, are the latest from a senior Russian official to raise the spectre of a nuclear showdown between the world's two largest nuclear powers, something Moscow says it wants to avoid.

"American politicians trapped by their own propaganda remain confident that, in the event of a direct conflict with Russia, the United States is capable of launching a preventive missile strike, after which Russia will no longer be able to respond. This is short-sighted stupidity, and very dangerous," Patrushev told the state Rossiiskaya Gazeta newspaper on Monday.

"Russia is patient and does not intimidate anyone with its military advantage. But it has modern unique weapons capable of destroying any adversary, including the United States, in the event of a threat to its existence", he said.

Russia has said that one of the reasons why it sent tens of thousands of troops into Ukraine in February last year in what it calls its "special military operation" was to counter a perceived security threat stemming from Kyiv's rapprochement with the U.S.-led NATO defence alliance.

Since then, Moscow has accused the West, without presenting public evidence, of making nuclear threats against it, and has spoken of its readiness to use nuclear weapons in extreme circumstances if the very existence of the Russian state is imperilled.

On Saturday, President Vladimir Putin announced that Russia would station tactical nuclear missiles in its close ally Belarus, which borders both Ukraine and Russia, sending a warning to NATO over its military support for Kyiv and escalating a standoff with the West.

<https://economictimes.indiatimes.com/news/defence/vladimir-putin-ally-says-russia-has-weapons-to-destroy-us-if-its-existence-is-threatened/articleshow/99036421.cms>

## Science & Technology News

INDIA  
TODAY

Mon, 27 Mar 2023

### ISRO to Ink New Deal to Identify Ram Setu, other Archeological Sites

*By Rahul Gautam*

The Indian Space Research Organisation (ISRO) is all set to sign an MoU with the Indian Council of Historical Research to help them identify archeological sites, especially the Ram Setu, which has been a topic of debate between India and Sri Lanka for years, and establishing an ancient knowledge system.

ISRO Chief Dr K Sivan while speaking exclusively to India Today they have been able to trace the dried-up channel of the mythological river Saraswati via high resolution imagery and satellite images.

"We can view Ramsetu, also known as Adams bridge via satellite images, but whether it is man-made or natural, for that you will need experts from domains such as the Archaeological Survey of India and other such departments," said Dr Sivan.

In the ancient Indian Sanskrit epic Ramayana, it was mentioned that the Ram Setu was constructed by Lord Rama and his army. Hence, it has great historical and cultural significance.

The ISRO chief also said that for thousands of years, people in India knew that the Sun is the centre of the solar system and that all planets revolve around it.

"Later, Arabic travellers took this knowledge to Europe and they also came to know about this fact during the Industrial Revolution when people like Einstein and Newton worked upon this knowledge. We were not able to evolve or cultivate our knowledge," he said.

<https://www.indiatoday.in/india/story/isro-to-ink-new-deal-to-identify-ram-setu-other-archeological-sites-2352230-2023-03-27>

