

# समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा  
A daily Current Awareness Service

Vol. 42 No. 194 15 September 2017



रक्षा विज्ञान पुस्तकालय  
Defence Science Library  
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केन्द्र  
Defence Scientific Information & Documentation Centre  
मैटकॉफ हाऊस, दिल्ली 110054  
Metcalf House, Delhi- 110054

# Carbine Game Changer

*By Sandeep Unnithan*

The Modern Sub Machine Carbine (MSMC) is possibly the only weapon designed, developed and manufactured in India with a cult following among gamers across the world. The futuristic looking carbine-a compact weapon that fires smaller calibre rounds than an assault rifle-clearly caught the attention of the designers of Call of Duty. Since 2012, players of the franchise's Black Ops II have had the DRDO-designed MSMC as one among five carbine options.

No one is quite sure how the virtual version of the weapon showed up in American-produced pop culture. The actual weapon's history, however, is somewhat chequered. It was developed by DRDO's Pune-based Armaments Research and Development Establishment after the Army announced a contest in 2006 to replace all of its obsolete World War II era 9 mm carbines. The 5.56 mm MSMC has a 30-round magazine and can fire upto 900 rounds per minute. An indigenously-made holographic sight with an inbuilt red-dot laser pointer allows for accurate aiming up to the weapon's 200 metre effective range, making it ideal for use in confined urban spaces. The weapon is produced by state-owned ordnance factories and is close to meeting the army's rigorous testing standards.

As the DRDO-OFB combine wait for the Army order, they have decided to offer the carbine to the police and paramilitary forces. Their optimism is not unfounded. Police forces are looking to modernise WWII era weapon inventories. Imports are not just expensive, but also subject to controls by host nations- German manufacturer Heckler and Koch has repeatedly cited human rights violations by Indian security forces as reason to deny exports.

The Chhattisgarh police became the first to order the weapon this year-640 of them-with similar orders expected from the Madhya Pradesh, Delhi and Meghalaya police. India's paramilitary forces are another potential buyer. Its designers estimate the firearm has the potential to replace nearly 400,000 obsolete weapons, an order worth over Rs 45,000 crore (including ammunition).

"We have the production capacity to make around 35,000 such carbines each year," says H.R. Dixit, general manager, Small Arms Factory (SAF), Kanpur. This Indian carbine's transition from virtual to real could prove to be a potential game changer. (*Magazine Page No. 15*)



## To be Precise

*India has a wide variety of land-based precision guided munitions to choose from*

*By Jaison Deepak*

The modern battlefield is increasingly throwing new challenges at the war fighter such as increasing risk of collateral damage due to proximity of non-combatants, logistical complexities and increasing cost of providing firepower to the troops. Over the years, precision munitions have demonstrated promising potential to mitigate these problems to a good extent over the years. An increase in precision munitions makes sure that civilian casualties are minimised, and far lesser number of munitions are used for the same effects as compared to dumb munitions. As a result, it eases the logistic pressure, costs and lesser barrel wear and tear. Also, insensitive warheads and bi-modular charges enhance the safety, range of the precision munitions while

reducing charge wastage. Many western countries and NATO allies have used precision munitions on a significant scale. In the Gulf was previously, and now in Iraq and Afghanistan, countries have witnessed enhanced terminal effects.

### **Anti-Tank Guided Missiles**

The Kalyani Group and Rafael established a joint venture to manufacture the Spike anti-tank missile for the Indian market. Although the Spike is touted as the leading contender for the procurement of third generation anti-tank missiles, issues such as vendor situation and high cost of the system have delayed the signing of a contract.

The Defence Research and Development Organisation (DRDO) has also been developing and testing a variant of the Nag anti-tank missile called the Prospina with higher resolution seekers based on Focal Plane Array (FPA) detectors from Sofradir (France) and newer variants of the launcher NAMICA built by Bharat Electronics Limited (BEL). Earlier seekers had experienced difficulty in picking up targets at three-four km in high ambient temperatures of Pokhran summers.

### **Guided Mortars**

Guided artillery shells are a cost-effective way to provide precision fire-power to shorter ranges at the battalion level. The guidance electronics which go into mortars tend to be less expensive than the ones in howitzers as they tend to experience much lower acceleration. The Orbital ATK XM395 has been successfully proven in Afghanistan by the US forces. It consists of a guidance fuse kit with has a GPS module, controller and fins to improve the Circular Error Probability (CEP) from more than a hundred metres for normal mortar rounds to about 10m CEP or less. (*Magazine Page No. 47*)



*Fri, 15 Sep, 2017*

## **You heard it: IAF test of Astra missile rattles window panes in Balasore off Odisha coast**

*By Hemant Kumar Rout*

Bhubaneswar: The Indian Air Force (IAF) on Thursday conducted an air exercise involving the air-to-air missile Astra against an actual target in full operational configuration over the Bay of Bengal.

Defence sources said the beyond-visual-range (BVR) missile was fired from a Sukhoi-30 MKI fighter jet targeting a pilotless target aircraft (PTA) Banshee. The mission was termed ‘successful’ considering the missed-distance calculation.

People were taken aback by the sound generated by the exercise. It was so loud that window panes shattered in some houses in Balasore. It triggered speculation of a huge explosion.

“The exercise was conducted in a war-like scenario and the missile was fired on an actual target. Data collected during the test is being examined,” said an official.

The test was, however, conducted to demonstrate the aerodynamic characteristics and killing ability of the missile. It demonstrated the repeatability, robustness and endurance capability of the Astra weapon system, said the official.

About the sound, he clarified that when a fighter aircraft travels at supersonic speeds it creates shockwaves that resembles a huge explosion. So there is no need to panic, he added.

Indigenously designed and developed by DRDO, Astra possesses single shot kill probability (SSKP), making it highly reliable. It is an all-weather missile with active radar terminal guidance, excellent electronic

counter-counter measure (ECCM) features, smokeless propulsion and process improved effectiveness in multi-target scenario.

Not only the Sukhoi-30 MKI, scientists have started integrating the weapon with homegrown Tejas Light Combat Aircraft (LCA). The air exercise will continue for some more days involving two other air-to-air missiles apart from Astra, sources informed.

Astra is designed for 80-km range in head-on mode and 20 km-range in tail-chase mode. The 3.8 metres long missile, which has launch weight about 154 kg, uses solid-fuel propellant and a 15 kg high-explosive warhead, activated by a proximity fuse.

Fitted with a terminal active radar-seeker and an updated mid-course internal guidance system, the missile can locate and track targets. It is difficult to track this missile as its on-board electronic counter-measures jam signals from the enemy radars.

## THE ECONOMIC TIMES

Fri, 15 Sep, 2017

### Hot Startup - This Co Helps Jawans Keep their Daily Hygiene

By Vishal Dutta

*Makes waterless body hygiene products such as shampoo and body bath solutions*

The Indian Army will soon move on to the 'Swachh Bharat Mission', one of the Central government's flagship project. But this 'Swachh Bharat Mission' is slightly different as the Army is preparing for personal hygiene for their combat forces posted in operational areas, where taking a bath daily is a challenge either due to operational conditions or environmental reasons.

In July, the Indian Army chose an 18-month-old startup CleanLife, founded by Puneet Gupta, an IIM Calcutta alumnus. The startup makes waterless body hygiene products such as shampoo and body bath solutions, which can remove dirt, dust, grease, odour and oil from the skin and head while moisturising the skin and conditioning hair. The waterless product has to be massaged but leaves no residue after it has been wiped off with a clean towel.

"The feedback for waterless products is positive and hence we have placed an order. The products aided soldiers to maintain optimum levels of hygiene under operational conditions without using water and hence it is a valuable product to us," said an officer requesting anonymity.

The Army has done extensive trials to establish the products utility and the potential to create an impact in the soldiers' daily lives was thoroughly evaluated. The product will be used only by one unit in the Army at present. An email query sent to the Ministry of Defence didn't elicit any response till the time of press.

Regarding the supply deal that the startup has struck with the Army, Gupta said, "Usually, the Army approaches the DRDO for solutions, but in its absence, it can procure from outside." Founded in February 2016, the startup got infrastructural support and access to faculty for technical and advisory support, and research talent pool from IIT Delhi, in lieu of 5% equity in the company. "Considering the global concerns and discussion around water crisis, it is clear that water as a resource will be much sought after. The potential for the Indian market under target segments of armed forces, hospitals, home healthcare, railways and adventure excursions has been evaluated to be to the tune of Rs 5,000 crore in the B2B (Business-to-Business) segment. The potential for head and body care in the B2C (Business-to-Consumer) segment is immense for the Indian subcontinent and globally as well," said Dr Vijay Chariar, director, IIT Delhi.

The startup has applied for patents and is currently working on antimosquito waterless shampoo and body bath, where it can help keep mosquitoes away for a span of 24-36 hours. "We are also working on a waterless toothpaste, which is a safe to swallow formula and helps keep dental hygiene without the use of water," Gupta said.

The company says these products provide accessible hygiene in areas where water or hygienic facilities are scarce for soldiers, including those with extreme weather conditions such as Siachen, Dras, Sino-Indian border (Arunachal Pradesh and Sikkim) and India-Pakistan border (Rajasthan). The product can also find use in areas where soldiers are deployed far away from settlements such as Andaman & Nicobar.

## जनसत्ता

Fri, 15 Sep, 2017

# भारत-जापान में 15 समझौते

जनसत्ता ब्यूरो  
नई दिल्ली, 14 सितंबर।

भारत को परमाणु बिजली संयंत्र बनाने की तकनीक जापान देगा। शांति कार्यों में परमाणु ऊर्जा के इस्तेमाल के अन्य क्षेत्रों में भी जापान और भारत एक दूसरे से सहयोग बढ़ाएंगे। गुरुवार को दोनों देशों ने निवेश में तेजी लाने, रक्षा, परिवहन समेत कई क्षेत्रों में 15 समझौतों पर हस्ताक्षर किए।

परमाणु ऊर्जा क्षेत्र में सहयोग को अहम माना जा रहा है। भारतीय राजनयिक इसके लिए अरसे से प्रयासरत थे। प्रधानमंत्री नरेंद्र मोदी और जापान के प्रधानमंत्री शिंजो आबे के बीच गुरुवार को गांधीनगर के महात्मा मंदिर में हुई 12वीं भारत-जापान वार्षिक शिखर बैठक में ये फैसले किए गए।

दोनों देशों की ओर से जारी संयुक्त बयान में कहा गया है कि भारत और जापान ने प्रशांत-हिंद महासागर क्षेत्र में शांति, स्थिरता और समृद्धि के प्रति वचनबद्धता को दोहराते हुए अपनी विशेष सामरिक और वैश्विक साझेदारी को और प्रगाढ़ बनाने के लिए सैन्य आदान-

प्रदान और रक्षा प्रौद्योगिकी व उत्पादन क्षेत्र में सहयोग बढ़ाने का फैसला किया। जिन समझौतों और दस्तावेजों पर दस्तखत हुए हैं, वे संबंधों को मजबूती प्रदान करेंगे। दोनों देशों के बीच

- परमाणु बिजली बनाने की तकनीक मिलेगी, जापानी सहयोग से बनेगा संयंत्र
- रक्षा, परिवहन, शोध, ढांचागत विकास, खेल समेत कई क्षेत्रों में परस्पर सहयोग बढ़ाएंगे दोनों देश

रक्षा, शांति कार्यों के लिए परमाणु ऊर्जा के इस्तेमाल, यातायात को लेकर बड़ा समझौता हुआ है। नौसेना के लिए निगरानी विमान बनाने के लिए जापानी सहयोग पर मुहर लगी।

परमाणु बिजली बनाने के लिए जापान तकनीक देगा। इस वर्ष जुलाई में प्रधानमंत्री नरेंद्र मोदी के जापान दौरे के समय इस बारे में आगे बातचीत करने पर सहमति बनी। इस करार के बारे में जनसत्ता 14 सितंबर के अंक में खबर छाप चुका है। परमाणु अप्रसार संधि पर भारत की ओर से दस्तखत नहीं किए जाने

के चलते जापान में भारत के प्रस्ताव का राजनीतिक स्तर पर विरोध हो रहा था। हालांकि, राजनीतिक चैनल से लगातार बातचीत के जरिए यह बाधा दूर कर ली गई। गुरुवार को समझौतों के बाद अब आगे बिजलीघर तकनीक को लेकर विस्तृत वार्ता और योजनाओं पर काम होगा।

अन्य जिन दस्तावेजों पर हस्ताक्षर किए गए, उनमें पूर्वोत्तर में भौगोलिक संपर्क बढ़ाने और विकास कार्यक्रमों में सहयोग के लिए 'भारत-जापान एक्ट ईस्ट फोरम' का गठन करने, भारत में जापानी भाषा में शिक्षा प्रदान करने, आपदा जोखिम कम करने, इंडिया पोस्ट और जापान पोस्ट के बीच भोज्य पदार्थों को एक दूसरे के यहां पहुंचाने के लिए कूल ईएमएस सेवा शुरू करने, भारत जापान निवेश संवर्द्धन रोडमैप तैयार करने, गुजरात के मंडल बेचराज खोराज क्षेत्र में ढांचागत विकास, भारत में जापानी एयरलाइनों की असीमित उड़ानों की इजाजत, बायो-टेक्नोलॉजी में सहयोग के दो करार, खेल में चार करार व अनुसंधानों को साझा करने का एक करार शामिल है। विज्ञान और प्रौद्योगिकी के क्षेत्र में संयुक्त आदान-प्रदान किया जाएगा।

The Statesman  
PEOPLE'S PARLIAMENT, ALWAYS IN SESSION

Fri, 15 Sep, 2017

## India, Japan condemn NK for N- threat

India and Japan on Thursday condemned North Korea for its threat to use nuclear weapons to 'sink' Japan. Prime Minister Narendra Modi and his Japanese counterpart Shinzo Abe today jointly castigated North Korea for its continued development of nuclear weapons and ballistic missile programmes.

In a joint statement at the end to the Japanese Premier's two-day visit to Gujarat, the two leaders also called upon Pakistan to bring to justice perpetrators of the terror attacks in India, including at Mumbai in November 2008 and the Pathankot attack in 2016. "Terrorism in all its forms and manifestations is a global

scourge that must be forcefully combated through concerted global action in the spirit of zero tolerance”, the two Prime Ministers said in the joint statement.

They also pledged to work together to deal with the current serious situation and called on the international community to vigorously and fully implement relevant UNSC resolutions to maximise pressure on North Korea. The two Prime Ministers called upon all countries to work towards rooting out terrorists’ safe havens and infrastructure, disrupting terrorist networks and financing channels and halting crossborder movement of terrorists. The two leaders said that they are looking forward to convening the 5th Japan-India consultation on terrorism and to strengthen cooperation against terrorists’ threats from groups including Al Qaeda, ISIS, JeM, LeT and their affiliates.

After the ground laying ceremony of the Ahmedabad-Mumbai bullet train at Sabarmati this morning, the two Prime Ministers held strategic discussions on wide ranging issues about partnership between the two countries. Prime Minister Modi and Japanese Prime Minister Shinzo Abe addressed the media during the 12th Indo-Japan Summit at the sprawling Mahatma Mandir here, after the two countries signed 15 MoUs ranging from disaster risk management, skills development, connectivity, civil aviation, science & technology and sports. Addressing the media, Prime Minister Modi said that Japan invested \$ 4.7 billion in India during 2016-17, an 80 per cent from the previous year.

## पंजाब केसरी

Fri, 15 Sep, 2017

### शनि ग्रह के अभियान में अपनी अंतिम यात्रा पर नासा का कासिनी

वाशिंगटन, (भाषा):नासा का कासिनी अंतरिक्ष यान शनि ग्रह के अपने अभियान के अंतिम पड़ाव में है। अपनी 20 साल की ऐतिहासिक यात्रा के अंतिम चरण में कासिनी 113,000 किलोमीटर प्रतिघंटा की रफ्तार से वलयकार ग्रह की ओर बढ़ रहा है।अमेरिका की अंतरिक्ष एजेंसी ने आज बताया कि कासिनी शनिग्रह की सीमा में प्रवेश करने जा रहा है जो शनि ग्रह के उपग्रहों - विशेषकर एनसेलाडस की सतह पर मौजूद उन सागर एवं हाइड्रोथर्मल गतिविधियों के संकेतों को सुनिश्चित करेगा, जो अब तक भविष्य की खोज से दूर दुनिया के वैज्ञानिकों की नजरों से अनछुए थे।मिशन के ग्रैंड फिनाले के तहत अंतरिक्ष यान की यह अंतिम यात्रा 15 सितंबर को पूरी होगी। अब तक कोई अंतरिक्ष यान इससे पहले इस ग्रह के इतना करीब नहीं पहुंचा था। मिशन की अंतिम गणनाओं में अनुमान है कि ग्रह के अनुमानित वायुमंडल से करीब 1,915 किलोमीटर की रुंचाई पर पहुंचने के एक मिनट बाद अंतरिक्ष यान कासिनी के साथ संपर्क टूट जायेगा। ग्रह के वायुमंडल में गोता लगाने के दौरान यान की गति करीब 113,000 कि.मी. प्रतिघंटा होगी।

अमेरिका में नासा के जेट प्रोपल्शन लेबोरेटरी में कासिनी प्रोजेक्ट मैनेजर ने कहा, अंतरिक्ष यान का अंतिम संकेत किसी प्रतिध्वनि के समान होगा और यह कासिनी के स्वयं जाने के बाद समूची सौर प्रणाली में करीब डेढ़ घंटा के लिये प्रसारित होगा।मेज ने कहा, हम यह जानते हैं कि कासिनी की यह अंतिम यात्रा है, क्योंकि कासिनी पहले ही अपने अंतिम मुकाम पर पहुंच गया है। हालांकि उसकी यात्रा हकीकत में हमारे लिये खत्म नहीं हुई है क्योंकि हमें अब तक उससे संकेत मिल रहे हैं।

कासिनी से अंतिम संचार ऑस्ट्रेलिया में नासा के डीप स्पेस नेटवर्क कॉम्प्लेक्स में एंटीना को प्राप्त होगा।