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Jaitley favours Indian over foreign for missile deal

By **Ajit K Dubey** in New Delhi

IN LINE with Prime Minister Narendra Modi's direction to promote Make in India in the defence sector and avoid imports, the defence ministry has decided to award an army missile contract worth around ₹18,000 crore to the DRDO over a foreign vendor.

The decision was taken by defence minister Arun Jaitley in the crucial meeting of the Defence Acquisition Council held last week, top government sources told MAIL TODAY.

The case for acquiring Short Range Surface to Air Missiles (SR-SAMs) was taken up for discussion during the DAC meeting where the government had to decide whether to go for a foreign missile system or the Akash surface to air missile systems. Jaitley went on for the indigenous option, sources said.

Top army sources confirmed that the force would be utilising the Akash missiles for protection against the incoming aircraft and unmanned aerial vehicles of the adversaries as the system would be deployed on both the Pakistan and China border. Sources said there were a few specific systems and equipment available on the foreign system that were asked for by the army for the missile system which DRDO assured would be provided.

Akash missile systems are proving their worth in the recent times as they have been chosen by the IAF for its requirement.

The DRDO may have lagged behind in the indigenous development of aircraft and land warfare systems but it has helped India to become self-reliant in the strategic missile systems helping in giving advance capability to the armed forces while saving in precious foreign currency for the government.

It is learnt that three foreign vendors — Israel, Sweden and Russia — were in the race for bagging the contract for which the process was initiated in 2011, and trials were held in 2014.

One of the three contenders had to be chosen for the contract as the force wanted the two regiments of the missile system to be provided to the army air defence. The army air defence has been operating with obsolete equipment for a long time with the government recently saying around 98 per cent of it was outdated.

However, under the Modi regime, the force recently received a boost when the cabinet committee on security cleared the ₹17,000 crore Medium Range Surface to Air Missile project with Israel.

दैनिक जागरण

देश की पहली स्कॉपीन पनडुब्बी का परीक्षण सफल

नई दिल्ली, आइएनएस/प्रेट्र : स्वदेशी स्कॉपीन श्रेणी की पहली पनडुब्बी ने सफलतापूर्वक अपना लक्ष्य भेद लिया है। शनिवार को रक्षा मंत्री अरुण जेटली ने सिलसिलेवार ट्वीट के जरिये देश की जनता से यह जानकारी साझा की। उन्होंने इसके लिए वैज्ञानिकों और इंजीनियरों को बधाई दी।

रक्षा मंत्री ने ट्वीट में कहा कि स्कॉपीन श्रेणी की पहली पनडुब्बी 'कलावरी' का परीक्षण पूरा हो गया है। हालांकि यह नहीं बताया कि यह किस

टॉरपीडो का परीक्षण किया गया था। उन्होंने लिखा, 'स्वदेश निर्मित पहली स्कॉपीन पनडुब्बी से टॉरपीडो के सफलतापूर्वक परीक्षण के लिए हमारे वैज्ञानिकों, इंजीनियरों को बधाई। रडार से बच निकलने में सक्षम यह स्वदेशी पनडुब्बी पानी के अंदर भारतीय नौसेना की क्षमता में बढ़ोत्तरी करेगी।'

देश में बनी स्कॉपीन श्रेणी की इस पनडुब्बी से दो मार्च को पहली बार पोत-रोधी मिसाइल का परीक्षण किया गया था। मालूम हो, 'कलावरी'

देश की छह स्कॉपीन श्रेणी की पनडुब्बियों में पहली है। इनका निर्माण प्रोजेक्ट 75 के तहत किया जा रहा है।

पनडुब्बियों का निर्माण मझगांव डॉक लिमिटेड (एमडीएल), फ्रांसीसी कंपनी डीसीएनएस के सहयोग से कर रही है। दो पनडुब्बियां तैयार हो चुकी हैं, बाकी चार निर्माणाधीन हैं। 'कलावरी' समुद्र परीक्षणों से गुजर रही है और 2017 के मध्य में नौसेना में शामिल होने की उम्मीद है।

Sun, 28 May, 2017

India and Mauritius sign deal on maritime security

In a bid to ramp up bilateral cooperation on maritime security, India and Mauritius on Saturday signed a maritime security agreement after extensive talks between Prime Minister Narendra Modi and the visiting Mauritius PM Pravind Jugnauth. In a statement, Modi said he and Jugnauth agreed that effective management of conventional and non-conventional threats in the Indian Ocean is essential to pursue economic opportunities and provide security to the people of both the countries.

“We have to keep up our vigil against piracy that impacts trade and tourism, trafficking of drugs and humans, illegal fishing, and other forms of illegal exploitation of marine resources,” he said. The bilateral maritime pact is expected to strengthen cooperation and capacities, he said, noting that the two sides also agreed to strengthen wide-ranging cooperation in hydrography for a secure and peaceful maritime domain.

Jugnauth said the two countries need to ensure that the sea lanes of communications are secure and regular patrolling is conducted to combat illegal activities such as piracy, illegal fishing in territorial waters and drug trafficking. India also announced a \$500 million line of credit to Mauritius. A decision to extend the operational life of Coast Guard ship Guardian, that was given by India to Mauritius under a grant assistance programme, was also taken. During his visit to Mauritius in March 2015, Modi had commissioned offshore patrol vessel Barracuda, built and financed by India, into the Mauritian Coast Guard. Holding that Mauritius has “strong” defence and security ties with India, the visiting PM said the acquisition of such OPVs and fast interceptor boats from India has enhanced the operational capacities of its police and coast guard.

Business Standard

Sun, 28 May, 2017

Towards integration in defence

By Premvir Das

India needs a Chief of Defence Staff who will be the principal military advisor to the government and oversee joint operational functioning of the three Services

Military headquarters should be integrated with the ministry of defence more meaningfully, while defence acquisitions need streamlining. Our existing structures are not serving us well

The Armed Forces have recently put out a joint doctrine, their second in 10 years, the first having been promulgated in 2007. This document has been variously described as ordinary, devoid of substance, innocent of realities and unrelated to the country’s strategic needs by many commentators, including a former navy chief who, as member of two highlevel groups in 2001 and 2011, had been party to measures recommended to streamline the three Services to one common purpose. This writer was a member of the first of these. Nearly two decades after that exercise, it is time to review the whys of what was said, and even more important, the wherefores. It was a Task Force on Higher Defence Management led by former minister Arun Singh which steered the 2001 work that led to comprehensive recommendations by a Group of Ministers (GOM) chaired by then Deputy PM LK Advani. The GOM itself arose from a report of the Kargil Committee, constituted following that conflict. Casting a wide net, it suggested that our Armed Forces, as structured, operated in compartments, when the need of the hour was for integrated mechanisms which had been put in place by almost every other modern counterpart. To this purpose, but not for it alone, a Chief of Defence Staff (CDS)

was recommended who would be the principal military advisor to the government and oversee joint operational functioning of the three wings.



However, instead of following this logic, as in the United States and UK and many other countries, the task force preferred to make him responsible for policy and planning, creating two unified commands for starters, one in the Andaman and Nicobar Islands and the other, as a strategic command; these could be expanded upon with experience gained.

This left the more visible and important element of operations to individual Service Chiefs and only ensured that the prevailing situation would continue; that is exactly what has happened. In 2011 another committee headed by a former cabinet secretary, Naresh Chandra, was constituted. It made its own set of suggestions, but in regard to unified command and control, went in a direction which was neither here nor there. It changed the nomenclature of the CDS to Chairman, Chiefs of Staff, without assigning to him any meaningful responsibility — no national

security strategy from which military strategies (joint or otherwise) should flow, no single-point military advice to the political authority and no integration other than that which can only pass as cosmetic.

In retrospect, the stress on unification and integration was an idea whose time had not yet come. It can hardly be argued that things have not happened as desired because the powers that be are ignorant of the issues. If two NDA governments and two of the UPA have been unable to put the jigsaw together, there must be some good reason and it is necessary to look at the matter afresh. India is still a largely continental country and threats to its territorial integrity, such as they are or have been, have always emanated from across its land borders; to this should be added those arising from terrorism, either sponsored from outside or internal.

This clearly calls for land-based responses of various kinds, supported by the use of air power where necessary. The sea figures only notionally in this activity. Yes, in recent decades, especially, the last two, recognition of the potential to exploit maritime power — where we have strengths — towards the larger strategic objectives has grown exponentially but issues at sea still do not threaten our territorial integrity to that same extent. So, even as we should seek to enhance our maritime prowess and recognise its strategic potential, we should not overlook the seminal role that land power will continue to play in our security concerns.

It is not anyone's contention that this implies that the three wings of the military should not have synergistic management in higher defence or operate in watertight compartments. We do need a single-point military advisor who must be an army person in the foreseeable future, and that authority should oversee operational functions, leaving force development and planning to the individual services. We could also have some army-air force unified commands especially in the northern sectors. We should integrate military headquarters with the ministry of defence more meaningfully than just in name and we should streamline our defence acquisitions, which we are somehow finding difficult to do, and include both public and private sectors in this process. But we must recognise that recommendations made by two very knowledgeable and experienced groups have not been able to satisfactorily resolve the peculiarities of the Indian context and, therefore, the optimal concept of full integration is not feasible for some time to come.

The sum of ~2.74 lakh crore that we will spend this year on defence preparedness is not something to be scoffed at. It must give value for money not just in numbers and types of ships or aircraft or guns or tanks, but in the quality of management that their exploitation must involve. From all accounts, our existing structures do not allow us to do so and need to be revisited.

Only a “top down” approach which could be rammed down achieved results in other countries; there is no way in which it can be done differently here. Let the national security advisor or any other person enjoying credibility with the top leadership head a very small team of three or four people and let there be “diktats” linked with time frames for implementation. We have the demonetisation model before us — an order was issued at the highest level, and thereafter execution was ensured through continuous monitoring and time-bound action.

Finally, all this will also not be useful if there is no overriding larger strategy. This need not be in tomes of literature; two pages of bullet point formulation will suffice. Until we go about this business with singleminded focus, unconvincing papers like the joint doctrine will be all that we will get.



Sun, 28 May, 2017

Under Scanner - Def ministry cracks whip on ordnance factories

By Chethan Kumar

With an iron resolve to enhance efficiency of defence production and to increase private participation, the ministry of defence has been cracking its whip on the Ordnance Factory Board (OFB) in the past few months. It intensified after an intervention by the Prime Minister's Office brought 41 factories under its scanner in February .

According to an internal letter dated May 25, secretary (defence production) AK Gupta will, on June 2, hold discussions on whether the “time has come for ordnance factories to exit from making `non-core' items“. The letter comes on the heels of ministry circular on April 27, which directed ordnance units making 87 items to either wind up or make alternative use of the facilities.

The April circular now allows the Indian Army to directly buy the 87 items -48 troop comfort articles and 39 under the crucial weapons section, including 12 types of ammunition boxes, three types of bombs, seven types of empty shells and two types of binoculars -directly from the private sector. The meeting will include “...identification of facilities itemwise which will become idle after hiving off of non-core items.“ It will also discuss alternative use of plant and machineries engaged in production of such items and “redeployment gainful utilisation of the affected manpower (taking into account superannuation et al).“

The April circular and May 25 letter are in line with the February 16 letter from PMO, which besides seeking details of all products made at ordnance factories had also sought information on land owned by these units.

Employees of ordnance factories claim the move is not in “national interest“ and that “it could put the country's strategic needs at risk“.

Land details: The defence ministry has formed a high-level committee to regulate land use by ordnance factories. While the PMO letter had sought details from all 41 factories, the committee has asked for details from those factories in Pune, Avadi (Tamil Nadu), Jabalpur, Medak, Dehradun, Kolkata and Kanpur.



Sun, 28 May, 2017

Army dominates LoC, says Jaitley

Finance and Defence Minister Arun Jaitley has said the Indian army is in “domination” across the entire stretch of the Line of Control (LoC). “I can emphatically say the Indian army is in a position of domination along the full stretch of Line of Control.” he said in an interview-based programme on Doordarshan. The

interview is part of Dialogue@DDNews, a series of interviews by Doordarshan with Union ministers to mark the Narendra Modi-led government's three years in office.

Jaitley's strong tone was in response to a question on what strategies India had as a response to the tense situation on the border with Pakistan. Government officers explained the term domination as Indian army's "more aggressive" position having deployed more personnel and firepower against what Pakistan has made available to its forces along the Line of Control."

"They (army) are in a position to respond to any aggression from the adversary," the minister added.

According to him, to match the enhanced strength on the border, the government has decided to push up the level of domestic production of armaments. "You cannot go around the world buying military equipment just when they are needed the most," he said.

Jaitley said this was the reasoning on which the NDA government has decided to expand and rope in the private sector in defence production.

"They (army) are in a position to respond to any aggression from the adversary" arun jaitley, Defence Minister

The government plans to put into effect a new strategic partnership policy under which it will select six Indian firms to partner foreign original equipment manufacturers in building single-engine aircraft, helicopters, submarines and armoured vehicles in India. The details of the policy are still to be made public but the defence ministry has already given the broad indications of it to a select gathering of executives from private industry earlier this month.

दैनिक जागरण

Sun, 28 May, 2017

नियंत्रण रेखा और सीमा पर है भारतीय सेना का दबदबा - जेटली

नई दिल्ली, प्रेटर : रक्षा मंत्री अरुण जेटली ने कहा है कि जम्मू एवं कश्मीर में नियंत्रण रेखा (एलओसी) और अंतरराष्ट्रीय सीमा पर भारतीय सेना का दबदबा कायम है। उन्होंने शनिवार को कहा कि भारतीय सेना किसी भी सुरक्षा चुनौती से निपटने के लिए पूरी तरह से तैयार है।

रक्षा मंत्री ने कहा कि पाकिस्तान की आंतरिक स्थिति ऐसी है कि उसे कश्मीर पर तनाव बनाए रखने की दरकार है। भारत ने बातचीत का वातावरण तैयार करने के लिए पर्याप्त प्रयास किए। बदले में पाकिस्तान ने पठानकोट और उड़ी में हमले किए। पाकिस्तान की सैन्य अदालत ने कुलभूषण जाधव को फांसी

की सजा भी सुनाई है। हाल ही में जम्मू एवं कश्मीर में पत्थरबाजों से निपटने के लिए सेना की जीप से पत्थरबाज को बांधने का जेटली ने समर्थन किया। उन्होंने कहा कि सेना ने पत्थरबाजों से निपटने के लिए मानव ढाल बनाने का फैसला जमीनी वास्तविकता पर ध्यान देने के बाद लिया होगा।

यह पूछे जाने पर कि क्या भारत और पाकिस्तान के बीच तनाव बढ़ सकता है, रक्षा मंत्री ने कहा कि इसका जवाब देना अभी संभव नहीं है। उन्होंने कहा, 'एलओसी और अंतरराष्ट्रीय सीमा पर हमारी सेना का दबदबा कायम है। घुसपैठ रोकने के लिए सेना ने सभी आवश्यक कदम उठाए हैं। सेना पूरी

तरह से तैयार है। मैं सूचनाएं सार्वजनिक नहीं कर सकता। लेकिन मैं इतना कह सकता हूँ कि नियंत्रण रेखा और हमारी सीमा पूरी तरह सुरक्षित है।' उन्होंने यह भी कहा कि भारतीय जवानों का सिर काटने जैसे घृणित काम की कीमत पाकिस्तान को चुकानी होगी।

Sun, 28 May, 2017

Air Chief flies Dhanoa ‘Missing Man’ formation

Air Chief Marshal B S Dhanoa, Chief of the Air Staff, on Saturday led a four-aircraft MiG-21 ‘Missing Man’ formation flypast at Air Force Station Bhisiana, near Bathinda, to honour Kargil martyrs.

The ‘Missing Man’ flypast is an aerial salute to honour the fallen comrades-in-arms.

The Air Chief was on a three-day visit to the station. On this day in 1999, Squadron Leader Ajay Ahuja, Vir Chakra (posthumous), died during the Kargil conflict. He was at that time Flight Commander of 17 Squadron.



Sun, 28 May, 2017

Indian researchers develop 3D bioprinted cartilage

By R. Prasad

It is the first time that permanent cartilage similar to natural ones has been developed

Millions of people around the world suffer from degenerative joint diseases such as arthritis. Despite attempting for the last 30 years, scientists across the world have not been able to produce in the lab cartilage-like tissues that are functionally and structurally similar to cartilages seen in human knees and have load-bearing capacity. For the first time, Indian researchers have been able to achieve a measure of success in developing cartilages that are molecularly similar to the ones seen in human knees.

While scientists attempting to tissue-engineer cartilage have focussed on growing cells on porous scaffolds, in a paradigm shift, a team led by Prof. Sourabh Ghosh from the Department of Textile Technology at the Indian Institute of Technology (IIT) Delhi has been successful in 3D bioprinting of cartilage using a bioink.

The bioink has high concentration of bone-marrow derived cartilage stem cells, silk proteins and a few factors. The chemical composition of the bioink supports cell growth and long-term survival of the cells. The cartilage developed in the lab has remained physically stable for up to six weeks. The results of the study were published in the journal *Bioprinting*.

“This is the first study from India where any 3D bioprinted tissue has been developed in a lab,” says Shikha Chawla from the Department of Textile Technology at IIT Delhi and the first author of the paper.

“The silk protein has different amino acids that closely resemble the amino acids present in human tissues. Just like cells are surrounded by proteins inside our body, the cells in the engineered cartilage are also surrounded by bioink that has a similar composition,” says Prof. Ghosh, who is one of the corresponding authors of the paper.

Transient cartilage

While the cartilage found in the knee is an articular cartilage that is typically sponge-like and has a huge load-bearing capacity, the ones produced in the lab so far are of a different kind — transient cartilage. Unlike articular cartilage, transient cartilage becomes bone cells and, therefore, brittle within a short time. As a result, the engineered cartilage loses its capacity to bear huge load that is typically encountered in the knee.

But the 3D bioprinting approach adopted by the team allows the high concentration of bone-marrow derived cartilage stem cells present in the bioink to gradually convert to chondrocyte-like cells (specialised cells which produce and maintain the extracellular matrix of cartilage).

“We have succeeded in stopping this conversion of chondrocyte-like cells or stem cells into bone cells so that they remain as stable articular cartilage,” says Prof. Ghosh. This was done by optimising the bioink composition, 3D bioprinting process, and by using a combination of growth factors. The optimisation of the silk-gelatin bioink was done in such a manner that it activated two important signalling pathways that are responsible for minimising or inhibiting the conversion of the cartilage into bone-like tissue.

“All earlier work never evaluated for the production of articular or permanent cartilage, while we assessed and found that our strategy leads to the production of permanent cartilage in the lab,” says Prof. Amitabha Bandyopadhyay of Department of Biological Sciences and Bioengineering, Indian Institute of Technology (IIT) Kanpur, and a corresponding author.

Stem-cell like nature

The team was able to achieve this by combining the tissue engineering and 3D bioprinting expertise at IIT Delhi with developmental biology expertise at IIT Kanpur. Prof. Bandyopadhyay’s laboratory developed a well characterised, novel cell line from bone-marrow stem cells. The cell line retained its stem cell-like nature even after months of culturing under laboratory conditions.

“As a next step, we would implant this 3D bioprinted cartilage into the knee joints of animals to see if it remains stable in the knee joint and is able to integrate with the surrounding cartilage tissue,” says Prof. Ghosh. This study also opens up platforms to use 3D bioprinted cartilage on in vitro model system for assessing drug delivery and pharmaceutical studies.