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A SUGOSHA MEDIA PRESENTATION

DeflInsights



COVER STORY

SASMOS

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COVER STORY



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From the MD's Desk



Mrs. Shanti Kuber

Dear Friends and A&D Professionals,

Happy days are here again !!

After a dull two months, of COVID taking the centre stage, June ushers in fresh hope, for the defence sector. Quite a few interesting events, P-75(I) takes the cake. Since the Strategic Partnership model was formulated in 2016, the first mega program is set to kick off, with the apex body providing approvals. Then there are the 101 and 108 lists and many collaborations and opportunities. Just read on..

The Defence Acquisition Council (DAC), in its meeting held under the Chairmanship of Raksha Mantri Shri Rajnath Singh on June 04, 2021, has approved proposals concerning Capital Acquisitions of various equipment for modernisation and operational needs of the Armed Forces amounting to approx. Rs 6,000 crore about USD 900 Mn.

In addition, the DAC also approved issue of RFP for construction of six Conventional Submarines under Project P 75 (I) under the Strategic Partnership (SP) Model. This project envisages indigenous construction of six conventional submarines equipped with the state-of-the-art Air Independent Propulsion system at an estimated cost of Rs 43,000 crore a little more than USD 6 bn. This is a landmark approval, being the first case processed under the Strategic Partnership model. This would be one of the largest 'Make in India' projects and will serve to facilitate faster and more significant absorption of technology and create a tiered industrial ecosystem for submarine construction in India. From a strategic perspective, this will help reduce current dependence on imports and gradually ensure greater self-reliance and dependability of supplies from indigenous sources. With accord of this approval, the country will be enabled to achieve its 30-year Submarine construction programme envisioned by the Government to acquire national competence in submarine construction and for the Indian industry to independently design and construct submarines in India. The availability of new technologies and advanced manufacturing capabilities to the Industry will be an important step towards enhancing the nation's quest for self-reliance in modern conventional submarine construction and sustainment activities whilst creating direct and indirect job opportunities in India. This project under SP Model provides a unique long-term opportunity and planning certainty for the industry to invest and support submarine construction. It will also infuse the latest technology and weaponry for submarines in India through strategic tie up between Indian Industry and leading foreign OEMs.

There was a long pending need of the Indian Army for modernisation of its Air Defence guns. These had been earlier procured only from foreign sources. With the continued thrust of Ministry of Defence towards 'Atmanirbhar Bharat' and 'Make in India', an enthusiastic response from about a dozen Indian companies was received. All of them have expressed their willingness and commitment to manufacture this complex gun system and associated equipment by ensuring technology assimilation in India. Accordingly, the DAC accorded approval of procurement of Air Defence Guns and Ammunition at an approx. cost of Rs 6,000 crore under the Buy & Make (Indian) category.

While the RFI for FRCV (Future Ready Combat Vehicle) has been issued by the Indian Army, US Army has chosen Oshkosh Defense and Rafael to upgrade the Army's Stryker vehicle with increased lethality through a 30mm cannon on a SAMSON turret. In May 2019, the service selected five companies to come up with designs, awarding each a study contract. Those companies were General Dynamics Land Systems, Kollsman Inc., Leonardo DRS, Raytheon and Pratt & Miller Engineering and Fabrication Inc. Following a protest, the Army awarded a sixth contract to



EOS Defense Systems USA, Inc. Indian Army's RFI for FRCV envisages, procurement of 1770 numbers of FRCV to be inducted in a phased manner with a target induction date of 2030.

In a significant move aimed at strengthening indigenisation in the defence sector, the Defence Ministry notified on May 31 the second negative import list of 108 items that can now be purchased only from indigenous sources. With this, the total number of items on the list - now renamed as the 'positive indigenisation list' - goes up to 209, from 101 since the first list was notified in August 2020. This 'Buy Indian only' guidelines will be implemented in a phased manner, with restrictions on 49 of the 108 items taking effect from December 2021. Another 21 items will be placed in the positive indigenisation list with effect from December 2022, 17 items December 2023, 13 items December 2024 and a further eight items from December 2025.

Among the items on the list are single-engine helicopters with an all-up weight of 3.5 tonnes or less, next generation corvettes, helicopter-launched anti-tank guided missiles, mission system for airborne early warning and control systems, shipborne surface surveillance radar, armoured repair and recovery vehicles, multi-functional display system for indigenously manufactured aircraft, drop tanks for Jaguar and Mirage fighter aircraft, medium range surface to air missile systems, engines for the T-72 main battle tank engines, mountain weapon locating radars, upgraded integrated air command and control system, fixed wing mini surveillance unmanned aerial vehicles, and so on. These items are expected to fulfil the requirements of all three branches of the armed forces. Surprisingly, we do not find mention of MALE UAVs that are currently being manufactured by private companies in India and also are being exported. Including this in the list will sure pave the way for increased indigenisation.

This move will boost indigenisation, encourage active participation of public and private sector entities, and thus fulfil the twin objectives of achieving self-reliance and promoting defence exports. The indigenous content, in products such as the Tejas Light Combat aircraft, helicopters from HAL and other weapon systems currently being developed, will go up substantially.

There are also subsystems or accessories for weapons and platforms already manufactured in India, like, instant fire detection and suppression systems; individual underwater breathing apparatuses; main

switchboard and power distribution systems for ships; steering gear for destroyers and frigates; high-altitude water purification systems; and drop tanks for Jaguar and Mirage 2000 fighters. The MoD plans to appropriate a minimum of \$10 billion annually for the purchase of armaments from local defence companies.

Britain is looking to step up defence ties with India following the agreement between prime ministers from the two countries last month. France has so far taken the lead by far in building defence ties with India. It currently has an 18 per cent share of the Indian defence market, boosted massively by the Rafale order. Britain has just under 2 per cent of the Indian defence market, with Germany close behind at 1.7 per cent. Several other EU countries and the EU itself are looking to build new defence relations with India, particularly over common interests in the Indo-Pacific region, which has almost suddenly become everyone's priority.

India and the UK have agreed to expand bilateral defence cooperation, including through technology collaboration in developing combat aircraft and complex weapons, during a virtual summit between Prime Minister Narendra Modi and his British counterpart Mr. Boris Johnson. In the talks, the two sides also agreed to increase maritime co-operation while India invited the UK's liaison officer to the Indian Navy's information fusion centre, a key facility that keeps a hawk-eyed vigil on developments and movement of ships in the Indian Ocean region. Both prime ministers welcomed the finalisation of the new logistics MoU. A 10-year roadmap unveiled at the summit for boosting overall India-UK ties mentioned: the two countries will strengthen cooperation to take decisive and concerted actions against globally proscribed terrorists and terror entities; broadening dialogue on combat air collaboration to determine how the UK can support India's ambitions for their light combat air MK2 program. India and the UK will work in a strategic partnership to strengthen efforts to tackle cyber, space, crime and terrorist threats and develop a free, open and secure Indo-Pacific region.

Other newsmakers

Ministry of Defence signed a contract with M/s Mahindra Telephonics Integrated Systems Ltd., Mumbai for procurement of 11 Airport Surveillance Radars with Monopulse Secondary Surveillance Radar for Indian Navy and Indian Coast Guard on June 03, 2021. The procurement, at a cost of Rs 323.47 crore, will be made under the 'Buy & Make' category. The installation of these radars will increase the air domain awareness around airfields and enhance safety & efficiency in flying operations of Indian Navy and Indian Coast Guard.



India is now close to inking the \$2.42 billion deal with the US for six more advanced P-8I aircraft. The State Department and Pentagon on 30 April 2021 notified the US Congress about the impending deal for the six P-8I aircraft and related equipment to India. Indian Navy has already inducted nine of the 12 P-8I aircraft, which are packed with radars and armed with Harpoon Block-II missiles, MK-54 lightweight torpedoes, rockets and depth charges, contracted for \$3.2 billion earlier. The rest three are slated for delivery by this year-end. Unlike the first 12 P-8Is, the six new aircraft to be acquired now will have more advanced systems as a result of India signing the COMCASA (Communications, Compatibility and Security Arrangement) pact with the US in September 2018." Boeing indicated that the new P-8I offset obligation could be worth up to about USD730 million.

Indian Army has issued an EoI for portable helipads that can accommodate all types of helicopters in the Indian inventory, including the Chinook and Apache. An initial requirement of 50 portable helipads measuring 25x25 meters has been projected. The prototype development shall be under Make-II and procurement of the product through Buy (Indian-IDDm) category of DAP 2020.

HAL and Rolls-Royce have signed an MoU to establish packaging, installation, marketing and services support for Rolls-Royce MT30 marine engines in India. This partnership will leverage the rich experience of HAL's IMGT Division that works on marine gas turbines with Indian shipyards. Further, HAL is also exploring the option of using MT7 marine engine on the hovercraft being planned by the shipyards in India. The MT30 can deliver its full power of up to 40 MW in ambient temperatures up to 38 degree Celsius, without any power degradation throughout the life of the ship.

At the Aero India 2021 show, the two companies also announced new partnerships in the aerospace sector, including a MoU to establish an Authorized Maintenance Centre at HAL for Adour Mk871 engines to support international military customers and operators. They also announced their intent to expand their supply chain partnerships for Civil and Defence Aerospace, by working towards making Adour Mk871 engine parts in India, as well as supplying forgings such as shrouds, cases and seals for Rolls-Royce's Pearl 15 and Trent family of engines.

OFB has despatched 11 million rounds of 5.56x45mm (M193) calibre bullets to the US on 6 May 2021. It is the same calibre of ammunition used in the 5.56 INSAS assault rifles, which the Indian Army is phasing out. The bullets supplied to the US are of NATO specification, making it slightly different from that used in the country. The consignment took off for Chennai from the Varangaon factory near Bhusawal. This is the first major export order bagged by OFB for small arms' ammunition to a country like the US. The OFB has also bagged repeat order of similar quantity, which would be despatched soon. The factory is also working on an order to make around 4 lakh rounds of the 9 mm ammunition, which is used in the Kalashnikov (AK series) rifles. The order for the 9mm rounds has come from Israel. The bullets will be mainly pumped into the private users market apart from use in law enforcement.

The Indian Army has projected a requirement of 50,000 new bulletproof jackets (BPJs) for its frontline troops, the procurement process for which is expected to commence in the next couple of months.

The Indian Army is expected to issue an RFP to vendors this month and the procurement would be done in phases over a 12 to 24 month period after all the modalities have been finalised and user trials concluded. The specifications listed by the Army state that the BPJs should be able to protect a soldier against 7.62 mm armour piercing rifle ammunition as well as hard steel core bullets fired from a distance of 10 metre. The BPJs required for protection against armour piercing ammunition, whose velocity is higher than that of other bullets, should weigh less than 10 kg, while the weight of those meant for use against steel core rounds should not exceed 8 kg. The jacket's outer tactical vest should have the capacity to carry three magazines of the newly inducted SIG 716 rifle and the proposed AK-203 assault rifle along with other items like hand grenades, hand-held radio sets, tools, or attach additional pouches.

DMRL, DRDO has established the near isothermal forging technology to produce all the five stages of high-pressure compressors (HPC) discs out of difficult-to-deform titanium alloy using its unique 2000 MT isothermal forge press. With this development, India has joined the league of limited global engine developers to have the manufacturing capabilities of such critical aero engine components. To meet the bulk production requirements, DMRL technology was transferred to MIDHANI through a licensing agreement for technology transfer (LAToT). Using the isothermal forge press facility available at DMRL, Hyderabad, bulk quantity (200 numbers) of HPC disc forgings pertaining to various compressor stages have been jointly produced and successfully supplied to HAL, Bengaluru for fitment in to Adour Engine that powers the Jaguar/Hawk Aircrafts. The HPC Drum assembly has to be replaced after a specified number of operations or in case of damage. The annual requirements of these high value HPC discs is quite large, warranting indigenisation. The methodology adopted by DMRL is generic in nature and can be tuned to develop other similar aeroengine components. The compressor discs produced using this methodology met all the requirements stipulated by the airworthiness agencies for the desired application.

3DCeram, a French company specializing in 3D ceramic processes and materials, has partnered with India-based Shree Rapid Technologies (SRT) to strengthen the foothold of the company in the Indian market, pooling both companies' additive manufacturing expertise in 3D Printed Ceramics. The two companies have signed a strategic deal which leverages SRT's extensive sales and marketing reach as well as industry and market expertise with 3DCeram as applied in medical, luxury goods, and industrial sectors.

Air Works has partnered with Objectify Technologies, to serve the global aviation, aerospace, and defence industry by leveraging 3D technologies. As part of the collaboration, both Air Works and Objectify Technologies will identify and pursue business opportunities in the Aerospace and Defence industry, including the requirements of commercial, private jet owners, or operators, globally.

Two major programs under the SP model are making news, P 75(I) and FRCV. While the focus for the NUH (Naval Utility Helicopters), has shifted to procurement through lease model, we now expect decks to be cleared for the larger procurement. It has also been heard that Indian Navy, having been satisfied with the performance of the Predators from General Atomics, will now move the MoD to obtain approvals for a formal induction, we are looking at 30 numbers here at an estimated USD 3 bn.

Well, this gives some energy to the sector to initiate planning for the mega programs and also focus on leasing.



SASMOS

A Success Story of Private Sector in Aerospace & Defence



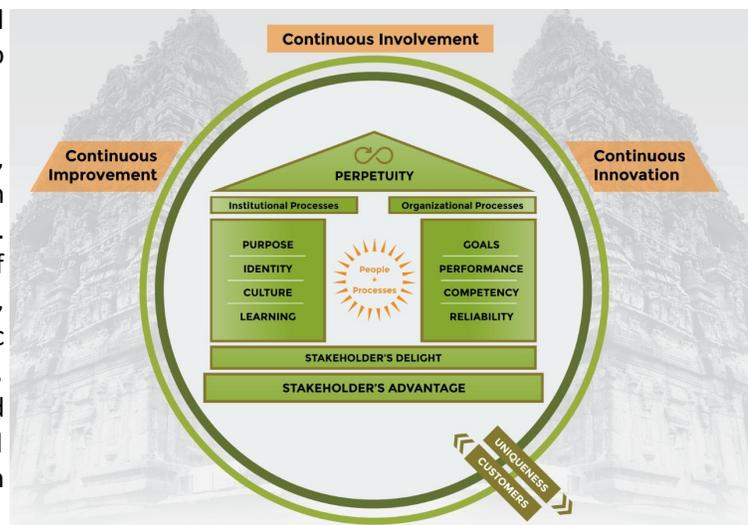
SASMOS is an innovative and value driven company with 14 years of experience in multi-platforms recognised by Global OEMs in the segment of Aerospace and Defence. In recent times, it has grown at a CAGR of 61% and its multilocal facilities serve as Center of Excellence of its innovation, handling upwards of 200 projects every year.

Being a visionary, 14 years ago SASMOS Chairman Mr. H G Chandrasekhar has envisioned A&D manufacturing from Indian soil to become the global desired destination. He has always believed that there is a pathway to maximize India's resource potential to change the perspective of global OEMs and realize the value add by India in this sector. He initiated the internal institutional process to develop the right talents and system which aimed towards long term, reliable, and knowledge-based organization at par international standards.

From obstacle to opportunity, crafted with pride and precession to change the Indian perception on the global map and make India a sourcing hub for aerospace and defence SASMOS was established.

SASMOS was founded with a purpose and that is PERPETUITY, that defines the purpose of existence. Perpetuity is a state of everlasting existence of principles, values, ethos, culture, faith, and belief systems which is proof of our present world and will be exemplified by future generations to come.

At SASMOS, mission is driven by the people, IT enabled processes, global supply chain management and technological innovations. Today, SASMOS is a leading manufacturer of Electrical Wiring Interconnection System, Electromechanical assemblies & Electronic sub-systems for the Aerospace, Defence, Marine and Space segments and recognised globally for its best-in-class delivery and quality performances across globe with highest level of reliability.



SASMOS is recognized by several clients for consistent high performance - won several awards from clients. As a trusted partner for our clients, our value addition on reliability & innovation is immense. SASMOS are a registered Indian Offset Partner and our clients have been leveraging offset discharge. SASMOS currently service over 35 Customers annually including top global OEMs of Aerospace and Defence Industry including Lockheed Martin, Airbus, Boeing, SAAB, Tata, Raytheon Technologies, IAI, ELBIT, Rafael, Gulfstream, Pilatus, Honeywell, ISRO, MBDA, BEML, DRDOs, ADE, HAL, BEL, L&T etc.



Mr. Chandrashekar H G, Founder and Managing Director

SASMOS's two Export Oriented Units (EOU) in Bangalore with state-of-the-art manufacturing has created job opportunities for 1000+ employees, which has earned them a reputation of being one of India's top 100 SMEs, one of 10 most recommended Aerospace Aviation and Defence Solution Provider by CIO insider, ranked 6th in ET RISE TOP MSME list.

SASMOS is currently engaged in

- ⇒ design and manufacturing of high-quality Wiring Harnesses for commercial & fighter aircrafts, missiles, UAVs and satellites. Marine
- ⇒ Assembly of Aircraft Panels and high-level electromechanical system integrations
- ⇒ design and manufacturing of embedded electronics

Some examples of the products and their applications are:

- ◆ **Wiring harnesses for Aircrafts** like P8, G280, B737, B767, PC-24, PC-7 and PC-21, etc. **UAVs** like: Heron, Heron TP, Harop, Bird Eye, Rustom I & II, Lakshya etc. **Missile systems** like Barak, Spice, Spike, Iron Dome, MRSAM, Nirbhay etc., and **Spacecrafts** like GISAT, GSAT, INSAT, IRNSS, RISAT, CARTOSAT, Chandrayan, OCEANSAT, XPOSAT etc. and **Underwater weapon systems** like: K4, K5, B-05 and many more.



- ◆ **Electrical Panels for Aircrafts** like F15, F18 Gimbal assemblies for Missiles like Spice, Spike, Barak missiles and ATEs, and other ground test systems for Honeywell and UTAS



- ◆ **Electronics Systems design** like Control Systems for Nuclear Power, Complete re-design of electrical system, Electrical control of Armoured Recovery vehicle for BEML, Pressure signal conditioning module for ISRO, a health monitoring system for a ship engine for remote assistance, ground trolley for SU-30 engine check-out system etc.



For the past 5 years SASMOS has been relentlessly focusing on R&D in line with Government of India's Make-in-India initiative and are proud to introduce AVIRATA, a SASMOS Defence Systems Division for customized electronics/electrical/electro-mechanical solutions.

Indian Army uses ARVs for recovery and repair of broken-down T-72 tanks and BMP-1 & 2 infantry combat vehicles. These were assembled by BEML in India with License from OEM in 3 batches of 3 different configurations. Modules and components are of foreign origin and most of them are now obsolete.

SASMOS took the challenge for the design, development, integrations, installation & commissioning and qualifications of the entire electrical system, Electrical Control systems for hydraulics and fire suppressor system. SASMOS has successfully refreshed the design for these obsolete parts and integrated the first unit. Army is benefited in strategic way for not going out of the country for the support and spares.



SASMOS is always working towards innovative solutions that is tremendous value add to Customers....be it indigenization or customized products. This gives birth to their Fibre Optic Division in 2020 where they focus on manufacturing and design of customized fibre optic interconnectivity products and solutions for data centres, hyperscale data centres, aerospace & defence and any harsh environment applications.

SASMOS specializes on:

- ◆ Fiber Counts varying from 1f - 192f in cable assemblies
- ◆ 6f - 1008f in modular assemblies.
- ◆ transitions breakouts of heat shrink over-moulded,
- ◆ metal & plastic split-half breakouts with potting



Since 2014 Fokker Elmo (GKN Aerospace) of Netherland and SASMOS have joined hands in creation of a joint venture “FE-SIL” (Fokker Elmo SASMOS Interconnection Systems Ltd) a separate entity in Bangalore, India, in the same premises as SASMOS and supplying aircraft wiring harnesses globally.

SASMOS believes in enhancing customer experience through geo proximity for quick response and coordination for speed to market. Inline, the business offices are established in UK, France and Israel and has plan to open offices in France and USA shortly.



SASMOS found the success mantra by joining hands with the right strategic global partners to bring up speed and reliability and have the best of both worlds. This changed the perception of Indian capabilities in global eyes.

At IDEX 2021 SASMOS has signed a tripartite Memorandum of Understanding with CableCorp General Industry and Atlas Telecommunication presided by The Emirates Defence Companies Council (EDCC) for Manufacturing of wiring Harness in UAE.

Over the years

- ◆ SASMOS partnership with global companies like GKN Aerospace of Netherland, Matra Electronique of France, AFL of USA, RayQ and Redler Technologies of Israel
- ◆ geo proximity (sales offices) at UK, France and Israel
- ◆ our business intelligent competency centres
 - ◇ (FESIL – JV with Fokker Elmo of GKN Aerospace for aircraft harness,
 - ◇ Glodesi, supply chain expert for sourcing and assembly of Mechanical parts,
 - ◇ Citadel Intelligent Systems, for cutting edge fibre optic solutions)

are the key strategic line in offering the right blend of expertise and innovation for positive customer experience.



At SASMOS, every employee achieves professional success. This is possible because of our focus for the development of their people. The culture of growth, learning, support and mentorship are the pillars of every employee’s life at SASMOS.

SASMOS is an equal opportunities employer, SASMOS

believes in attracting, developing, and retaining the best talent from all walks of life and backgrounds. The result is an environment where every individual feels valued and respected and is given an opportunity to excel in their chosen field.

Workplace diversity and inclusion is also a key focus area. Moral leadership is an integral part of our culture & strongly believe to give the best back to the society. One of such initiative was to include the especially abled talents and take them through SASMOS journey to success.

SASMOS already has 40 especially abled employees trained and certified by IPC & the first company to do so. SASMOS have employed a special trainer with sign language to give state of the art training and SASMOS are proud that they are part of our elite workforce for high skill programs.



SASMOS follow an open-door policy in our company. Anyone in the company is free to meet any senior management with their ideas or suggestions or any kind of discussion.

SASMOS have idea box in place where SASMOS are open to ideas from anyone and everyone, and SASMOS make these ideas and work on feasibility of ideas to get it implemented.

SASMOS is also intrinsic to their work environment. They provide services to employees those are empathetic and compassionate. Part of it is taking proper care of employee's health. SASMOS have an in-house fully equipped health center with Medical Staff, Ambulance and Medical Advisor.



SASMOS philosophy is to ultimately give, to create a better tomorrow. Involvement with local communities is a deeply ingrained practice in the SASMOS way of life. While CSR is typically considered a practice for large international businesses, Corporate Social Responsibility is SASMOS DNA. SASMOS look at CSR as SASMOS commitment to improve the quality of life of local community and society at large and contribution towards sustainable economic development.



SASMOS is an AS9100, ISO140001, ISO 27001 company, with IPC/WHMA certified operators and comply with ITAR & EAR regulations. Backed by a decade of impeccable quality, high customer focus, consistency, and proven reliability, SASMOS is committed to serve global & domestic Aerospace and Defence industry.

108 List of Positive Items

Road to Indigenisation

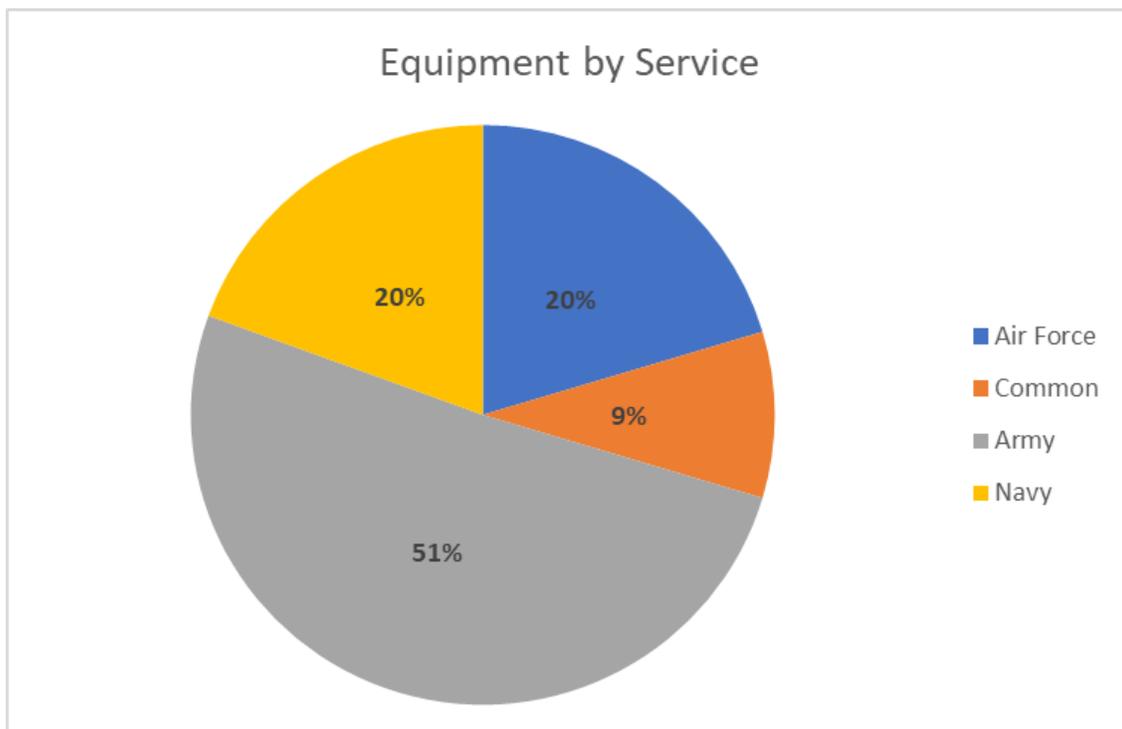
Defence Minister Rajnath Singh announced the second list of 108 items that the Defence Ministry will stop importing. It essentially means that the Indian Armed Forces—Army, Navy and Air Force—will only procure all of these 108 items from domestic manufacturers. The manufacturers could be from private sector or Defence Public Sector Undertakings (DPSUs).

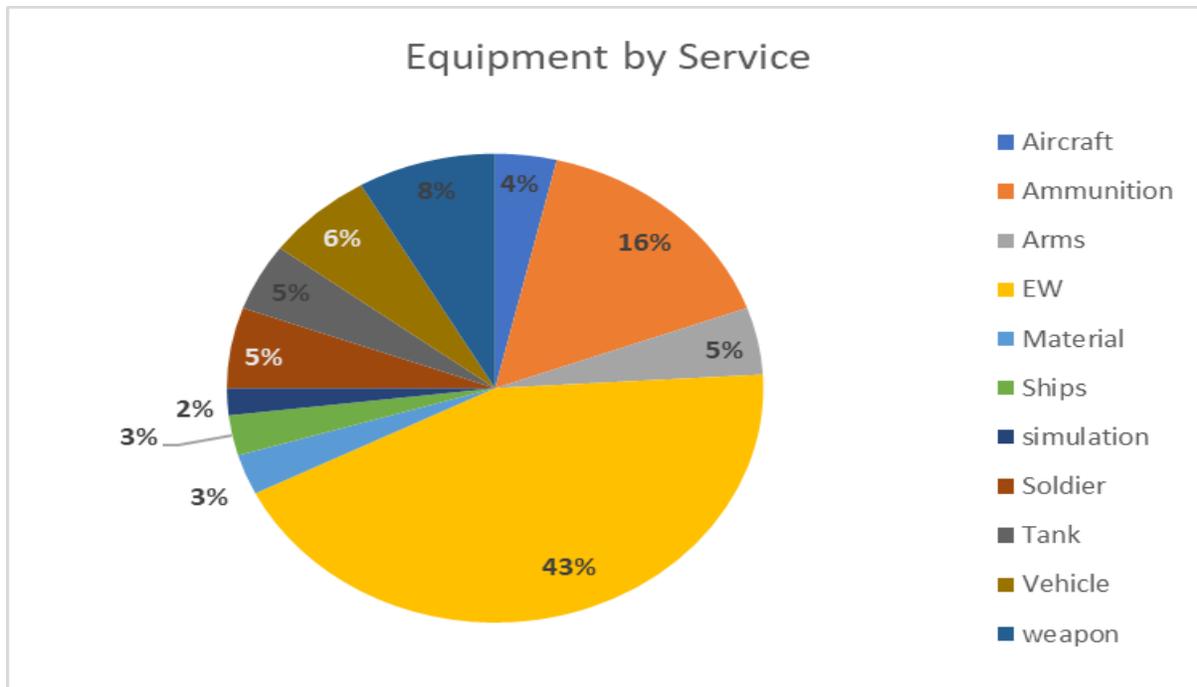
For years India has been among the top three defence importers in the world, the government wants to reduce the dependence on imported items in defence and give a shot in the arm to the domestic defence manufacturing industry. By denying the possibility of importing the items on the rechristened positive list (Earlier called the 'Negative List'), the domestic industry is given the opportunity to step up and manufacture them for the needs of the forces.

Sugosha Advisory did an analysis of the 108 items to understand its impact on the Indian industry and more specifically the private industry, which for long has been vying for a level playing field in defence manufacturing.

(Note: The items have been categorised/classified by Sugosha based on certain assumptions and ease of grouping for better understanding of our readers.)

The 108 items is a list of equipment compiled from all three services. At a closer look, the distribution of items across the three services is as shown in the chart below. As expected majority of the equipment (51%) is from the Indian Army, followed by the Indian Navy (20%) and the Indian Air Force (20%).





The list, shared by the government, has a range of items. From simpler items to advanced technologies. We have broadly classified them under 11 categories as represented in the chart above. EW (Electronic Warfare) which includes Radars, Sonars, Communication Systems, Satellites and all Electrical systems, constitutes the largest category with 47 items on the list. Ammunition and Weapons (including large calibre rockets and bombs) are the other leading categories in the 108 list. Armoured vehicles and their sub-systems has also emerged as a prominent category, which is a significant opportunity for the Indian private sector.

Will this result in a change of status quo?

MoD has assigned indicative year of import embargo against each item over the next 5 years. At a closer look it can be observed that 49 items will come under the embargo from December 2021. Which means that these items are already available in India or are in an advanced stage of development. More pertinently, 65-70 of the 101 items are already being produced or in the process of being manufactured by the DPSUs and OFB. For example, the 1000HP engine for T-72 tank has been already developed by DRDO and they are keen on a ToT to eligible companies. Hence leaving limited scope for future indigenisation. It also provides significantly small opportunity for the Indian private sector so far.

The announcement also fails to mention the level of Indigenous Content (IC) required from these items which will not be imported. While manufacturing/integration of the equipment will happen in India, what about the IC percentage?

The main equipment of the soldier, the assault rifle, was in the first positive 101 list. Moreover MoD is in the process of finalising the deal for AK-203 rifles to be manufactured by OFB with Russia.

The Defence industry can gainfully utilise this opportunity to build robust Research and Development facilities, capacities and capabilities to meet the futuristic requirements of the Armed Forces. Towards this, Ministry of Defence, Defence Research and Development Organisation (DRDO) and Service Head Quarters (SHQs) will take all necessary steps, including hand holding of the Industry, to ensure that the timelines mentioned in the 'Second Positive Indigenisation List' are met, thereby facilitating an environment for Indian Defence Manufacturers to create world class infrastructure.

Our Profile

- Quantum leap in exports
- Over 90% indigenisation
- Strong technological base
- 25% revenues from in-house R&D
- Supplied explosives for Chandrayaan II



7.62 mm SNIPER RIFLE



AK-630



DHANUSH



155 mm Upgunned Artillery Gun SHARANG



T-90 BHISHMA



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INDUSTRY BUZZ

Advanced Light Helicopters Inducted at INS Dega

The induction ceremony of '322 Dega Flight' was held in the presence of Vice Adm Ajendra Bahadur Singh, AVSM, VSM Flag Officer Commanding-in-Chief, Eastern Naval Command (ENC) with three indigenously built Advanced Light Helicopters (ALH) MK III helicopters flying into Naval Air Station, INS Dega on 07 Jun 21. With the induction of these Maritime Reconnaissance and Coastal Security (MRCS) helicopters, the ENC got a major boost towards enhancing the capabilities of the force, in pursuit of the maritime interests of the nation. These helicopters, built by Hindustan Aeronautics Ltd, are state-of-the-art flying machines and constitute a major step in our quest for "Atma Nirbhar Bharat".

ALH MK III helicopters feature an array of systems previously seen only on heavier, multi-role helicopters of the Indian Navy. These helicopters are fitted with modern surveillance radar and electro-optical equipment, which enable them to undertake the role of maritime reconnaissance in addition to providing long-range Search and Rescue, both by day and night. In addition to special operations capabilities, ALH MK III is also fitted with a heavy machine gun to undertake constabulary missions. A removable Medical Intensive Care Unit (MICU) is also fitted on ALH MK III helicopters to airlift critically ill patients. The helicopter also has a host of advanced avionics, making it truly an all-weather aircraft.



Webinar cum expo organised between Defence Ministries of India & Vietnam

A webinar cum expo was organised between Ministry of Defence, India and Ministry of National Defence, Vietnam on April 20, 2021. The theme of the webinar was 'India - Vietnam Defence Cooperation'. Various Indian companies such as Bharat Electronics Limited, Bharat Forge, Economic Explosives Limited, Garden Reach Shipbuilders & Engineers, Goa Shipyards Limited, HBL Power Systems, Larsen & Toubro Limited, Mahindra Defence, MKU, SMPP, Tata Advanced Systems made company and product presentations. Thirty-seven companies setup virtual exhibition stalls in the expo.

Ambassador, Embassy of India, Hanoi Shri Pranay Verma, Chief of General Department of Defence Industries, Ministry of National Defence, Vietnam Lt Gen Tran Hong Minh and other senior officials from both sides participated in the webinar. Joint Secretary (Defence Industries Production), MoD, Shri Anurag Bajpai emphasised that the mission for 'Self-Reliant India' is not just inward looking, but also about producing cost effective quality products and catering to the whole world especially friendly nations. He envisaged that Indian shipbuilding has come of age and gained tremendous expertise in this field. Indian shipyards are willing to work with Vietnamese shipyards for construction, repair and maintenance of platforms.

INDUSTRY BUZZ

Defence Acquisition Council approves RFP for construction of six submarines at approx. cost of Rs 43,000 crores

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In addition, the DAC also approved issue of RFP for construction of six Conventional Submarines under Project P 75 (I) under the Strategic Partnership (SP) Model. This project envisages indigenous construction of six conventional submarines equipped with the state-of-the-art Air Independent Propulsion system at an estimated cost of Rs 43,000 crore.

This is a landmark approval, being the first case processed under the Strategic Partnership model. This would be one of the largest 'Make in India' projects and will serve to facilitate faster and more significant absorption of technology and create a tiered industrial ecosystem for submarine construction in India. From a strategic perspective, this will help reduce current dependence on imports and gradually ensure greater self-reliance and dependability of supplies from indigenous sources.

With accord of this approval, the country will be enabled to achieve its 30-year Submarine construction programme envisioned by the Government to acquire national competence in submarine construction and for the Indian industry to independently design and construct submarines in India. The availability of new technologies and advanced manufacturing capabilities to the Industry will be an important step towards enhancing the nation's quest for self-reliance in modern conventional submarine construction and sustainment activities whilst creating direct and indirect job opportunities in India.

There was a long pending need of the Indian Army for modernisation of its Air Defence guns. These had been earlier procured only from foreign sources. With the continued thrust of Ministry of Defence towards 'Atmanirbhar Bharat' and 'Make in India', an enthusiastic response from about a dozen Indian companies was received. All of them have expressed their willingness and commitment to manufacture this complex gun system and associated equipment by ensuring technology assimilation in India. Accordingly, the DAC accorded approval of procurement of Air Defence Guns and Ammunition at an approx. cost of Rs 6,000 crore under the Buy & Make (Indian) category.

MoD signs contract to procure 11 Airport Surveillance Radars for Indian Navy & Indian Coast Guard

Ministry of Defence signed a contract with M/s Mahindra Telephonics Integrated Systems Ltd., Mumbai for procurement of 11 Airport Surveillance Radars with Monopulse Secondary Surveillance Radar for Indian Navy and Indian Coast Guard on June 03, 2021. The procurement, at a cost of Rs 323.47 crore, will be made under the 'Buy & Make' category. The installation of these radars will increase the air domain awareness around airfields and enhance safety & efficiency in flying operations of Indian Navy and Indian Coast Guard.

INDUSTRY BUZZ

Speeding up of Defence Capital Acquisitions

Acquisition Wing MoD & Services have worked out several steps to speed up defence capital acquisition. These are steps towards reducing av. time of capital acquisition by ~ 50%” Dr Ajay Kumar tweeted.

Among the decisions are:

- (a) All stakeholders, including the Acquisition Wing, Defence Research and Development Organisation (DRDO) and the Services (armed forces) will work together from the stage of project formulation to avoid subsequent differences;
- (b) Delays in acquisitions would attract reviews by the Director General (Acquisition) and the Vice Chiefs of the respective armed forces, to fix responsibility for such delays;
- (c) Trials directives would be fixed within two weeks of the Technical Evaluation Committee’s approval of the competing offers;
- (d) Acquisition Wing would, in consultation with the respective armed force, specify upfront tests for which simulation or third party certification or lab tests would suffice; and
- (e) Any approvals for procurement, not acted upon within one year of such nod, would lapse.

DRDO develops Critical Near Isothermal Forging Technology for aeroengines

Defence Research and Development Organisation (DRDO) has established the near isothermal forging technology to produce all the five stages of high-pressure compressors (HPC) discs out of difficult-to-deform titanium alloy using its unique 2000 MT isothermal forge press. The technology has been developed by Defence Metallurgical Research Laboratory (DMRL), a premier metallurgical laboratory of DRDO at Hyderabad. This is a crucial technology for establishing self-reliance in aeroengine technology. With this development, India has joined the league of limited global engine developers to have the manufacturing capabilities of such critical aero engine components.

To meet the bulk production requirements, DMRL technology was transferred to M/s MIDHANI through a licensing agreement for technology transfer (LAToT). Using the isothermal forge press facility available at DMRL, Hyderabad, bulk quantity (200 numbers) of HPC disc forgings pertaining to various compressor stages have been jointly (DMRL & MIDHANI) produced and successfully supplied to HAL (E), Bengaluru for fitment in to Adour Engine that powers the Jaguar/Hawk Aircrafts.



Defence Acquisition Procedure 2020 Primer

Part 02 – Acquisition Categories - Chapter I



By Sohil Patel

With this edition of DefInsights, we continue our series on analysis of the Defence Acquisition Procedure 2020, from where we left Chapter I.

Participation in Lower Category. Vendors eligible for participating in a higher category will be permitted to participate in the lower category, provided they meet the requirements for the same.

Leasing. (New in DAP 2020) Leasing has been introduced as another category for acquisition in addition to the existing 'Buy' and 'Make' acquisition categories as it provides for an innovative technique for financing of equipment/platforms. Leasing provides means to possess and operate the asset without owning the asset and is useful to substitute huge initial capital outlays with periodical rental payments. Leasing would be permitted in two sub categories i.e.

- a. Lease (Indian), where Lessor is an Indian entity and is the owner of the asset,
- b. Lease (Global).

Definition of Indian Vendor. Unless specifically provided for in a clause/section/chapter or elsewhere of the DAP, Indian Vendor is defined as

1. **Where Industrial Licence is required:** Could include incorporation/ownership models as per Companies Act, Partnership Firm, Proprietorship and other types of ownership models including Societies as per relevant laws, complying with, besides other regulations in force, and the guidelines/licensing requirements stipulated by DPIIT
2. **Where Industrial Licence not required:** an Indian entity registered under the relevant Indian laws and complying with all regulations in force applicable to that industry will be classified as an Indian Vendor.

The following additional conditions will apply in case of procurements through Buy-IDDM, Make I, Make II and Development cum Production Partners in D&D acquisitions.

- a. **Ownership by Resident Indian Citizen(s):** A company is considered as 'Owned' by resident Indian citizens if more than fifty percent (50%) of the capital in it is directly or beneficially owned by resident Indian citizens and / or Indian companies, which are ultimately owned and controlled by resident Indian citizens. This translates to an FDI of no more than 49%, if there is a foreign investment in the company.
- b. **Control by Resident Indian Citizens(s) (As defined in Companies Act 2013):** 'Control' shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

Indigenous Content (IC). For IC referred to in Paragraphs 8–12(Chapter I) and stipulated in the RFP for Strategic Partnership model cases, the vendor will ensure compliance as detailed in Appendix B to Chapter I. The category wise (less Strategic Partnership model cases) summary of IC as per cost of the Base Contract Price (i.e. Total Contract Price less taxes and duties) will be as under: -

<u>Ser</u>	<u>Category</u>	<u>IC</u>
(a)	Buy (Indian-IDDMM)	Indigenous design and $\geq 50\%$
(b)	Buy (Indian)	In case of indigenous design $\geq 50\%$, otherwise $\geq 60\%$
(c)	Buy and Make (Indian)	$\geq 50\%$ of the 'Make' portion
(d)	Buy (Global) - Manufacture in India	$\geq 50\%$
(e)	Buy (Global)	Foreign Vendor – Nil Indian Vendor $\geq 30\%$

In case where niche technology-based equipment, like in aerospace, with no or miniscule availability of desired material in the country, the SHQ may recommend lower IC than that stipulated in the category. In such cases, if IC becomes less than 30% IC of the base contract price, discharge of Offsets will be applicable.

Acquisition Planning Process

To address the current and futuristic security needs, the Services will need to engage in capability development in a prioritised manner based on long term perspective plan from which should flow procurements planned for modernisation of the Services based on Capital Acquisition Plans. Proposals for acquisition of capital assets will cover the long-term, medium-term and short-term perspectives as under: -

- (a) 10 years Integrated Capability Development Plan (ICDP)
- (b) Five years Defence Capital Acquisition Plan (DCAP)
- (c) Two years Annual Acquisition Plan (AAP)

Planning Process. The planning process would evolve from the National Security Strategy/Guidelines (as and when promulgated) and Raksha Mantri's Operational Directive. The following planning process would be adopted to address the current and future needs of the Services: -

- (a) HQ IDS will prepare a 10-year ICDP in consultation with the SHQ, every (five years), comprising of two five-year plans. This will be prepared, along with a Technology Perspective and Capability Roadmap (TPCR) reflecting the details of technologies and capabilities that could be made public for use by the industry.
- (b) HQ IDS will thereafter prepare the DCAP based on recommendations of SHQ, which will include acquisitions planned for the next five years culled out from the ICDP, based on prioritised operational requirements. The DCAP will be approved by the DAC prior to promulgation.
- (c) Based on the DCAP, each SHQ shall prepare a two-year roll-on acquisition plan, to be called Annual Acquisition Plan (AAP), before the commencement of each financial year, which shall form the basis for initiation of every acquisition proposal for AoN.
- (d) A consolidated AAP will be prepared by HQ IDS along with prioritisation of schemes based on the overall financial limits linked to the anticipated budget (limits being fixed in consultation with MoD (Fin)). HQ IDS will obtain approval of the AAP from Defence Procurement Board (DPB) latest by 15th of March.

Business Opportunities : Jun 2021

SL NO	TENDER TITLE	SUBMISSION CLOSING DATE	ORGANISATION/	TENDER ID	ENQUIRY TYPE
1	PROCUREMENT OF SPARES FOR AN-32 AIRCRAFT	09-06-2021 11:00	IAF	2021_IAF_626969_1	Limited
2	PROCUREMENT OF SPARES FOR AN-32 AIRCRAFT	09-06-2021 11:00	IAF	2021_IAF_626905_1	Limited
3	REPAIR OVERHAUL AND RESTORATION OF MI17 1V HELICOPTER Z3352	01-06-2021 11:30	IAF	AIR HQ/0017/14/ENG D8(T) PC-XVII	RFP
4	Selection of Partner for development of 50KW Electrical Vehicle Charger Module for EV charging Stations	05-06-2021 17:00	BEL	001/EV/BEL/PK	Open
5	PROCUREMENT OF SPARES FOR PILATUS AIRCRAFT	30-06-2021 11:30	IAF	AIR HQ/DPROC/ W2125040/PUR	Open
6	RFI For Future Ready Combat Vehicle (FRCV)	30-Jun-21	Army		
7	CODIFICATION OF DEFENCE EQUIPMENT	15-06-2021 09:00	DoDP	1234CC	Open
8	HIGH RESOLUTION DIGITAL SPOTTER SCOPE FOR SNIPER WITH CAMERA	12-06-2021 18:00	Army	PC-28706/ACSF/HRDSS/ ARTY	Open
9	SPARES OF KU BAND SATCOM SYSTEM	05-07-2021 10:30	IAF	21-22/14BRD/OPEN/ TDR/00002	Open
10	Eol for Indigenous Development of HRDF and TACAN	14-Jun-21	IAF	2021_IAF_440544_1	EOI
11	Eol for Indigenous Development of LDP	14-Jun-21	IAF	2021_IAF_440560_1	EOI
12	RFP for Indigenous development / Fabrication of Blanking and Covers for R-73E and R-27 Missiles	30-Jun-21	IAF	2021_IAF_443389_1	RFP
13	RFP for Development of Coalescer and Separator Cartridges	05-Jul-21	IAF	2021_IAF606600_1	RFP
14	RFP for D&D and Supply of Air Data Sensor for Air Borne Spares	12-Jul-21	IAF	2021_IAF_606589_1	RFP
15	EOI for indigenous development of 07 lines of IL-76/78 AIRCRAFT spares	16-Jun-21	IAF	2021_IAF_606201_1	EOI

Business Opportunities : Jun 2021

SL NO	TENDER TITLE	SUBMISSION CLOSING DATE	ORGANISATION/ AGENCY	TENDER ID	ENQUIRY TYPE
16	HAND HELD LIGHT WEIGHT LASER RANGE FINDER	23-06-2021 18:00	Army	PC-28706/ACSF/ LRF/A/ ARTY	Open
17	SUPPLY OF TRACKED JCB SPARE PARTS	26-06-2021 09:00	Army	1247/E-QTN/2021-22/43/OPW	Open
18	CASE CARRYING SNV 5.56MM LMG (INSAS) 101A TO DRG.NO.MCT2015/3 (COMPLETE)	01-07-2021 11:00	Army	GEM/2021/B/1276850	Open
19	CASE CARRYING FRP AS PER DRG. NO. IRDE-2610 FOR DAY SIGHT 5.56M MM RIFLE.	01-07-2021 11:00	Army	GEM/2021/B/1276889	Open
20	Auto Break Fluid HD	21-06-2021 16:00	Army	6300036081	Open
21	Hiring of 3T/5T forklift for CSL-Kolkata Ship Repair Unit (CKSRU), Kolkata	19-06-2021 15:00	CSL	CSL/CKSRU/ TEN/161/2021-22	Open
22	SUPPLY OF ANTI-BALLISTIC PANELS (1 SET PER BOAT) FOR ARMY PATROL BOATS (12 NOS.) FOR YARD 2159-2170.	16-06-2021 15:30	GSL	15/GES/IA/12PB/Anti Ballistic Panels dt. 14.6.2021	Open
23	SUPPLY OF VARIOUS TYPE OF TOOLS FOR Y 12704 UNDER ALLOWANCE LIST FOR P15B SHIPS	06-07-2021 14:00	MDL	1600001162	Open
24	[SMART FENCE INTEGRATED SECURITY SYSTEM (SFIS SYSTEM) INSTALLED AT AIR HQ (VB) UNDER 2 BID system	08—07-2021	IAF	AIR HQ /21392/3/CC	Open
25	[Indigenous repair of Attitude and Heading Reference System (AHRS) of PC-7 MKII aircraft.	25-06-2021	IAF	OI/INDG/05/2021-22-2021_IAF_450609_1	EOI
26	INDEGENOUS REPAIR PROCESS OF INDICATION MODULE AND 68F PROCESSOR MODULE OF MI-17V5 MULTI FUNCTIONAL DISPLAY]	05-07-2021	IAF	[EOI/INDG/06/2021-22] [2021_IAF_450651_1]	EOI
27	[INDIGENISATION OF GROUND SUPPORT EQUIPMENT VIZ PNEUMATIC TEST EQUIPMENT AND LOADING GEAR FOR CLUB MISSILE	12-07-2021	Navy	439/KL/03/20-21] [2021_NAVY_449774_1]	Open
28	[PROCUREMENT OF CORONARY GUIDE WIRE - STAINLES STEEL CORE - POLYMER COATED	21-06-2021	Navy	434/3/67/RFP-0142] [2021_NAVY_449619_1]	RFP
29	[REPAIRS REFURBISHMENT AND OVERHAULING OF ELECTRICAL PANELS OF CFSS AND FOAM FIRE FIGHTING SYSTEM ONBOARD ONE LARGE NAVAL VESSEL AT NSRY KAR]	30-06-2021	Navy	[NSRY/L/0001/27] [2021_NAVY_449908_1]	Open
30	[PROCUREMENT OF 1000 NOS DIGITAL CAMOUFLAGE FOR NOC CADETS INDUCTION	25-06-2021	Navy	49/06/ZAM/2021-22/CP-14(I)] [2021_NAVY_448651_1]	Open

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