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Ministry of Defence

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PRIME MINISTER NARENDRA MODI INAUGURATES THE DEFEXPO 2022 AT MAHATMA MANDIR CONVENTION AND EXHIBITION CENTRE IN GANDHINAGAR, GUJARAT ON OCTOBER 19, 2022.

Prime Minister Inaugurates DefExpo 2022, Reiterates New India's Resolve

During the inaugural ceremony, Prime Minister Modi launched Mission DefSpace, laid foundation stone for Deesa Airfield & released the 4th Positive Indigenisation List

AYUSHEE CHAUDHARY

In the defence sector, new India is moving ahead with the mantra of Intent, Innovation and Implementation, stated Prime Minister Narendra Modi at the inauguration of the Defence Expo 2022 in Gandhinagar, Gujarat on Wednesday. The Prime Minister underlined that DefExpo 2022 is painting a picture of New India and its capabilities; being an amalgamation of the country's development and states' cooperation. "It has the power and dreams of the youth, the resolve and capabilities of the youth; hopes for the world and opportunities for friendly nations. It provides a glimpse of the capability and possibility of India in one single frame." He stressed on the uniqueness of this edition being the first defence expo where only Indian companies are participating, featuring only Made in India equipment. Over 400 MoUs are

expected to be signed. Encouraging the startups further, he mentioned that reliable options are now mushrooming to replace the monopoly that few companies have created in the field of defence supply.

Till eight years ago, India was recognised as the world's largest defence importer but 'Make in India' is becoming a success story now with the defence exports having grown eight times in the last five years, added the Prime Minister. "We are exporting defence materials and equipment to more than 75 countries of the world. In 2021-22 Defence exports from India reached \$1.59 billion i.e. about 13 thousand crore rupees. And in the coming time, we have set a target to reach five billion dollars i.e. 40 thousand crore rupees."

The world is relying on India's technology today because India's armies have proved their capabilities, he said, appreciating the Indian Armed Forces. Additionally,



PRIME MINISTER NARENDRA MODI, UNDERLINING THE UNIQUENESS OF THIS EDITION, SAID THAT THIS IS THE FIRST DEFEXPO WHERE ONLY INDIAN COMPANIES ARE PARTICIPATING & FEATURES ONLY MADE IN INDIA EQUIPMENT



the forces are pushing Atmanirbharta too. The Indian Navy has inducted state-of-the-art aircraft carriers like the INS Vikrant into its fleet. The induction of the 'Pra-chanda' Light Combat Helicopters developed under the 'Make in India' initiative by Indian Air Force is another clear example of India's defence capability.

MISSION DEFSPACE

During the programme, Prime Minister also launched Mission DefSpace. Space is being looked at as the next frontier for security. "Space technology is an example of what security will mean for any strong nation in the future. Various challenges in this area have been reviewed and identified by the three services. We have to work fast to solve them," Modi said.

Mission Defence Space aims to encourage innovation, strengthen the forces and provide new and innovative solutions. The Mission will come up with various challenges and initiatives through this Mission to advance the aerospace sector.

"Space technology is shaping new definitions of India's generous space diplomacy, giving rise to new possibilities. There are more than sixty developing countries with whom India is sharing its space science. The South Asia satellite is an effective example of this. By next year, ten ASEAN countries will also get real-time access to India's satellite data. Even developed countries like Europe and America are using our satellite data," he added.

DEESA AIRFIELD

As part of DefExpo's inauguration, Prime Minister virtually laid the foundation stone of Deesa airfield in Gujarat. Noting Deesa's proximity with the border, the Prime Minister said that now India is better prepared to respond to any misadventure on the western borders. "The forward airforce base will add to the security architecture of the country. This region will now become an effective centre of security," he added.

INDIA- AFRICA

Noting the positive response from various countries, the Prime Minister expressed, "When India is giving shape to its dreams, 53 friendly countries from Africa are walking with us. The second India-Africa Defence Dialogue is also taking place during the Expo. "The first railway lines in Africa had the participation of people from Kutch. Many words used in daily life in Africa have their origin in the Gujarati community in Africa. Even for a global leader like Mahatma Gandhi, if Gujarat was his birthplace, then Africa was his first 'Karmbhoomi'. This affinity for Africa is still central to India's foreign policy. This relationship between India and Africa is based on time-tested trust that is further deepening and touching new dimensions with the passing of time."

INDIAN OCEAN REGION

The second Indian Ocean Region+ (IOR+) Conclave is also being held during the Expo. In line with the Prime Minister's vision for Security and Growth for All in the Region (SAGAR), the conclave will provide a stage for a comprehensive dialogue to promote defence cooperation amongst IOR+ nations to foster peace, growth, stability and prosperity. Drawing attention to the rising maritime security's importance, the Prime Minister stated, "Today, from international security to global trade, maritime security has emerged as a global priority. The role of the merchant navy has also expanded in the era of globalisation. The world's expectations from India have increased, and I assure the world community that India will fulfill them. Therefore, this Defence Expo is also a symbol of global trust towards India."



PRIME MINISTER NARENDRA MODI AND DEFENCE MINISTER RAJNATH SINGH WITH DELEGATES OF FOREIGN COUNTRIES

4TH POSITIVE INDIGENISATION LIST

As a further boost to Atmanirbharta in Defence, the Prime Minister also released the fourth positive indigenisation list featuring 101 items. Throwing light on making India's defence sector self-reliant, Prime Minister highlighted that these decisions also show the potential of a self-reliant India. "After the list, there will be 411 such equipment of the defence sector, which will only be bought under the "Make in India". Such a huge budget will strengthen the foundation of Indian companies and take them to new heights." All the items included in the lists will be procured from indigenous sources as per provisions given in Defence Acquisition Procedure (DAP) 2020. This list provides continuous impetus towards self-reliance in defence.

The MoD had earlier promulgated 'First, Second and Third Positive Indigenisation Lists', comprising 310 items on August 21, 2020, May 31, 2021 and April 7, 2022 respectively.

"The fourth list has been prepared by MoD after several rounds of consultations with all stakeholders, including the industry. It lays special focus on equipment/systems, which are being developed and likely to translate into

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Key Systems for India's Nuclear Submarine Program

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PRIME MINISTER NARENDRA MODI VISITING EXHIBITS AT DEFEXPO 2022



firm orders in the next five to ten years. Like the first three lists, import substitution of ammunition which is a recurring requirement has been given special focus," he added.

This fourth list recognises the growing capacity and capabilities of the Indian defence industry and is likely to stimulate the potential of domestic research & development by attracting fresh investment into technology and manufacturing capabilities. The list has been hosted on the MoD website (www.mod.gov.in) for information of all stakeholders.

INDIA PAVILION

Following the inaugural address, Prime Minister Modi proceeded to the exhibition centre and inaugurated the India Pavilion. At the India Pavilion, he also unveiled HTT-40 - the indigenous trainer aircraft designed by Hindustan Aeronautics Limited. The India Pavillion features various companies and products under different zones. These include the Missile Zone termed as "Far and

Beyond", the Naval Zone termed "Wave Riders", the Aero Zone termed "Above Horizon", the Land Zone termed "Terra Firma", the Electronic Zone termed "Digital Frontier" and a 5G section.

Speaking on investment opportunities in the defence sector, the Prime Minister spoke about the two defence corridors in UP and Tamil Nadu where big global companies are expected to invest. He also highlighted the might of the MSMEs in the sector and informed that these big companies will be supported by the MSMEs while creating a large network of supply chains behind this investment. "Investments of such scale in this sector will generate huge employment opportunities for the youth in those areas which were not even thought of earlier." He called upon all the companies present at the Defence Expo and urged them to give shape to these opportunities keeping the India of the future at the centre. "You innovate, take a pledge to be the best in the world, and give shape to the dream of a strong developed India. You will always find me there supporting you," he concluded. ●

NORTHROP GRUMMAN SIGNS LETTER OF INTENT WITH DYNAMATIC TECHNOLOGIES AS PARTNER TO MANUFACTURE AERO STRUCTURES FOR F/A-18 INDIGENOUS WORKSHARE


(LEFT-RIGHT) ENRIQUE SAMPSON, F/A-18 INTERNATIONAL PROGRAM MANAGER - NORTHROP GRUMMAN; LT GEN SANJEEV MADHOK, HEAD OF DEFENCE BUSINESS - DYNAMATIC TECHNOLOGIES; DANIEL PAUL, F/A-18 & F-5 PROGRAM MANAGER - NORTHROP GRUMMAN; UDAYANT MALHOUTRA, CEO & MANAGING DIRECTOR, DYNAMATIC TECHNOLOGIES; CMDE. GYANENDRA SHARMA, NGC INDIA REPRESENTATIVE; CHRISTOPHER RICHARD, F/A-18 BUSINESS DEVELOPMENT MANAGER - NORTHROP GRUMMAN; AJAY GURURAJ, BUSINESS DEVELOPMENT & CRM - DYNAMATIC TECHNOLOGIES.



MOU WAS SIGNED BETWEEN MUNITIONS INDIA LIMITED AND WB ELECTRONICS INDIA PVT LIMITED FOR COLLABORATION IN THE AREA OF LOITERING AMMUNITION AT MIL STALL ON DAY 1 OF DEFEXPO 2022



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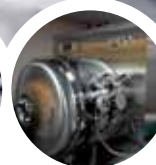
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Impetus to 'Indigenisation'

*Fully supporting self-reliance in defence manufacturing, Indian Navy continues to propel the domestic industry's growth, something that has far-reaching strategic consequences. In **Part 3** of an extensive interview with **Jayant Baranwal**, Editor-in-Chief, **SP's ShowNews**, **Vice Admiral S.N. Ghormade**, Vice Chief of Naval Staff, gave a comprehensive overview of the current and future plans of the Indian Navy.*

Jayant Baranwal: Indian Ocean Region (IOR) and South China Sea (SCS)

(a) Normal perception is that our Navy is strong enough to dominate in the waters of IOR. Would you like to share your views on the same?

Ghormade: Indian Navy (IN) is fully prepared to safeguard the maritime interests of the nation. The country's maritime interests encompass maintenance of the territorial integrity of India against seaward challenges, as well as, protection of our maritime trade and the merchantmen that embody it. Our coastline today faces significant security challenges from malevolent non-state and state-sponsored anti-national elements. To safeguard the maritime interests of the nation, the IN performs four types of roles namely military, diplomatic, constabulary and benign. For these roles, we have adequate capability and are also continuously evolving to meet any new challenges.

(b) Do we possess similar strength when it comes to SCS? Kindly advise?

Ghormade: IN is continuously evolving to meet the emerging security threats and challenges to our maritime interests. With well laid out long-term planning, the Navy has been able to keep pace with the developing security situation in the region. We are confident that we will be able to deter and if required, defeat any force well before it can be in a position to threaten our shores. We are constantly fine-tuning our concept of operations and acquisition plans to cater for developing threats in our areas of interest.

Jayant Baranwal: The requirements projected by you would require to be adequately funded by the Government. What is the annual increase in capital funding that you are looking at to meet the requirements of the Naval force levels projected by the Indian Navy?

Ghormade: The allocation of Budget to the Navy has been adequate to meet the requirements/capacity building initiatives. Any shortfalls have been made good with additional allocations at RE/MA stages. Further, a conservative 10 per cent Year on Year growth w.r.t. BE 2022-23, under Capital Budget, would result in adequate fiscal space for Indian Navy to progress envisaged Modernisation plans.

Jayant Baranwal: To conclude this interview and this interesting interaction, we would like to ask you what all are the plans of Indian Navy towards the larger objective of indigenisation being pushed by Government of India?

Ghormade: Indian Navy has always been at the forefront of promoting the 'Make in India' initiative of the Government, with close to 63 per cent of contracts, by value, being concluded with/accorded to Indian vendors, in the last three years. In order to reduce arms dependency and promote indigenous manufacturing of defence equipment, a comprehensively revamped 'Make and Innovation' procedure has been introduced in DAP-20 to facilitate indigenous design and development of defence equipment by private participation, both with government funding and Industry funding.

As on date, out of 45 ships/submarines under construction, 43 are being built in India. Also, AoN exists for 49 ships and 6 submarines, all to be constructed indigenously which would strengthen our ecosystem. Further, in keeping with the Atmanirbhar Bharat initiative of GoI, and achieving self-reliance in all defence related projects, all new IN ships being constructed in India are being fitted with indigenous weapons and sensors. Further, all foreign origin weapons, sensors and propulsion systems of older platforms are being progressively replaced with indigenous systems during the mid-life upgradation refits. The spares of all foreign origin equipment are also being progressively indigenised.

Indian Navy is also part of major flagship schemes of Government of India, viz, 'Make in India', 'Technology Development Fund (TDF)' and 'Innovation for Defence Excellence (iDEX)'. Among the major Government initiatives, following have been progressed by the Indian Navy till date:



(TOP) VERTICAL LAUNCH SHORT RANGE SURFACE TO AIR MISSILE;
(ABOVE) HEAVY WEIGHT TORPEDO VARUNAstra

- Naval Innovation and Indigenisation Organisation (NIIO) was launched by the Defence Minister in August 20 for active interaction with Industry and Academia. Recently, on July 18, 2022, the Prime Minister unveiled the 75 'SPRINT challenges' during the NIIO seminar 'Swavlamban'. The SPRINT (Supporting Pole-Vaulting in R&D through iDEX, NIIO and TDAC) challenges is aimed at giving a boost to the usage of indigenous technology in the Indian Navy.
- Over 1,100 proposals were received from the start-ups, MSMEs and individual innovators. Of these, more than 160 proposals have already been selected which involves over a 100 start-ups and innovators. The process is ongoing and some more proposals will be shortlisted over the coming weeks. We are planning to conclude contracts for these in shortest possible time and are definitely SPRINTING.
- Centre for Indigenisation and Self-reliance (CISR) cell was formed at INS Agrani, Coimbatore w.e.f. April 1, 2022 to provide necessary impetus on self-reliance from 'Conceptualisation to Induction'. Impetus has been provided towards indigenous manufacture of major weapons and sensors.
- Further, the first indigenously developed VL-SRSAM (DRDO/L&T and BDL) was fired by INS Rana on June 24, 2022. It may be noted that the first indigenously developed Heavy Weight Torpedo Varunastra is already in service.

- We are also closely associated with the National Industrial Corridor Development Corporation (NICDC) under NITI Aayog, to synergise our efforts in tandem with the national vision, thereby taking advantage of the planned industrial corridors.
- As part of our long-term indigenisation plan, a document called the 'SWAVLAM-BAN' was released by the Defence Minister in August 2020 and has been uploaded on the Navy's website for the industry. A core group has been formed to progress the indigenisation as per the plan & formulate a long-term sustenance plan.
- As a short-term plan, Navy maintains a list of more than 500 items on the 'sri-jandefence' portal (www.srijandefence.com) which are envisaged to be indigenised within the next three years. We receive overwhelming response from the industry based on this database, and have completed indigenisation of more than 100 items in the last 18 months.
- We also conduct periodic 'Industry Yatras', wherein we reach out to the Industry Bodies and local industries at the State/District levels. This is done with an aim to actively assess their capabilities and identify mutual areas of co-operation.
- As a focused approach, we have developed detailed 'Indigenisation Roadmaps' for the equipment/systems onboard our foreign acquisition platforms i.e. our Aircraft Carrier Vikramaditya, Talwar Class ships, P-75 submarines and Tankers, so as to take on import substitution and complete our self-reliance vision.
- The Indian Navy signed a MoU for knowledge partnership with Academia and Industry Partners (SIDM & Bharat Shakti) in March this year and the MoU is already showing results as can be judged from the overwhelming responses received from various Indian Navy Student Technical Education Programme (INSTEP) knowledge partners and other technical colleges across the nation during SPRINT challenges.
- You can clearly see that Indian Navy has a clear vision - enabling policies - supporting structures - and a proud track record towards achieving self-reliance in Defence. We can achieve this with a collective and collaborative whole of nation effort. That is where enduring partnerships with industry and innovators come in. ●

*For full interview, please refer to SP's Naval Forces Issue 5/2022;
www.spsnavalforces.com*

ARC Expanding into Platform Based Airborne EO Systems

With its manufacturing facility at Hyderabad, Astra Rafael Comsys Pvt Ltd (ARC), a JV company formed between Astra Microwave Products Ltd (AMPL), India, and Rafael Advanced Defence Systems (Rafael), Israel has carved out a niche for itself in the high technology areas of Tactical Communication Systems, EW and SIGINT. ARC has added another feather to its capabilities' cap, pushing its envelope, by entering into the business of high-end platform based Electro-Optic (EO) systems which are slated for assembly in ARC's plant and further integrated with airborne platforms.

Advances in EO based targeting systems across the world have been spectacular in the past three decades. Advanced Optical Targeting Pods (OTPs) now are expected to contain standard features such as laser designators, infrared radars, and electro optics. The punitive raid carried out by the Indian Air Force (IAF) in 2019 on terrorist camps across the border further focused attention on Optical Targeting Pods (OTPs). The Mirage that carried out the raid were fitted with Litening precision targeting system. Litening targeting pod is an Israeli-designed precision targeting pod system currently operational with a wide variety of combat aircraft in the IAF such as Mirage-2000, Su-30 MKI, MiG-29 UPG and would also be ultimately integrated onto the LCA Tejas.

Optical targeting systems have come a long way from being just target designators. Latest systems



have electro-optical sighting capability during day and IR sighting during night, providing the strike aircraft ability to operate round the clock. State of the art EO systems on offer includes, Litening, Litening + SAR, RecceLite, MicroLite and RecceLite + SAR.

Latest versions of Litening pods are Laser designators, combat-proven, multispectral airborne targeting and navigation pod, fully operational day and night and under adverse weather conditions that incorporate targeting features required by a modern strike fighter. Latest version of the Litening (shown above) is an upgrade that provides Air to AirIRST capabilities, much longer stand-off ranges, much better image resolutions and automated data analysis tools. The in service RecceLite is a wide area scanning system with data analysis features, providing real-time ISR. The latest version of RecceLite aerial ISR System in ARC's portfolio of the future, is an upgrade to this operational system providing high-resolution, real time systematically large area scanning from vertical to stand-off ranges for persistent wide area ISR. This POD can be integrated onto a variety of aircrafts

Having announced its entry into EO systems, the ARC management is committed to investing in building indigenous capabilities not only in the assembly and testing of these systems but also towards long term maintenance and platform integration.

ARC is exhibiting in Hall 7, Stall No 56 & 57 ●



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"We continue to be a Trusted Partner in the Modernisation and Mission Readiness of India's Defence Forces"

Boeing continues to explore areas for supporting the vision of Atmanirbhar Bharat and adding more value to India's aerospace and defence ecosystem

SURENDRA AHUJA,
MANAGING DIRECTOR, BOEING DEFENCE INDIA

Today, the backbone of India's strategic and theater transport fleet, its heavy attack and heavy lift helicopter capability, its long-range maritime patrol and anti-submarine warfare aircraft capability – is all US-origin. What's more, major fighter aircraft offerings and services opportunities are being actively discussed that could help realise the value of both countries being major defence partners.

If we start with a quick look at the last five years, Boeing has accelerated growth in India with a razor-sharp focus on the key areas of:

- Customer engagement – meeting the Indian Navy (IN) and Indian Air Force's (IAF) modernisation and mission-readiness needs
- Services growth – localisation of our services, and the value Boeing Defence India, our local establishment in India, is able to provide through the lifecycle of platforms offered
- Supplier expansion – building an indigenous and robust supplier-partner network with a focus on Atmanirbhar Bharat

MRO capabilities in India. Our programmes have skilled more than 3,700 frontline aerospace manufacturing workers and aircraft maintenance engineers.

Partnership is Boeing's key to success and we believe it makes more sense to partner with local MROs that are already established and have great capabilities.

A 60,000 sq. ft. Training Support and Data Handling Centre has been set up at INS Rajali, Arakkonam (the base for P-8I fleet), with a secondary centre at Naval Institute of Aeronautical Technology (NIAT), Kochi. Both centres were recently handed over to the Indian Navy and are operational now. The indigenous, ground-based training will allow the Indian Navy crew to increase mission proficiency in a shorter time while reducing the on-aircraft training time resulting in increased aircraft availability for mission tasking.

We bring specific trainings to their employees as required per the scope of work. One such example is Air Works in Hosur who we work with for the heavy checks on the P-8I fleet and they recently handed over three P-8I aircraft post phase 32 checks, taking the total tally to six. Likewise, we are constantly on the lookout to do more here like we recently expanded to wheels and brakes with Horizon Aerospace and have recently certified AIESL for P-8I landing gear, slats and powerplant overhaul.



(LEFT) F-15EX FIRST FLIGHT; (RIGHT) KC-46 REFUELS F/A-18

We are committed to supporting the modernisation and mission-readiness of India's defence forces through strategic investments in manufacturing, skill development and engineering. Today, India operates 11 C-17s, 22 AH-64 Apaches (with six more on order), 15 CH-47 Chinooks, 12 P-8Is, 3 VVIP aircraft (737 airframe) and two Head of State aircraft (777 airframe), all Boeing platforms. With more than 300 suppliers in India, we continue to explore areas for supporting the vision of Atmanirbhar Bharat and adding more value to India's aerospace and defence ecosystem.

We are seeing growth in our services business and, with it, growth in the value Boeing creates through product lifecycle support and training. From performance-based logistics contracting and integrated fleet support to maintenance, modifications and repairs, Boeing provides a broad spectrum of innovative products and services across platforms which directly support and enhance capabilities while reducing total cost of ownership for our customers globally. Boeing's investments in services infrastructure, building local capabilities, workforce training and partnerships in India are aimed at ensuring the Indian armed forces successfully complete their missions, operate their assets at peak condition and do so affordably.

In 2021, we launched the Boeing India Repair Development and Sustainment (BIRDS) Hub. BIRDS is an initiative to bring together ecosystem partners to shape India as a strategic destination for aerospace engineering, maintenance, repair and sustainment services. This is a one-of-its-kind initiative that seeks to provide customers with best-in-class solutions, efficient turnaround times, and optimal economical value, all available in-country. Under this programme, we have by now signed strategic partnerships with leading indigenous players like Horizon Aerospace, Air Works, and AI Engineering Services Limited (AIESL). An important aspect of the hub is training programmes to increase skilled manpower by developing sub-tier suppliers and medium, small and micro enterprises (MSMEs) to build high quality

Our focus is also to help build a strong indigenous Indian aerospace and defence ecosystem, and invest in partnerships and talent to contribute to the vision of Atmanirbhar Bharat. This will shape the next five years for us. Boeing's sourcing from India has steadily grown over the years and is today worth \$1.1 billion annually from over 300 supplier partners. Our Indian suppliers manufacture critical systems and components that go into some of Boeing's most advanced aircraft. In 2021 alone, we added new suppliers including several Micro, Small and Medium Enterprises (MSMEs), as part of our commitment to Atmanirbhar Bharat. Last month our joint venture, Tata Boeing Aerospace Limited (TBAL) in Hyderabad, delivered the 173rd fuselage for the Apache attack helicopter.

A FUTURE BLUEPRINT FOR PARTNERSHIP

The future looks promising and we continue to see several opportunities in India. India's defence sector is poised for growth and Boeing is committed to supporting and enabling this progress.

We're engaging with our defence customers in India on their current and future requirements for national security and regularly engage in discussions over the value our portfolio can deliver to develop capabilities they require for the execution of their missions. In the near-term, those capabilities include the F/A-18 Super Hornet and additional P-8Is for the Indian Navy, the F-15EX and KC-46 (the aerial refueler) for the Indian Air Force, additional training, sustainment and performance-based logistics solutions to both the Navy and the Air Force.

We are contributing to the growth of India's aerospace industry; that is why we are investing in partnerships across the ecosystem in skilling, research & development, and manufacturing. India is front and center of significant opportunities for Boeing and the country's role in our global supply chain is big and getting bigger. Our commitment to India is deep and it's for the long term; our vision is to bring the best of Boeing to India and export the best of India to the world! ●

AMCA's Development Process to Begin This Year



(LEFT) AMCA PROJECT DIRECTOR, DR ASHISH KUMAR GHOSH (SEEN ON THE RIGHT) WITH A MEMBER FROM THE CORE TEAM WORKING ON AMCA;
(RIGHT) MODEL OF FIFTH GENERATION FIGHTER ADVANCED MEDIUM COMBAT AIRCRAFT (AMCA).



AYUSHEE CHAUDHARY

“Development for AMCA’s roll out expected to begin before the end of this year,” informs AMCA Project Director, Dr Ashish Kumar Ghosh during DefExpo. AMCA is the indigenous fifth generation fighter Advanced Medium Combat Aircraft (AMCA).

The basic design process was completed followed by a detailed design process where detailed data was generated and a lot of validation tests were done. This was followed by a critical design review that is currently on. “The design of AMCA is complete. We are going through an elaborate review process right now. We do system by system review and then on an overall aircraft level. Once that’s over, we will be ready for development,” stated Kumar who is expecting a go ahead soon, before the end of this year.

“The first rollout will happen about three and a half years from the time the development starts and then about four and a half years later, the first flight will take place,” said Kumar. Talking about AMCA’s specialty, he highlighted that AMCA puts India to the list of only a couple of countries that have developed such advanced conventional aircraft.

AMCA’s addition will strengthen Indian forces’ capabilities. “With the progression of time, new technological advancements capabilities of the aircraft are enhanced. The best thing with the fifth-generation aircraft is stealth that allows reduction in radar cross section and other signatures,” Kumar said. Keeping this in mind right from the beginning, the airframe is designed to align with these particular requirements. This makes it more advanced than the fourth-generation aircraft, he added.

The department of Defence Research and Development Organisation (DRDO)’s Aeronautical Development Agency (ADA) is working on AMCA. An AMCA model was on display as part of DRDO’s 3D (DRDO Design & Development) Ecosphere set up at DefExpo. In a first, an Advanced cockpit simulator is available for experience alongside other augmented and virtual reality Naval, Land and Air product simulators. A holographic deck providing a 3D experience of various defence products is present at the hall. ●



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Scaling New Heights Through Indigenous Shipbuilding

Backed by strong design house and superior 'Quality' ships, Goa Shipyard Limited has emerged as the fastest growing shipyard of country, building high technology and sophisticated ships

SP'S SPECIAL CORRESPONDENT

Goa Shipyard Limited (GSL) has, in the last few years has established new benchmarks in the Indian Shipbuilding Industry by consistently delivering each and every Vessel ahead of contractual delivery schedule. With an unmatched track record of timely execution and delivery at 'fixed cost' of over 200 Ships and more than 160 Fast Interceptor Boats, GSL stands tall as the success story of the changing face of Indian Defence Shipyards.

Equipped with an in-house design capability and most modern facilities, GSL has excelled in its core competence of design and building a wide range of Patrol Vessels, Missile Boats, Landing Crafts, Training Vessels, Survey Vessels, Sail Training Ships, Fast Patrol Vessels and Yardcrafts for the Defence Sector, besides other types of vessels in the commercial sector. GSL has capability to design and build ships to customer's requirements and its in-house R&D unit is recognised by DSIR, Ministry of Science & Technology, Government of India.

The Shipyard has exhibited unparalleled performance in Shipbuilding industry by delivering over 30 ships in last few years, all ahead of schedule, amounting to Gross tonnage of approximately 32,000 tonnes. These deliveries include 11 OPVs, 11 Fast Interceptor Boats, 04 x 1000 Ton fuel barges and 01 Damage Control Simulator. The throughput achieved validates the processes and productivity which has consistently increased year on year.

The Shipyard has excelled in design and construction of OPVs and it's a matter of pride that over 24 designed & built OPVs by GSL are currently in service with Indian Navy, Indian Coast Guard and Sri Lanka Navy. The recently completed Coast Guard Project for five Advanced Offshore Patrol Vessels (AOPV) is the most successful Project in Indian Shipbuilding industry with over 70 per cent indigenous content. The project was completed in five years from 2016-22 with all five Vessels delivered ahead of schedule and build period of 2,400 tonne AOPVs reduced to three years from 5.5 years, taken earlier for last OPVs built by GSL.

Another major proven and trustworthy platform designed and constructed by the Shipyard is the Fast Patrol Vessel (FPV). Driven by waterjets, these Vessels can achieve speeds in excess of 37 knots. Known for its excellent manoeuvrability, these ships have proved their mettle at high seas during hostile conditions. Seven of these Vessels have been delivered to Indian Coast Guard and two exported in 2015-16. GSL has also won contract for eight FPVs for Coast Guard wherein the design phase is in advanced stages and construction has also commenced.

With dependable and robust products and committed workforce, the Shipyard has been giving record breaking performance in exports year after year and emerged as the largest exporter of defence ships from Indian sub-continent. In the last three years alone, it has delivered two OPV, 11 FIBs and two FPVs, and a Damage Control Simulator to friendly foreign countries. These projects again were delivered ahead of schedule and superior build quality led to accolades at the highest levels. As of now, GSL is executing a prestigious project for a friendly foreign country which is presently in the design stage and will commence physical construction soon.

The last couple of years have been very challenging to the Shipyard owing to the cascading effects of the pandemic and very recently the changes in the geopolitical scenario with respect to the Russia-Ukraine conflict. However the period has also been very encouraging with the Yard transitioning itself to the domain of advanced weapon intensive platforms by commencing the execution of the prestigious contract for construction of two Advanced Missile Frigates for the Indian Navy under Design assistance from Russia. This project, which has completed the technical design stage and is in the advanced stages of detailed design with physical construction also commenced, will definitely catapult GSL into a select league of shipyards which can design and construct complex weapon intensive ships.

The other two major projects being executed are the two Pollution Control Vessels and eight Fast Patrol Vessels for the Indian Coast Guard, which are entering into full scale production stage soon. Both these platforms are designed in-house by GSL. The Shipyard also emerged as the least bidder for the seven New Generation Offshore Patrol Vessel Project for the Indian Navy. The contract for this project is expected to be inked in the near future.

It is also a matter of great pride that the two Frigates under construction will be installed with a considerable percentage of indigenous equipment fit, contributing to the Government of India's 'Make in India' and 'Atmanirbhar Bharat' vision. Critical engineering, hull and weapon systems will be of indigenous origin tapping into the growing capabilities of domestic public and private industry. Close to 8,000 items will be of indigenous origin and are presently under various stages of procurement from MSMEs.

In order to bring world class technology to India and manufacture equipment/systems in India with significant indigenous content, GSL has laid considerable thrust on collaboration with leading Indian OEMs and Startups and has entered into MoUs with various Industry and Academic Institutions such as BEL, L&T and IIT Goa to further boost indigenisation and reduce dependence on import. GSL is also participating in the iDEX programme and is associated with Startups for development of niche technologies in the Marine and Shipbuilding Domain.

While GSL is aggressively pursuing the 'Make in India' initiative by introducing more and more import

substitute products, it is conscious of the fact that MSMEs form a critical fulcrum behind this initiative. Therefore, it is putting in all out efforts in increasing their vendor base. GSL has a robust Vendor Development programme in place which looks into Regular conduct of vendor meets, active participation in vendor meet at Regional as well as National level, facilitating yard visit for vendors for interaction with stakeholders at GSL and understand their requirement, imparting training on TReDS to MSEs, rebate in Class approval fee for MSEs owned by SC/ST entrepreneurs from Indian Register of Shipping and Handholding local suppliers. GSL has also actively worked towards onboarding majority of its vendors on the India Defence Mart (IDM) which is again another great initiative by the Government.

Constantly building and consolidating its experience gained over half a century and reputation for excellence and consistent track record of timely deliveries, GSL today, confidently looks ahead to successfully meet the challenges of the future requirement of our forces indigenously. ●



(TOP) 105 M COAST GUARD OFFSHORE PATROL VESSEL ICGS SHAURYA;
(ABOVE) SRI LANKA NAVY SHIP OFFSHORE PATROL VESSEL SAYURALA.



COLONEL H.S. SHANKAR (RETD)

Indigenisation in Aerospace and Defence

Colonel H.S. Shankar (Retd), Chairman & Managing Director, Alpha Design Technologies Pvt Ltd highlights their role in promoting 'Atmanirbhar Bharat'

SP's ShowNews (SP's): How is Alpha Design Technologies taking forward the Government's vision of Atmanirbhar Bharat?

H.S. Shankar (ADTL): Priority for ADTL is for taking up Indigenous development of Products by strengthening in-house R&D, collaboration with DRDO, PSU's and other Private Industries.

SP's: What are some of the improvements to the current DPP that Alpha Design Technologies would like to suggest?

ADTL: MoD should prioritise Direct Offsets and not agree to dilute Offset provisions by adding procurement of Test equipment, ToT to DRDO, etc. Offset should be reserved for only Indian Industries, as DRDO is separately funded by MoD for ToT etc.

SP's: The Government has issued a list of defence items that must be sourced indigenously. Which of these are being targeted by Alpha Design Technologies?

ADTL: All items being readily available through Indian manufactures such as, Power Amplifiers, Synthesizers, EW Systems, TI based Fire Control Systems, UAV's, etc are being targeted by ADTL.

SP's: Has Alpha Design Technologies made use of testing facilities available with DRDO and DPSUs?

ADTL: Yes extensively. Our experience with DRDO/DPSUs have been positive.

SP's: What efforts has Alpha Design Technologies made towards indigenisation of defence equipment for the Indian armed forces?

ADTL: ADTL ensures minimum 50 per cent to 60 per cent indigenous content on all projects, by utilising whatever available in-house or through other Indian manufacturers.

SP's: Alpha Design Technologies has received a contract to upgrade the IAF's Pechora SAM systems – what are the developments?

ADTL: The project has been conceived by us ensuring usage of maximum indigenously designed items/assemblies, such as Radar Tx, Electro Optics Sensor, Tracker, Communication Equipment's, Interfaces to C3I systems, etc.



SKY CAPTURE BY ALPHA DESIGN TECHNOLOGIES

SP's: Please provide an update on the company's efforts towards drone manufacture?

ADTL: ADTL has concentrated manufacture of drones into three separate subsidiary companies having ultra modern facilities, Alpha-Elsec (Loitering Munitions and Mini UAV), Adani-Elbit (Hermes 450 and Hermes 900 which are HALE/MALE UAV's) and Flaire (Swarm Drones). They are already manufacturing and supplying large numbers to Indian and Export markets.

SP's: Please provide an update on the upgrade of IAF Mi-17 and Mi-17 IV helicopters by Alpha Design Technologies?

ADTL: The projects are progressing satisfactorily. ADTL provides/has supplied

all manufactured/designed parts and fitment/integrations being done on helicopters by ADTL team at No. 3 BRD.

SP's: What work is being done by Alpha Design Technologies with regards to the requirements of simulators for the Indian armed forces?

ADTL: ADTL has been operating MiG-29 Upgrade Simulator for IAF at Adampur Airfield on BOM basis. Similarly, two more Simulator Centres are being established at AF Station Sarsawa and Bagdogra. ADTL has indigenously manufactured and supplied 57 No's BMP-2 Simulators to Army last year and Ship handling Simulator to Navy this year.

SP's: What is the status for the manufacturing of 600 VHF communication devices for Elbit Systems received in 2016 – have there been repeat orders?

ADTL: ADTL has completed its work and supplies are fully made. Repeat Orders are expected during 2023-24.

SP's: How is Alpha Design Technologies seeking to participate in army tenders for BMP upgrade, FICV and new generation armoured vehicles and upgrades to existing MBTs?

ADTL: For BMP upgrade, ADTL is participating as Main Contractor in MAKE II programme, while for FICV and new generation of Armoured Vehicles, ADTL will be the main sub-contractor/major vendor to other Indian Companies for TI based FCS, Communication equipment, NV devices, etc. ●

Mazagon Dock Signing 23 MoUs at DefExpo 2022

Mazagon Dock Shipbuilders Limited (MDL), is entering into as many as 24 MoUs with various national and international firms at DefExpo 2022, Gandhinagar. The MoUs are focusing on cooperation in the fields of indigenised development and manufacturing of equipment for ships and submarines and other platforms under 'Atmanirbhar Bharat'.

Few MoUs are also aiming at design and development of Drones, Autonomous Underwater Swarm Drones, EPC projects in the field of Infra, Railway, Oil & Gas, water treatment, energy and other innovative projects. They also have a target to commercialise the CO2 absorber, steering console, Fuel Cell etc which are presently used in defence industry only.

In addition, technical collaboration in designing processes as technology support partner, training personnel for skill upgradation, improving design quality and reducing



VICE ADMIRAL NARAYAN PRASAD (RETD),
CHAIRMAN & MANAGING DIRECTOR,
MAZAGON DOCK SHIPBUILDERS LIMITED

the timelines for the completion of design activity, technology upgradation in production processes, AI based implementation of Digital Inspection process are some key areas which are catered under the above MoUs.

The MoUs would be signed with BHEL, Ray Enterprises, IMI Control Component India Pvt Ltd, Godrej & Boyce Mfg. Co Ltd, Mahindra Defence Systems, Sushma Electricals, Sagar Defence Engineering Pvt Ltd, Precitech Equipments India Pvt Ltd, Sunlux Technovations, Elcome Marine, Tata Advanced Systems Ltd, Robosys Automation & Robotics Pvt Ltd, Qmax Test Equipments Pvt Ltd, Trentar Pvt Ltd, Yeoman Marine & MATN's Stabiliser, Circor Flow Technologies (I) Pvt Ltd, Aveva Information Technology India Pvt Ltd, Siemens Industry Software India Pvt Ltd, VizExperts India Pvt Ltd, Altair India Pvt Ltd, Suryadipta Projects Pvt Ltd, Dassault Systems (India) Pvt Ltd and National Research and Development Centre. ●

Strengthening India-Africa Defence Relations

Defence Minister invites African nations to explore Indian defence equipment & technologies; says, robust Indian defence manufacturing ecosystem can fulfil international requirements



The India-Africa Defence Dialogue (IADD) was held on the sidelines of DefExpo 2022 in Gandhinagar, Gujarat on October 18, 2022. The dialogue successfully brought out various aspects of the IADD's theme 'Adopting Strategy for Synergizing and Strengthening Defence and Security Cooperation'. Delivering the keynote address, Defence Minister Rajnath Singh defined the theme of IADD as the underlying commitment of India and African countries to explore new areas of convergence for defence engagements, including capacity building, training, cyber security, maritime security and counter terrorism. He termed India & African countries as important stakeholders in ensuring a safe and secure maritime environment, especially in the Indian Ocean Region. He pointed out that the two sides work together in many regional mechanisms, which foster inclusive and constructive collaboration in dealing with shared security concerns and address common challenges to peace and prosperity.

Emphasising that India & Africa share a multi-faceted defence and security cooperation relationship, Rajnath Singh reiterated India's support to Africa to deal with challenges of conflict, terrorism and violent extremism. "India remains united with African countries in their quest for peace, security, stability, growth and prosperity. Our partnership with Africa is centered on the ten guiding principles articulated by Prime Minister Narendra Modi during his address to Parliament of Uganda in 2018. He had clearly stated that Africa will be at the top of our priorities. We will continue to intensify and deepen our engagements with Africa. Apart from the goals of developmental, commercial and technological partnerships that India wants to forge with African nations, the statement also covered cooperation in strengthening capabilities in combating terrorism and extremism, supporting UN peacekeeping missions and work for open and free oceans," he said.

The Defence Minister described the Indo-African ties as multi-faceted covering economic, diplomatic and defence domains. He highlighted that India and Africa share a robust partnership, which is based on the cooperative framework of 'SAGAR' (Security and Growth for All in the Region), drawn upon the ancient ethos of 'Vasudhaiva Kutumbakam' (The World is One Family).

Rajnath Singh invited African countries to explore Indian defence equipment and technologies, stating that India has emerged as a leading defence exporter in recent years. "Peace, security and development are inter-related. Security is essential for enabling development in the region. We have created a robust public and private defence industry. A defence manufacturing ecosystem has been created in India which has the advantage of abundant technical manpower. Our defence industry can work with you to fulfil your defence requirements," he told his African counterparts.

The Defence Minister was of the view that India does not believe in a hierarchical world order where few countries are considered superior to others. He stated that India's international relations are guided by the essence of human equality and dignity, which is a part of its ancient ethos. "We do not believe in making or becoming a client or satellite state, and so, when we partner any nation, it is on the basis of sovereign equality and mutual respect. Forging relations comes naturally to India, as we work towards mutual economic development," he said.

Rajnath Singh also reaffirmed India's belief that the global world order deserves to be democratised further. Stating that the world's multilateral forums should be reflective of the change in global realities, he stressed on the need to make the UN Security Council more representative which will provide it with greater legitimacy, thereby sustaining a global order wherein the principles of international peace, security and order are respected universally.

The Defence Minister threw light on India's support to Africa during the COVID-19 pandemic. He lauded the Indian Navy for exhibiting excellent capability and service through the Mission SAGAR initiatives, which helped provide timely supply of emergency medical supplies, besides deploying medical expert teams for training and assistance. "India has been the first responder in providing Humanitarian Assistance and Disaster Relief to several African countries," he added.

Rajnath Singh also elaborated on the history of political, economic and cultural linkages between India and Africa, saying that the feeling of solidarity, mutual trust and confidence born in the days of colonialism continues to drive the cooperation. He added that India has been one of the strongest advocates of African decolonisation and has worked for the end of racist and apartheid regimes of the past.

Later, the Gandhinagar Declaration was adopted as an outcome document of IADD 2022. It proposes to enhance cooperation in the field of training in all areas of mutual interest by increasing training slots and deputation of training teams, empowerment and capability building of the defence forces of Africa, participation in exercises and humanitarian assistance during natural disasters. India offered fellowship for experts from African countries through Manohar Parrikar Institute for Defence Studies and Analysis.

Fifty African countries, including 20 Defence Ministers, seven CDS/Service Chiefs and eight Permanent Secretaries participated in the Dialogue attesting to the high priority accorded to India-Africa engagement in defence and security. On the sidelines of the IADD, Defence Minister Rajnath Singh and Minister of State for Defence Ajay Bhatt met with the visiting African Ministers where issues related to defence and bilateral relations were discussed.

The IADD, as a part of DefExpo 2022, showcased to the African nations the growing prowess of the domestic defence industry, which is one of the major drivers of the nation's resolve to achieve 'Make in India, Make for the World' as envisioned by the Prime Minister. This interaction is expected to help fulfilling the Defence requirements of our African partners as also achieving the objective of catering to our domestic requirements. A Special Cover on IADD and a book on 'India-Africa Defence Cooperation: Opportunities and Challenges' were released during the event.

The IADD was institutionalised to be held biennially during successive DefExpo. It seeks to build on the existing defence partnerships between African countries & India and to explore new areas of convergence for mutual engagements including areas such as capacity building, training, cyber security, maritime security and counter-terrorism. ●

L3Harris and Merlinhawk Aerospace to Localise WESCAM MX-Series Service Capability in India



(LEFT) L3HARRIS TECHNOLOGIES SIGNED THE AGREEMENT WITH MERLINHAWK AEROSPACE;
(RIGHT) MERLINHAWK AEROSPACE AND L3HARRIS TECHNOLOGIES IN THE PRESENCE OF CANADIAN TRADE COMMISSIONER AT THE SIGNING EVENT.

Will deliver advanced repair facility, providing reliable, expedient service in the region L3Harris Technologies has signed an agreement with Merlinhawk Aerospace, India's certified aerospace and defence design and manufacturing company, to open a WESCAM MX-Series electro-optical and infrared (EO/IR) systems service center.

This strategic agreement is aimed at localising service capabilities under a WESCAM Authorized Service Center (WASC) through the transfer of knowledge, specialised tooling and technical publications, which will support the advanced repair facility.

"L3Harris continues to invest in its advanced customer-care ecosystem and establish a foundation for more self-reliant system maintenance that increases mission availability and reduces total ownership cost. We are honored to col-

laborate with Merlinhawk Aerospace," said Kristin Houston, President, Electro Optical, L3Harris.

Merlinhawk brings experience in the aerospace and defence sector, and provides users with superior technological, engineering and logistical servicing of WESCAM MX-Series EO/IR systems.

"By collaborating with L3Harris, we will create an advanced repair facility, enabling end-users here in India and across the region to fully benefit from both Merlinhawk and L3Harris' turnkey solutions and greater knowledge sharing leading towards localisation," said Ram R. Ramineni, Managing Director at Merlinhawk. "Merlinhawk continues to seek strategically-important relationships to deliver cutting-edge solutions across the defence sector and beyond and to bolster India's national capabilities in line with Government of India's policies." ●

BEL is ET Iconic Brand of India

There are organisations of repute. And there are most valuable brands, their names written in gold, in the annals of history. The iconic brand value of Navratna Defence PSU Bharat Electronics Limited (BEL), which shaped the growth of Defence Electronics in India, has been celebrated by the country's premium media house as "The Economic Times - Iconic Brand of India Award - 2022".

Dinesh Kumar Batra, CMD, BEL, received the award on behalf of the company at the awards ceremony, organised recently in Mumbai.

Guided by a farsighted vision to make India self-reliant in Defence Electronics, BEL was established in 1954 under the Ministry of Defence, Government of India. Be it Himalayan blizzards, salt-laden waters of the Arabian sea, or simmering temperatures of the Thar desert, BEL designs, manufactures and supplies state-of-the-art products and systems that are meant to excel in extremes and meet the exacting standards of the Indian armed forces. Yet another factor that has been pivotal to Brand BEL is the total trust that customers have reposed in the company.

Today, there's not an area in Defence which is untouched by BEL — Radars, Missile Systems, Military Communications, Naval Systems, Electronic Warfare & Avionics, C4I Systems, Electro Optics, Tank Electronics & Gun/Weapon System Upgrades, Electronic Fuzes, you name it, the company has made some of the most iconic products in all these areas.

But though Defence is its mainstay, BEL has touched a chord with the common man through civilian products like solar traffic signals and Electronic Voting Machines (EVMs). When the country wanted its services most, BEL successfully completed manufacturing of 30,000 ICU Ventilators in a record time to help the Indian Government in



DINESH KUMAR BATRA, CHAIRMAN & MANAGING DIRECTOR, AND DIRECTOR (FINANCE) & CFO, BEL, RECEIVING THE "THE ECONOMIC TIMES - ICONIC BRAND OF INDIA AWARD - 2022" ON BEHALF OF THE COMPANY ALONG WITH MANOJ KUMAR, EXECUTIVE DIRECTOR (NATIONAL MARKETING), DAMODAR BHATTAD, GM (FINANCE), AND PRADEEP SETHIA, AGM (FINANCE), AT THE AWARDS CEREMONY FROM MANGAL PRABHAT LODHA, MINISTER OF SKILL DEVELOPMENT & ENTREPRENEURSHIP, GOVERNMENT OF MAHARASHTRA.

its efforts to combat the COVID-19 pandemic.

All good brands not just grow. They evolve. BEL, too, has been constantly evolving over the last seven decades and to keep pace with the changing times, exploring diversification into allied non-defence areas. Some of the areas BEL is focussing on in non-defence include solutions for Civil Aviation sector, Anti Drone systems, Unmanned Systems, Satellite Assembly & Integration, Solar Business, Railway and Metro solutions, Software as a Service, Network & Cyber Security, Energy Storage products for Electric Vehicles (Li-ion & Fuel Cells, Charging Stations, etc), Homeland Security & Smart City businesses, a range of Medical Electronic and health care solutions, Artificial Intelligence, Composite Shelters & Masts, etc.

BEL is pursuing the cherished dream of self-reliance by espousing the Government of India's 'Make in India' initiative. Be it the efforts that the company has been putting in to engage in collaborative R&D — in addition to augmenting its own R&D set up — attempts to outsource work from Indian private industries and MSMEs, or the path breaking decision to go in for Public-Private partnerships to execute huge missile programmes, BEL is leaving no stone unturned to ensure that it is in sync with the Government's larger goal of indigenisation and Atmanirbharta (self-reliance). BEL is also fast expanding its global presence, putting its best foot forward to give a thrust to exports worldwide.

The Government of India's new policies for Defence aims at providing a level playground for both public and private sector. But despite the opening up of Defence to private companies, BEL has been growing at around 15 per cent rate, courtesy the progressive policies that it has put in place to maintain competitive edge in the changing business scenario. ●

Modernise the Armed Forces through Research & Innovation

Calls for expanding the reach of iDEX to connect with more young ignited minds



RAJNATH SINGH INAUGURATING MANTHAN 2022. CHIEF OF DEFENCE STAFF GENERAL ANIL CHAUHAN, DEFENCE SECRETARY DR AJAY KUMAR, CHIEF OF THE AIR STAFF AIR CHIEF MARSHAL V.R. CHAUDHARI, CHIEF OF THE NAVAL STAFF ADMIRAL R. HARI KUMAR, CHIEF OF THE ARMY STAFF GENERAL MANOJ PANDE AND OTHER SENIOR OFFICIALS FROM THE CENTRAL & STATE GOVERNMENT AS WELL AS INDUSTRY REPRESENTATIVES WERE PRESENT ON THE OCCASION.

Defence Minister Rajnath Singh has exhorted startups and innovators to come up with new ideas to modernise the Armed Forces through research & innovation and contribute in making the nation strong, prosperous & 'Atmanirbhar Bharat' as envisioned by Prime Minister Narendra Modi. Inaugurating Manthan 2022, an event organised by Innovations for Defence Excellence-Defence Innovation Organisation (iDEX-DIO), Ministry of Defence as part of 12th DefExpo, Rajnath Singh said, a large number of startups and innovators are venturing into the defence sector as the Government has created a robust ecosystem for their as well as the nation's growth.

The Defence Minister stated that more than ₹300 crore have been approved for over 100 iDEX winners to develop products/technologies in more than 50 technological areas, stressing that the iDEX initiative has changed the perception that defence production is only for big businesses and industrialists. "In the last 7-8 years, there has been a change in the consciousness of the nation, with greater focus on solutions and goals. Earlier, it was difficult for the youth to contribute in various fields, but initiatives such as iDEX have empowered our young entrepreneurs and given them wings to fly. iDEX, a major initiative towards making India self-reliant, is a platform to provide economic support to entrepreneurs to develop state-of-the-art technologies," he said.

Rajnath Singh lauded iDEX for winning the Prime Minister's Award for Excellence in Public Administration last year and achieving new heights of success since its launch by the Prime Minister during DefExpo 2018. He added that iDEX is a popular initiative of the Ministry of Defence and has encouraged other ministries to adopt innovative schemes. Calling iDEX 'innovation for innovation', Defence Minister emphasised that it has encouraged the entrepreneurial potential of the country, which was not able to emerge previously due to policy restrictions. He added that the initiative has helped aspiring start-ups and innovators to come forward and work with other stakeholders in the defence sector. Terming iDEX a movement to work for the nation, Rajnath Singh said, the combined efforts of the government and innovators have created a positive ripple effect in the economy.

Elaborating further, the Defence Minister stated that iDEX creates direct and indirect employment opportunities and is useful for both job seekers and job creators. He highlighted that since the inception of iDEX, over 6,000 applications have been received in the last seven editions of Defence India Start-up Challenge and Open Challenge. He also shed light on iDEX Prime which was launched to provide Grant-in-Aid support worth up to ₹10 crore.

On the growth of iDEX, Rajnath Singh said that the platform now has a presence in Tier-II and Tier-III cities and is connecting with incubators across India. He called for focussing on the twin principles of disperse more and gather more to further expand the reach of the initiative to different parts of the country, with the aim to connect with more young ignited minds. He exuded confidence that iDEX will show the way forward for innovation in untouched areas and help in all-round development of the defence sector.

Manthan 2022 was aimed at bringing together start-ups, corporates, and military representatives, to ascertain the indigenous innovations leading the Indian defence sector into a bright future. It provided a unique opportunity for innovators associated with iDEX-DIO to showcase their capabilities, products and state-of-the-art technologies to the target audience of the industry leaders. During the event, it was highlighted that the results for 75 challenges under DISC 7 (SPRINT) and PRIME (SPRINT) were announced in a record time of under two months; 118 winners across 75 challenges were announced by iDEX - DIO. The winners of DISC 6, DISC 7 SPRINT, OC 4 & OC 5 were felicitated.

The event also featured a panel discussion with industry stalwarts, and the leaders from Ministry of Defence and Armed Forces on the trending topic - 'Harnessing Start-up Innovation in India for Space Technologies'. A static exhibition of a large array of start-ups supported by iDEX-DIO was displayed to the attendees. ●

India-Africa Security Fellowship Programme



The Gandhinagar Declaration, adopted as the outcome document of the second edition of the India-Africa Defence Dialogue (IADD), held on the sidelines of DefExpo 2022, charted out new areas for enhancing the India-Africa defence and security partnership. Defence Minister Rajnath Singh launched the 'India-Africa Security Fellowship Programme' and released its brochure by handing it over to Director General, Manohar Parrikar Institute for Defence Studies and Analyses (MP-IDSA). MP-IDSA, the knowledge partner for the IADD, will host the Fellowship Programme. The fellowship will give an opportunity to African scholars to pursue research on defence and security issues in India. The fellows would be attached with the MP-IDSA for a period of 1-3 months. A stipend would also be provided to the scholar. ●

Boeing India and MIDHANI to Collaborate for Raw Materials



DR S.K. JHA, CHAIRMAN & MANAGING DIRECTOR, MIDHANI AND SALIL GUPTA, PRESIDENT, BOEING INDIA AGREE TO COLLABORATE

Boeing India announced it will assess and collaborate with Mishra Dhatu Nigam Limited (MIDHANI) to develop raw materials for standards aerospace parts and components in India.

Indigenous availability of special aerospace materials and alloys has been identified as crucial for creating a self-reliant aerospace and defence industry in India. The availability of essential aerospace materials is the first step in securing the supply chain, and aligns with the Government's vision of Atmanirbhar Bharat. "We are excited about the prospect of partnering with Boeing on raw materials for the aerospace industry," said Dr Sanjay Kumar Jha, Chairman & Managing Director, MIDHANI.

"Public Sector Units are an important part of

Boeing's supply chain footprint in India. The potential collaboration with MIDHANI will strengthen Boeing's supply base and increase material sourcing options from India," said Salil Gupte, President, Boeing India. "It will further our commitment for bolstering India's growing aerospace and defence ecosystem."

Boeing has always supported the development of indigenous aerospace and defence capabilities in India, and has through the years invested in partnerships with the Indian aerospace ecosystem in skilling, research and technology, and manufacturing. Boeing is working closely with its suppliers in India to support supply chain health, identify new ways to drive innovation, and deliver greater value to its customers. ●

Live Demonstrations Enthrall the Audience at DefExpo 2022



DEFENCE MINISTER RAJNATH SINGH WITNESSED THE DAREDEVIL ACTS ON OCTOBER 18 ALONG WITH THE GOVERNOR OF GUJARAT ACHARYA DEVVRAT

The Armed Forces contingent, comprising personnel from the Army, Navy, Air Force and Coast Guard, along with scientists from the DRDO are carrying out operational demonstrations at the Sabarmati River Front as part of DefExpo 2022. Defence Minister Rajnath Singh witnessed the daredevil acts on October 18 along with the Governor of Gujarat Acharya Devvrat. The display is aimed at showcasing the operational readiness and scientific prowess of the defence forces to the people.

The demonstration comprised the air, surface and sub-surface elements of the Armed Forces. The event started with an eye-catching combat free fall by personnel of Indian Army, Navy and Air Force. It was followed by a daring display by the elite Marine Commandos (Marcos) of Indian Navy and Para (SF) Commandos of Indian Army skillfully slithering onto a boat from a helicopter, high speed run by Gemini boat and neutralisation of enemy post. The action, thereafter, again shifted to the sky with awe-inspiring Helobatics by Sarang Team and powered hang glider flying by Indian Air Force. There were other activities also undertaken by the Coast Guard, Indian Navy, Indian Air Force and by the DRDO. The programme culminated with the Tattoo ceremony by the drummers from the Indian Navy. ●



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