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INSIDE

Boeing's fundamental shift in India strategy 3

Action at Defexpo 2016 4

Russia proposes partnerships on a large-scale 4

Esterline to participate in army modernisation programmes 5

Defence Minister visits HAL stall 6



Colt: Modular, dependable and innovative 6

Key highlights of the DPP 2016 6

Elbit Systems introduces Seagull 7

Astra strong in RF and microwave components 7

MoD to sign maintenance contract with Russian Helicopters 8

BEL ties up with Rosoboronexport 9

Sri Lankan Minister visits Goa Shipyard Limited 10

Rockwell Collins receives contract from ECIL 10



WE DON'T NEED MONEY, WE NEED SYSTEMS IN PLACE: DEFENCE MINISTER

By **R. CHANDRAKANTH**

The Minister of Defence Manohar Parrikar today emphatically stated that money (budgetary allocation) is not an issue, the issue is of putting proper systems in place and that his government was doing all that it could do to have them in place.

Speaking at the Global Investors' Summit 'Make in India for Defence Sector', jointly organised by the Investment & Technology Promotion Division of Ministry of External Affairs and ASSOCHAM, the Minister said: "We have a syndrome of plenty. I do not need more money and there is a wrong perception prevailing that we do not have funds for acquisition. I need to get the systems in place. In fact, we are giving back the money that is being allocated."

Explaining the situation, he said that 85 per cent of the money released was for equipment that were contracted about five years back. This 'committed liability' is what is getting paid now. The orders placed last year or this year, the Ministry paid about 15 per cent of the orders. "You have to realise when the money is required."

It is in this background that the government was working on creating an ecosystem. "We have tried many modifications to production and procurement. We have attempted a good draft in the Defence Procurement Policy 2016 and we welcome suggestions and recommendations from the industry. We will filter out undesirable inputs and we give it next two to three months for it to have an impact. The policy will be reviewed after six months."

Parrikar stated that when he took over as the Defence Minister, he was surprised to notice that AONs (acceptance of necessity) was to the tune of ₹5,09,000 crore and at least eight of the projects were pending for the past 10 years. "There were at least 77 AONs which were five years old." The government is working on AONs and it will weed out all technologies which are out of date.



DPSUs/OFB NECESSARY

Defending the continued existence of some projects under defence public sector undertakings (DPSUs), the Minister said: "We are maintaining a huge armed forces, not with the expectation of war. War is the last option. We require ₹3,41,000 crore for maintenance of armed forces. Eventuality requires us to do it. Similarly, we need to create capabilities which may not be required continuously. It cannot be built by the private sector be-

cause of costs and the short lived nature of the projects." He referred to how a particular tank project could be continued only with the help of a DPSU. "Private sector would have closed the project and moved on." The Minister said that retaining the DPSUs and the OFBs is a necessity of the defence forces.

The government, he said, can sustain capacities for future requirement while there is certainly need for the private sector. The private sector, particularly the smaller companies, do not go for L1 requirement. "It is not that the private sector is flexible, the big ones do go through tendering. It is only the MSMEs which are adaptable."

STRESSED DIABETES

Defence procurement process, he said, is cumbersome and it gave 'stressed diabetes' to those in this business. Agreeing that the procedures followed were too difficult, he said, the bureaucracy had issues of taking decisions. The need to say 'the buck stops here' in the bureaucracy is essential and probably this was lacking during the earlier regime, he said and mentioned how he cleared files after going through them and took responsibility of the same.

The Summit had addresses by Major General Bishamber Dayal (Retd), Chairman, ASSOCHAM National Council on Defence and Aerospace; Sunil Kanoria, President ASSOCHAM and industry address by Anil Dhirubhai Ambani, Chairman and CEO, Reliance ADA Group; Bimal Sareen, Director, OIS-AT and Pierre De Bausset, President and Managing Director, Airbus Group. •



“In a country like India with limited support from the industry and market, initiating 50 years ago (in 1964) publishing magazines relating to Army, Navy and Aviation sectors without any interruption is a commendable job on the part of SP Guide Publications. By this, SP Guide Publications has established the fact that continuing quality work in any field would result in success.”

Narendra Modi, Hon'ble Prime Minister of India (*message received in 2014)



SP GUIDE PUBLICATIONS

OVER **5** DECADES SINCE 1964

Boeing's fundamental shift in India strategy

- Sustainment activity to expand rapidly
- Boeing Rotorcraft support to come soon

By **R. CHANDRAKANTH**

With a growing fleet of aircraft (both fixed and rotary wing) in India, Boeing Defense, Space and Security is affecting a major fundamental shift in its strategy here by increasing the sustainment activity.

The Vice President, India Boeing Defense, Space & Security (BDS), Dennis D. Swanson told a media round table that Boeing is "really committed to grow this particular segment" by focusing on training and services. In the next few years, India is going to have over 100 aircraft and Boeing would partnering with customers to ensure that the aircraft are constantly operational.

Explaining in detail the strategy, Vinayak Rajagopal, India Leader, Global Services and Support, BDS, said that sustainment activity is not an after-thought but an ongoing effort, not just for Boeing platforms, but also non-Boeing platforms. In a 30-year lifecycle of an aircraft, future support of the aircraft is a critical element and it would cost about 70 per cent as against 30 per cent of the actual production cost.

In line with this thinking, Rajagopal said that in-country services and training would get accentuated in the near future based on a) performance based contracting (making availability of aircraft at 80 per cent); b) integrated supplier partnerships; c) commercial best practices; d) significant cost savings; e) increased readiness; and f) leverage the breadth and depth of Boeing. Presently, it is said that aircraft availability is between 50 and 60 per cent. "We can go beyond 90 per cent, but there is a trade cost-off and other operational issues



BOEING AH-64 APACHE
ATTACK HELICOPTER

which need to be taken into consideration and that is left to the end customer." The aircraft availability percentage varies depending on the platforms too.

ROTORCRAFT SUPPORT PROGRAMME, NEXT BIG THING

The next major programme in India, he said, would be helicopter inductions (Apache), expected to happen in two to three years' time and Boeing Rotorcraft Support which is present in nine worldwide locations, would add one more in India. The company was focused on total training solutions (whether it was full motion simulator/weapon systems, part task trainers etc), he said and added that Boeing was working on setting up a C-17 training centre and subsequently for the Apache helicopters.

Rajagopal stated that the company wanted to capitalise on the success of the Globemaster Integrated Sustainment Programme (GISP) C-17 programme and tailor it to the requirements of Indian Navy (presently the Indian Air Force is using it) and subsequently on the Apache and other platforms that would be inducted over the next few years. The company was installing a simulator in Gurgaon and this is likely to be ready by May this year.

"We want to create a strong India infrastructure services base," Rajagopal said and mentioned that with regard to MRO (maintenance, repair and overhaul) the company was talking to different players such as GMR, Air India. Right now, Boeing has a tie-up with Airworks.

Boeing's philosophy is to have global presence with strengthening local capabilities and it continues to work in this direction. •



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OVER 5 DECADES SINCE 1964

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Action at Defexpo 2016



1



2



3

1. ARMoured FIGHTING VEHICLE (WHEELed) DEMO AT THE INAUGURAL CEREMONY OF THE 9TH EDITION OF DEFEXPO 2016 AT GOA ON MONDAY, MARCH 28, 2016.
2. MAIN BATTLE TANK ARJUN MK II DEMO AT THE INAUGURAL CEREMONY OF DEFEXPO 2016.
3. THE NAVAL VERSION OF LCA TEJAS FLYING ON THE INAUGURAL DAY OF DEFEXPO 2016.
4. SARANG HELICOPTERS SHOWCASING AEROBATICS DISPLAY ON THE INAUGURAL DAY OF DEFEXPO 2016.



4

Russia proposes partnerships on a large-scale

By **R. CHANDRAKANTH**

JSC Rosoboronexport, a subsidiary of Rostec State Corporation, is discussing with its Indian partners for further modernisation of the Indian armed forces. "India is willing to develop its own defence industry in accordance with the 'Make in India' programme. We are ready to propose new large-scale projects for implementation in the interests of all military services with the most extensive involvement of Indian businesses, of relevant technology transfers and organisation of joint and licence productions. At the present time, for instance, we are in talks on the feasibility of developing Project 75(i) submarines based on the latest Amur 1650 diesel electric submarines, and on the procurement of an additional lot of Project 11356 frigates and setting up their licence production in India," said Sergei Goreslavsky, Deputy Director General of JSC Rosoboronexport who heads the joint delegation of Rostec State Corporation and JSC Rosoboronexport.

At Defexpo, Russia is marketing a new comprehensive project named 'Integrated Security Systems', a project for the development of an automated tactical command and control system adapted to meet the requirements of the Indian armed forces. The implementation of these projects suggest wide cooperation with Indian companies that will allow them to acquire necessary unique competencies.

Integrated Security Systems: The project is aimed at the development of integrated security systems required for protection of vital installations, various administrative formations, state borders, coastal zones, etc. All of them are based on the automated information system 'Safe City' designed to create a unified protected information environment, provide control of existing urban security means, and maintain smooth information interaction between municipal and law enforcement agencies. JSC Rosoboronexport is ready to supply a whole set of special-purpose equipment, automated command, control and communication systems, armaments and police hardware intended for law-enforcement and anti-terrorist groups. •



Esterline to participate in army modernisation programmes

Esterline is a specialised manufacturing company principally serving aerospace and defence markets. The Vice President and Managing Director of Esterline (India), **Rama Prasad**, talks about plans in India.

SP's ShowNews (SP's): Could you talk about products and services of Esterline?

Rama Prasad: Esterline offers a wide range of products covering a variety of end markets, but 80 per cent of the company's revenue comes from serving aerospace and defence markets, with products ranging from avionics equipment, projectors and displays for aircraft and simulators to switches, control products, precision sensors, specialised engineered materials and harsh-environment connectors. We like to say that if a pilot touches or interfaces with something in the cockpit, Esterline is likely part of that product or process.

SP's: What's your take on the Indian market?

Rama Prasad: It's a vibrant market in which Esterline has been and can continue to be a valuable contributor. The 'Make in India' effort offers new opportunities for the company to use local resources and services to serve both Indian and global markets. The vitality of the current Indian economy also offers us good market potential as the country acts on its defence and commercial needs to support growth.

SP's: What are your plans for the Indian market and could you talk on various programmes of Esterline in India?

Rama Prasad: Esterline has been operating in India for several years now. There are several defence programmes with the Navy and Air Force where Esterline products are currently in use. Indian Army modernisation and HAL/

Air Force/DRDO programmes also offer great opportunities to collaborate and make niche products in India.

SP's: What are the new initiatives of the company?

Rama Prasad: Esterline already has a strong presence in India with its Souraiu connectors, manufactured out of our Coimbatore and Cochin facilities. Further, we are expanding the engineering design centre in Bengaluru to develop more products for Esterline. On a broader scale, Esterline as a whole is engaged in a companywide strategy to better serve customers with a new Esterline Operating System and several operational and organisational improvement initiatives.

SP's: Could you talk about your customer base?

Rama Prasad: Esterline enjoys a vast customer base including many of the world's top aerospace and defence companies and organisations. In India, Esterline serves all three military forces directly and through PSU, BEL and HAL. We are also working with ISRO and DRDO on several active projects.

SP's: What's being done to sustain future growth?

Rama Prasad: Esterline firmly believes in the 'Make in India' concept and sees this as key factor in sustaining future growth and developing important products from India for the global market. India has been a part of Esterline's growth strategy for years and will continue to be an important piece of our strategy going forward. •



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BOOTH 3.2.1-L

R0991-9A
(9X19MM SMG)

Defence Minister visits HAL stall



DEFENCE MINISTER MANOHAR PARRIKAR WITH HAL CMD T. SUVARNA RAJU AT HAL STALL

The Hindustan Aeronautics Limited (HAL) has displayed scale models of ALH, LCH, LCA, Hawk, Do-228, Lakshya, Chetak, LUH, HTT40, Su-30MKI, HTFE 25 KN engine, etc., at the Defexpo 2016 that was inaugurated by Defence Minister Manohar Parrikar at Quitol, Goa, on March 28, 2016. "In addition, avionics, components of Su-30 and UAV are on display at the HAL stall spread over 300 square metres", said T. Suvarna Raju, CMD, HAL, after inaugurating the HAL stall at Defexpo 2016. The Defence Minister and other key officials visited the HAL stall.

HAL is also holding several business meetings over the next couple of days. The indigenous ALH and LCA enthralled the audience as part of the flying display over the Goan skies.

Defexpo provides a platform to exhibitors to display their latest technologies and products and an opportunity to explore the market and business potential. It is being held for the first time in Goa. •

Colt: Modular, dependable and innovative



R0991-9A

By **SP's CORRESPONDENT**

Colt has always answered the challenges and needs of our customers with innovative, best value, equipment design solutions. As the premier small arms industry leader, Colt's Manufacturing Company has provided elite military forces and law enforcement agencies throughout the world with one of the finest battlefield weapon systems ever designed, offering all echelons of warfighters increased capabilities.

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Key highlights of the DPP 2016

By **R. CHANDRAKANTH**

The Defence Minister Manohar Parrikar in his inaugural address stated the need for India to develop its indigenous platforms and production. He also mentioned the release of the Defence Procurement Procedure (DPP) 2016, which has been a topic of discussion over a number of years with the government releasing its versions over a period of time. The Ministry of Defence (MoD) released certain portions of the DPP 2016 a few weeks back. It is not the 'complete' document though but includes the various annexes (including offset policy) will be made available in a couple of weeks' time. The Strategic Partnership Model will take longer to be implemented as well. Some of the key features of the policy are as below:

- Introduction of a Preamble that will act as a guiding light for all capital acquisitions; special emphasis on medium, small and micro enterprises; 'Make in India'; Strategic Partnership Model; swift decision making and striking a balance between various competing requirements
- Increased Priming of contracts by Indian vendors with a higher Indigenous Content (IC); 40 per cent for Buy (Indian) and 50 per cent for Buy & Make (Indian).
- Introduction of a new category IDDM – 'Indigenous Design Develop and Manufacture' as the most 'preferred' acquisition option.
- Introduction of IC on Buy & Make (for foreign OEMs) or else a balance between SKD; CKD and IM kits in order to ensure meaningful value addition in India.
- Defining an Indian vendor for defence articles requiring an industrial

licence as well not requiring an industrial licence.

- Introduction of two new concepts in the RFP:
 - Essential parameters A&B.
 - Enhanced performance parameters; moving from a plain vanilla L1 model to a L1-T1 model with up to 10 per cent leverage on price.
- Provision for using expert resources (outside technical experts) for the formulation of SQR's.
- AON (acceptance of necessity) validity reduced to six months Buy; Buy & Make categories. Buy & Make (Indian) AON to have a validity of one year.
- Offsets applicable only on cases of about \$300 million and above (₹2,000 crore)
- Change in name of the vendor is permitted at any stage of the bidding or contract execution process. Due steps to be taken by the OEM for the same.
- Provisions for the progress of single vendor cases at the bid submission stage itself have been introduced.
- FET (field evaluation trials) have been limited and in certain conditions even re-imburement can be made by the MoD.
- The standard contract document terms and conditions can be changed in accordance with G2G agreements in single vendor cases only
- DPP 2016 to be valid from April 1, 2016, for all AONs issued on or after this date.
 - For cases where AON has been provided but RFP not released, the previous DPP will continue to remain valid. This can be waived by the DAC.

A total of five chapters plus Preamble have been released. The above is a high level analysis of Chapter 1 and 2 only according to Ernst & Young with the other analysis to follow soon. •

ODU Connector Solutions – For most harsh environments

ODU connectors are ideally suited for mission critical military applications and their extreme environmental conditions

Over the past two years there have been new product and application developments on the military market and just as many changes. However, manufacturers' and users' requirements and requests remained the same: weight reduction, robustness, ease of handling, and secure transmission of a high number of signals in the smallest available space. Designed especially for military and security technology, ODU AMC is an advanced and highly reliable connector solution with Push-Pull locking or Break-Away function. Rugged, watertight and easy to clean, these lightweight, non-reflective connector systems have excellent EMI shielding within a compact housing. Individual contact configurations are available in one integrated connector solution: signal, low/high voltage transmission, coax/triax. ODU's premium connectors securely and reliably transmit data and signals, making them useful in a diverse array of applications for example in soldier modernization applications. The ODU AMC series include four different types of connector solutions: ODU AMC High-Density, ODU AMC Push-Pull, ODU AMC Break-Away and ODU AMC Easy-Clean.

RELIABLE FUNCTIONALITY THANKS TO ODU-MAC

While the ODU AMC series is mainly used in soldier modernization applications, ODU offers a broad range of connector solutions. In radio and radar stations as well as transmission connectors in central electronic the ODU-MAC ensures reliable connections. The open modular connector



system combines the versatility of a rectangular connector with customizable modules to create countless custom connector variations for diverse applications. Couple this with numerous housing options to create the perfect interface for transferring signal, power, high current, high voltage, coax, high-speed data transmission, fibre optic and other media such as air or fluid all in one easy to mate system. The ODU-MAC ensures reliable connections and is constantly updated with new features. Rapidly evolving technologies quickly outgrow off-the-shelf connector systems. This is why ODU offers services for developing custom connector solutions for specific military applications beside available standard solutions.

THE ODU COMPANY GROUP: GLOBAL REPRESENTATION WITH PERFECT CONNECTIONS

ODU is one of the world's leading connector systems suppliers and employs about 1,650 people around the world. Aside from the company headquarters at Mühldorf am Inn, the ODU Group has also an international production and distribution network in Europe, North America and Asia. ODU combines all relevant areas of competence and key technologies relating to design and development, machine tool and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly. The ODU group sells its products around the world and has an international distribution network that includes eight sales companies in Denmark, England, France, Italy, Sweden, the USA, China and Japan, along with numerous worldwide sales partners. The ODU connectors ensure reliable transmission of power, signal, data and media in numerous demanding applications: medical technology, military and security, energy, industrial electronics, measurement and testing and automotive technology. •

FOR FURTHER INFORMATION PLEASE CONTACT:

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MoD to sign maintenance contract with Russian Helicopters

By **SP's CORRESPONDENT**

Rostec today announced that its subsidiary company Russian Helicopters is close to signing a long-term maintenance agreement with the Indian Ministry of Defence (MoD) to provide after-sales service for entire Indian fleet of Mi-17 helicopters. This long-term maintenance agreement will be for the entire life-cycle of the fleet and marks a shift from the earlier approach provision of after-sales support.

According to the preliminary agreement, Russian Helicopters will provide repairs for the Mi-17 fleet and also supply spares throughout the entire life-cycle of the rotorcraft. Repairs of helicopters operated in India will be performed by enterprises that are part of Russian Helicopters. The current contract life-cycle is expected to be three to five years. A further extension, as well as expansion of helicopter models covered by the after-sales support system is part of the plan and is being considered.

"We are very excited to be coming to India to be part of Defexpo 2016. These are exciting times for India's defence industry as Asia's geopolitics increasingly takes shape around India. This has led to India's defence services focus even more strongly on modernisation and expansion. Within that ambit we plan to sign a contract that will lay the foundation for a new era of after-



IAF's MI-17 HELICOPTER

sales collaboration between Russian Helicopters and India. This is now being discussed with the Indian Air Force, Navy and border patrol troops of India," said Sergei Chemezov, CEO of Rostec State Corporation. "For us, it will be the first long-term service contract with India. Set prices and delivery dates for supplying equipment needed to repair our helicopters are among the advantages of this type of contract. It will boost Russian-made helicopters after-sales system to a new level."

'MANPADS' VERBA DEBUT IN INDIA

Rostec State Corporation also announced that it is showcasing Verba, the world's most advanced man-portable air-defence missile systems (MANPADS) for the first time outside of Russia. This initiates the active promotion of Verba in the international markets. Verba has been designed and manufactured by KBM Scientific Production Concern, a part of JSC High Precision Weapons. Presently, Verba MANPADS is just entering into service with the Russian Army.

Rostec State Corporation holding company, United Instrument Manufacturing Corporation, also presented a mobile fire control unit, designed for the operational control of the actions of forces armed with portable anti-aircraft missile systems, including Verba. •

BEL ties up with Rosoboronexport

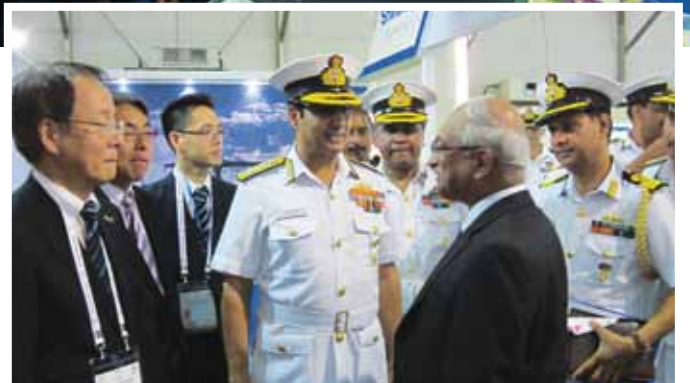
By SP's CORRESPONDENT

The Bharat Electronics Ltd (BEL) and Rosoboronexport (part of Rostec State Corporation) have signed a memorandum of understanding (MoU) today, under which the two will cooperate for the joint development of various subsystems of major defence projects under the offset clause of the Defence Procurement Procedure (DPP). The industrial tie-up will cater to the requirements of all the three arms of the Indian defence forces as well as the civilian sector.

The MoU will also give a boost to BEL's long-standing association with Russia and will go a long way in furthering the 'Make in India' initiative of the Government of India. "BEL is very happy to join hands with Rosoboronexport in taking up the design and development of state-of-the-art products and systems for various strategic programmes of the Ministry of Defence," said P.C. Jain, Director (Marketing), BEL. •



(TOP) DEFENCE MINISTER MANOHAR PARRIKAR WITH CMDRE SUJEET SAMADDAR (RETD), DIRECTOR AND CEO, SHINMAYWA INDUSTRIES INDIA, AT THE SHINMAYWA STALL



(RIGHT) CHIEF OF THE NAVAL STAFF ADMIRAL R.K. DHOWAN WITH CMDRE SUJEET SAMADDAR (RETD) AT THE SHINMAYWA STALL



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In pursuit of Excellence & Quality in Shipbuilding

Sri Lankan Minister visits GSL



STATE MINISTER OF DEFENCE OF SRI LANKA RUWAN WIJEWARDENE WITH REAR ADMIRAL SHEKHAR MITAL (RETD), CMD, GSL; (RIGHT) HANDING OVER ICGS SHOOR

By **R. CHANDRAKANTH**

The State Minister of Defence of Sri Lanka Ruwan Wijewardene visited Goa Shipyard Limited (GSL) on the opening day. During the visit, Wijewardene had discussions with Rear Admiral Shekhar Mital (Retd), Chairman and Managing Director of GSL, and other senior officers on progress of Sri Lankan vessels under construction at GSL. Karunasena Hettiarachchi, Secretary, Ministry of Defence of Sri Lanka, and Lt General A.W.J.C. De Silva, Commander of the Army of Sri Lanka, were also present.

The Minister was conducted around the shipyard by CMD GSL and also taken to both the Sri Lankan patrol vessels under construction. The Minister took keen interest in the ongoing construction of ships and also visited CGOPV Shoor, delivered to Coast Guard on March 16. Commanding Officer Shoor conducted him around the ship and apprised the Sri Lankan delegation of the advanced features of CGOPV with reference to older OPVs. The Sri Lankan delegation expressed happiness with the progress of the work and was also shown the infrastructure augmentation being undertaken for MCMV project.

Earlier a presentation was made to the Sri Lankan delegation on in-house design capability, product profile and future potential of cooperation. It is noteworthy that the shipyard is executing large export orders from Myanmar, Sri Lanka and Mauritius. Today GSL is the largest exporter of ships from country with present order book of over ₹1,200 crore.

GSL DELIVERS SECOND OPV OF NEW CLASS AHEAD OF SCHEDULE TO INDIAN COAST GUARD

The second in the class, of new 105M offshore patrol vessel (OPV) ICGS Shoor built on GSL in-house design was delivered to the Indian Coast Guard on March 23, 2016, one-and-a-half months ahead of contractual schedule. First CGOPV of this series was also delivered ahead of contractual schedule.

This largest and most advanced new generation OPV was handed over by Rear Admiral Shekhar Mital to DIG Surendra Singh Dasila, Commanding Officer, in presence of DIG T.P. Sadanandan, TM, Principal Director (Mat) Indian Coast Guard, DIG R.D. Shedbalkar, CSO (Tech), Coast Guard Region (W) and DIG Arun Shrivastav, CGRPS (Goa) in a simple ceremony held at GSL on March 23, 2016. S.P. Raikar, Director (Operations) GSL, Sudhakar T.N., Director (Finance) GSL and other officials of Indian Coast Guard and GSL were also present on the occasion.

CMD in his message said: "The delivery of second CGOPV ahead of schedule is a landmark event for GSL. The ship was launched on March 21, 2015. Delivery of the ship in one year of its launch, as was committed at the time of launch, is reflective of yard's shipbuilding capabilities, commitment and validation of our execution skills. CMD added that the OPV being handed over today speaks of GSL's commitment to the 'Make in India' initiative of the Government of India and yet another proof of successful journey towards timely execution of the project by a proud DPSU shipyard, in perfect synergy with Coast Guard. Manifestation of this initiative will be seen more and more from GSL in times to come". The ship has been built in supervision of Coast Guard Headquarters and CGRPS based at Goa. Due to the very strong feedback mechanism and effective supervision, the ship incorporates top-end design features and innovation by shipyard and a testament to the innate design capability of shipyard.

This state-of-the-art OPV is second in the class of six OPVs being built by GSL for Indian Coast Guard. It will be the second biggest ship on joining Coast Guard fleet. The induction of Shoor will help meet the increasing requirement of the Indian Coast Guard for undertaking policing and patrolling of the vast Indian exclusive economic zone. The ship has state-of-the-art engine/machinery controls for ease of operation, advanced electronic warfare and electronic systems and gun. •

Rockwell Collins receives contract from ECIL for communications and navigation components

By **SP's CORRESPONDENT**

Rockwell Collins has received a contract from the Electronics Corporation of India Ltd (ECIL) to supply communications and navigation components for radios being indigenously manufactured by ECIL for Indian defence forces. These components supplied by Rockwell Collins are used for integration into digital V/UHF radio, an IP-enabled state-of-the-art transceiver for ship-to-ship, ship-to-shore and ground-to-air communications.

"The recent award is part of a long-term agreement signed with ECIL in 2010. To date, Rockwell Collins has delivered more than 1,000 units to ECIL," said Sunil Raina, Managing Director, India, for Rockwell Collins.

Rockwell Collins is a pioneer in the development and deployment of innovative aviation and high-integrity solutions for both commercial and government applications. Our expertise in flight deck avionics, cabin electronics, mission communications, simulation and training, and information management is delivered by a global workforce, and a service and support network that crosses more than 150 countries. •



एच.ए.एल. की परम्परा

The HAL Legacy



Seventy five years ago, Seth Walchand Hirachand, a visionary industrialist, dreamt of India having its own dynamic industry in aerospace and defence. Soon an aircraft company took birth in Bangalore in 1940 thanks to the support provided by the then Government of Mysore.

With humble beginnings in manufacturing and overhauling of American aircraft, Hindustan Aeronautics Limited (HAL) has come a long way with 20 production divisions and 10 R&D centers spread across India employing over 31,000 people. The Company has made strides from



"HAL has made sterling contributions to India's defence and aerospace programs since the forties. As we complete 75 years and embark on another significant journey towards new frontiers, we resolve to take HAL to greater heights."

T Suvarna Raju, CMD



overhaul and licence manufacturing to indigenous design and development of aircraft, helicopters, accessories and aerospace systems. HAL has produced nearly 3,900 aircraft and 4,550 aero-engines till date.



Last 75 years, HAL did go through various trials and tribulations. Today, it is truly a force behind India's Defence Forces, poised to surge ahead with confidence and attain greater heights in the coming years.





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