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DEFEXPO 2016: HISTORY CREATED IN GOA

- Defexpo biggest draw
- 1,055 companies
- Defence Procurement Procedure updated



DEFENCE MINISTER MANOHAR PARRIKAR INAUGURATES THE DEFEXPO 2016 ON MARCH 28, 2016.
ALSO SEEN ARE CHIEF OF THE ARMY STAFF GENERAL DALBIR SINGH, MINISTER OF STATE FOR DEFENCE RAO INDERJIT SINGH AND CHIEF MINISTER OF GOA LAXMIKANT PARSEKAR.

By **R. CHANDRAKANTH**

Quitol in Goa may be back of beyond. But today when Defexpo 2016, the most definite land, naval and homeland security exhibition, was inaugurated in Quitol, it signaled to the nation that there is so much space for development in India and it can happen anywhere, not just in the big cities.

The ninth edition of Defexpo 2016 has attracted a record number of participants reflecting industry sentiments to India's march towards indigenisation, development and an economic powerhouse. This edition has attracted 1,055 exhibitors, up from 625 in the last edition held at Pragati Maidan in New Delhi.

Inaugurating Defexpo 2016, the Minister of Defence, Manohar Parrikar, said; "The huge number of exhibitors is encouraging. Maybe Goa has something to do with it or may be 'Make in India' initiative has something to do with it." He gave a hint that the successive editions may be held in Goa and asked the

Chief Minister of Goa to look into aspects such as road widening, etc.

DOMESTIC AND EXPORT MARKETS

Parrikar announced that the Defence Procurement Procedure (DPP) had been tweaked and the latest updates had been put up on the Ministry of Defence's website. "This will boost the agenda of 'Make in India'." It will create a defence industry network not just for domestic consumption but also exports. Similarly, there were issues related to offsets which would be tackled in a few months, all to create a conducive defence industrial base.

He said a new category had been introduced – 'India's Design and Development Manufacturing' – which would encourage design and development within the country. As regards foreign direct investment (FDI), he said it was at present 49 per cent and the government was willing to consider higher percentage wherever necessary. The government already had deregistered 66 per cent of the items from the



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Defence Procurement Procedure updated

Defence Minister Manohar Parrikar today announced that the Defence Procurement Procedure 2016 (DPP) had been tweaked and the same had been uploaded on the MoD website.

It stated that the Defence Procurement Procedure 2016 would be in supersession of Defence Procurement Procedure 2013, and will come into effect from April 1, 2016. DPP 2016 will be applicable to all AoNs (acceptance of necessity) granted thereafter from the date it comes to effect, except in cases where specific approval has been granted by the Raksha Mantri for AoNs to be processed under earlier versions of DPP. However, all cases where request for proposal (RFPs) have already been issued under earlier versions of DPP would continue to be processed under such earlier versions. The cases for which AoNs have been granted under earlier versions of DPP, but RFPs have not been issued up to April 1, 2016, will be processed under the earlier versions of DPP concerned; in case the SHQ concerned wants to migrate any such case under DPP 2016, approval of the Defence Acquisition Council (DAC) needs to be sought. The changes are listed out in the document which also includes procurement procedure for categories under 'Buy', and 'Buy and Make' Schemes. The comprehensive changes can be accessed on the link: <http://www.mod.nic.in/writereaddata/DPP-2016.pdf>

export list and had facilitated online processing of export of military stores. He mentioned that 'Start-up India' can be an important part of defence production.

ROBUST INDUSTRIAL BASE REQUIRED

The Minister of State for Defence, Rao Inderjit Singh, said though there were teething problems in organising the event outside Delhi, the event was opening up the sector across the country. He said India needed to create a robust defence industrial base, to defend its frontiers like all other developed countries had. India is still considered an agrarian economy, but in the last 70 years a robust manufacturing ecosystem was coming up. It was imperative to design, develop and manufacture in India for which initially may require capital from overseas, but hoped in future we could source from within. A new work model for 'Make in India' is essential not only in non-defence but also defence sectors.

GOA CREATES INVESTMENT OPPORTUNITIES

The Chief Minister of Goa, Laxmikant Parsekar, said the state government had created an Investment Promotion Board to push investments in various sectors and defence and aerospace was certainly on the radar. Though Goa may be a land known for tourism, it was becoming an industrial growth centre.

The Secretary of Defence Production, Ashok Kumar Gupta, in his welcome address mentioned that this edition had attracted 1,055 companies compared to 624 in the previous edition and the net exhibition area was up from 27,515 sq. m. to 40,725 sq. m., an increase of 48 per cent. The gross area of exhibition has increased over threefolds to 1,50,000 sq. m. against 45,000 sq. m. in 2014.

India is among a handful of countries in the world with indigenous capabilities in the defence fields such as multi-level strategic deterrence, ballistic missile defence, nuclear powered submarines, main battle tanks, stealth destroyers, aircraft carriers and fourth-generation fighter aircraft. With the changes in government policies on defence acquisition and 'Make in India' campaign, considerable impetus is being given to indigenisation in the defence sector.

EXHIBITION GROWING FROM STRENGTH TO STRENGTH

The exhibition is showcasing India's capabilities in land, naval and security systems as well as its emergence as an attractive destination for investment in defence sector. The event provides a platform for forging alliances and joint ventures in the defence industry. The event also provides an excellent opportunity to the Indian defence public sector undertakings (DPSUs), private sector and other defence related industries to demonstrate their capability to design, develop and deliver a wide range of military and civil products/services.

As a clear indicator of India's growing prominence and stature internationally; this year's exhibition is the largest Defexpo held till to date. In all, over 1,000 companies, both foreign and Indian, are taking part in the exhibition this year, which is over one-and-a-half times in number of participants in Defexpo 2014. Remarkably, with a total of 510 companies, participation by Indian companies has doubled since 2014 which saw a participation by 256 companies. A total number of 490 foreign companies are participating this year against 368 in Defexpo 2014.

Around 950 delegations against 511 in 2014 are expected to visit the exhibition this year providing great synergy in business to business (B2B) activities during the short span of four days. The exhibition will thus provide an excellent platform to enhance growth in the sector in the coming years. About 204 official delegations from 44 countries and around 750 non-official business delegations are attending the show.

On the sidelines of the exhibition, seminars will provide a platform to showcase developments and opportunities in the defence sector. The topics of seminars being conducted on March 29 and 30 are: Advances in Shipbuilding Technology, 'Make in India' for Defence Sector, India-Korea Defence Cooperation, Modernisation Programme of Indian Army and Challenges and Opportunities of Defence Offset.

The inaugural ceremony also saw live demonstrations of military equipment including Main Battle Tank Arjun Mk I and II, various types of heavy bridging equipment, wheeled armoured vehicle, Sarang aerobatic team and Naval LCA. MBT Arjun Mk II and wheeled armoured vehicle were being displayed for the first time in any exhibition.

The function was also attended by the Union Minister for Railways Suresh Prabhu, Union Minister of State for Ayush Shripad Naik, Chief of the Army Staff General Dalbir Singh, Chief of the Naval Staff Admiral R.K. Dhowan, Defence Secretary G. Mohan Kumar, Secretary (Defence Production) A.K. Gupta and senior officials from the three Services and Ministry of Defence, Government of Goa as well as from the participating countries. •

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Defence exports too matter

By **R. CHANDRAKANTH**

The Ministry of Defence (MoD) has stated that the defence industrial policy has to be supplemented by the strategy for defence exports without which the economic base of the defence industry would be difficult to sustain in the present economic competitive environment.

The government has already announced a Defence Production Policy (DPP) in 2011 with an objective to achieving substantive self-reliance in design, development and production of equipment/weapons systems/platforms required for defence in as early a time frame as possible; to create conditions conducive for the private industry to take an active role in this endeavour; to enhance potential of SMEs in indigenisation to broaden the defence R&D base of the country. While the DPP lays due emphasis on indigenous production of defence equipments with a greater role of private sector, SMEs and R&D institutions, the objective of DPP will not be achievable without having a well thought out export strategy, so that the industry is assured of access to export markets in addition to domestic market for investing in the sector.

Defence Exports Steering Committee: The government said Defence Exports Steering Committee (DESC) under the Chairmanship of Secretary, Department of Defence Production, would be constituted. The Committee will have representatives of armed forces, Defence Research and Development Organisation (DRDO), PIC Wing, Acquisition Wing, MEA, DGFT. Wherever required, the views of industry representatives and other experts will be taken. The functions of this Committee would include consideration and taking decisions on cases of export permissions, which are outside the purview or scope of subordinate authorities/committees particularly export of indigenously developed sensitive defence equipments, monitor the progress in defence exports and suggest specific steps/strategy to boost exports.

Government Support to Defence Exports: The world over, defence exports are covered by the defence diplomacy between friendly countries. This also contributes to building local operational capabilities and, therefore, enhances interoperability with our own forces, especially during UN peacekeeping missions. Wherever feasible and required, the industry delegations from public/private sector/joint ventures of private and public sector would be included in bilateral meetings/discussions with various countries so that the importing country gets due comfort while importing from India. If required, Industry delegations would be taken to target countries under the leadership of officials or DPSUs representatives. Indian Embassies/ Missions abroad would be associated in making targeted efforts for promoting export of Indian defence products.

Presently export of defence equipments/weapons is regulated by two departments. For items contained in the SCOMET list of Foreign Trade Policy of DGFT, export licences are granted by DGFT based on the Inter-Ministerial Working Group set up in DGFT. Ministry of Defence is one of the members in the Inter-Ministerial Working Group. For military stores, no objection certificate (NOC) is issued by the Department of Defence Production. The procedure for issuing the NOC in case of military stores has not been put in the public domain due to non-availability of list of military stores. The present standard operating procedure (SOP) would be revised and streamlined to provide a clarity regarding the procedure and will be put up in public domain. The issues related to end user certificate (EUC) and providing 'in-principle' clearance to the industry, so that it can explore export opportunities, would be addressed in the revised SOP appropriately.

For indigenously developed strategic and sensitive weapons/platforms, the DESC will take appropriate decisions regarding exportability of item with/without modification or degradation. Export of such items would be considered on case to case basis and NOC/ clearance would be issued with the approval of Raksha Mantri based on the recommendations of the DESC. •

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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.



Impressed with GRSE's capabilities, countries looking at building warships in India

By SP's CORRESPONDENT

The Garden Reach Shipbuilders & Engineers Ltd (GRSE), Kolkata, has made tremendous strides in recent years and the future business prospects are good. INS Kamorta, the first ASW corvette delivered by GRSE, is performing very well and generating keen interest among navies across the world. The second of the class, INS Kadmatt, has also been delivered. Similarly, successful delivery of 'Barracuda' to Mauritius has evoked tremendous interest in neighbouring countries. Many countries are now showing keenness to build warships in India.

BLUEPRINT FOR GROWTH

GRSE is following a well laid blueprint for growth, expansion and diversification to meet the future defence needs of the country. Towards this end, GRSE acquired Raja Bagan Dockyard in July 2006 from CIWTC, to establish a dedicated facility for small ship business. The shipyard has completed a modernisation project with an aim to build quality ships in reduced time frame with modular construction technology. The modernisation project has created state-of-the-art shipbuilding facilities comprising of a 10,000-tonne dry dock, a 4,500-tonne inclined berth and a large module hall with sliding roof for consolidation of mega-hull blocks. All these three major facilities are co-located and covered by a giant goliath crane of 250-tonne capacity, to provide modern infrastructure for integrated modular construction.

EXCELLENT INFRASTRUCTURE

Thus GRSE has created excellent infrastructure and capabilities for in-house design and construction of a wide range of sophisticated warships from fast attack crafts to frigates, to fully meet the needs of state-of-the-art warships for the Indian Navy and the Indian Coast Guard. The modernisation has created necessary infrastructure for construction of state-of-the-art frigates and destroyers in GRSE. This has paved the way for executing the order for super sophisticated frigates under Project P-17A. The capabilities created by GRSE and recent landmark achievements in the area of warship design and construction have created the conditions for good future business prospects for GRSE.

CGS BARRACUDA FIRST WARSHIP TO BE EXPORTED

GRSE has achieved the distinction of making the first warship to be exported by India. CGS Barracuda exported to Mauritius was specifically designed in-house by GRSE to perform multiple roles as specified by the customer, the National Coast Guard of Mauritius. The ship has opened a new line of off-shore patrol vessel designed for multiple roles. Many countries have evinced keen interest on such ships. GRSE has gained considerable experience while building this first export war vessel of the country.

Further, GRSE built warships have participated in international exhibitions and received rave reviews. Based on the responses and interactions, GRSE is of the opinion that there is a market for GRSE's products in the developing nations of Far East, Africa, Middle East and Latin America.

TAPPING EXPORT MARKET

Buoyed by the response to its products, GRSE is concentrating with a focused agenda on the export market for its products such as 'Landing Ship Tank', 'Fast Attack Crafts', 'Offshore Patrol Vessels', 'Inshore Patrol Vessels' and 'Prefabricated Steel Bridges'.

GRSE is participating in the global tender for construction of two frigates for Philippine Navy. GRSE is the only Indian shipyard to have qualified for this international tender, with competition from leading global players.

GRSE has made the initial inroads into the



REAR ADMIRAL A.K. VERMA (RETD)
CMD, GRSE

export market, by delivering CGS Barracuda to Mauritius. This achievement is a step in GRSE's efforts to realise our Prime Minister's dream of 'Make in India', not only to meet the requirement of our armed forces, but also to export warships to friendly foreign nations.

ROBUST ORDER BOOK

With proven capabilities to design and build state-of-the-art warships and robust order book, GRSE is now poised to grow into a major shipbuilding company. GRSE is actively pursuing its goal to become an integral part of defence preparedness of the country, aimed at self-reliance. GRSE's aim is to become a leading shipbuilding yard as well as multidimensional engineering company with high quality, competitive prices and timely delivery as our hallmarks.

GRSE has embarked upon a variety of initiatives to meet these challenges. Some of these initiatives are technology and infrastructure upgradation, process improvements, skill development, expansion and development of vendor base and increased focus towards cus-

tomers satisfaction.

GRSE GENESIS

The genesis of GRSE dates back to 1884 when it started its journey as a small workshop to repair vessels of River Steam Navigation Company. The company was taken over by the Government of India in 1960 and there was no looking back since then. GRSE was conferred the status of Mini Ratna Category 1 company in 2006.

GRSE's primary role has been of building warships and other vessels for the Indian Navy and the Indian Coast Guard. Over the years, GRSE has established well proven capabilities for in-house ship design and shipbuilding and has made significant contribution to the success of indigenous warship construction programme. GRSE has emerged as a leading shipyard of India, building a wide array of vessels, from state-of-the-art fast attack crafts to world-class stealth frigates. Apart from shipbuilding and ship repair, GRSE has also diversified into engineering business with product profile of prefabricated steel bridges, various deck machinery and assembly/testing/overhauling of MTU diesel engines.

FIRST INDIGENOUS WARSHIP BUILT BY GRSE

The first indigenous warship of our country, 'INS Ajay', was built by GRSE in 1961. The first ever warship built for export by the country, OPV CGS Barracuda, was built by GRSE for Mauritius. This ship was commissioned on March 12, 2015, at Port Louis, Mauritius, on the National Day of Mauritius, in the presence of Prime Minister of India and the Prime Minister of Mauritius. Since 1960, a total of 95 ships have been built and delivered by GRSE to Indian Navy, Indian Coast Guard and Mauritius Coast Guard. These include frigates, ASW corvettes, missile corvettes, tankers, landing ships, fast attack crafts, survey vessels, OPVs and many other types of ships.

BEST PERFORMING DEFENCE SHIPYARD AWARD FOR FOUR SUCCESSIVE YEARS

GRSE has been consistently making profits and paying dividend to the Government of India for the last 22 years, since 1993-94. GRSE has been conferred the 'Best Performing Defence Shipyard Award' for 2012-13 and 2013-14 by the Raksha Mantri on January 27, 2016. GRSE had earlier received the same award for 2010-11 and 2011-12 also. Thus GRSE has the unique distinction of being the 'Best Performing Defence Shipyard', for four years in a row.

GRSE has also won the prestigious Raksha Mantri's awards for Import Substitution in developing critical marine systems such as 'helicopter traversing system' and innovation in 'design & manufacturing of double lane prefabricated steel bridge'. •



PRIME MINISTER NARENDRA MODI AT THE JOINT
COMMISSIONING OF OPV BARRACUDA AT THE PORT LOUIS
HARBOUR IN MAURITIUS ON MARCH 12, 2015

'Make in India' for M777 takes centre stage

By **R. CHANDRAKANTH**

BAE Systems' world-class, battle proven M777 ultra lightweight howitzer, for which India and the United States are in discussions for a foreign military sale (FMS) for the Indian Army, will take centre stage at the company's stand at the ninth edition of Defexpo.

The company recently reaffirmed its commitment to 'Make in India' by down-selecting Mahindra and Mahindra as its business partner for the proposed in-country assembly, integration & test facility.

In addition to the M777 ultra lightweight howitzer, BAE display includes the Archer 155mm FH 77 BW L52 self-propelled field howitzer along with a full spectrum of munitions spanning Hyper Velocity Projectile, 81mm Mortar, 105mm and 155mm Artillery Ammunition, 120mm Tank Ammunition and the 3P Ammo.

Underlining BAE Systems' capabilities for the naval forces are the world-leading Mk 45 Mod 4 naval gun system, a proven, reliable and highly effective automatic 5-inch (127mm) naval gun system, and the 40 Mk4 naval gun, an extremely flexible weapon system with its high rate of fire and capability to switch between optimised ammunition types.

Broadsword Spine, a revolutionary new wearable technology which incorporates a power and data distribution network suitable for the military, law enforcement and emergency services who need to charge electronic equipment 'on the move', have pride of place on the BAE Systems stand.

Recognising the ever-increasing importance of cyber in the defence mix, BAE Systems is showcasing its cyber defence and intelligence capabilities, giving experts the

opportunity to engage with local sector participants and demonstrate unique set of solutions, systems, experience and processes. These, combined with Cyber Special forces – some of the most skilled people in the world – enable BAE to defend against cyber attacks, fraud and financial crime, enable intelligence-led policing and solve complex data problems.

The Hawk advanced jet trainer, with 123 aircraft ordered to date by the Indian Air Force (106) and the Indian Navy (17), is there too. In May 2015, BAE Systems and HAL signed a memorandum of understanding which signposted joint ambitions surrounding the Hawk programme in India. This covered a number of areas for potential future developments including an advanced version of Hawk.

Leading the company's participation at the show are John Brosnan, Managing Director, India and South East Asia, Dr Joe Senftle, Vice President and General Manager, Weapon Systems, BAE Systems Inc, and Alistair Castle, General Manager and Vice President, India.

John Brosnan, Managing Director, South East Asia & India, said, "Defexpo is a strategic platform for the company to demonstrate our commitment to partner India to 'Make in India'. Our showcase curates a range of capabilities and equipment, every one of which has a 'Make in India' vision. In particular, the show is an excellent platform for us to strengthen existing partnerships and activate new ones."

Alistair Castle, Vice President & General Manager, India, added, "The India defence industry continues to build significant capability. As founding partners of defence manufacturing in India, we are excited to participate again in Defexpo and underline our long-standing commitment to sharing technology and capability with Indian industry." •



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By SP's CORRESPONDENT

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KAR901
(7.62x39mm)

BOOTH 3.2.1-L

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Goa Shipyard marching ahead with promise



REAR ADMIRAL SHEKHAR MITAL (RETD), CMD, GSL



HOVERCRAFT

By **SP's CORRESPONDENT**

The Goa Shipyard Limited (GSL), a public sector shipyard, has played a significant role in furthering the self-reliance policy of the nation. With an unmatched track record of timely execution and fixed cost delivery of over 215 ships and 125 fast interceptor boats, today GSL stands as the success story of the changing face of Indian defence shipyards.

The company has achieved nearly 40 per cent growth in top-line in last two years with bottom line turning positive from a loss of ₹61 crore in FY 2013-14 to net profit of ₹77 crore in FY 2014-15, thereby registering a sharp turnaround. The excellent financial results achieved are clearly a result of new policies, strategic realignment of priorities coupled with cost control initiatives and close project monitoring introduced at various levels.

The Chairman and Managing Director of GSL, Rear Admiral Shekhar Mital (Retd) said GSL's passionate pursuit for excellence combined with its flexible, decentralised management philosophy to meet the demands and rapidly changing requirements of a varied clientele, has placed it on top of the league amongst Indian shipyards.

Design Capability: GSL's core competency is based on its in-house design capability, which furthers the 'Make in India' policy of Government of India (GoI). It is the only shipyard in the country engaged in the entire design spiral of ships, leading from Concept design to Basic design to Detailed design and has consequently grown into a fully recognised R&D Centre by the Department of Scientific and Industrial Research, Ministry of Science and Technology, GoI. Today the yard designs and builds amongst the best patrol vessels in the world in terms of quality, aesthetics, cost and delivery time, he stated.

Exports and Future Orders: GSL has an export order book of over ₹1,200 crore and has diversified product range including OPVs, FPVs, missile boats, survey vessels, LCUs, tugs, etc. As part of further diversification activities, the shipyard undertakes construction and setting up of various kinds of simulators. With major in-house capability enhancements, both at the infrastructure level and knowledge/design based upgradations, the shipyard is fully geared up to take up construction of high-end platforms including hovercrafts, ASW shallow water crafts and specialised land and sea based training simulators.

MCMV Project: In response to GoI 'Make in India' programme announced in September 2014, GSL had proposed to take up construction of all MCMVs indigenously in October 2014, against earlier decision of the Ministry of Defence (MoD), to procure two ships from abroad. MoD/DAC has cleared construction of all 12 MCMVs at GSL, in February 2015, in accordance to GSL proposal, which was the first major 'Make in India' project cleared by the government, Rear Admiral Shekhar Mital added.

According to the mandate of MoD/DAC, the shipyard has rapidly moved ahead to create capabilities on various fronts so as to start construction of the mega MCMV project, as per plan by mid-2018. Towards this, transfer of technology (ToT) collaboration with foreign shipyard for making these high-end MCMV ships indigenously will be finalised shortly. This will provide new shipbuilding capability to Indian shipyards. Further, the tender for weapons/sensors is also expected to be floated by April 2016. The ships will have state-of-the-art ASW weapons and sensors, MCM Suite, which will open new vistas of capability for GSL and Indian industry. In preparation to execute MCMV project, GSL has undertaken a massive infrastructure upgradation from 2009 to 2016, involving CAPEX of ₹700 crore. Further, projects worth another ₹650 crore, are underway, so as to commence the construction on

MCMV project from mid-2018 onwards. Skill development and supply chain management for maximum indigenisation is also being pursued vigorously. With the above diverse activities being pursued on multiple fronts, the yard is gearing up to execute the MCMV project as envisaged by MoD, Rear Admiral Shekhar Mital mentioned.

In conclusion, he said that today's success, toil and 'determination to succeed' of our workforce is a prelude to the next chapter in our glorious journey ahead. It is also a direct result of the benign and proactive policies of the GoI/MoD and support of Government of Goa. GSL is confidently marching ahead with the promise to serve the nation with higher indigenous shipbuilding capabilities to meet the needs of our armed forces. •

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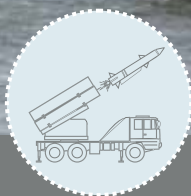
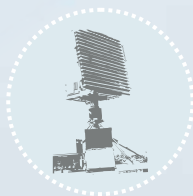
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Boeing showcases its 'Make in India', 'Skill India' and 'Startup India' strategies at Defexpo 2016

By SP's CORRESPONDENT

Boeing is showcasing a range of advanced aerospace and defence products and services and highlight its commitment to 'Make in India', 'Skill India' and 'Startup India' at the ninth edition of Defexpo India 2016, held in Goa. Boeing showcases advanced capabilities in multi-role fighter aircraft, attack and heavy-lift helicopters, transport aircraft, maritime reconnaissance aircraft, weapons and unmanned systems that are best suited to boost the mission-readiness and modernisation of the Indian armed forces. The main focus of Boeing's participation is on collaborative achievements that are putting India on a new trajectory of manufacturing advanced and complex aerospace parts and components.

"Boeing is accelerating its manufacturing and engineering footprint in India and concurrently encouraging the development of an indigenous aerospace and defence ecosystem by working closely with partners," said Pratyush Kumar, President Boeing India. "Our industrial partnership programme is focused on capitalising on India's competencies to build a supply chain capability that is globally competitive. This will support our aerospace and defence programmes across the Boeing enterprise."

Boeing's sourcing from India has doubled since 'Make in India' was launched in September 2014 and now stands at more than half a billion dollars a year. By 2020, Boeing expects that sourcing will increase by four times the 2014 level. Boeing is committed to developing the Indian aerospace sector by developing suppliers and incorporating them into the global aerospace

supply chain, sourcing from India, skilling frontline workers for the aerospace sector and shaping technical collaborations with the Indian research and development ecosystem, including universities and scientific institutions.

Boeing's Defexpo exhibit showcase products and services already in use by India's armed forces as well as future, advanced capabilities for India's defence modernisation and mission readiness requirements. The exhibit include large-scale models, displays and smart panel content of the CH-47F Chinook, AH-64E Apache, MV-22 Osprey, P-8, C-17 Globemaster III, Scan-Eagle unmanned airborne system and Harpoon missile system. In addition, there are demonstrations of the Central Maintenance Computer and Virtual Maintenance Trainer to highlight services and support offerings.

"Boeing is delivering state-of-the-art, reliable and mission-ready products and services to the Indian armed forces to support their fleet of C-17 strategic airlifters, P-8I aircraft and Harpoon missiles," said Dennis Swanson, Vice President, Defense, Space & Security in India. "Defexpo will give us an opportunity to understand our customers' future requirements and explore opportunities with industry on how to develop the Indian aerospace sector by bringing the best of India to Boeing, and the best of Boeing to India."

Boeing and India have a strategic partnership that dates back 75 years. Boeing's military aircraft are playing an important role in the modernisation and mission-readiness of India's defence forces while its commercial airplanes provide the mainstay of India's civil aviation sector. Boeing is focused on delivering value to its Indian customers with its advanced technologies and performance driven aircraft underscored by life-cycle support services. •



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In pursuit of Excellence & Quality in Shipbuilding

Almost ₹3,00,000 crore defence orders by end of 2016

By R. CHANDRAKANTH

The Minister of Defence, Manohar Parrikar, today said that the government had signed defence orders worth ₹1,25,000 crore in the last two years and by the end of 2016, it would touch a figure of ₹2,80,000 crore, indicating that there was no drawdown of defence equipment purchases.

Addressing a press conference at Defexpo 2016 in Goa, Parrikar said that a letter of intent for an order of ₹32,000 crore were being signed for shipyards and another order worth ₹44,000 crore would be signed in the next couple of months. He mentioned that orders worth ₹94,000 crore were in the contract negotiation committee stage. In all, this year about ₹1,38,000 crore orders would be signed.

The Minister clearly indicated that priority would be given for IDDM ('Indian Designed, Developed and Manufactured') category wherein the indigenous content could be up to 60 per cent. The policies were being evolved and it would not be the most perfect one, he said, and added that the IDDM would be reviewed after six months.

He denied that the budgetary allocation for capital acquisition had reduced. "Modernisation of the armed forces is of paramount importance," he said and mentioned how the current budget would take care of the orders that have already been placed. For orders which are going to be placed now, the payment schedule would come up in a phased manner – in two- to five-year time. Due to competition and technological advancements, the cost of acquisition has been coming down.

Export growth: The Minister stated that defence exports were growing substantially and it had touched about ₹2,000 crore this year, from a figure of

₹500 crore to ₹600 crore. "We have told our companies that to make available 90 per cent of the production for domestic consumption and to export 10 per cent and this would help them replenish capital requirement."

Rafale deal: Asked whether the Rafale deal is on or not, the Minister categorically stated: "We are very serious about it. We should finalise this soon but I cannot give a time line." There were certain issues, including money, that needed to be sorted out.

Artillery guns: The Dhanush artillery gun would be inducted by the year end. The artillery division of the Indian Army would be inducting three guns after Bofors and that the government would give orders for bulk production this year.

Tejas: On the light combat aircraft (LCA) Tejas, Parrikar said that the 'fly-by-wire' is one of the best in the world and that the Tejas squadron would be formed either late this year or early next year. The production of Tejas also will be ramped up to 16 units a year.

Pathankot: The Minister emphatically stated that the Defence Ministry had completely denied permission for the joint investigation team of India and Pakistan to visit the Pathankot airbase which was recently attacked by terrorists. "We have completely isolated the area, barricaded the crime scene and there is no access to anyone into the airbase. As for as the team's visit to the crime scene, it is for the National Investigation Agency to answer."

Goa as Defexpo venue: Despite a lot of skepticism, the show had begun on a successful note, even with some teething problems. The majority of Goans have accepted the fact that Defexpo adds economic value to the state and would conduct the same here. •

EXECUTION PAR EXCELLENCE

Snapshot of Performance Oct 2015 to March 2016



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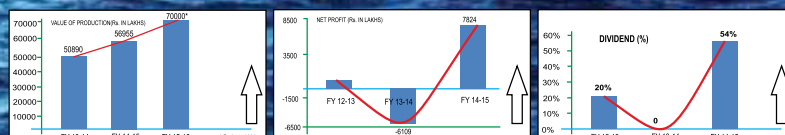
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A Raksha Mantralaya Undertaking

Mazagon Dock 'Shipbuilder to the Nation'

By **R. CHANDRAKANTH**

The Mazagon Dock Shipbuilders Limited (MDL), aptly called "Ship Builder to the Nation", is India's leading Shipyard. The main activities are construction of state-of-the-art warships and submarines with facilities situated at Mumbai and Nhava.

The Chairman and Managing Director of the company, Rear Admiral R.K. Shrawat (Retd) said "The MDL has completed a massive modernization programme comprising a new wet basin, a modular workshop, a 300-tonne goliath crane and a cradle and assembly shop. This will help the MDL adopt the paradigm of Integrated Hull Construction. This revolutionary methodology will change the way ships are built in our country and drastically reduce build periods."

Mazagon has the capability to build warships, submarines, merchant ships upto 30,000 DWT. For outfitting work, the company has a large number of workshops with sophisticated equipment and machines specific to hull fabrication and ship construction work.

Presently, MDL is building three, new-generation stealth warships for the Navy, named Project-17 frigates. The first ship in this class INS Shivalik was launched in April-2003 the second INS Satpura in June 2004 and the third and last INS Sahyadri was launched in May 2005. MDL is also building three ships of the follow-on to the Delhi Class of destroyers. The first ship of this Class 'INS Kolkata' was launched in March 2006. And the second ship 'INS Kochi' was launched using Pontoon Assisted Launching in September 2009.

Besides warships for the Navy, Mazagon Dock has also constructed a series of Offshore Patrol Vessels for the Coast Guard. Seven Coast Guard



REAR ADMIRAL R.K. SHRAWAT (RETD),
CMD, MDL

Ships, INS Vikram, INS Vijaya, INS Veera, INS Varuna, INS Vajra, INS Vivek and INS Vighraha, which today form the mainstay of the Coast Guard fleet, were built and delivered to the Indian Coast Guard between December 1983 and March 1990.

On the export front, Mazagon Dock has achieved another 'first'. It is the only shipyard in India to have built a significant number of ships for foreign clients. Since 1974-75, the company has built and supplied, vessels to Singapore, the Iranian Navy, UK, the Gulf and Mozambique. Recently, "Commandant Mortenol" a 1,600 Cu M sand dredger was built for a French company operating from Guadeloupe, an Island territory of France in Eastern West Indies.

Presently, MDL is executing an export project of building two Multipurpose Support Vessels for M/s GGOSPL, Singapore. The first vessel "Greatship Laxmi" was launched in February 2010.

THE SCORPENE

The Scorpene Submarine has been jointly developed by DCN of France and Navantia Spain and incorporates the very latest Naval technology. At the heart of the submarine is the SUBTICS integrated combat system, a highly computerised central management system, which oversees all of the submarine's sensors and its weapons. Each Scorpene will have a total complement of just 31. The contract, estimated to cost \$3.5 billion, was signed at the Defence Ministry by representatives of the Indian and French governments. Designated as Project-75 Scorpene, it will see the latest in French conventional submarine building technology being turned into reality by the expert and experienced technocrats of MDL. •

Boeing awards Rockwell Collins for India's CH-47F

By **SP's CORRESPONDENT**

The Boeing Company has selected Rockwell Collins to provide its Common Avionics Architecture System (CAAS) for 15 CH-47F Chinook helicopters for the Indian Ministry of Defence.

"We have a successful track record of integrating CAAS on Chinook helicopters that will ensure that the Indian Defence Ministry will receive on-time, on-budget, advanced avionics," said Troy Brunk, vice president and general manager of Airborne Solutions for Rockwell Collins. "The CAAS cockpit provides pilots with enhanced



situational awareness while reducing crew workload and enhanced levels of flight safety. These are critically important to safe and effective operation of military aircraft."

Integration work is scheduled to begin this year and run through 2018. The Rockwell Collins India Design Center will provide implementation and test of specific software changes requested by the Indian Army to meet key mission needs and safety requirements.

"This contract and the work we're performing in country reaffirms our commitment to 'Make in India' initiatives," said Sunil Raina, managing director of Rockwell Collins India. •

Colt, premium small arms leader

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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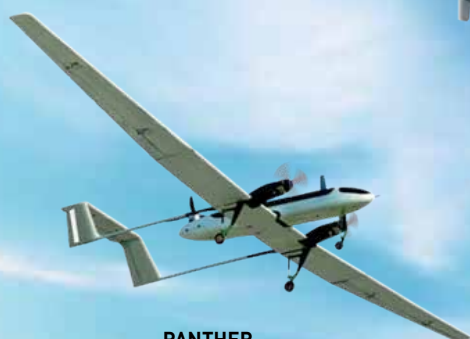
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