HAL setting up new facilities for making LUH, NMRH

Hindustan Aeronautics Limited is setting up Green Field facilities for manufacture of Light Utility Helicopter (LUH) and Naval Multi-role Helicopter (NMRH), its Chairman T Suvanram Raju said.

The Government of Karnataka has allotted 610 acres land in Tumkur District for this purpose. Actions have been initiated for obtaining required approvals/clearances. It held a press conference on the sidelines of Aero India 2015 here. Government of India has mandated HAL and National Aeronautical Laboratory (NAL) for jointly taking up design, development and manufacture of 70-100 seater regional Civil Aircraft through a Special Purpose Vehicle (SPV). The teams have started working and approvals are being obtained from MoD. HAL has taken a range of new initiatives for preparing itself to take on the current challenges and prepare company towards a vibrant future. Suvanram Raju said.

The year 2015 is going to be a very special year for HAL as it will be celebrating 75 years of its existence and the company is proud that it has been contributing to the nation’s defence needs and “Make in India” concept over several decades.

He said Defence Minister Manohar Parrikar handed over the first series production Light Combat Aircraft, Tejas made by HAL to the Indian Air Force on 17th January 2015. HAL has established a new production line with around 20,000 sq m of Hangars, Engineering and Administrative blocks. Extensive investments have been done to make this state of the art production line. Upgrade and augmentation of production tooling has...
MIDHANI is rapidly growing into a major center for advanced technology opening up new frontiers of material and metallurgical science. The power behind the significant achievements is its unwavering commitment to the customers for supply of superior quality alloys and its endeavor is to be of service to high technology industries.

Conceived of by eminent scientist, MIDHANI has largely fulfilled the mandate or sub-serving the special metals and alloy needs of strategic and other hi-tech industries in the country as a public sector enterprise under the administrative control of the Ministry of Defense.

Mistra Dhatu Nagam Limited is one of the few integrated and modern plants in the world manufacturing a wide spectrum of critical and complex alloys required or strategic industries viz. defense, space, aeronautic, nuclear power, electronics, communications etc. The range of alloys manufactured includes Nickel-base, Iron-base, and cobalt-base super alloys, ESR-Grade and Special purpose alloys, commercially pure (CP) Titanium and titanium alloys, Tungsten and molybdenum.

MISHRA DHATU NIGAM LIMITED
Kanchanbagh, Hyderabad-500 056. T.S. India
E-mail: mdklg@midhani.gov.in Website: www.midhani.gov.in
Tel: +91-40-24340293 Fax: +91-40-24341250
been done with IAF already calibrated to Minox level tolerances. HAL has set to roll out the numbers that customer desires with this production infrastructure.
Su-30MKI is being tested by IAF and HAL has been manufacturing and delivering this agile multirole aircraft since 2005. HAL has successfully absorbed the technology for manufacturing the 4.5 generation fighter. The company is now manufacturing aircraft from raw material stage and it has already delivered 150 of them to IAF.

On 9th Jan, 2016, we handed over the first overhead Su-30 MKI aircraft to the Indian Air Force from our newly established overhaul facility at HAL Nashik, made with an investment of over Rs 2000 crores’, he said. “With the establishment of this facility, HAL has developed capabilities and capabilities to support Su-30 for next 30 to 40 years and this is only one of its kind facilities in the world. It will have significant export potential since nearly 10 countries operate Su-30 fleet. During December 2014, IAF complexes of HAL has also celebrated 350 years of fruitful contribution to the nation.
Su-30 has become a very lethal weapon delivery platform with the successful integration of BrahMos supersonic cruise missile. HAL has done BrahMos integrations with all the analysis being done by HAL’s internal design team. HAL has provided a cost-effective indigenous solution to BAe, and this aircraft is being handed over today to IAF through BAe for carrying out live firing.
Light Combat Helicopter (LCH) Technology Demonstrator TD-3 made its maiden flight on 12-Nov-2014. This helicopter has shown its capabilities during the air display and HAL is using its internal funds for building more prototypes in order to accelerate the certification process towards obtaining IAF. The Ground Test Vehicle (STV) run of Light Utility Helicopter on 6th Dec, 2014 was yet another important milestone.
Susama Roy said HAL recognised the need for technology development in order to cope up with the upcoming technological challenges that require HAL to develop new products and product enhancements.
The total R&D expenditure of HAL was Rs. 1061.3 cr in 2013-14 and stands at 7.2% of the total turnover. Critical technologies have been identified in the area of design, manufacturing, avionics and material to support indigenousity. On R&D front, our company has done extremely well during the year by filing for more patents. HAL’s homegrown Jaguar DARRIN III upgrade is going to further accentuate the performance of Jaguar and would be a cost-effective, state of the art solution. Mirage upgrade programme has made significant progress with the first aircraft already under test flying. We have taken proactive steps in proposing upgrade solutions for Hawks, Su-30MKI, Dommet etc., to our customers to obviate the concerns on long term supportability.
HAL is jointly working with DRDO’s laboratories, CSR-HAL, CEFTE, FITS and ISAC towards achieving self-reliance in the aviation field harmonising the partnership strategy. Towards this, MoUs have been signed with ADA, HAL, ISAC and ISAC. HAL has already established Chair at DT Royce, IIT Kharagpur, IT Mumbai and IIT Kanpur.
HAL is developing capabilities in the design & development of aircraft, helicopters, engines and niche technology areas like SDIs, AESA Radar, Aire Engines, LWR, etc. through either indigenous effort or through collaborations. Regarding Aire Engines, HAL has taken up development projects to design and develop Aire Engines for 25 K and 1200 K/WP for fixed wing and rotary wing platforms respectively.
HAL has initiated a drive across the Company to assess and identify the technologies and processes to build the Intellectual Property portfolio.
HAL has registered a section-8 company along with Bangalore Chambers of Industry and Commerce (BCIC) & Society of Indian Aerospace Technology and Industries (SIAT) for skill development in aerospace sector. This aerospace skill council will firm up the skill requirements in (long term) of this highly technology intensive sector.
Government has set up Design & Development Management Board (DDMB), under the chairmanship of HAL with members from DRDO Labs, Department of Defence Production and Services for synergizing the RDD efforts in country.
HAL has released new purchase manual, system audit manual, accounts, manual, outsourcing policy, industrialization policy, RDD policy, Employee hand book, to name a few during 2014 in order to align the business processes towards better operational efficiencies.
The Government has recently increased the limit of Foreign Direct Investment (FDI) in Defence sector besides taking out several items from the list of products, requiring industrial licence.
These policy initiatives of the Government coupled with the fact that European and USA market for defence have saturated, augur well for the growth of Aerospace and Defence sector in the country.
Indian Military and Civil aerospace market is a big opportunity for HAL, which has taken steps to position itself well into this market by having products in the two to ten ton category.
“The development of LCH would be very crucial to our plans as defense market capitalisation is based on timelines of this programme and needs to be reached and the operational deployment in line with the operational requirements of our defence services,” Susama Roy said.
Based on the current growth rate (approx. 10 to 12%), it can be predicted that the industry may have 400 to 600 helicopters by 2021. HAL is targeting this segment demand by customizing ALH and by making efforts for civil certification of ALH.
The fixed wing defence market will see a lot of interest by foreign OEMs as the Indian Defence and civil market have made it as the 5th largest market in the world.
FGA and MTA programmes have the capability to catapult HAL into the league of technology leaders. LCA, UHT and P7200 have inhouse technology drivers and would provide the strategic edge to India’s defence forces. These platforms would have significant export potential. Hawk, Gripen and Su-30MKI would allow us to constantly benchmark the production facilities, would allow HAL to consolidate production capacities.

Global launch of OIS-AT’s four hi-tech dual use radar systems flagged off

A mrid the bustling action unfolding at the Aero India 2015, Union Minister for Civil Aviation, Ashok Gajapathi Raju flagged off in the Global Launch of OIS-AT’s four Hi-Tech Dual Use Radar Systems, a new initiative to have a focus on advanced technology radar systems that are required for air and naval forces. The advanced air and naval radars are critical to conduct operations and to strengthen the effect of air and naval forces. The four radar systems, namely OIS-AT, OIS-AT II, OIS-AT III and OIS-AT IV, have been developed and manufactured by OIS-AT, a joint venture between OIS and the Defence Research and Development Organisation (DRDO).

The launch of the four radars is a significant milestone in the OIS-AT’s “Make in India” initiative signaling the company’s commitment to the global market.

Commenting on the launch, the Minister said, ‘‘I am pleased that an Indian Defence and Aerospace company from the MMIE sector has taken the initiative to develop these radars. I wish them all success and hope we will see more such innovations from Indian MMIE organisations.’’

A breakthrough for the Indian Aerospace and Defence sector, these advanced radar systems are designed, developed and manufactured entirely by OIS-AT. The newer advanced AESA radar systems leverage advanced technology developments that are under patent filings and have been under development and manufacture for a number of years. Validating this achievement, OIS-AT was also awarded for “Excellence in Indigenous Product Development” at a glittering function in the city held on the eve of Aero India 2015. The other awards in various other categories included BHEL award for Dynamic Aireports and IIT...
Israel Aerospace Industries (IAI) introduces the new generation ELI-3360 Maritime Patrol Aircraft (MPA) based on a modified Bombardier Global 5000 business-jet Platform.

Designed by IAI’s ELTA Group to provide maritime domain situational awareness and maritime superiority, the new MPA provides the most sophisticated surveillance, reconnaissance and armament systems to be installed on a business-jet to date.

The system incorporates the advanced ELTA ELM-2022 Maritime Patrol Radar, an electro-optical sensor, the ELL-8385 ESM/ELINT system, and a comprehensive communications suite comprising radios, broadband SATCOM and data-links as well as advanced Electronic Warfare (EW) and self-protection Suite.

The integrated multi-mission Command & Control Suite includes multi-purpose operator workstations and a weapon and stores management system which controls the under-wing weapons that may include torpedoes and Anti-Ship missiles for Anti-Submarine Warfare (ASW) and Anti Surface Warfare (ASuW) as well as dispensable Search & Rescue (SAR) stores.

The new generation ELI-3360 joins IAI’s series of Special Mission Aircraft (SMA), and is based on IAI’s 30 years of experience in supplying advanced maritime sensors and integrated systems to leading customers worldwide. IAI’s line of business-jet SMA includes the operationally proven Gulfstream G550 Conformal Airborne Early Warning (CAEW), and the G-V Signal Intelligence Aircraft (SEMA) - the world’s first business-jet based mission aircraft.

Since IAI’s pioneering conception of business-jet SMA, the SMA market has moved steadily over the past decade towards cost-effective business jets. High endurance, speed, range and multi-mission versatility of such SMAs is unmatched by either large commercial transport aircraft or turbo-props.

“IAI provides leading-edge airborne, maritime and land-based solutions for persistent maritime reconnaissance and surveillance,” said Nisim Hadas, IAI Executive VP and ELTA President. “This allows our customers a choice of the right combination of ISR assets to meet their operational needs. The new business-jet based MPA, in concert with UAS and shore-based systems will provide unmatched maritime domain superiority for the benefit of our customers”.

Established in 2009, the Aequus SEZ is India’s first integrated aerospace manufacturing ecosystem. Spread over 250+ acres in Belagavi in North Karnataka, the Aequus SEZ provides an extensive manufacturing value chain including engineering, forging, machining, fabrication, surface treatment, and assembly. Aequus Aerospace enjoys the distinction of being the first Indian private sector player to secure an order from Airbus Industries. Clearly, the sky is the limit.

Aequus Private Limited
Aequus Special Economic Zone, No. 457/A, Hittargi, Hukkeri Taluka, Belagavi Dist., India - 591 243. T: +91 831 3090000
www.aequus.com

IAI introduces new Business-Jet based Maritime Patrol Aircraft
EUROJET, the consortium responsible for the EJ200 engine installed in the Eurofighter Typhoon, signed the sixth Operational Phase contract with the NATO Eurofighter & Tornado Management Agency (NETMA) to provide continued EJ200 engine support over the next three years.

The contract, signed in Munich between Air Vice Marshal Graham Farnell OBE, General Manager of NETMA, and Clemens Linden, Managing Director of EUROJET Turbo GmbH, covers engine support for the four core nations of the Eurofighter Typhoon Programme, the UK, Germany, Spain and Italy. The work will be performed in-country by the four partner companies of the EUROJET consortium, Rolls-Royce, MTU Aero Engines, ITP and Avio Aero, respectively, for their own nation’s fleet.

Commenting on the finalisation of the contract Graham Farnell stated: “This contract signature marks an important step towards the future, assuring support of the Typhoon fleets for uninterrupted operations and including savings that will underline confidence in our ambition to continuously improve the Future Support Concept of this fantastic engine” Mr. Linden expounded: “We are very pleased to sign this contract, since we are entering into a new support phase of the programme with stable, but demanding operations of the Air Forces. It is shaped to cover the work which is internationally required to deliver the services to the national Customers by our partner companies as before, but it also builds a base for direct national availability service contracts of the partner companies with their respective Nation, i.e. based on the work share and the design responsibilities of our consortium every partner performs its international support tasks which are delivered via the national channel. Thus, the specialists and engineering / support capabilities of each partner is maximised to deliver international services. This provides best value for money respecting the economic demands of the Nation’s defence budgets. Moreover we were able to keep the price stable whilst the number of engine flying hours increase. Subsequently, this gives a lower support price per engine flying hour which is to the satisfaction of both parties.”
The 4,000 km range road mobile ballistic missile Agni-4, was successfully flight tested twice. Agni-4 is equipped with the state-of-the-art avionics, 5th Generation On board Computer and Distributed Architecture. It is also equipped with the latest features to correct and guide it for right course corrections. With Agni 1, 2, 3 and Prithvi already in India’s arsenal, Agni-4 further extends the reach and enhances effective deterrence capability. Besides, practice cum training launches of strategic missiles which are already inducted, such as Agni-1, Agni-2, Prithvi and Dhruv were carried out by the armed forces.

Nilekay, the 1000 km class long range sub sonic cruise missile was successfully flight tested. The flight lasted over one hour and met all the mission objectives with the missile following the predefined trajectory with very high accuracy throughout its path. The maiden flight of PVO exospheric interceptor was a significant milestone in the direction of developing a two layered Ballistic Missile Defence System. In addition to the interceptor itself, the two stage target for mimicking a hostile Ballistic Missile approaching from more than 2000 km away too was specially developed for the mission.

Productionisation and induction of Akash the medium range air defence system with multi-role, multi directional capability was another remarkable achievement. Several squadrons of Akash (Airforce) have been inducted, with specified number of missiles from each production lot undergoing comprehensive flight tests in various operational modes before acceptance of the lot. Akash (Army) has been accepted and is undergoing its induction process. DRDO, the Long Range Surface-to-Air Missile was successfully tested against a flying target in Israel.

Successful trials of Helina, a ‘Lock On Before Launch (Fire & Forget)’ third generation Anti-tank Guided Missile that can attack in both direct and top attack mode was integrated with Advanced Light Helicopter (ALH). The missile with capability to defeat futuristic armours underwent successful field trials.

ASTRABVR (Beyond Visual Range) Air-to-Air missile was successfully tested from a Su-30 MKI by the Indian Air Force, demonstrating interception of an electronically simulated target at long range. The series of tests conducted have demonstrated the aerodynamic characteristics of the missiles and its repeatability, robustness and endurance capability as a weapon system.

A 1,000 kg class Guided Glide Bomb was designed, developed and successfully tested. The bomb, after getting released by the aircraft and guided by onboard navigation system is capable of gliding accurately to its target even 100 km away. Over thirty missions such as launches of strategic and tactical guided missiles kept the Integrated Test Range, the only one in the country, heavily engaged with activities throughout the year.

An Advanced Parachute System meeting stringent requirements of Human Space Program (HSP-II) was designed, developed and successfully evaluated by DRDO. The system developed for India’s manned space missions was successfully proven with the recovery of Moon Mission Crew Capsule flown into space by the GSLV Mk-III. The parachute deployment system functioned perfectly and achieved the required descent rate.

A Heavy Ordnance System (P-16) for dropping from IL-76 heavy lift aircraft was developed and is undergoing user assisted trials. The system consisting of a platform system suitably designed for harnessing and mounting of variety of payloads of 16 tones class and a highly advanced parachute system to drop loads. The load typically consists of military stores such as vehicles (including BMP class), supplies and ammunition.

The first indigenously designed and developed indigenously fabricated multifunctional man-portable modular military bridging system developed for India’s manned space missions was successfully proven with the recovery of Moon Mission Crew Capsule flown into space by the GSLV Mk-III. The parachute deployment system functioned perfectly and achieved the required descent rate.

As it continued on the path of building self-reliance, the production value of DRDO developed systems inducted or cleared for acquisition (excluding strategic systems) recently crossed Rs. 1,70,000 crores. DRDO has come out with yet another series of accomplishments with enormous potential to further enhance the level of self-reliance in defence technologies. The 4000 km range road mobile ballistic missile AGNI-4, was successfully flight tested twice. Agni-4 is equipped with the state-of-the-art avionics, 5th Generation On board Computer and Distributed Architecture. It is also equipped with the latest features to correct and guide it for right course corrections. With Agni 1, 2, 3 and Prithvi already in India’s arsenal, Agni-4 further extends the reach and enhances effective deterrence capability. Besides, practice cum training launches of strategic missiles which are already inducted, such as Agni-1, Agni-2, Prithvi and Dhruv were carried out by the armed forces.

Nilekay, the 1000 km class long range sub sonic cruise missile was successfully flight tested. The flight lasted over one hour and met all the mission objectives with the missile following the predefined trajectory with very high accuracy throughout its path. The maiden flight of PVO exospheric interceptor was a significant milestone in the direction of developing a two layered Ballistic Missile Defence System. In addition to the interceptor itself, the two stage target for mimicking a hostile Ballistic Missile approaching from more than 2000 km away too was specially developed for the mission.

Productionisation and induction of Akash the medium range air defence system with multi-role, multi directional capability was another remarkable achievement. Several squadrons of Akash (Airforce) have been inducted, with specified number of missiles from each production lot undergoing comprehensive flight tests in various operational modes before acceptance of the lot. Akash (Army) has been accepted and is undergoing its induction process. DRDO, the Long Range Surface-to-Air Missile was successfully tested against a flying target in Israel.

Successful trials of Helina, a ‘Lock On Before Launch (Fire & Forget)’ third generation Anti-tank Guided Missile that can attack in both direct and top attack mode was integrated with Advanced Light Helicopter (ALH). The missile with capability to defeat futuristic armours underwent successful field trials.

ASTRABVR (Beyond Visual Range) Air-to-Air missile was successfully tested from a Su-30 MKI by the Indian Air Force, demonstrating interception of an electronically simulated target at long range. The series of tests conducted have demonstrated the aerodynamic characteristics of the missiles and its repeatability, robustness and endurance capability as a weapon system.

A 1,000 kg class Guided Glide Bomb was designed, developed and successfully tested. The bomb, after getting released by the aircraft and guided by onboard navigation system is capable of gliding accurately to its target even 100 km away. Over thirty missions such as launches of strategic and tactical guided missiles kept the Integrated Test Range, the only one in the country, heavily engaged with activities throughout the year.

An Advanced Parachute System meeting stringent requirements of Human Space Program (HSP-II) was designed, developed and successfully evaluated by DRDO. The system developed for India’s manned space missions was successfully proven with the recovery of Moon Mission Crew Capsule flown into space by the GSLV Mk-III. The parachute deployment system functioned perfectly and achieved the required descent rate.

A Heavy Ordnance System (P-16) for dropping from IL-76 heavy lift aircraft was developed and is undergoing user assisted trials. The system consisting of a platform system suitably designed for harnessing and mounting of variety of payloads of 16 tones class and a highly advanced parachute system to drop loads. The load typically consists of military stores such as vehicles (including BMP class), supplies and ammunition.

The first indigenously designed and developed indigenously fabricated multifunctional man-portable modular military bridging system developed for India’s manned space missions was successfully proven with the recovery of Moon Mission Crew Capsule flown into space by the GSLV Mk-III. The parachute deployment system functioned perfectly and achieved the required descent rate.
Premium AEROTEC, Aequus Aerospace mark start of strategic partnership with 7 year $50 million deal

At Aero India 2015, Premium AEROTEC received the first aluminium-series components from Aequus Aerospace as part of a long term agreement to supply the Airbus Legacy programme.

“For Premium AEROTEC this is the start of a strategic partnership with Aequus Aerospace and reflects an important step we are taking to reorient our supply chain in collaboration with global partners in the detail parts sector,” said Florian Mack, Head of Strategic parts procurement at Premium AEROTEC, during the ceremonial handover of the first components at the international Aero show in Bangalore.

According to Mack, Aequus offered a very attractive value proposition from its precision engineering ecosystem, located in its beleaguered S3Z. “As an established supplier to the Airbus Group, Aequus Aerospace provides customers with an integrated value chain from surface treatment to structural assembly capabilities. The high quality of the delivered components reflects the excellence and effectiveness of the collaboration between our transcontinental teams.”

“It is exciting to deliver these first components to Premium AEROTEC under our long term agreement,” said Walt Simmons, President of Aequus Aerospace. “Over the next seven years, Aequus Aerospace will supply approximately $50 million worth of precision machined parts for the Airbus A320, A330, A340 programs. After receiving FAL approval from Premium AEROTEC in December 2014, Aequus began delivering the first production parts just one month later.

“The Aequus Aerospace ecosystem provides our customers outstanding responsiveness, ease of doing business, and real cost savings,” continued Simmons. “We’re delighted to be a key supply chain partner with Premium AEROTEC and we’re committed to providing world-class quality, delivery, and value.”

Airbus also sources parts from Aequus Aerospace and welcomed this association. “The strategic partnership between Premium AEROTEC and Aequus Aerospace will provide Airbus additional supply chain flexibility and economic advantages,” said Olivier Caussé, SVP Procurement, Airbus Material and Parts.

Aerospace & Defence Directory 2015-16 For Sale

Visit AEROMAG STALL at AERO INDIA.
HALL 1B.22
Contact Us : Aeronag Asia
Aeronautical Society of India Building
Suranaand Road, Off Old Madaras Road,
Bangalore-560075, Karnataka, INDIA
Tel: +91 80 25284145 / 69552377
Email: info@aeromag.in
www.aeromag.in

Printed and Published by Sunny Jerome, Managing Editor, Advantage Karnataka C/o Aeromag Asia, Aeronus Media, Aeronautical Society of India Building, Suranaand Road, Off Old Madares Road, Bangalore 560075, Karnataka. Printed at Rashtriya Bhandariya, 191, K.G.Nagar, Bangalore-19.
Intech is part of a reputed manufacturing group having experience of more than 30 years in the casting industry and also in the manufacture of actuators used in the Oil and Gas industry apart from the development of software products used by Global Valve manufacturers.

Intech DMLS Private Limited set up in early 2014 is one of the pioneers in the metal additive manufacturing space in India and are currently operating a full-fledged facility at Bangalore. This facility in Bangalore is the largest service bureau offering Metal Additive Manufacturing as a service.

At Intech we use the Direct Metal Laser Sintering (DMLS) process technology, which allows for manufacturing complex shapes, reduced weight, lattice and bionic structures and reduced manufacturing time and improves the quality of components. The materials used here are similar to their counterparts in traditional manufacturing such as Titanium, Nickel, Steel and Aluminum alloys.

Intech offers a complete solution from concept design to the delivery of a fully functional component. We have the largest installation of commercially available EOS DMLS 3D printers in India and fully equipped design office, machine shop, in house testing equipment like CMM etc. and post processing facility. Hence with all these in-house capabilities we are poised very well to offer an end to end service in the Additive Manufacturing space. We are an ISO 9001:2008 & currently undergoing the process for becoming an AS 9100C company. We are currently in the process of setting up a Technology driven Innovation and Engineering Design Centre.

Our strength lies in our complete dedication to serving our customers’ needs and partnering our customers closely in all stages of the component development. We are already seeing the benefits of this approach with sustained follow up orders from our existing customers who also at the same time help us in showcasing our strengths and capabilities to prospective new customers.

We are currently working with the leading aerospace company in India and partnering them in the development of very critical components that form the core of their manufacturing. In this project we have successfully reduced the lead time for the development of these components from more than 2 years to as few as 4 to 5 months. In addition we are also working with leading Defence laboratories in the development of not only prototypes but also fully functional parts.

At Intech we push the limits of industry practices in Metal Additive Manufacturing, exploring new ways to ensure the highest quality in building both fully functional parts and also in rapid prototyping. It is our continuous endeavour to push the industry boundary to ensure we are abreast with the latest technologies in Metal additive manufacturing and management strategies in order to keep Intech and our customers at the forefront of our industry. In today’s globalised market, we enable our customers to maximize quality levels and reduce component delivery times while at the same time ensuring competitive pricing.

To know more about Intech and how we can partner with you in adopting this cutting edge technology of building complex parts in layers with the shortest lead times, please write to us at info@intech-dmls.in or call us at +91 98450 08485 or visit us at www.intech-dmls.in.
Handling over of Flight Clearance Certificate of Su-30 Integrated with BrahMos missile.


Deputy Chief of Air Staff, The Aircraft Acceptance Certificate was handed over by Mr. A.M. Raju, DG (AOG) to Air Marshal Sukhchand Singh.

This unique programme was taken up as an indigenous challenge by HAL in 2010. The team overcome several difficulties due to limited design data of Su-30 MKI and received approval in Jan 2011 and order for integration was obtained from BARC on techno-commercial meets system OEM in January 2014.

Kalyani Group announces JV with Rafael Advanced Defence Systems

Kalyani Group and Rafael Advanced Defence Systems Ltd announced the formation of a Joint Venture Company in India (S1JV). The initiative is in line with the 'Make in India' policy of the Government, and will enable the development and production of high end technology systems within the country. This will include a wide range of technologies and systems, like Missile Technology, Remote Weapon Systems and Advanced Armour Solutions.

Speaking on the occasion, Mr. Baba Kalyani, Chairman & MD, said, "Kalyani Group has been at the forefront in initiating the 'Make in India' campaign. As part of this campaign, we want to develop and produce high end technology systems and expand the Defence Industry base in our country. We believe in the vision of 'Make in India' and our proposed Joint Venture with Rafael is a step in this direction."

Brig. Gen. (Retd.) Izhak Cat, Chairman, Rafael, said, "Rafael has been an active participant in the Indian Defence Market for the past few years. We have always endeavored to contribute to the modernisation of the Indian Armed Forces. As part of our global strategy, we form alliances to develop military applications based on our proprietary technologies and in Kalyani Group we see a lot of synergy and opportunities for growth in new markets and especially in India which is a strategic market for us."

Amit Kalyani, Executive Director, said, "Kalyani group is committed to invest in developing advanced frontier technologies. The partnership with Rafael is our endeavour to develop advanced Missiles and Remote weapon systems capabilities within India."

Vice Admiral (Retd.) Yaddanapudi, CEO, Rafael said, "We see Kalyani Group as an ideal partner for expanding our business opportunities in India. We have supported and will continue to support the Indian Ministry of Defence in gaining technological superiority to technological excellence. Rafael is well aware of the 'Make in India' policy, and the JV with Kalyani Group is a firm commitment in that direction."

Maini Group enters into long term agreement with Sncema

Maini Precision Products Pvt. Ltd, Bengaluru (MPP) has bagged a prestigious order for supplying precision machined components for the LEAP and Sivlercore engine programs. A long term contract was signed by Mr. Bernard BET, Military Programs Purchasing General Manager, Sncema (France), and Mr. Goutham Muni, Executive Director, Maini Group in the presence of Sandeep Maini, Chairman, Maini Group and Mr. Nehiraj Patta, CEO (MEG) during the Aero India 2015. This multi-million dollar contract has further established MPP as a strategic supplier to Sncema, having commenced the partnership nearly a decade ago.

Sncema is one of the world’s leading manufacturers of propulsion systems for air and space. Headquartered in Courcouronnes, France, it is a part of the International High-technology group, Safran. Alone or in partnership, Sncema designs, develops, produces and markets engines for civil and military aircraft, launch vehicles and satellites. The company also offers complete range of engine support services to airlines, armed forces and other operators.

Zen Technologies, Rockwell Collins launch into military flight simulation market segment

Zen Technologies and Rockwell Collins announced their decision to join forces in military flight simulation by unveiling a next generation rotary wing simulator at Aero India 2015. The two industry leaders recently signed a Memorandum of Understanding (MoU) to combine their strengths in simulation and training to offer advanced and high fidelity aviation solutions.

The strategic alliance between Zen Technologies and Rockwell Collins will produce top shelf solutions while also ensuring cost benefits for customers across the region since the alliance’s capabilities are indigenized, including in software, electronics and visuals. With the rotary wing platform launch, both companies aim to emerge, in the near future, as key partners to the Indian armed forces.

The next generation Rotary Wing Simulator housed in an ergonomically designed cockpit is configurable and fully addresses both the flight and mission aspects of rotary wing aircraft. The simulator supports anywhere, anywhere training and is a cost-effective, efficient alternative for pilot training in handling routine flights, emergencies and practice missions. Unparalleled realism in training is provided using geospecific cultural terrains, operations flight profiles, and avionics that can be used to train both new and experienced pilots before any mission. The simulator will enhance combat readiness for crew members through a comprehensive training curriculum that is customizable for all types of military platforms.

Commenting on the launch, Mr. Ashok Attur, Managing Director, Zen Technologies said, "Zen Technologies has over the years emerged as a strong player in the field of land forces simulation in India. Over the next five years, the Indian defence forces will be strengthening their aircraft portfolio, both fixed and rotary wing. Moreover, there are a number of existing simulators which may need some mid-life upgrades both in terms of technology and aircraft concurrency. Therefore, we see a very large opportunity for full mission simulators, flight training devices, and part-task trainers, amongst others. Through our association with Rockwell Collins we will be able to fill the existing gap in the flight simulation market in India."

Rafael and Kalyani Group signing the agreement in the presence of Defence Minister Shri. Manohar Parrikar.
Moog to boost capacity in India this year

MMCLP and MCPL will increase floor space by 50% in 2015, anticipating continued strong growth in their servomotor business over the next four years. In addition, MITC will double aerospace qualification lab capacity in 2015 in preparation for new qualification test programs, says Dave Ranson, Managing Director – Moog AG – India, in this interview to Aeromag Asia.

Could you talk about India operations?

Moog’s business in India is concentrated primarily in three business entities, all located in Bangalore: Moog Motion Controls Pvt. Ltd. (MMCLP), Moog Controls India Pvt. Ltd. (MCPL), and Moog India Technology Center Pvt. Ltd. (MITC).

Moog’s business in India is concentrated primarily in three business entities, all located in Bangalore: Moog Motion Controls Pvt. Ltd. (MMCLP), Moog Controls India Pvt. Ltd. (MCPL), and Moog India Technology Center Pvt. Ltd. (MITC).

MITC is focused on the design of

components used for flight control systems, as well as qualification testing of these components at the facility located in the Electronics City, Bangalore. MITC completed Safety of Flight Qualification testing last year and is now conducting long term Qualification Endurance and Fatigue testing of the Primary Flight Controls and High Lift Actuation Systems for the Boeing 787 and the Airbus A350. MITC is certified to AS9100C for all aspects of the organization, and has achieved Software CMMI Level 3 certification, along with certification from CEMILAC, the Indian Center for Military Aircraft Certification.

Our manufacturing facility in India (MCPL) is a global hub for the manufacture of servomotors which find a wide variety of applications ranging from plastic blow moulding and injection moulding machines, axes movement in lathes, blade pitch control of wind turbines, deep sea drilling applications, material handling equipment, pick and place robots, railway carriages for sway control, among others.

Dave Ranson
Managing Director
Moog AG – India

Delivering help where it’s needed most.
One Powerful Idea.

Exceptional payload. The ability to land in tight quarters. Extended range with in-flight refueling capacity. The C-17 Globemaster III with Pratt & Whitney F117 engines has the airrift capacity to meet any mission.

United Technologies

United Technologies is committed to building a better India – today and tomorrow.
Defence Minister Sri Manohar Parrikar Visiting BEL at AeroIndia 2015

Dr. C. G. Krishnadas Nair, former Chairman of HAL, presenting the book “Make in India” written by him to Minister of State for Defence Shri Rao Inderjit Singh. Shri Pushpinder Singh Chopra, President, Society for Aerospace Studies, New Delhi, also seen.
Our facility was established in 1991 and is ISO 9001:2008 certified. Moog motors are UL certified and the explosion proof motors have both ATEX and IECEx certification.

Moog India (MMCPL) has a comprehensive systems capability and proven reputation for designing, qualifying and delivering high-performance motion solutions for some of the world’s most demanding applications like large scale, turnkey test and simulation systems for both Aerospace and Automotive Industries, Defense, Gas and Steam Industry, Metal forming, Plastics, Sensors and Surveillance systems and Steel Industry. In addition, MMCPL provide technical support, aftermarket repairs and spares support for Industrial customers using the renowned Moog servo-valves in India, the Middle East and SAARC Countries.

What are the expansion plans?
MMCPL and MCIPL will increase floor space by 50% in 2015, anticipating continued strong growth in their servomotor business over the next four years. In addition, MTC will double its aerospace qualification lab capacity in 2015 in preparation for new qualification test programs.

What's the update on exports from India?
MCIPL exports over 40,000 units of brushless DC motors annually, for Industrial, Energy and Defense applications. Demand is expected to increase on the order of 15% per year for the next three to four years. MTC exports test equipment (consoles and mechanical rigs) on the order of several million dollars each year.

Throw some light on R&D activities in India?
Moog is very pleased with the results at our Technology Center (MITC). Bangalore is a rich source of talent, drawing from all over India to provide engineers from all disciplines and deliver innovative solutions to challenging motion control problems.

What’s your take on India’s ‘Make in India’ campaign, and how your company is positioned to take advantage of this initiative? Moog has been manufacturing products in India for years. In fact, Moog Controls India Pvt. Ltd. (MCPL) was established in 1989, and MCIPL purchased plots 1, 2, and 3 in Electronic City, Phase I in 1990. We enthusiastically support the “Make in India” initiative – and we are currently manufacturing brushless DC motors, primarily for export for Industrial, Energy and Defense applications. We also have long standing relationships with a sizeable supply chain in India, supporting our multiple product lines.

Several important steps are already in work, including relaxed thresholds for foreign direct investment (FDI), up to 49% for Defense projects, and support for small and medium enterprises (SMEs). However, there are several key success factors that must be in place for “Make in India” to achieve its full potential. Some of the most potent are:

1. Tax system consistency & stability – establish stable, simplified taxation policies to encourage business growth. Close all outstanding transfer pricing litigation quickly to reduce the perceived risk of doing business in India.
2. Streamlined approvals – implement a “single-window” approach for key approvals, e.g. incorporating a new business entity or requesting utility services.  
3. Skills development – agree upon a national skills framework and support it with education initiatives to prepare individuals for a successful transition into the workforce. Strengthen and expand the apprenticeship system.
4. The current government appears to be moving quickly to address these issues – and the sooner the issues are addressed, the more profound will be the results of “Made in India” in terms of GDP growth and long term competitiveness.

What are your thoughts on designing products for the Indian market?
Most of the markets that Moog is addressing in 2015 are driven by requirements that are defined by the customer. As such, there is often less freedom to design “for the Indian market”. However, Moog has been successful in designing processes for the Indian environment – and then sharing the processes across the global Moog organization. When we design “for the Indian market” we have found success when we emphasize materials that are available locally (favorable cost and lead time), along with reduced part count and reduced assembled and test time. The challenge of designing for a lower “price point” provides a natural “forcing function” that often results in a product that meets key needs at a significantly lower cost.

What are the things you are doing to sustain future growth?
Moog has three major initiatives that support future growth: Lean, Innovation, and Talent Development. We believe that our continued attention to improving our processes is providing value to our customers and accelerating our growth as a company. Innovation is part of the fabric of Moog’s heritage and our future success as we bring new technologies to market that make us more competitive. Talent Development has been a strength for Moog in India, providing opportunities for everyone to be their very best. Our commitment to these three initiatives will continue to fuel growth in India and across the globe.

Moog is committed to success in India, as demonstrated by over 25 years in Bangalore. Our Indian operations are recognized as a key to the success of the global Moog organization – the key to the foreseeable future. We look forward to contributing to the success of the “Make in India” initiative, knowing that time is of the essence. Faster implementation of “Make in India” initiatives will mean deeper impact more profound acceleration for the Indian economy.

Lockheed Martin leaders visit TLMAL facility

A team of senior Lockheed Martin executives led by Patrick Dewar, Executive Vice President, Lockheed Martin International, visited the Tata-Lockheed Martin Aereostrians Limited (TLMAL) facility in Hyderabad to inspect the C-130Js as well as to tour the TLMAL site.

Set up in 2012, TLMAL manufactures IFRS components for the global supply chain of the C-130J Super Hercules. TLMAL was the winner in the best joint venture category at the 2013 Aerospace & Defense Awards. Tata Advanced Systems holds a 74% stake in the joint venture, with Lockheed Martin holding the remaining 26% stake.

“This is our first JV in India, and it has strengthened our relationship with the Indian Defense customers as well as reinforced our commitment and partnership with Indian industry,” said Mr. Dewar.

“We are extremely pleased with the role Tata has played in ensuring that the manufacturing output at this facility is of top quality, and look forward to exploring expanded opportunities for greater collaboration in the near future.”

Lockheed Martin has already supplied six C-130J Super Hercules aircraft to the Indian Air Force, and has signed a follow-on agreement for six more, to be based in Panagarh.
At the end of 2013, the first media joint made by SPINNER was delivered. This milestone was a very important step for SPINNER regarding its development from supplier of high frequency (RF) and optic as well as non-contacting signal transmitters to a system provider for rotary joints. The list of available transmission technologies as stated could be proven in the tests.

The media joint was designed for a customer project, in which a phased array antenna is used. The media module became necessary, since the RF performance is to be generated directly on the antenna for this radar system. In order to cool the electronic components, it is needed to supply the antenna with the corresponding coolant.

The technical data have been chosen in such a way that they meet the customer requirements for a large number of applications. The module was thoroughly tested in SPINNER’s test facility and all data stated could be proven in the tests.

When developing the media module, care was taken that it can also be used in a wide range of other joints. The mechanical ranges allow for virtually any integration into any hybrid joint. In addition to this module, a second module is currently being developed, that has an identical technical design, but allows a considerably higher flow rate for cooling water. With these two modules, SPINNER regards itself as well prepared to implement further projects with media feed-throughs.

It should also be noted that, despite the increased development effort for such a complex rotary joint (with many new components and the working out of the transmission technology for media joints), the development period remained within the specified time frame of less than six months and two prototypes could be delivered in a timely manner.

Dr. Andreas Doleschel

---

**Lockheed Martin to showcase several solutions at Aero India**

Lockheed Martin will be well represented at Aero India with a team of almost 30. The company will have its booth at Hall E, Stand E3.19.

Lockheed Martin will be showcasing several solutions from different business areas at Aero India 2015. These businesses have several current and potential projects with the Indian services.

Lockheed Martin will also be looking at building and growing relationships with key industry in India. One of the key focus areas will be the C-130J Super Hercules—the world’s most proven airlifter. In addition, Lockheed Martin will also be showcasing its world-proven missile systems including the precision-strike AGM-114R multipurpose HELLFIRE II, DAGR.

Lockheed Martin will also focus on the MH-60R/S (Romeo and Sierra) which are the most advanced maritime helicopters. Lockheed Martin hopes to offer these as solutions for the Indian Navy’s multirequirement NMMH program. Other products on display will include the K-MAX, E2D Hawkeye and Javelin.
In India, new players are aggressively building capabilities for potential Tier I and Tier II supplier partnerships. Leading Original Equipment Manufacturers (OEMs) have not only established their presence but are actively starting to participate in programmes of the Indian government and even forming joint ventures with Indian companies. Stringent offset requirements in fulfilment of tenders, a government that is keen to create a manufacturing hub and indigenous firms with greater freedom to set up partnerships are all driving and actively encouraging OEMs to form alliances and partnerships.

In order to maximise the opportunities for UK companies, ADS Group Ltd has partnered in the setting up of fully staffed offices in India (in Bangalore and Delhi). The head office is based in Bangalore, the heart of the aerospace and IT sector in India.

The ADS office enables in-country representatives to market advanced engineering companies to grow Indian knowledge and to help UK companies to collaborate/partner with Indian companies. Whilst, working closely with UKTI (UK Trade and Investment) and UKIBC (United Kingdom India Business Council), ADS India’s services also include the provision of a permanent office space and hot-desking facilities for UK companies.

ADS India, have already been working with a number of niche, technology-rich UK engineering and manufacturing businesses keen on accessing opportunities in the Indian market and forming partnerships, joint ventures and technology tie-ups to service Indian and global markets.

International competition and other pressures on performance necessitate rapid improvement in the effectiveness of supply chains. Industry must ensure that it delivers competitive solutions for customers while maintaining profitable business growth. An initiative led by the aerospace and defence industry in UK SC21 was launched at the Farnborough Airshow in 2006, and since its inception there have been real, tangible improvements made in the UK supply chain. SC21 is industry led, and with the support of the UK’s aerospace and defence primes, it is the most widespread improvement process the industry has undertaken in UK.

A national programme delivered regionally, with companies of all sizes engaging there are dedicated resources working throughout the supply chain, with expertise in private companies, accredited service providers and public sector organisations. The framework of SC21 makes it effective to any supply chain company regardless of its accreditation status, maturity in lean implementation and customer relationships. The diagnostic suite of tools generates a bespoke improvement road map, identifying strengths and opportunities, based on an organisation’s current performance. Licensed in Australia foreign companies to partner and win future work.

In fact, two Indian companies “Data Patterns” and “GGAI” (General Optics (Asia) Limited) have already subscribed to the SC21 program and have won business from a UK prime. Further, General Optics (Asia) Limited is a SC21 award winner and was presented the Bronze award during the recent Farnborough International Airshow 2014.

OEMs need to meet the offset obligations and so are sourcing for their own production to exploit the Indian and global supply chain requirements leveraging low cost manufacturing in India. In this backdrop, foreign companies are finding it difficult to find tier 1 and tier 2 companies with global standards and approvals.

SC21 is the journey to excellence that will give the foreign OEM’s a ready solution for the right partnerships. Indian industry requires high-end technologies, quality approvals and supply chain management expertise that can be made available by UK.

The UK wants to be India’s partner of choice and the introduction of SC21 program is another step in that direction. The UK Aerospace & Defence industry has to see Indian companies as joint venture partners and supply to the Indian market around a theme of partnerships. Pursuing strategic business alliances through partnership and joint ventures with UK to gain access to technology and the global supply chain is the key for Indian defence Industry.

Victor Bhardwaj
Director – Business Development & Operations, ADS

The framework of SC21 makes it effective to any supply chain company regardless of its accreditation status, maturity in lean implementation and customer relationships. The diagnostic suite of tools generates a bespoke improvement road map, identifying strengths and opportunities, based on an organisation’s current performance. Licensed in Australia foreign companies to partner and win future work.

In fact, two Indian companies “Data Patterns” and “GGAI” (General Optics (Asia) Limited) have already subscribed to the SC21 program and have won business from a UK prime. Further, General Optics (Asia) Limited is a SC21 award winner and was presented the Bronze award during the recent Farnborough International Airshow 2014.

OEMs need to meet the offset obligations and so are sourcing for their own production to exploit the Indian and global supply chain requirements leveraging low cost manufacturing in India. In this backdrop, foreign companies are finding it difficult to find tier 1 and tier 2 companies with global standards and approvals.

SC21 is the journey to excellence that will give the foreign OEM’s a ready solution for the right partnerships. Indian industry requires high-end technologies, quality approvals and supply chain management expertise that can be made available by UK.

The UK wants to be India’s partner of choice and the introduction of SC21 program is another step in that direction. The UK Aerospace & Defence industry has to see Indian companies as joint venture partners and supply to the Indian market around a theme of partnerships. Pursuing strategic business alliances through partnership and joint ventures with UK to gain access to technology and the global supply chain is the key for Indian defence Industry.
MORE LETHAL
with BEL's Avionic Systems.

Empowering the Nation’s Defence Forces

BEL’s unflinching R&D commitment and experience in providing the defence forces with state-of-the-art products and systems has established it as a leader in hi-tech defence electronics.

- Radars & Weapon Systems
- Communication Systems
- Electronic Warfare Systems & Avionics
- Network Centric Systems
- Naval Systems
- Electro Optics
- Tank Electronics
- Civilian Products

www.bel-india.com

QUALITY. TECHNOLOGY. INNOVATION.
Brings to India the 3rd Industrial Revolution

India’s first and largest facility for Additive Manufacturing (3D printing in metal).

3D Printing, or Additive Manufacturing (AM), has captured the imagination of the industrial world and is poised to revolutionise manufacturing completely.

Now, for the first time in India, Intech DMLS brings state of the art AM in Metal.

AM enables fast, flexible and cost efficient production of functional parts directly from 3D CAD data. Intricate and complex shapes, lattice structures and bionic structures, that are impossible to manufacture conventionally can be easily produced using this new age technology.

Intech offers end to end services from concept design, through testing and validation to production of a fully functional component.

Visit us at HALL A, Stand A1.9
Aero India 2015, Air Force Station, Yelahanka, Bangalore

SINTENEERING INNOVATIONS

- Faster
- Flexible
- Tooling-free

- Lower weight
- Reduced cost

- Freedom of design
- Intricate geometry

Intech DMLS Pvt. Ltd., B-117, 3rd Main Road, 2nd Stage, Peenya Industrial Area, BANGALORE – 560 058, INDIA. www.intech-dmls.in

It’s all about a vision
Bavaria – Starting Point into future markets

There is more to Bavaria than just FC Bayern and Oktoberfest.

Discover opportunities for the automotive, aerospace and healthcare industry as well as for engineering and IT and benefit from localisation, high quality of life and safety.

As the Business Promotion Agency of the State of Bavaria, we will support you in selecting a location and establishing contacts with potential partners - in a personalised and confidential way at no charge.

We are happy to be there for you.
State of Bavaria - New York Office
John Goetze - Executive Director
Tel 212-995-0250
info@invest-in-bavaria.com
www.invest-in-bavaria.com
Interested in US expansion? No chart or graph can adequately convey the benefits of moving your business to Fairfax County, Virginia. Here you'll find Indian firms taking advantage of a well-trained workforce, excellent communication and transportation infrastructure, a public school system second to none and connections back home thanks to Washington Dulles International Airport. Located minutes from Washington, DC, this is an ideal location for pursuing federal projects. And with 8,400+ tech firms and 10 Fortune 500 companies, your successful business will be right at home. To see how your business can benefit from expansion to Fairfax County, visit www.powerofideas.org or contact our Bangalore office at FairfaxIndia@FCEDA.org or +91 80 4040 9999, ext. 225.

FAIRFAX COUNTY
ECONOMIC DEVELOPMENT AUTHORITY

THE POWER OF IDEAS