

SP's



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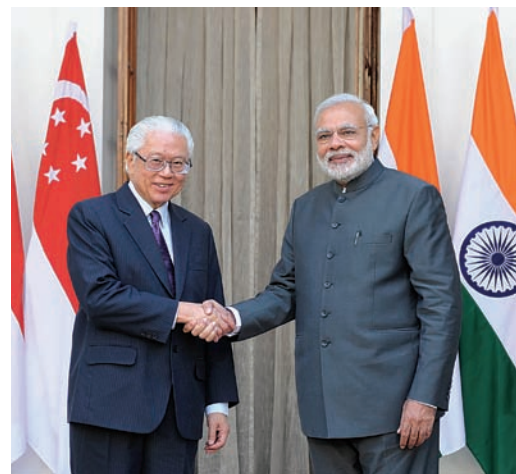
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In a country like India with limited support from the industry and market, initiating 50 years ago (in 1964) publishing magazines relating to Army, Navy and Aviation sectors without any interruption is a commendable job on the part of SP Guide Publications.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

Narendra Modi, Hon'ble Prime Minister of India



While we at SP's cherish our journey started in 1964, founded by our Founder Editor and Founder Publisher Shri S P Baranwal; we do believe that the entry into 51st year and beyond is just a beginning for us. We therefore look forward to constantly evolving and expanding our qualitative efforts during coming years and coming decades.

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LCA Tejas achieved yet another accomplishment

With three consecutive start-ups of its engine after overnight soak in extreme cold (around -15 degrees Celsius) conditions of Laddakh winter, that too without any external assistance, Tejas, the Indian light combat aircraft (LCA) has achieved yet another and a rare distinction. Starting the fighter aircraft under such extreme condition without any external assistance or heating is a technology challenge. The requirements become further stringent when the starting is to be done three times consecutively with a partially charged battery. Team



LCA led by AERD&C of HAL, and members from ADA, NFTC, IAF, CEMILAC and DGAQA have succeeded in achieving this. "The team LCA has achieved a technological breakthrough", stated Dr P.S. Subramanyam PGD (CA) & Director, ADA.

The engine starter is developed indigenously by HAL Aero Engine Research and Design Centre (AERDC), Bengaluru. Prior to aircraft tests, the Jet Fuel Starter (JFS) was extensively tested on test rig to meet starting conditions across the operating altitudes including Leh (10,700 ft.) and Khardungla (18,300 ft). The control software of JFS was fine tuned to work at all operating altitudes with no adjustments from cockpit. GE-F404-IN20 engine start-up control schedule was also varied with several control patches to establish reliable start. **SP**



Cover:

The three-day visit of President Barack Obama as a Guest of Honour on India's Republic Day was an overwhelming success from the perspective of deliverables. The visit was not only high on symbolism but also highly result oriented.

Cover images: PIB, Embraer

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'Mega push' for 'Make in India' campaign at Aero India

Aero India 2015 to be held in Bengaluru from February 18 to 22 will be one of the biggest platforms for the aerospace and defence industry which is latching on to 'Make in India' mantra of the Prime Minister Narendra Modi. In the backdrop of the Prime Minister's initiative, there is going to be aggressive selling of the initiative on the part of Indian companies, to the many original equipment manufacturers (OEMs) who will be descending on Bengaluru. And no less than the Prime Minister Modi will be inaugurating the show, a break from the tradition of the Defence Minister doing the honours.

The Prime Minister is expected to outline his vision for the aerospace and defence sectors in a five-point format (Panchsheel) which include: India to be a port of call for defence manufacturing; explore export potential; rationalising processes for industrial licensing and investments; push for joint development and co-production of private and public sectors; and improve skill sets of India's growing youth population. The Modi Government has demonstrated so far that it means business and the nation believes that there will be transformational changes.

Aero India continues to be an important aerospace and defence event, though India selected the French Rafale for the medium multi-role combat aircraft (MMRCA) in 2012. Even while the final phase of negotiations crawl towards a logical conclusion, the French company is sending three Rafales to the show. Also to look out at the show will be the Israel pavilion considering that India and Israel have further strengthened their relationship, particularly in the realm of defence. The Israeli Minister for Defence Moshe Ya'alon will be leading the Israeli delegation.

The Americans are also going to be present in strong numbers, coming soon after their President Barack Obama's visit to India and witnessing the Republic Day parade where India displayed her might. There were many takeaways from the visit, the biggest being the signing of the nuclear deal which was lying in cold storage for over six years. Indo-US strategic partnership has never reached such peaks and it is hoped that Aero India will be a platform where the firm handshake of the two leaders will materialise into partnerships on the ground.

There is going to be traction at different levels, not just for US companies but for all those who see a different India and a huge market. For instance, European consulting and technology multinational, Indra has shown clear intent of expanding its partnership model in India. It is, to borrow Prime Minister Modi's phrase *Sabka Saath, Sabka Vikas* (together with all, development for all), going to be a win-win for all.

Moving from India to the south, there is a change of guard in Sri Lanka and Lt General P.C. Katoch (Retd) states that the signals emanating from the island nation to rebalance foreign relations augur well for India, even as China can be expected to continue investing in Sri Lanka. In another article, Lt General Katoch underscores the importance of speeding up efforts for the perspective multi-role fighter and the advanced medium combat aircraft, while giving features of a fifth-generation fighter aircraft which India is developing, along with the Russians.

Indeed, these are happening times.

Happy reading !

Jayant Baranwal
Publisher & Editor-in-Chief

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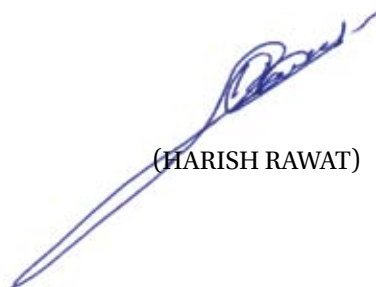
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INDIA

— • —

*I*t gives me immense pleasure to know that SP Guide Publications is completing 50 years as a publication house regarding aviation and defence sectors.

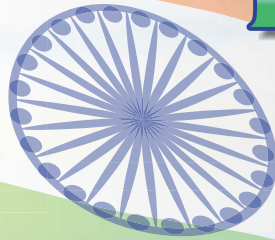
I hope the published article will be useful for the readers and will encourage youth to join our defence forces.

I convey my best wishes to the Editor and the staff of the SP Guide Publications for the successful publication of the magazines.



(HARISH RAWAT)

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Prime Minister's first defence show to push 'Make in India': Modi's 'Defence Manufacturing Panchsheel'

Prime Minister Narendra Modi has had multiple trysts with the armed forces since he took office in May 2014, showing an unprecedented interest in matters military and showing a willingness to be physically present with the forces. It began with his day onboard the INS Vikramaditya, followed by his inauguration of the INS Kolkata in August last year. And in his third visit in just five months, he made a surprise visit to spend Diwali 2014 with Indian Army jawans and officers in Siachen. Some would say that inclination itself is half the battle won for the forces; a political leadership that empathises and values the forces enough to take the time out. But the appeal of the military stretches beyond sentimentalism. Prime Minister Modi sees the defence of India as possibly crucial to the reinvention of India's economy on fresh foundations of aggressive manufacturing and industrialisation. And that's where his 'Make in India' philosophy comes in. If Prime Minister Modi is the posterboy, 'Make in India' is without doubt the poster.

In a break from tradition, Prime Minister Modi has decided to inaugurate the Aero India 2015 show, an event traditionally thrown open by the Defence Minister of the day. Sources say it was former Defence Minister Arun Jaitley's suggestion to the Prime Minister that he call proceedings open at Aero India, where advanced systems manufacturers from India and around the world will be present and listening closely. The idea: to underscore and personally push the 'Make in India' idea for defence manufacturing. In fact, the Aero India show this year is officially titled 'the 10th international show on Make in India in aerospace, defence, civil aviation, airport infrastructure and defence engineering', a name that sums up the expansion of the show's scope and what the government is hoping to achieve through it.

SP's has learnt that Prime Minister Modi's message, to also be shared in document form at Aero India 2015, will be summed up in five broad points: First, that India intends to be the port of call for defence manufacturing. Second, that it is not only a vast customer for local offtake, but that it intends for manufacturing within the country to be exported to other customers across the world. Third, that procedures and processes for industrial licensing and investment control are being speedily rationalised to make India one of the friendliest countries for industrial investment, including greenfield ventures. Fourth, that the Indian private and public sectors are primed and ready for an aggressive phase of joint development and co-production under the clauses of the Defence Procurement Procedure and other regulations. Finally, the pitch will be that local skillsets, resources, economies of scale and India's own reputation as a robust, reliable and reputable democracy make it a dependable ally in the field of manufacturing partnerships. The message is all set to be a powerful one.

In many ways, the Modi Government has already demonstrated that it means business. As Ministry of Defence (MoD) official said, "In order to give a boost to indigenisation, the Defence Acquisition Council (DAC) recently decided that all the 384 light-utility helicop-

ters needed by the Army and Air Force to replace the existing Cheetah/Chetak fleets will be made in India with foreign collaboration. And in order to give a boost to private sector participation in defence production, the government decided to replace the present fleet of 56 Avro transport of IAF by reserving the project for the private sector only." The message in these decisions hasn't been missed by industry, which sees enormous potential for business from these decisions, even accounting for the damage late decisions have clearly had on India's reputation as a whimsical procurer of armaments.

Prime Minister Modi, who handpicked Manohar Parrikar to be his Defence Minister, took the decision keeping in mind that a technocrat with industrial and business acumen will be crucial to driving the 'Make in India' campaign, and that political leadership and strategic guidance will require aggressive follow-up on the ground, something that Minister Parrikar has been trusted with. Finance Minister Jaitley, who spent only a few months as Defence Minister in a dual role, will also be closely involved with the initiative. Prime Minister Modi demonstrated the importance of the MoD by allowing a part-time Minister while a suitable candidate for the full-time role presented himself. The trio of Modi-Jaitley-Parrikar will be key to pushing the 'Make in India' concept in defence manufacturing.

The material published by the 'Make in India' campaign office has made an ambitious, but realistic pitch: that India is either already or close to being a potential hub for the manufacture of advanced systems and platforms, including fighter jets, helicopters, warships, battle tanks and submarines. But the more important facet of the campaign will be electronic systems, high-performance sensors and communication equipment, strategic software and code, in addition to critical subsystems and high endurance components. Strides have been made in component or part manufacture, but the government's intention is to make defence component and subsystem manufacture a success story like the automotive ancillary and component story in India starting in the new millennium.

The government has also demonstrated that it is willing to move swiftly on key decisions and has pledged that it won't let political compulsions play truant to strategic objectives or military preparedness imperatives. That remains a tough call in a country where most defence business has been politicised, though the current government through a demonstrated intention to link economic progress and defence preparedness, appears to at least be trying to move things to the next level. The question is whether all elements in an enormously ambitious and complex campaign will come together like the Prime Minister's troika hopes it will. The campaign thrust will draw from the PMO's influence in the areas of not just defence, but external affairs, finance, significantly commerce and other areas. Sources say the economics of defence and the 'Make in India' campaign for defence are areas that all concerned ministers have been specifically briefed in detail by PMO teams. In other words, it's all systems go. **SP**



Three Rafales returning to Aero India, good news in store?

Three Armée de l'Air Rafale multi-role fighters will be making a return to Aero India this year, just seven months since their last dash into the country for the Indo-French Garuda-V joint air exercise in Jodhpur. While Dassault Aviation and the Hollande Government have done everything so far possible to conclude an early contract, the long-winding medium multi-role combat aircraft (MMRCA) isn't over yet. Three full years after South Block eliminated the Euro-fighter Typhoon in favour of the French Rafale, negotiations stumble through a tricky final phase that shows no signs of being smooth.

The reality is, since at least mid-2013, negotiations have remained largely stalled over crucial issues that include: Responsibility for the 108 aircraft in terms of liability, damages and attendant clauses on access, inspection and post-manufacture testing. Dassault's concern is that the Hindustan Aeronautics Ltd (HAL) hasn't built up any of the fixed assets which the company feels would be the minimum requirement to begin discussing the modalities of the kind of liability HAL wants Dassault to take on for the jets built in India. With the last 60 aircraft to be as much as 90 per cent 'Made in India', the ball is apparently in HAL's court, with Dassault telling the Cost Negotiation Committee (CNC) that it still awaits figures from HAL on the financial specifics of the liability it is seeking to transfer to Dassault. Dassault has asked HAL to clarify the specifics of any similar liability parameters in comparable deals like HAL's Su-30MKI production line on licence from Russia. Modalities of licensee/licensor and the manner in which the final agreement sets down their roles. Things are actually more contentious than most believe/report. Dassault has even flagged up issues with access to HAL's facilities. A French delegation empowered to smoothen out negotiations is understood to be in the process of attempting to smoothen out issues that keep the deal from an early conclusion.

The other reality is that negotiations are essentially taking place in a whole new political atmosphere where two powerful twin imperatives override nearly everything else: (a) the need to economise given major fund crunches for defence procurement, and (b) the Prime Minister-led 'Make in India' concept that's been aggressively pushed through at every opportunity. The Aero India show this year, in fact, is themed around 'Make in India'.

A top official at the Dassault Aviation in France says, "The company remains optimistic. We have a relationship with the Indian MoD and IAF that spans many decades. Delays and negotiations are part of due process and must be completed to the satisfaction of all concerned. While we would very much like to see an early conclusion to the negotiations, we fully respect Indian due process, which we believe is among the best in the world. We would also like to recognise that no fighter competition has gone into the inner complexi-

ties of contracting like this one has. It has set down several benchmarks for future purchases, beyond fighter jets too."

The 'Make in India' theme has already coloured Dassault's public approach in the last 12 months. "Rafale International sees the MMRCA programme as much more than a mere acquisition process. It is the opportunity to develop a large-scale strategic partnership and industrial cooperation between India and France covering in-depth technological and production cooperation. The offer is also totally supported by the strong political commitment of France towards India in all fields of defence cooperation," the company says. It adds, "This is clearly demonstrated by the full clearance given by the French authorities to the export of Rafale aircraft to India and to the transfer of the production licence as well as all related technologies. Our proposal is based on the strategic outlook of opening of a unique opportunity for technological and industrial cooperation between France and India, fulfillment of all the Indian Air Force's operational requirements, with the Rafale and providing a solid and well structured programme to ensure entire security to the Indian investment."

For France and Dassault, the MMRCA competition is impossible to loosen focus over. The costs are simply way too high: France has never gotten closer to selling the Rafale to another country (the Indian deal comes even closer than what France managed in Brazil, finally losing out there too). Whether three-year-long negotiations in India result in a deal have a direct bearing on the future of the Rafale programme and its viability as an extendable product in the dwindling international market for fighter jets. In every way, the Rafale's fight in India is a fight for survival and relevance. In

many other ways, suspense over the Indian deal has drawn so many resources in terms of the French Government's influence and attention, has placed somewhat in abeyance France's plans for a future fighter—there are questions over whether France can even afford to build new fighters from scratch if it cannot amortise what it has spent on the Rafale programme. India, obviously, is well aware of the potential impact on France. That may have something to do with the pressure tactics being exerted in the form of 'Plan B' being floated by the political leadership in the run up to final negotiations.

Dassault doesn't need an Aero India for clarity on the programme. Its three Rafales will enthrall crowds, and French pilots may be forced to conduct a handful of VIP flights with IAF personnel and others. The show itself is only a platform for the company to underscore its commitment to India and the Rafale deal.

What happens ahead of Prime Minister Modi's visit to France in April will be crucial, and all eyes will be on whether three-year-long negotiations have finally yielded a visible finish line. **SP**



Israeli Defense Minister to attend Aero India for the first time

Given the quantum of defence business that flies from Israel to India, it's something of a surprise that this will be the first time that an Israeli Defense Minister will grace an Aero India. Moshe Ya'alon will be at the Yelahanka show this year accompanied by a delegation 100-strong from Israeli defence industry, many already well-versed with the Indian market, but many looking for emerging opportunities. Israel's defence exports to India in 2014 amounted to a very healthy \$2.5 billion, making it the third largest supplier of advanced military equipment to India after Russia and the US.

The visit comes three months after India and Israel conducted the first test of the Barak-8/LRSAM surface-to-air missile system, a system expected to see further testing this year. The Israeli Defense Minister's personal presence at the show this year is also being seen as a show of personal importance, given that it comes shortly after Russian Defense Minister Sergei Shoigu and President Barack Obama both furthered bilateral defence cooperation with India at recent visits. The Israeli Defence Minister and his delegation may conclude deals upwards of \$1 billion during his visit to Bengaluru.

Fifteen Israeli companies, including standard attenders Israel Aerospace Industries (IAI), Rafael and Elbit, will be at the show this year putting on display an array of brand new systems and announcing opportunities for tie-ups with Indian firms. The companies forming the Israeli pavilion are highly specialised in their solutions and products and will be specifically looking for Indian partners. The companies coming this year include Accubeat Ltd, which supplies frequency and time synchronisation products based on rubidium atomic clock (frequency standards) and GPS receivers. Aeromaoz Ltd develops, manufactures and markets ruggedised HMI and control systems for commercial and military applications. Al Cielo Inertial Solutions Ltd specialises in the research, development, manufacturing and integration of laser technologies and navigation and control inertial sensors. Astronautics C.A. Ltd is a high-tech defence systems supplier, with a record battlefield proven products within the Israeli military, which includes airborne, naval and ground forces systems and solutions.

The companies from Israel this year, as always, will be a healthy mix of Tier-1 and other tier suppliers of both fully integrated battle solutions and platforms, as well as advanced subsystems, sensors and electronics, in addition to turnkey upgrade solutions for existing inventory of equipment in the Indian armed forces. Sources say the Israeli delegations will also be coming armed with a slew of unilateral offers for 'improvement' of certain Indian armament inventories, including artillery, rockets, unguided bombs, avionics, helicopter survivability equipment, etc.

For instance, Controp Precision Technologies Ltd, which has been to Aero India before, specialises in the development and production of electro-optical infrared (EO/IR) observation, scanning, reconnaissance and surveillance systems and solutions for military, paramilitary and homeland security applications. Controp products include day and night

camera payload systems, intruder detection systems for border, coastal and perimeter security, night vision/thermal imaging cameras, stabilised gimbals and more. Elmo Motion Control Ltd designs, manufactures and markets servo drives and network motion controllers for customers in Israel. Opgal Optronics Industries Ltd is a manufacturer of advanced infrared thermal imaging solutions for the defence, security, industrial and aviation markets. Orbit Communication Systems Ltd is a provider of superior performance communications equipment and solutions for airborne, maritime and ground applications including maritime satellite communications solutions, earth observation and Remote Sensing ground stations to track LEO and MEO satellites, telemetry systems for tracking missile launches and airborne platforms, and communication management solutions. Orbit FR Engineering Ltd provides antenna, RCS and radome measurement solutions for the defence, aerospace, telecommunication, automotive, academic and research communities. Orion Advanced Systems Ltd, which has been to the show before (formerly the GED Division of Motorola Israel Ltd) is a world leader in the design and manufacture of fuzes for aerial munitions with over 35 years experience. Orion's fuzes have been qualified by the Israeli Air Force for use with their aircraft and weapons systems and meet their rigorous standard safety requirements. Orion's product range covers the full spectrum of fuzes for aerial munition.

In the Aero India 2013 show, Rafael Advanced Defense Systems Ltd displayed its 'Game Changer'; complete air and missile defence systems, including the iron dome – active defence system against short-range artillery rockets; David's Sling (STUNNER) – multi-mission, multi-platform interceptor; Spyder SR/MR – family of short- and medium-range air defence systems; Python-5 – Full sphere air-to-air IR missile and air defence missile; DERBY – Beyond visual range air-to-air missile and air defence missile; MIC4AD modular, integrated C4I air and missile defence system. The company is back this year with a healthy array on show, including some undisclosed new products that are currently under development. Israel Aerospace Industries Ltd will be putting on display its full inventory of products, including a dummy of the Barak-8 that was tested for the first time in November last year. At Aero India 2015, IAI will showcase its wide spectrum of total solutions and will concentrate on solutions tailored for India's specific needs and requirements. Elbit Systems Ltd, a well-known maker of unmanned air systems and electronic/upgrade solutions for existing military inventory—they will have a large presence at the Aero India show this year. Elbit will focus on helicopter solutions, from platform upgrades and pilot helmet display system to helicopter protection systems such as DIRCM systems, unified self-protection suites, integrated EW suites and more. Elbit, which introduced the Hermes' 900 unmanned aircraft system in a new configuration adapted to maritime missions at the show two years ago, is expected to unveil some solutions targeted specifically at India this year. **SP**





Textron offers Scorpion jet to IAF

The Indian Air Force (IAF), which receives pitches both solicited and unsolicited, has received one of its most interesting in recent times. Faced with a training void in the intermediate jet trainer space, the IAF had resorted to a global request for information to gauge what solutions existed in the world aviation market for a light jet trainer platform that could also undertake light attack and tactical multipurpose missions. One of the responses the IAF has received is an aircraft that has evoked attention for its simplicity, cost and mission profile: the Textron Airland Scorpion, a light tactical twin-jet airplane fitted out for tactical interdiction missions and ISR. Whether or not the IAF is willing to look strictly at aircraft that don't fit its rather unbending trainer aircraft profile, the Scorpion is an intriguing platform that makes affordability its singular touchstone.

First off, the Scorpion isn't intended as a high performance airplane—and isn't under development through a US Department of Defense-funded programme or requirement, but rather a venture by Textron and Airland LLC based on their own independent understanding of the world market for aircraft, and evolving requirements. Shrinking budgets, the unaffordability of high performance fighter jets, logistical economics and the spending power of small or emerging nations with security threat perspectives largely guide the development of a light, uncomplicated aircraft that can, in the words of the maker, engage in domestic interdiction, quick-reaction natural disaster support, air sovereignty patrols, and low-threat battlefield missions. In other words, the aircraft could be deployed in a counter-insurgency profile as well.

Simplicity and economy guide the development of the Textron Airland offering. At a stated operating cost of \$3,000 per flight hour, the Scorpion proposes to be hugely cheaper to operate than high performance jets currently engaged in US operations around the world. And with a price tag of under \$20 million per airframe, the makers will clearly be pitching the aircraft at substantial fleet number requirements. The twin-seat configuration makes it double as a possible fast jet trainer, far exceeding the performance requirements of the IAF's

ideal IJT. Several other innovations keep the aircraft's cost low: no fly-by-wire, an all composite fuselage that draws from parts already built by Textron firm Cessna, and a cockpit only slightly different from existing cockpits on Cessna aircraft. The Scorpion flies on two Honeywell TFE731 turbofans producing 3,600 kg of thrust that can keep the jet airborne for just over five hours, with an overall service life of 20,000 hours. According to Textron, the Scorpion, which flew for the first time in December 2013, is being developed with a 1,400 kg payload that could include bombs (guided and unguided), or electronic payloads for intelligence gathering, all in an internal bay.

Companies including Malaysia, the UAE, Indonesia and Nigeria have shown interest in the Scorpion, with discussions taking place with other countries in the Middle East and South East Asia as well. At a time when the Indian Air Force's requirements are evolving, and yet held in place by old-fashioned pulls and pressures, out-of-the-box aircraft that appear to challenge what in US military jargon is called the death spiral—costlier and costlier aircraft, with higher and higher capabilities, leading to smaller and smaller acquisition numbers and therefore fleets. Whether or not an airplane like the Scorpion fits anywhere in the IAF's inventory and capability wishlist is difficult to predict. For that, there would need to be greater operational synergies between training and other missions, a conflation of doctrine and the possibility of stepping out of the old rigidities that remain the guiding principles of every purchase.

The Scorpion isn't unique in its proposition. For years, trainers have been positioned as being able to double as light attack/counter-insurgency and intelligence gathering platforms, most recently the Embraer Super Tucano and the Yakovlev Yak-130. Such melding of mission profiles is a strong recognition of the imperatives of training, but the shrinking luxury of procuring and operating fleets of high performance aircraft for the spectrum of threats that many emerging nations face. **SP**

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Aero India 2015 – What to expect



Dassault Rafale multirole fighter aircraft has been shortlisted for the MMRCA programme

[By **Air Marshal B.K. Pandey (Retd)**]

The long awaited tenth edition of the prestigious biennial event Aero India International Airshow to be held at Air Force Station Yelahanka from February 18 to 22, 2015, is finally upon us. The event is organised by the Defence Exhibition Organisation under the Ministry of Defence Production in collaboration with the Indian Air Force (IAF), the Defence Research and Development Organisation (DRDO), Department of Space and the Ministry of Civil Aviation. This year, the Ministry has involved the Confederation of Indian Industry (CII), the Federation of Indian Chambers of Commerce and Industry (FICCI) and for the first time incorporated the PHD Chamber of Commerce and Industry.

Aero India is one of the largest of the airshows in Asia but what makes this particular edition of the airshow special is that it will be inaugurated by Narendra Modi, the Prime Minister of India. This would be a landmark event and a significant departure from the practice in the past as never before has the Prime Minister of India attended the event leave alone inaugurating it. There were unconfirmed reports in the media that the Prime Minister would be flying a sortie in the Rafale. However, this report turned out to be unfounded and has rightly been denied by the government. The Ministry of Defence has also stated that Aero India had no link with any of the acquisition plans on the anvil. The Minister of Defence Manohar Parrikar would attend the show and himself chair a conference on 'Make in India'. The Minister of Civil Aviation Puspapati Ashok Gajapati Raju would be a special guest at the airshow.



Boeing's C-17 Globemaster III

Participation

As compared with the 570 companies consisting of both domestic and foreign that were present at Aero India 2013, in the airshow this year, there are around 623 companies taking part, registering an increase. Of the companies expected to be present at the airshow, there will be 295 Indian and 328 from abroad. The US alone will be fielding 64 companies in all followed by France with 58, the UK with 48 and Russia with 41. Global aerospace majors participating in the tenth edition of Aero India are Boeing, Airbus, Lockheed Martin, BAE Systems, Israel Aerospace Industries, Saab of Sweden and Dassault Aviation. The positive and unbiased approach of the government is evident in the fact that even the Italian conglomerate Finmeccanica, which has come under a shadow in the wake of a major scam in the AgustaWestland VVIP helicopter deal, will be present at the airshow. From the domestic industry, Hindustan Aeronautics Limited (HAL) and the Defence Research and Development Organisation (DRDO) will have a dominating presence. A large number of Indian small and medium enterprises will also be present.

While there were just 46 delegations from overseas during Aero India 2013, this time round, there would be as many as 54 ministerial and high-level delegations from several countries. The list of high profile visitors is expected to include Ministers of Defence and Service Chiefs from five different countries. The exposition will include sectors such as defence manufacturing, airport infrastructure, aerospace, defence and civil aviation. The US-India Business Council (USIBC) Aerospace and Defense Executive Committee will be present at Aero India 2015 to interact with senior American and Indian Government officials visiting the airshow to advance the objectives of the Defence Trade and Technology Initiative (DTTI).

Of particular relevance to the IAF would be the presence of United Instruments Corporation of Russia who will be present at

the airshow to showcase advanced developments in aeronautical radio communications. The company will interact with HAL and the IAF a proposal to upgrade the communications equipment of the Su-30MKI fleet and supply of modern communications systems for the Indo-Russian fifth-generation fighter aircraft and the multi-role transport aircraft currently under development.

Notwithstanding the fact that most of the big ticket purchases related to military aviation in India are under procurement have already been negotiated or the final selection made, the enthusiasm in the global aerospace industry has not waned as India presents a market with enormous potential for business in the aerospace and defence sectors. The armed forces of India are the third largest in the world and continue to import over 60 per cent of their requirement of military hardware, the nation dedicating 40 per cent of the defence budget on capital acquisitions alone. The optimism in the industry is buoyed by the fact that India expects to spend ₹250 billion on defence acquisition projects in the next seven years.

The Thrust Towards 'Make in India'

But what appears to have fired the imagination and interest of both the global and domestic aerospace industry is the new thrust by Prime Minister Narendra Modi on 'Make in India' in the aerospace defence industry sector. This is further boosted by the positive steps either already taken or are under consideration by the government. These measures include the revision in the upper limit of foreign direct investment (FDI) to 49 per cent in case by case basis from the earlier figure of 26 per cent, opening up opportunities in the defence and aerospace sector to the fledgling aerospace industry in the private sector in India, accepting the necessity of employment of middlemen or agents to facilitate defence deals in India and the move to simplify the Defence Procurement Procedure. There are high hopes in the industry that pro-business approach of the Modi-



Aerobatics by the Flying Bulls of the Czech Republic

led government will help turn the tide for India's manufacturing industry. However, for transfer of technology, that will be a major issue in defence deals in the future, the foreign companies would have been happier if the cap for FDI was raised to 74 per cent.

There are bright prospects for business on the horizon for the small companies in India in the aerospace industry in the private sector as a result of 'Offset' obligations that foreign companies have to comply with. As foreign companies that are awarded contracts of ₹300 crore and above are required to plough back the stipulated 30 to 50 per cent of the value of the contract into Indian companies largely for the manufacture of components. For example, in a contract worth \$10 billion, the foreign vendor will have to invest \$3 billion in Indian companies. Foreign companies now have the option to invest the commitment under Offset obligations in sectors other than the defence and aerospace industry which includes civil aviation as well. Participation by a record number of small and medium enterprises drawn by the immense business potential, would eventually help in providing the tight impetus to the 'Make in India' campaign. Besides, indications by the government currently in power to make it easier for companies abroad to do business in India has been particularly encouraging for both Indian and foreign entities. The government is also working on removing hurdles to streamline the procedure for research, development related to the production of military hardware.

Static and Flying Display

Perhaps the most fascinating part of the Aero India 2015 will be the display on the ground as well as in the air by a variety of military and civil aircraft. At Aero India 2015, the number of aircraft participating in static and air displays is expected to be around 72. Civil aviation will be projected with 17 types of aircraft. Some of the military aircraft from abroad that are expected to be on display at the show include the F-15C Eagle, Lockheed Martin F-16C, Boeing KC-135, Boeing

C-17 Globemaster III, Boeing P-8 Poseidon, the French Rafale and Embraer EMB-145 I. From the Indian side, the indigenous light combat aircraft Tejas Mk I and the Su-30MKI air dominance fighter of the IAF will be on display both on the ground and in the air. Some of the civil aircraft from abroad expected to be at the airshow include the Pilatus PC-12 NG, Falcon 2000 and Falcon 7X from Dassault Aviation, Phenom 100E and EMB 505 from Embraer of Brazil.

Aerobatic display has also been adding a special flavour to the airshow. Unfortunately, the nine aircraft formation aerobatic team of the IAF, the well known Surya Kiran, has been phased out of service and the replacement team with nine Hawk 132 advanced jet trainer Aircraft is yet to be formed. However, the Sarang helicopter display team of the IAF will be there to enthral the spectators. Apart from the Sarang, there will be few other aerobatic teams to set the sky on fire. The Flying Bulls of the Czech Republic who put up heart-stopping performance during Aero India 2013 will be there at the airshow again this year along with a Scandinavian airshow team from Sweden which will be a new feature this year. A UK-based team Aero Superbatics, which is the world's only aerobatic formation wing walking team and have been specialists in display flying for over 27 years, will form part of the air display routine. Skydiving by Special Forces of the US will be among the major attractions at Aero India 2015.

Conclusion

Aero India 2015 will provide an excellent platform to both global and Indian firms in the aerospace and defence industry for exploiting business opportunities. Aero India 2015 is expected to be significantly larger than the previous show held two years ago. A resurgent Indian economy, the escalating challenges to national security and major policy changes have given a major fillip to the defence industry in India. It has also become a hub centre for defence business in the Asia region. **SP**

US-India strategic romance



Prime Minister Narendra Modi and President Barack Obama witnessing the 66th Republic Day parade 2015 in New Delhi

[By **Ranjeet Kumar**]

He came, he saw, he conquered. The three-day (from January 25 to 27) visit of President Barack Obama as a Guest of Honour on India's Republic Day was an overwhelming success from the perspective of deliverables. The visit was not only high on symbolism but also highly result oriented. From nuclear to defence and in economic and strategic arena, the visit has not only bilateral but also international ramifications. Significantly, the Obama-Modi Summit resulted in not one but three joint declarations. They were: Shared Effort – Progress for all; India-US Delhi Declaration of Friendship, and the US-India Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region.

The whole world, not to speak of China and Pakistan only, looked with awe the level of understandings reached between the two world's most powerful democracies. Hence they have issued strange reactions including Obama-Modi romance aimed at denting Sino-Indian relations. The Pakistani Foreign Ministry said that implementing the 2008 civil nuclear deal “for political and economic expediencies would have a detrimental impact” on the sta-

bility of nuclear deterrence in South Asia. They also objected to US support for India's membership in the Nuclear Suppliers Group (NSG) under a plan that would exempt New Delhi from some of the group's export rules.

First US President at Republic Day

Since it was Obama's second visit in his presidency and first by an American President to attend the Indian Republic Day, the Modi invite has been largely viewed by many as Modi's overenthusiasm in developing rapport with world's most powerful man and also his effort to enhance his political profile in domestic politics. The manner in which the two leaders have removed the impasse in nuclear energy cooperation has surprised Indian and international political pundits alike. The decision to expand the range and scope of defence cooperation and its period by another 10 years has not surprised any one as it was largely on the cards and in line with the ongoing cooperation in defence and strategic arena.

Malabar Exercise

The decision to upgrade the Malabar naval exercise has attracted

the attention of China which has warned India that US wants India to split from China and Russia. India and US are presently conducting bilateral naval exercise under the Malabar series since the early 1990s. India did convert this to a multilateral exercise in 2007 when three other like-minded nations such as Singapore, Australia and Japan were invited. China had then reacted strongly and India developed cold feet. However, in the background of China's continued offensive against India in international nuclear regimes and in South China Sea, besides increased Chinese aggressiveness vis-à-vis India on the 4,000-km line of actual control, India's decision to let others join in the Malabar maritime construct is very significant.

India's Role in Asia-Pacific

This agreement has been announced along with the declaration in the joint statement that both countries recognise the role each play on promoting peace, prosperity and stability and security in the Asia-Pacific and Indian Ocean region. India's 'Act East Policy' and the US Re-balance to Asia provides opportunities for India, the United States and other Asia-Pacific countries to work closely to strengthen regional ties. While addressing the Town Hall meeting at Siri Fort in New Delhi, President Obama talked of India playing greater role in the Asia Pacific region and the interests of both countries in maintaining peace and stability and freedom of navigation in the South China Sea.

Energised Nuclear Cooperation

These averments by the two leaders have set the tone and the future direction of the strategic partnerships which will be energised by the nuclear cooperation. The agreement in nuclear sector, details of which have not yet been publicly shared, has raised the confidence levels of both the sides of raising the level of strategic partnerships. This was lying mostly idle since 2008 when US-India civil nuclear energy deal was signed. India, two years later, enacted the Civil Nuclear Liability Law placing the entire onus for any nuclear accident on the suppliers of nuclear equipments rather than the operators of the nuclear plants. The liability amount was unlimited and for unlimited period, which had irked the American nuclear suppliers. This was withholding the nuclear cooperation plans with other civil nuclear powers. However, the Modi Government was able to seal a deal with the American negotiators, which Indian officials claimed only within the confines of the Indian Civil Nuclear Liability Law. President Obama himself called it a "breakthrough". The two sides resolved key hurdles pertaining to the financial liability of the suppliers of nuclear reactors in the event of an accident and the tracking of fuel supplied by the US and other countries for its proposed nuclear plants.

Commenting on the achievement, Indian Foreign Secretary Sujatha Singh said, "We have broken the logjam of the past few years. We have reached an agreement. The deal is done." From the US side the Deputy National Security Advisor Ben Rhodes said the understandings on the civil nuclear programme resolves the US concerns on both tracking and liability. "In our judgement, the Indians have moved sufficiently on these issues to give us assurances. It will still be for the US companies to assess the market and decide whether to partake in India's nuclear programme or not." Neither country needed to take legislative action to complete the agreements reached between the two leaders.

Sujatha Singh said: "The liability provisions and administrative arrangements finalised under 123 Act (tracking) are consistent with our bilateral legal arrangements and contracts and IAEA safeguards and international laws and obligations."

Moving Towards Commercial Cooperation

Prime Minister Modi declared that the "nuclear deal between the

two countries is moving towards commercial cooperation, consistent with our law, our international obligations. The civil nuclear agreement was the centrepiece of our transformed relationship, which demonstrated new trust. It also created new economic opportunities and expanded our option for clean energy."

Pathfinder Projects

The removal of impasse in nuclear arena boosted the defence cooperation agenda, as the two countries renewed an enhanced Defence Framework Agreement for the next 10 years and identified four key "pathfinder projects" for joint development and production including the next-generation Raven mini-handheld UAV besides specialized kits for Lockheed Martin made C-130 military transport aircraft Super Hercules. The two countries will also set up a working group to explore aircraft carrier technology besides design and development of jet engine technology. Under this rubric the two countries will also work on mobile electric hybrid power source and Uniform Integrated Protection Ensemble Increment 2. The 2005 first defence framework agreement was signed in Washington by the then Defence Minister Pranab Mukherjee and his US counterpart in the previous George W. Bush Administration, Donald Rumsfeld.

Modi said: "We have also decided to take our growing defence cooperation to a new level. We have agreed, in principle, to pursue co-development and co-production of specific advanced defence projects." Modi hoped that this will help advance Indian domestic defence industry and expand the manufacturing sector in India.

Re-balancing Asia

The concern in US strategic circles is quiet visible. During a Congressional hearing one retired US General James Mattis advised the US Administration that "While our efforts in the Pacific to keep positive relations with China are well and good, these efforts must be paralleled by a policy to build the counterbalance if China continues to expand its bullying role in the South China Sea and elsewhere. That counterbalance must deny China veto power over territorial, security and economic conditions in the Pacific, building support for our diplomatic efforts to maintain stability and economic prosperity so critical to our economy." Mattis said this in response to a question, according to news agency PTI. This explains the confluence of 'Re-balancing Asia Policy' of US and 'Act East Policy' of India in the Asia-Pacific region.

Reporting on the Congressional hearing PTI quoted General John M. Keane as saying that China's continuing economic growth has fuelled a major conventional buildup that is beginning to shift the local balance of power in its favour. "As a result, Beijing has been emboldened to act more assertively towards its neighbours, especially in expanding its territorial claims which include not only Taiwan but also most of the South China Sea islands and Japan's Senkaku islands."

General Keane in his assessments of China's aggressive designs said: "China has embarked on a strategy of regional domination at the expense of US interests as a Pacific nation and decades of partnership with allied countries in the region." Therefore, General Keane called for developing a regional strategy with US allies to counter China's desire for dominant control and influence.

Clearly, the mood in Washington and New Delhi is anti-China, though they are far from officially acknowledging this. Hence, the Obama-Modi Summit has given birth to the possibilities of a new alliance in the Asia-Pacific region. Its progress will depend on the regional cooperation among the affected parties like Japan, Vietnam, Philippines, South Korea, etc. The more they come together in the face of a more aggressive China greater will be the urge to deepen India-US defence and strategic partnerships. SP

Visit of President Obama – and beyond

[By Lt General P.C. Katoch (Retd)]

It can safely be said that the recent visit by President Barack Obama to India has taken the Indo-US strategic partnership to a level never achieved earlier. It is not only because he was the first US President as Chief Guest at the Republic Day parade, but because the shared vision and the agreements between the two giant democracies were unprecedented.

The nuclear deal lying in cold storage for more than six years was galvanised, signed and sealed. President Obama used his executive powers to waive the issue raised from the US side to track the nuclear material being provided. The second issue of nuclear liability that India wanted was resolved by going in for insurers offering ₹750 crore capacity for the nuclear pool, with rest to be footed by the government; both operators and suppliers would be provided as cover against associated risks. The proposed nuclear risk pool that will be set up in India will have five government-owned insurance companies (General Insurance Corporation of India, New India Assurance, Oriental India Insurance, National Insurance and United India Insurance) providing half the capacity for the ₹1,500-crore pool. Prime Minister Narendra Modi in his statement at the joint press interaction with President Obama, said the civil nuclear agreement was the centrepiece of the India-US transformed relationship, demonstrating new trust. That all this was possible because of the bonhomie between the two leaders and because of the initiative taken by Prime Minister Modi was very obvious.

President Obama stated that relationship with India is important to the US in the 21st century and that India's rise was in the US interest. Highlights of the joint statement issues on January 25 relating to defence and security were: both countries pledged to continue to enhance cooperation across the spectrum of human endeavour to better their citizens' lives and that of the global community; endorsement of a new Indo-US Delhi Declaration of Friendship, building on their joint September 30 Vision Statement; recognising roles both countries play in promoting peace, prosperity, stability and security in Asia-Pacific and the Indian Ocean region (IOR) – announcing a Joint Strategic Vision to guide their engagement in the region; joint conduct of NASA-ISRO Synthetic Aperture Radar (NISAR) mission; joint Defence Policy Group and subgroups to pursue stronger and expanded bilateral defence cooperation; signing of the India-US Statement of Guiding Principles on Triangular Cooperation for Global Development; breakthrough on issues relating to the implementation of the WTO Trade Facilitation Agreement; US-India Joint Commission Meeting on Science and Technology Cooperation for advanced cooperation; MoU between Indian Renewable Energy Development Agency Ltd. and the Export-Import Bank of the US, making available up to \$1 billion for expanded cooperation; India-US Political Military Dialogue to exchange perspectives on bilateral strategic and regional issues; launch of Infrastructure Collaboration Platform to promote enhanced market access and financing; expert exchange on counter-IED strate-

gies and technologies; convening of ICT Working Group and signing of Joint Declaration of Intent to advance implementation of the Digital India programme; Knowledge Partnership in defence studies; conclusion of two project annexes between the India's Department of Atomic Energy and Department of Science and Technology, US Department of Energy to discover science cooperation in particle accelerator and high energy physics; MoU to enhance cooperation to combat money laundering; finalisation of the 2015 Framework for the US-India Defence Relationship; signing of the India-US Research, Development, Testing and Evaluation (RDT&E) Agreement to facilitate cooperation in defence R&D; continuing bilateral engagement on the Defence Technology and Trade Initiative (DTTI) to pursue co-production and co-development of four pathfinder projects including sharing aircraft carrier technology and design, and explore cooperation on development of jet engine technology, and deepen cooperation in maritime security and continue US-India collaboration in hydrology and water studies, and monsoon modeling.

Significantly, both leaders reaffirmed the need for joint and concerted efforts to disrupt entities such as LeT, JeM, D Company and the Haqqani Network, agreeing to continue efforts through the Homeland Security Dialogue and the US-India Joint Working Group on Counter Terrorism. The US-India Joint Strategic Vision for the Asia-Pacific and Indian Ocean region among other things calls for: promoting accelerated infrastructure connectivity and economic development to link South, South East and Central Asia including enhancing energy transmission, encouraging free trade and greater people-to-people linkages; affirm importance of safeguarding maritime security and ensuring freedom of navigation and overflight throughout the region, especially in the South China Sea; call on all parties to avoid the threat or use of force and pursue resolution of territorial and maritime disputes through all peaceful means, in accordance with universally recognised principles of international law, including the UNCLOS, and; resolve to oppose terrorism, piracy and proliferation of WMDs within or from the region.

That Pakistan appears rattled and China concerned with the developments during the visit of President Obama to India is obvious. Nawaz Sharif has reportedly hurriedly dispatched a letter to Prime Minister Modi stating Pakistan wants good relations with India, seeking similar dialogue with Prime Minister Modi. But then, it is well known that the power is not with Nawaz Sharif but his military. The state policy of terrorism has brought Pakistan to such mess that by May 2014 it was already under cumulative debt to IMF and others to the tune of \$90 billion, the interest repayment alone amounts to \$22,000 per hour or \$5,50,000 per day. The new Transformation Indo-US Strategic Cooperation Partnership is sure to facilitate 'Make in India' in the defence industry and elevate India's defence potential. It is to be seen if Pakistan will mend her ways, give up the proxy war for her own betterment of Pakistan and the region or choose to heighten it cashing on withdrawal of Af-Pak from the region. **SP**



Singapore – India's source of strength in South East Asia

[By **Ranjeet Kumar**]

India attaches special significance to its relations with Singapore, which acts as a source of strategic strength to India, especially in the South East Asian region. Singapore has been almost single-handedly championing India's cause in the ASEAN and has been the lynchpin of India's now revised Act East Policy. In this background the long overdue visit of the President of Singapore Tony Tan Keng Yam from February 8 to 11 on the occasion of the 50th-year of establishment of diplomatic relations, has contributed to further deepening the bilateral diplomatic, strategic and economic relations. With the new Narendra Modi-led government in India, the two countries have reinvigorated their efforts to revitalise their multifaceted relations. The Indian External Affairs Minister Sushma Swaraj had visited the City State within three months of her taking over, last year in August and gave a momentum to the bilateral relations.

Besides Sushma Swaraj, several Chief Ministers of Indian states like Andhra Pradesh, Telangana, West Bengal and Rajasthan paid visits to the tiny country seeking investments and technological support for development of Smart Cities in their states. From the Singapore side also these high level visits were reciprocated by the Foreign Minister, Deputy Prime Minister, Defence Minister and the Emeritus senior minister of Singapore which led to better understandings and expansion of cooperation in various fields. These interactions between the two countries are not new and both have been exchanging high level visits ever since India initiated Look East policy in the early 1990s.

However, the visit of the Singapore Head of State was long overdue and the last time such visit happened in 2003 when President Nathan visited India. From Indian side President A.P.J. Abdul Kalam had last visited the country in 2006. The earlier presidential visits were by President K.R. Narayanan in 2000, President V.V. Giri in 1971.

Though Singapore is a tiny country in the South East Asian region, its technological and military prowess projects it as a major power in the region and its strategic location near South China Sea has encouraged India to develop strategic relations with the armed forces. Indian and Singaporean navy conduct joint maritime exercise in the South China Sea focusing on anti-submarine warfare, involving other major warships of the two navies. These maritime show of strength by India and Singapore has been frowned upon by the powerful maritime neighbour China and a source of envy to them. Through these exercises the two countries have been able to project their strategic convergence. Thus with the joint SIMBEX exercise between India and Singapore India has been able to mark its military presence in the South China Sea.

Economic exchanges are no less significant in bilateral relations which is proved from these facts. India is the largest trade and investment partner in the ASEAN. The country is also the second largest source of foreign investment into India as it accounts for a little above 12 per cent of total FDI in India during the period from 2000 onwards.

Singapore is also India's top destination in terms of overseas investments. Roughly over \$33 billion has been invested by Indian companies as over 6,000 of them have registered their presence in the country.

Though strategic relations have been able to raise the profile of each other in the South China Sea, India has in recent years been seeking Singapore's assistance in utilizing Singapore's skill in terms of skill development in India. Singapore is already setting up a skills development institute in New Delhi and the two countries are also working together to initiate similar moves in the North Eastern region of India.

Besides skills development, India has also been seeking Singapore's assistance in developing Smart Cities, the pet project of India's new NDA Government led by Narendra Modi. The Indian Government has encouraged Indian Chief Ministers to interact directly with the Singapore Government in the urban development matters including Smart Cities. These issues comprised major agenda of discussions during the visit of President Tony.

After the conclusion of the visit the spokesperson of the Indian External Affairs Ministry Sayeed Akbaruddin said, "India-Singapore relationship, based on convergence of views and values and Singapore's role as our gateway to ASEAN, is robust and expanding. It encompasses strong political understanding, close defence and security cooperation, growing complementarities in economic engagement, civilisational and cultural linkages and shared interests in bilateral and multilateral fora."

While hosting a banquet in honour of President Tony at the Rashtrapati Bhavan President Pranab Mukherjee described Singapore as a valued friend of India and a major pillar of India's Act East Policy. He said: "India appreciates Singapore's contribution to its engagement with ASEAN. India is looking forward to embark upon a larger role in the Asia-Pacific." Responding to President Mukherjee's comments President Tony said, "The strength of the relations goes beyond economic or diplomatic. It reflects a deep understanding between the people and governments of the two countries. Building on the foundation of last 50 years, there is much more that can be done."

President Mukherjee made a significant statement of strategic importance, "We are partners across the seas and an integral part of the regional architecture in the Asia-Pacific region. Today, both the countries are at an interesting cusp in history, witnessing major transformations. It shall be endeavour of India and Singapore to work together towards maintaining peace and stability in the region and bringing development to the peoples of two countries."

No wonder that there has been strong bipartisan support in India for developing vibrant strategic relations with Singapore, which was initiated by the P.V. Narasimha Rao Government in early 1990s and followed up with greater vigour by the Atal Behari Vajpayee Government. The NDA Government is once again at the helm of affairs and has indicated that Singapore will continue to be the centerpiece of India's strategic and economic engagement with the Association of South East Asian Nations. **SP**





LT GENERAL
P.C. KATOCH (RETD)

Change of guard in Sri Lanka

January 2015 saw the change of guard in Sri Lanka with new President Maithripla Sirisena and new Prime Minister Ranil Wickremasinghe, latter having held the same post earlier—he was Sri Lanka's Prime Minister from May 1993 to April 1994 and then from December 2001 to April 2004.

That former President Mahinda Rajapaksa was double timing India with a heavy tilt towards China was quite obvious. Rajapaksa's first visit abroad as Prime Minister was also to China. In an interview with Indian media, the new Prime Minister Ranil Wickremasinghe has said that his government will redress the pro-China tilt of the previous regime under Rajapaksa who played the China card to India and the West.

Under the Rajapaksa regime, China invested an estimated \$6 billion in Sri Lanka, some of it in strategic infrastructure projects like ports and airports; China has invested \$4 billion in infrastructure projects since 2009, lent \$490 million in 2012 and committed another \$1.6 billion last year. Wickremasinghe says his government will be scrutinising all such foreign and local contracts and action will be taken wherever corruption is found. The review includes the Colombo Port City project launched during Chinese President Xi Jinping's visit to Sri Lanka last year.

Recalling the efforts made by Wickremasinghe during his two previous tenures as Prime Minister to strengthen relations with India, Prime Minister Narendra Modi said he believes future work with the new Sri Lankan Prime Minister will bring the two countries even closer. Sri Lanka's new Foreign Minister Mangala Samaraweera visited New Delhi on January 18 and has met Indian Prime Minister, External Affairs Minister and the the National Security Advisor. Samaraweera said he was in India "to restore ties that were somewhat strained in the last few years." That Samaraweera chose to travel to India less than a week after a new cabinet was installed in Sri Lanka indicates the shifting priorities in Colombo. Prime Minister Wickremasinghe too has said that the new government will take an even-handed approach and balance its relations with the two friendly neighbours China and India.

On January 21, 2015, Sri Lanka and India exchanged fishermen detained by each at the

International Maritime Boundary Line (IMBL) off Kankasanthurai; 10 Sri Lankan fishermen with two boats and 15 Indian fishermen were exchanged. Foreign Minister Samaraweera said Sri Lanka will work upon returning balance about 87 boats seized by Sri Lankan authorities.

China's investments in Sri Lanka are part of her plan to establish port facilities in the IOR in garb of commercial activity, where Chinese Navy vessels can start berthing for 'rest and recoup'. Similar activity is on in Myanmar, Bangladesh, Seychelles, with Gwadar in Pakistan in close proximity of the strategic Strait of Hormuz. These ports are developed at costs that the host country will not be able to repay the loan for decades. So, China will extract the repayment in strategic terms—typical case of the proverbial camel's head inside the tent. Why else would China invest \$500 million in the Colombo International Container Terminal (CICT) if not for using it for military purposes when required? Not without reason a Chinese nuclear propelled submarine with escort warship docked at Colombo last November.

China's obduracy is reflected in the secret memorandum issued by the People's Liberation Army (PLA) General Logistic Department Director, saying "We can no longer accept the Indian Ocean as only an ocean of the Indians...We are taking armed conflicts in the region into account." This, despite India never said Indian Ocean belongs to India. Significantly, all Chinese projects have PLA troops under garb of development workers, technicians, etc, Hambantota reported having one company of PLA.

Getting back to Indo-Sri Lanka relations, signals emanating from Sri Lanka to rebalance foreign relations augur well for India, even as China can be expected to continue investing in Sri Lanka.

President Sirisena is scheduled to visit India next month, his first visit abroad after becoming President. It is also understood that a reciprocal visit by Prime Minister Narendra Modi to Sri Lanka will follow closely thereafter. This would be visit of an Indian Prime Minister to Sri Lanka 28 long years after Rajiv Gandhi in 1987. Such high level visit would surely help improve relations including progressing the vexed issue of devolution of powers to Sri Lankan Tamils under the 13th amendment of the Sri Lankan Constitution. **SP**

China's investments in Sri Lanka are part of her plan to establish port facilities in the IOR in garb of commercial activity, where Chinese Navy vessels can start berthing for 'rest and recoup'.

In India, Indra's focus areas at the moment are radars, electronic warfare, IFF, SATCOM and simulators in keeping with foreseeable market demand of the Indian defence forces.

Indra is a leading consulting and technology multinational in Spain and Latin America. It provides solutions and services for the transport and traffic, energy and industry, public administration and health care, financial services, security and defence and telecom and media sectors. In an interview with SP's M.A.I., Tehmur Khan Galindo, Managing Director, Indra Sistemas India Pvt Ltd gives an insight into the strengths of Indra and its marketing strategy.



Indra, a point of reference

SP's M.A.I (SP's): Indra is involved in multiple sectors like transport and traffic, energy and industry, public administration and health care, telecommunications and so on. Would you like to tell us briefly about Indra's presence in India and the markets you are addressing?

Tehmur Khan Galindo (Galindo): Indra is one of the world's largest consultancy and technology multinationals, a leader in Europe and Latin America and is expanding in other emerging economies. Innovation is the cornerstone of its business, which is highly focused on the customer and on sustainability. The multinational is one of the leaders in its sector in Europe in terms of investment in R&D and innovation, having invested more than €570 million in the last three years. With sales approaching €3,000 million, it employs 43,000 professionals and has customers in 138 countries.

Indra offers its clients a comprehensive added value package including consulting services, project development, system and application integration as well as information system and business process outsourcing. The package offered is structured in two main segments: Solutions and services for the following vertical markets: defence and security, transport and traffic, air traffic management

(ATM) and airports, energy and industry, telecommunications and media, finance and insurance and public administrations and health care. Indra is settled in India since 2009.

We have won contracts in many areas in the air traffic management sector. In 2009 we were awarded the Automation of ATC Systems at 38 airports managed by the Airports Authority of India (AAI) followed by a contract for nine secondary surveillance radars and ATC training simulators at four metro Airports—Delhi, Mumbai, Chennai and Kolkata the supply, installation and commission of automation system at Kolkata Airport—and very recently the supply installation of instrument landing system for various airports of AAI. In the infrastructure sector, we were awarded with several contracts. For metros, we have implemented our solution for automatic fare collection system in Kolkata Metro, Delhi Airport Metro, Mumbai Metro One and the first monorail in India. For highways, Indra has implemented our solution for highway traffic management system over 95 km in Rajasthan and for toll management system in 88 lanes in Andhra Pradesh and Karnataka. We have also provided design and consultation services for the central control at the new Indira Gandhi International Airport and for the bus rapid transit corridor

in Delhi to Delhi integrated multi-mode transport system (DIMTS).

SP's: What are the focus areas Indra specialises in defence and security and especially with regard to India?

Galindo: In defence and security Indra is active since 1921 and is a point of reference in the defence and security industry as a supplier of global integrated solutions for the implementation and management of critical systems in real time, currently in operation with the armed forces and security forces of Ministries of Defence (MoD) of various countries throughout the five continents, and participating in the sector's leading multinational consortiums and programmes. The customised systems that Indra prepares for its clients address the operational requirements for all traditional platforms (land, sea, air) as well as the fourth and fifth domains of space and cyberspace. Indra occupies a leading position on the market thanks to the availability of fully contrasted in-house technology. The company's profound understanding of its clients and commitment to service, along with its international presence and participation in the most significant multinational consortia and projects, are key competitive factors that are unlikely to be equalled.

Indra's activity in the industry is based on the experience acquired over decades in all the domains, maritime, land, air and space in the following areas: radars, electronic warfare systems, electronic intelligence systems, air defence systems, IFF, satellite communication systems and control stations, simulation, CBRNe, UAVs, C4I, electro-optic sensors, coastal surveillance and border security, operations centres for the state security forces, integrated logistical systems, automatic test systems, and lately in cyber defence.

Indra provides systems and solutions based on proprietary technology participating in the sector's leading multinational consortiums and programmes: Eurofighter and A400M programmes, Tiger helicopter, Leopard tank, LHD and F100 vessels, S80 submarine, Galileo constellation, Copernicus programme, and Ingenio y Paz satellites, among others. In India our focus areas at the moment are radars, EW, IFF, SATCOM and simulators in keeping with foreseeable market demand of the Indian defence forces. We already have a workshare agreement with a DPSU for design and supply of EW systems for the Indian Navy and Army. We also have the contract for a prestigious SATCOM project for the Indian MoD. Besides, we have collaboration arrangements with some leading Indian private industries as well.

SP's: What about maritime domain and coastal security networks? Does Indra have integrated solutions for this domain?

Galindo: For the maritime and coastal security Indra has a 'System of Systems' solution, the SIVE, that integrates various sensors (radar, electro-optical system, electronic intelligence system), command control and communication systems providing early warning and increased reaction time for the coordination of interception units. It consolidates a 24 x 365 day/night operation with integration with external systems (VTS, AIS, SAR, fishing control, etc). SIVE covers 5,400 km of mainland and island coastline. Our other notable references for SIVE deployment are the Romania, Hong Kong, Latvia Coast and the Portugal coastal surveillance systems.

SP's: Is Indra providing solutions for cyber security?

Galindo: In 2013 Indra created i-CSOC (Cyber-Security Operations Centre), a new centre specialised in cyber security operations, from which

it provides protection for systems and networks for companies, organisations and institutions that require it. Indra's centre was founded with the aim of becoming an international benchmark. It has approximately 100 experts working together in a 500 sqmetre facility fitted out and equipped with the most advanced technology. Given the need for specialisation in every sector, the unit has developed a series of sector-specific cyber security solutions: cyber security for citizens—comprehensive protection for citizens who operate on the Internet, in collaboration with public administrations and enterprises: digital identity of citizens (e-id, e-passport), automatic border control systems (ABC Systems), electronic signature, identity access management systems (IAM), early warning centres (CERTs) and information for citizens; cyber security for organisations—a complete solution for public and private organisations: development and implementation of security master plans, ISMSs, operation of technical security offices, security operations centres (SOC), managed security services (MSSP), implementation of cyber security infrastructures and solutions, consulting and auditing, training, etc. cyber security for critical infrastructure protection—protection of systems and networks of critical infrastructures: development and deployment of cyber security plans for nuclear power plants, control systems, refineries, oil/gas pipelines, dams and water supply systems, SmartGrids, etc.

SP's: What electronic warfare systems and solutions does Indra have for airborne platforms?

Galindo: For airborne platforms Indra has state-of-the-art electronic defence systems, automated self-protection jammers (ASPs), the MANTA DIRCM (directed infrared countermeasures system), a portfolio of radar warning receivers and a range of combined interrogator transponder IFF systems up to Mode 5 to suit all platform types, helicopters, fixed-wing fighters, UAVs, and aerostats. Indra also develops the data link communication terminal the Link-16. For the medium multi-role combat aircraft (MMRCA), you would be aware that Indra was providing the ASPs for the Eurofighter apart from being a key integrator in the programme.

SP's: Indra is a big name in ATC/ATM solutions and have been successful in the civil market. What is your presence in India for the defence airfields and what are your plans for it?

Galindo: For defence airfields, we are already executing supply of Navids for air force airfields under the MAFI project as a subcontractor to a very important Indian firm. Our vision is to consolidate our control in air space management for the defence services with our portfolio of Navids and sensors.

Given the preferred procurement routes of 'Buy and Make Indian' and 'Buy Indian' we have been operating on collaboration and ToT basis with DPSUs and Indian private industry

SP's: With the present Indian Government's policy of 'Make in India' and increase in FDI, have you plans to invest in India and in what areas?

Galindo: Given the preferred procurement routes of 'Buy and Make Indian' and 'Buy Indian' we have been operating on collaboration and transfer of technology (ToT) basis with DPSUs and Indian private industry. For the moment, with the foreseeable market demand for our solutions, we shall continue with the partnership model to expand our base in India but given an appropriate opportunity and business case, we could consider evaluating a joint venture in India in the future. **SP**

Stealth in the skies



Advanced medium combat aircraft fifth-generation stealth multi-role fighter; (right) Prospective multi-role fighter

[By Lt General P.C. Katoch (Retd)]

Fifth-generation fighter aircraft (FGFA) is an improvement over the fourth-generation fighter aircraft and incorporate all aspect of stealth even when armed, low probability of intercept radar (LPIR), high-performance air frames, advanced avionics features, and highly integrated computer systems capable of networking with other elements within the theatre of war for situational awareness.

The only fully operational FGFA is the US F-22 in service since 2005. The US F-35 'Lightning II' Joint Strike Fighter and Russia's Sukhoi T-50 or PAK-FA will go operational soon. China, Japan, South Korea, India and Turkey too are working on such projects. China's under development Shenyang J-31 (also been referred to as F-60 or J-21 Snowy Owl) made its first flight on October 31, 2012, accompanied by two J-11 fighters in a 10-minute test flight with its landing gear lowered. With this, China became the second nation after the 1991 Advanced Tactical Fighter fly off, to have two stealth fighter designs in field-testing at the same time. India has been working on the Sukhoi/HAL FGFA. It is a derivative project from the PAK-FA (T-50) being developed for the IAF. FGFA was the earlier designation for the Indian version, while the combined project is now called the perspective multi-role fighter (PMF). The completed PMF is to include 43 improvements over the T-50 including stealth, super-cruise, advanced sensors, networking and combat avionics.

The first aircraft was to begin testing 2014, with introduction into service expected by 2022, however, during the recent visit of President Putin it was reported that the project has run into cost overruns and time delays. India wanted to induct the PMF earliest before developing a wholly indigenous FGFA and had told Russia it cannot wait till 2024-25 to begin inducting the 127 x PMF entailing an expenditure of \$25 billion. However, given the long-standing Indo-Russian friendship and strong Indo-Russian strategic cooperation, it was expected that these issues will get sorted out soon. And this is already happening with Russian Defence Minister Sergei Shoigu having held talks with Defence Minister Manohar Parrikar on January 21, 2015, at New Delhi to review the PMF project.

An MoD official quoting Parrikar said a decision has been taken to fast-track issues relating to the PMF. Both ministers have agreed

to review progress every three months. The push to get Indo-Russian PMF project off the ground came just prior to President Obama's visit to India.

The second project is the advanced medium combat aircraft (AMCA) fifth-generation stealth multi-role fighter under development that will complement the HAL Tejas, the Sukhoi/HAL FGFA, the Sukhoi Su-30MKI and the Dassault Rafale. The product design work of the AMCA in collaboration between the IAF, DRDO and Aeronautical Development Agency is almost over. The initial design and development phase will reportedly require ₹4,000-5,000 crore.

As per the current road map, it is planned to fly the prototype by 2024-25 coinciding generally with the time the IAF receives deliveries of the Tejas Mark II fighters. Though inordinately delayed, the IAF is slated to get the first Tejas Mark I by the end of the current financial year. That this has been possible 30 years after the LCA project was sanctioned speaks very poorly of our indigenous capability but then we also took 15 years to produce an assault rifle which is not even close to the top ten in its category. But hopefully all this will change with the new government and the dynamism of Prime Minister Modi. Presently, the simulation modelling of the AMCA is ongoing. With the Chinese stealth fighters and hypersonic vehicles on the horizon, our asymmetry vis-à-vis China will go up yet further.

Considering that the AMCA is still in the stage of infancy, the eventual cost of inducting the required numbers would be large but that is unavoidable. While our mission to Mars has taken us to an exclusive club, we cannot afford a situation where our IAF faces stealth fighters without having similar capabilities. The LCA project though inordinately delayed has provided a huge aerospace base in the country. If large orders for the AMCA are guaranteed private players would find setting up new facilities much more lucrative. The AMCA needs to be executed on a newer model of public-private partnership to obviate many of the concerns the IAF has about indigenous production. Some of the envisaged capabilities for the AMCA including fly by light, cloud shooting and new generation man-machine interfaces actually put it in a realm closer to that of a sixth-generation fighter. If the AMCA project is pursued wholeheartedly, India could have an indigenous contemporary fighter by 2027-28. The requirement, therefore, is to speedily progress the PMF and AMCA simultaneously. **SP**

Embraer KC-390 military makes successful first flight

Embraer successfully performed the first flight of the new military transport and aerial refuelling jet, the KC-390. Test pilots Mozart Louzada and Marcos Salgado de Oliveira Lima and flight test engineers Raphael Lima and Roberto Becker flew the aircraft for 1 hour 25 minutes, conducting an evaluation of flying qualities and performance.

"This first flight is a fundamental step towards accomplishing the task with which we were entrusted. The KC-390 is the result of a close cooperation with the Brazilian Air Force and international partners, representing what is most likely the greatest technological challenge that the company has ever encountered in its history. We are profoundly moved for having achieved this key milestone", said Frederico Fleury Curado, President and CEO of Embraer.

"The programme continues to move forward as planned and the KC-390 has drawn interest from several countries around the world", said Jackson Schneider, President and CEO of Embraer Defense & Security. "We are proud to once again keep our commitments in the development of this aircraft, which will set a new standard in the category of tactical military transport."



On May 20, 2014, Embraer and the Brazilian Air Force signed the serial production contract for the delivery of 28 KC-390 aircraft and initial logistic support. Besides the order from the Brazilian Air Force, there are current purchase intentions from other countries, for a total of 32 additional aircraft. **SP**

Air Marshal Jasjit Singh Kler new DG(I&S), Indian Air Force

Air Marshal Jasjit Singh Kler who is appointed Director General (Inspection and Safety) was commissioned into the Helicopter stream of the IAF on December 13, 1980.



The Air Marshal is a qualified flying instructor. He has flown close to 8,000 hrs on various helicopters, flying mostly in Siachen Glacier and Eastern Sector. He has flown most types of helicopters in the IAF inventory, i.e., Cheetah, Chetak, Mi-8s, Mi-17s and the Mi-17 IVs.

The Air Marshal has held various command and staff appointments which include Senior Air and Administrative Staff Officer (SAASO) of Maintenance Command, Deputy Commandant of Air Force Academy, Air Officer Commanding of Air Force Station New Delhi, Station Commander of Air Force Station Jammu, Air Force Station Salua and Command of a Mi-17 Helicopter Unit. He also was posted to Namibia to raise and

train the Namibian Helicopter element. Prior to his present appointment, he was IG (Air), BSF Air Wing, the Ministry of Home Affairs.

The Air Marshal is an alumnus of College of Defence Management and National Defence College, Bangladesh. He holds a degree in MBA as well as a Master's degree in Public Administration from the Indian Institute of Public Administration. For his distinguished service, he was awarded the Vayu Sena Medal (VM) in 2001. **SP**

HAL bags ₹1,090 crore contract for supplying 14 Do-228 aircraft to IAF

Hindustan Aeronautics Limited (HAL) has bagged a major defence contract for supplying 14 Do-228 aircraft produced by HAL to the Indian Air Force. "Apart from these aircraft, the contract valued at around ₹1,090 crore includes six reserve engines, one flight simulator and associated equipment", says T. Suvarna Raju, Chairman, HAL. "This also reflects the trust of the defence customers on HAL and we remain committed to supporting Indian defence services for all their needs", he adds.

HAL Do-228 aircraft will be manufactured by the Transport Aircraft Division at Kanpur. The division has expertise in manufacturing of transport and trainer category of aircraft and has till date manufactured 125 HAL Do-228 aircraft for various defence and other customers. This aircraft has been

exported to Seychelles and Mauritius. Last year, one Dornier was also supplied to Bengaluru-based Electronics and Radar Development Establishment to be used as flying test bed for evaluation of performance of various radars being developed by them.

HAL Do-228 is a highly reliable, multi-purpose, fuel-efficient, rugged, lightweight twin turboprop aircraft with a retractable tri-cycle landing gear. The cockpit is designed to accommodate two crew members and is fitted with duplicate controls. The cabin can accommodate 19 passengers.

The versatility of HAL-Do-228s are due to several in-built features such as highest fuel carrying capacity in its class (2,850 litres) due to integral fuel tanks in wings, low structural weight ensured through use of advanced composite materials, high wing design for unobstructed view and radar coverage, wide wheel base for better stability, short take-off and landing capability—the aircraft can take off from around 700 m and land within 575 m—essentially required for operations from short and semi-prepared airfields—sturdy landing gears, rectangular cabin offering more head space for passengers and mounting space for equipment in case of special mission configuration as opposed to circular cabin, low floor level and wide door for easy loading/unloading of cargo, flight openable roller door, four wing hard points for mounting of external loads up to 1,030 kg, optimum performance at normal cruising altitude for short haul applications enabled by the revolutionary design of wing aerofoil. **SP**

Maiden flight of LCA Fighter, Naval Prototype 2

The Indian Naval Aviation, carrier-borne aircraft development programme LCA (Navy) got an adrenaline shot in the arm on February 7, 2015. The first LCA (Navy) Fighter, Naval Prototype (NP2) made its maiden flight from the Hindustan Aeronautics Ltd, Bengaluru airport. The flight was piloted by Captain Shivnath Dahiya, who is an experienced test pilot from the Indian Navy with the National Flight Test Centre (NFTC). The launch was accomplished under telemetry control exercised by Test Director Commander J.D. Raturi and Safety Pilot Commodore J.A. Maolankar, the Chief Test Pilot of NFTC.

The chase aircraft cover was provided by LSP2 piloted by Group Captain Suneet Krishna (Retd) with the Test Director being Group Captain Prabhu and the Safety Pilot being Group Captain R.R. Tyagi. The event marks the growth of indigenous LCA (Navy) programme, aimed to achieve carrier compatibility technology demonstration including arrested landing and skiJump take-off, initially from the shore-based test facility, Goa.

It addresses several systemic deficiencies observed whilst making progress on flight test of Naval Prototype 1. It incorporates



most avionic hardware components promised to the customer, Indian Navy. During design and build NP 2 has been customised (plug & play) to incrementally accept modifications for carrier landing aids like Levcon air data computer, auto-throttle, external and internal angle of attack lights. NP 2 is the lead aircraft for arrestor hook integration, Derby beyond visual range missile and tactical data link. **SP**

Sikorsky S-97 Raider Programme begins ground tests



Sikorsky Aircraft Corp. announced the start of bladed ground testing, a major milestone, for the S-97 Raider programme. The Raider is an armed reconnaissance rotorcraft designed to significantly outmatch conventional military helicopters in manoeuvrability, payload, speed, range and high/hot environmental conditions.

"Testing all of the aircraft's systems together, for the first time, marks significant progress in the development of this next generation helicopter and moves the program closer to first flight," said S-97 Raider Programme Manager Mark Hammond.

During the ground runs phase, the S-97 Raider team is testing the first of two aircraft prototypes as a completed system for

the first time. The team will perform initial ground tests with the aircraft tied down and will focus on verifying correct operation of the propulsion system, drive train, rotor control system and pilot-vehicle interface.

The S-97 Raider helicopter demonstrator programme is 100 per cent industry-funded. Sikorsky provides 75 per cent of the investment and the suppliers provide the remaining funding. Sikorsky's goal is to attract government interest in the programme. **SP**

Maiden flight of first A400M for Malaysia

The first of four Airbus Defence and Space A400M new generation airlifters ordered by the Royal Malaysian Air Force has made its successful maiden flight, marking a key milestone towards delivery.

The aircraft, known as MSN22, took off from Seville, Spain, on January 30 at 17:30 local time (GMT+1) and landed back on site 1 hour 30 minutes later. **SP**

Kaman bags agreement by Boeing for KC-46A Tanker fixed trailing edge kits

Kaman Corporation announced that its Aerosystems division (Kaman) has been awarded a multi-year contract for the production of the fixed trailing edge (FTE)

kits and assemblies for the Boeing KC-46A Tanker Programme.

"Kaman has worked with Boeing to develop a more monolithic design over the base 767 aircraft for the tanker. The KC-46A Tanker FTE kit award exemplifies Kaman's capabilities and Boeing's continued confidence in us," stated Greg Steiner, President of Kaman Aerospace Group. Kaman delivered its first KC-46A Tanker FTE kit to Boeing in March 2014. To date Kaman has provided more than 1,000 FTE kits and assemblies for the 767 programme since 1986. **SP**

Complex firing of MBDA's Aster 30

After the missile test division of the DGA (French Defence Procurement Agency) carried out a complex test firing of the Aster 30 air defence missile on behalf of the French Navy at its Levant test centre. The firing scenario of the Aster 30 training missile launched from the Chevalier Paul air defence frigate involved an air target pursuing a friendly aircraft. The purpose of the test was to prove Aster 30's ability to discriminate and intercept when dealing with two interlinked radar tracks.

This elaborate scenario, created for the French Navy in cooperation with DGA Naval Technology and DGA Information Management, and using an instrumented training missile, allowed technical data to be collected giving precise details of the missile's final interception phase. **SP**

T. Suvarna Raju takes over as HAL Chairman

T. Suvarna Raju, who has a distinction of being granted the first patent in Hindustan Aeronautics Limited (HAL) in January 2002, has been entrusted Additional Charge as Chairman, HAL. He took over from Dr R.K. Tyagi. "Given the high expectation built around the company, my priorities would be to concentrate on operational excellence, and build the company as technology powerhouse", says Raju. He is committed to set the HAL as one of the best examples that align with 'Make in India' endeavour of the Government of India and he believes that doing so may be a challenging job in the aviation filed, however not impossible because he strongly believes that "the Best of Technologies can

never be bought, it can only be developed". "I would like HAL to grow as knowledge-based organisation", he emphasises.

Born in P. Vemavaram of Tanuku (West Godavari) district

in Andhra Pradesh, Raju, an engineering graduate, joined HAL on June 26, 1980, as management trainee. Unfazed by the extreme work hours and challenging goals, Raju not only continued to deliver and meet his professional goals and targets, but also continued pursuing his academic interests. Raju, attended prestigious Indian Institute of Technology at Chennai. He was selected and attended the elitist National Defence College. Raju also undertook academic programme at National Law School of India University relating to intellectual property rights. He obtained his masters in business administration as well as masters of philosophy in defence and strategic studies. **SP**



Raytheon acquires Tucson-based Sensintel Inc

Raytheon Company has acquired privately-held Sensintel Inc a leading provider of unmanned aircraft systems (UAS) solutions to the intelligence and special operations markets.

"Sensintel's expertise in unmanned aircraft systems solutions makes it a natural fit with Raytheon's Advanced Missile Systems product line," said Dr. Taylor W. Lawrence, Raytheon Missile Systems President. "The acquisition of Sensintel enhances the growth prospects of our UAS business and the advanced capabilities we can offer our customers." **SP**

Harris Corporation to acquire Exelis

Harris Corporation and Exelis, Inc. announced a definitive agreement under which Harris will acquire Exelis in a cash and stock transaction valued at \$23.75 per share, or an approximately \$4.75 billion enterprise value.

"Acquiring Exelis is transformational for Harris," said William M. Brown, Chairman, President and Chief Executive Officer of Harris. "The combination of the two companies' highly complementary core franchises creates a competitively stronger company with significantly greater scale. We are expanding in a market, where we have decades of success and a workforce dedicated to providing our customers with innovative and cost-effective solutions for some of their most complex challenges." **SP**

Huntington Ingalls acquires Engineering Solutions Division

Huntington Ingalls Industries (HII) has acquired the Engineering Solutions Division (ESD) of the Columbia Group, a leading designer and builder of unmanned underwater vehicles for domestic and international customers. The value of the transaction is not being disclosed.

"ESD's experience in designing and developing manned and

unmanned submersibles is a natural extension of the submarine work we do at Newport News Shipbuilding," said Matt Mulherin, HII Corporate Vice President and Newport News Shipbuilding President. "We believe the combination of Newport News and ESD expertise will enable us to compete successfully in the unmanned underwater vehicle market, and we are excited to welcome ESD to our team."

ESD will operate as Undersea Solutions Group, a subsidiary of HII, and will report to Newport News Shipbuilding's Submarine and Fleet Support Division. **SP**

CAE to acquire Bombardier's Military Aviation Training unit

CAE and Bombardier announced that they have signed an agreement for CAE's acquisition of Bombardier's Military Aviation Training business for approximately C\$19.8 million. The closing of the transaction is conditional on usual conditions and regulatory approvals, and if those are obtained closing is expected to occur in 2015.

This move significantly enhances CAE's core capabilities as a training systems integrator (TSI) globally, and expands its offering into support for live-flying training of future military pilots, including next-generation fighter pilots, for the Royal Canadian Air Force and its allies. Upon conclusion of this transaction, CAE will be the prime contractor responsible for the NATO Flying Training in Canada (NFTC) programme that produces qualified military pilots for defence customers. **SP**

L-3 acquires Miteq Inc

L-3 Communications (LLL) announced that it acquired the assets of Miteq Inc on January 21, 2015, for \$41 million, subject to customary adjustments. The business will be combined with L-3's Narda Microwave-East business located in Hauppauge, New York, and the new organisation will be called L-3 Narda-Miteq.

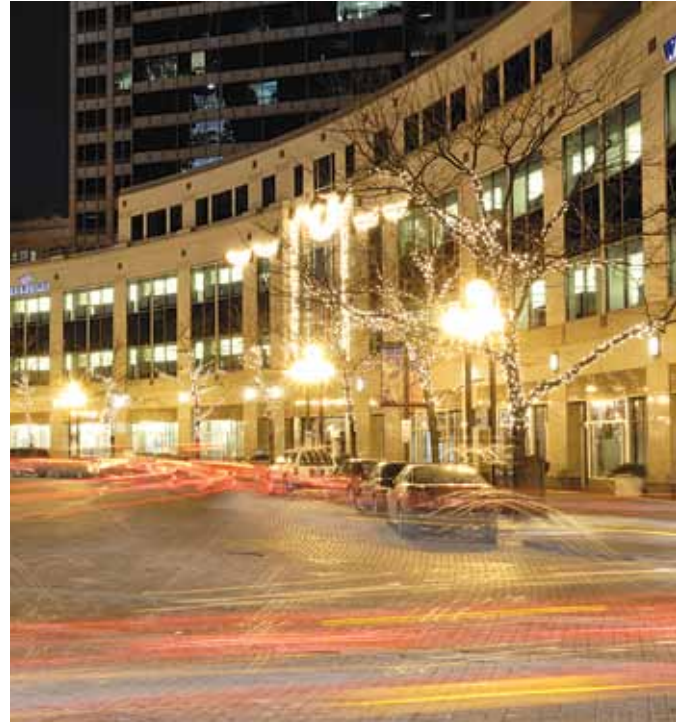
The combined L-3 Narda-Miteq business will employ approximately 700 people, providing products for the US military, government agencies, prime contractors and commercial customers. **SP**

Cyber attack on health insurer Anthem

Anthem, one of the United States' largest health insurers, recently clarified that the personal information of tens of millions of its customers and employees, including its chief executive, was the subject of a "very sophisticated external cyber attack."

The company, which is continuing its investigation into the exact scope of the attack, said hackers were able to breach a database that contained as many as 80 million records of current and former customers, as well as employees. The information accessed included names, social security numbers, birthdays, addresses, e-mail and employment information, including income data.

Anthem said no credit card information had been stolen, and it emphasised that it did not believe medical information like insurance claims or test results were compromised. It said hospital and doctor information was also not believed to have been taken. **SP**



ISIS writing on the wall

The Central Industrial Security Force recently said it is probing threat by Islamic State (IS) scribbled on a wall of the Terminal 2 of Chhatrapati Shivaji International Airport. It warned of an attack by IS on January 10.

The note written by a pen on the wall of the men's washroom read, "ATTECK BY ISIS 10/01/15 (sic)." As there was no CCTV inside the washroom, the CISF said they were analysing the footage outside the washroom. So far investigation hasn't revealed anything. Mumbai Police will also probe the case.

The message was first spotted by a cleaner. Security has been tightened across the country after Pakistani boat explode near Porbandar port in Gujarat. **SP**

Drugs, cash, weapons find their way into prisons

Highlighting a lack of security, UK prisoners are brazenly uploading pictures of drugs, cash and even a dangerous weapon on their illegal social media accounts, a Channel 4 News investigation finds. Channel 4 News has uncovered a cache of pictures and videos posted to password protected social media sites by prisoners. The images obtained reveal contraband, violence, a weapon, piles of cash and alleged drug dealing. One picture shows a prisoner with a potentially lethal lock knife.

The latest figures from the Ministry of Justice revealed that serious assaults in prisons in England and Wales had reached a 10-year high. In the year to September 2014 there were 1,958 assaults including 431 against staff. In 2013 the number of mobile phones retrieved

by prison staff was 7,451—despite the fact that prisoners found with smart phones can have up to two years added to their sentence.

According to figures from the Ministry of Justice, the number of drug seizures in prisons has significantly increased. In the year to the end of March 2011, there were 3,700 drug seizures—this had risen to nearly 4,500 in 2013-14. **SP**

Man disrupts Nobel Peace Prize ceremony

Police apologised for failing to prevent a man from disrupting the Nobel Peace Prize ceremony in Oslo after he brandished a Mexican flag near laureates and the Norwegian royal family.

"It's a breach in security for which we apologise," said Oslo Police Department spokesperson.

The man waved the flag in front of Pakistan's Malala Yousafzai and India's Kailash Satyarthi as the Nobel laureates received their prize to rapturous applause.

The incident was taken especially seriously because child rights activist Malala, the target of an assassination attempt in October 2012 that she miraculously survived, remains a target for Islamist extremists. Police led the man outside Oslo City Hall, where the ceremony was being held, and detained him.

Members of the Norwegian royal family and several members of the government, including Prime Minister Erna Solberg, were within reach of the flag-carrying man.

According to Norwegian Police, the man arrived November 26 in Norway and applied for asylum soon after. He was not armed and was moved to crash the ceremony because he is "concerned by the political developments in Mexico." **SP**



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