

SP's



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# MAI

ONLY FORTNIGHTLY ON **MILITARY AEROSPACE INTERNAL SECURITY**

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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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## Parrikar opens door to mini-MMRCA

**A**fter the recent turbulence over the medium multi-role combat aircraft (MMRCA), Defence Minister Manohar Parrikar has signalled the possibility of a separate single-engine fighter jet platform replacing India's MiG-21s in the event that the light combat aircraft (LCA) Tejas is not up to the task. In a comment (as part of an interview) that has dumbfounded observers still digesting the implications of the MMRCA's purported demise and the hard-nosed decision to purchase 36 fly-away Rafales directly from Dassault Aviation's French facility, aviation circles are aflutter with precisely what the Minister meant.

With no complete clarity on the full numbers of Rafales India intends to operate, the possibility of yet another fighter type being added to the inventory (albeit replacing the legacy MiG-21 and the



LCA Tejas

enormous nationwide infrastructure available for its upkeep) is intriguing to say the least. For one thing, it casts questions over the government's own confidence in the much derided LCA Tejas platform, an aircraft currently in its home stretch and expected to power into squadron service in the visible future. On the other hand, the suggestion that the LCA isn't up to the job and might need to be replaced by another aircraft for acquisition in high numbers could spark bemusement, if not interest, in firms like Lockheed Martin and Saab for the F-16 and Gripen, the only two platforms in the MMRCA that were powered by single engines. This could be an interesting space to watch. **SP**



### Cover:

Prime Minister Narendra Modi sprung a pleasant surprise late evening on April 10, when he stated that the French President François Hollande had accepted his request to provide 36 Rafale combat jets directly in fly-away condition.

Cover images: PIB, Indian Navy

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## Modi's magical solution changes game

**A**mong the many pending defence acquisition deals, the Mother of all Deals – medium multi-role combat aircraft (MMRCA) – was aimlessly meandering through the maze of Indian bureaucracy and all those tracking the deal had kind of become extremely cynical. When the Prime Minister Narendra Modi's three-nation tour (France, Germany and Canada) was announced, everyone talked about how the Rafale deal would be high on agenda, but no one (except those in Modi's inner circle) imagined that Modi would come up with a totally out-of-the-box solution, pleasantly surprising everyone. He announced in Paris that India would buy 36 Rafale fighter jets from Dassault Aviation on a Government-to-Government basis.

This magical solution has come as a major relief to the Indian Air Force which has been asking for quite some time to shore up its combat capabilities. The 36 Rafale aircraft when inducted would make up two fighter squadrons and yet leave quite a gap. It needs to be seen how the proactive government is going to deal with the additional requirement — direct buying or going through the MMRCA deal. We will know about it soon, but one can be assured that the government of the day knows no dithering and is committed to quick and transparent decision making.

In the recent past, we have seen the Prime Minister Modi connecting well with the global leadership which has started paying dividends, besides boosting India's image in the comity of nations. There is a sense of optimism that the diplomatic initiatives by the Prime Minister will open new vistas of opportunity for international cooperation and France is ranked high among the developed world. There are a number of areas where the strategic interests of India and France converge, besides aerospace and defence. In this issue, we have extensively analysed the relations with France and also the fate of the 126 MMRCA deal for which Rafale had been selected.

In his forthright viewpoint, Lt General P.C. Katoch (Retd) states that there is very little hope for improvement if the private industry is not given the lead in indigenous defence production. As regards defence procurements, he is of the view that the Defence Pro-

curement Procedure (DPP) is the bottleneck, though it has been reviewed annually for the past several years. The fact remains that there has been no change from importing 70 per cent of our defence requirements which indicates the sorry state of research and development, indigenisation and government focus on matters military. We hope this will change under the present dispensation.

There are several original equipment manufacturers (OEMs) who have expressed keen desire to partner with Indian companies, only if we could make the environment a lot more conducive and decisions are taken at the right time, not prolonged forever. One such OEM is WASS from Italy which has helped in the indigenisation process of torpedos, though there are policy issues that need to be ironed out.

Despite the armed forces strapped with obsolete equipment, kudos to the Indian Air Force and the Indian Navy for evacuating thousands of Indians from battle-torn Yemen. The rescue effort has enhanced India's strategic leverage and New Delhi's soft power stronghold in global public opinion. Times are changing...fast.

Happy reading!

**Jayant Baranwal**  
Publisher & Editor-in-Chief

## Airbus-Tata deal likely to be approved by DAC

**T**he sole Airbus-Tata bid to replace 56 of the Indian Air Force's HS748 Avro medium transports with Indian-built C295 twin turboprop aircraft is likely to be pushed through by the Defence Ministry shortly, paving the way for what the government hopes will be a cornerstone for the 'Make in India' campaign. The complex programme involves the local manufacture of 40 aircraft following the procurement of 16 in flyaway condition from the airframe OEM. PM Narendra Modi's recent visit to the Airbus facilities in Toulouse, France is being seen as a major leg-up for the company in terms of its 'Make in India' thrust, with the proposed Indian C295 production line being pitched as a global aircraft hub, the first of its kind in India. The MoD has also shown willingness to look beyond 'single vendor' issues and press on with the needs of the forces. As with the AWACS



programme, where the MoD cleared the single Airbus bid with the A330 widebody jet, all indications are that the Airbus-Tata bid will similarly be pushed through after certain clarifications are verified. The programme will be one of the largest in India. **SP**

## Indian Navy confirms EMALS on radar



**T**he Indian Navy has officially confirmed that it is seriously looking at EMALS (Electromagnetic Aircraft Launch System) technology, on offer from the U.S., for its next aircraft carrier platform. While the current Project 71 Indigenous Aircraft Carrier (Vikrant) will sport a conventional ski-jump deck for STOBAR operations, the next vessel to be built, while sporting a similar hull and structure, could sport a catapult launch system -- possibly the EMALS, developed by General Atomics, and now on offer to India as part of fresh strategic cooperation kicked off when President Obama visited New Delhi earlier this year. Unlike the steam catapult system currently operational on US and French aircraft carriers, the EMALS consists of a linear motor drive instead of a steam piston on the former, to proper the aircraft off the deck. The advantages of such a system, shared with the Indian Navy, are several: including less stress on aircraft, greater control on graded acceleration, lower maintenance requirements and more reliable. It also purports to sport a lower logistical footprint. The paradigm of CATOBAR operations throws open a new paradigm for naval aviation. The Indian Navy's vision for future aircraft carrier technology took seed early. In 2009, it sent out an RFI for new multirole deck-based fighters, and entertained briefings on such varied platforms as the F-35B and C, F/A-18 Super Hornet, MiG-29K and concept aircraft the Sea Gripen and Naval Typhoon. **SP**

## Army for new low level radars

**T**he Army is scouting an unspecified number of new Low Level Light Weight Radars Mark-II for deployment in non-mountainous sectors like desert and plains. The radar needs to be easily transportable and capable of detecting even small, low-RCS entities like

UAVs. The Army would prefer sensors with a integrated target designation system capability, with means to supply targeting data to a weapon. The Army requires the new radars principally to build a sensory barrier against low-level air intrusions across the border from China and Pakistan, especially by helicopters, low-flying tactical aircraft and surveillance drones. It requires radars that are easily transportable and ready for operations within minutes of assembly. The radars will work to track complex target manoeuvres at very low altitudes and to provide targeting solutions on them when integrated with weapon systems.

Aircraft and 'spy planes' or unmanned aerial vehicles. With air intrusions continuing periodically especially in the North East, the Army is looking to ramp up the capability. The DRDO is also building low level radars, which the Army is now looking to augment with more numbers. Companies like Thales have supplied low-level surveillance radars to the Indian Air Force in the past. **SP**

## HJT-16 life extension on cards

**F**aced with turbulence in its training regimen, the Indian Air Force may go in for a life extension on its remaining HJT-16 Kiran Stage-II trainer aircraft. With HAL's HJT-36 Sitara intermediate jet trainer failing to surmount design problems, a twin approach has been adopted. One, as earlier



reported by SP's, the MoD has allowed the IAF to scout information on available Stage-II trainer platforms from abroad. The second thrust is a possible life extension of the Kiran fleet by HAL, for which the company has been sounded out and is in the process of charting out a proposal. Training of IAF pilots is currently conducted on the Pilatus PC-7 Mk-II, Kiran Mk-I/IA and Hawk AJT. Last month, Defence Minister Parrikar told Parliament, "The Pilatus PC-7 Mk-II and Hawk Mk-132 aircraft are new aircraft. Further, Kiran aircraft were planned to be replaced by the Hindustan Aeronautics Limited (HAL) built Intermediate Jet Trainer (IJT) aircraft. However, IJT has encountered some design problems. Project implementation is regularly reviewed by a Steering Committee headed by Secretary, Department of Defence Production to expedite the same. IAF is looking at other options including life extension of Kiran aircraft to meet Intermediate flying training requirements of pilots." **SP**



## Last chance for more C-17s

**W**ith Australian Air Force ordering two more C-17s, the number of white-tail platforms (fully built but unsold) drops to five, giving the Indian government one final opportunity to augment its 10-strong fleet of the heavy transport jet. Boeing's massive C-17 facility at Long Beach, California is expected to be converted into an engineering centre with the end of aircraft manufacturing operations there. While the Indian government has made no official commitment to purchasing more C-17s, the US government hopes that the recent Yemen rescue operations could spur interest in using this final opportunity to get some of the last airframes available in the world market. Budgetary issues and other procurement priorities may nix any interest, though it is well known that the IAF has been informally keen for a while now to top up its Skylords squadron. Boeing recently said in a statement, "As Australia, India and customers around the world have experienced first-hand, the C-17 remains unmatched in its ability to transport troops and heavy cargo, support airdrops and aeromedical evacuations, and land and takeoff in remote airfields. Recently, the Indian Air Force's C-17s have been extensively utilized for Human Assistance Disaster Relief (HADR) operations by bringing home over almost 2000 Indians evacuated from Yemen and clocking over 150 hours." **SP**



## Boeing extends validity on Chinook, Apache bids

**B**oeing Defense has extended the validity of its commercial bids on expected deals for 22 AH-64E Apache and 15 CH-47F Chinook helicopters till June 30, the latest in a long string of extensions requested by the government as it attempts to conclude a deal. Boeing had recently signalled that it would not be able to endlessly maintain its commercial bid without affecting price escalations. Indications are that the government has been apprised that these are priority procurements that need to be concluded quickly in order not to pay a higher price as a result of bureaucratic delays. The final contracts are likely to be government to government contracts with attendant offset requirements. Both deals also have follow on options for additional airframes. The Indian Air Force has especially expressed an urgent need for the heavy vertical lift capability, given that its Mi-26 choppers are literally on their last legs, with only two currently operational, and stretched to their logistical limits. The conclusion of both deals will be the latest in a steady unbroken stream of deals awarded to US firms. For Boeing, the twin deals come after a retinue of successes, including P-8I, C-17 and Harpoon missiles for Indian Jaguars and submarines. **SP**

## DRDO scouts vision-assisted recovery system for UAVs

**W**ith a view to test a vision-assisted take-off and landing system for small size UAVs, the Aeronautical Development Establishment (ADE) in Bengaluru has called upon Indian vendors to design and develop necessary navigation algorithms, put them in target hardware, interface with the onboard sensors and autopilot on a mini flying test bed, perform the necessary calibration checks on the test aircraft, and prove the algorithms in a closed loop with the onboard navigation system. The tasks will be carried out in close interaction with ADE. The flying test bed is proposed to be a 20-30kg-class fixed wing UAV.

The tests will initially be with electrical engine to contain the vibrations and then with IC engine for more realism, says the ADE announcement. The work demands precision work in the areas of computer vision, modeling and simulation, aircraft navigation sensors and systems, control and guidance, aircraft systems integration, daylight and IR sensors and image understanding, estimation theory, numerical methods, and high-performance embedded computing. It also demands efficient software design and implementation. "The task is very complex and the firms bidding for it will need to demonstrate the necessary capabilities, prior experience and stability to undertake the task," ADE has stipulated." **SP**

## HAL scouts partner for IAF radar requirement

**H**AL is looking for a technology partner for a tie-up to supply high-power radars (HPRs) to the Indian Air Force to meet a long-standing requirement. The HAL Avionics Division in Hyderabad has announced that it is looking to jointly bid a winning radar product to the IAF. Vendors will need to respond to HAL by April 27, though it is likely that HAL will extend the window. The IAF is looking for Active Aperture Phased Array Radars based on Solid State Trans/Receive Modules with the ability to detect targets at long ranges upto 30 km high with a radar cross-section of 2 metres, with the ability to classify targets as large, medium and small for fixed and rotary wing aircraft, and UAV automatically. The radars are required to plug air defence gaps in border areas. HAL, reflecting the IAF qualitative requirements, has stipulated that the HPR will need have the capability to cue search and track in specific directions based on command from command and control centre, classify standoff weapons (e.g. air launched missiles or other weapons), track & manually designate manoeuvring targets for higher track update rates and higher azimuth, range and elevation accuracies. Several Indian and foreign firms stand eligible to bid for the HAL partnership. A final order could be in the range of 30-40 HPRs at the very least, with more to follow. **SP**

## DRDO scouts landing gear kit for Panchi UAV

**T**he DRDO is looking for a newly designed landing gear kit for its recently unveiled Panchi UAV, a wheeled version of the in-service Nishant surveillance drone. Panchi is designed take-off and land from a prepared run way like a conventional aircraft, has a nose landing gear (NLG) and a main landing gear (MLG) consisting of fixed composite struts as part of its airframe. What the developers are looking for is a landing gear kit consisting of wheels, tires and hydraulic braking system, essential to meet the take-off and landing requirement. Interested vendor will be required to design, supply and integrate the landing gear kit with the existing nose and main landing gear while meeting the requirements of landing loads, braking distance etc. for smooth operation of the aircraft. DRDO has stipulated that vendors should have prior experience of supplying and/or developing similar items for other UAVs/light manned aircraft. Vendor will be required to design and supply six sets of the Landing Gear Kit. The Panchi UAV, identical in all respects to the rail-launcher deployed Nishant UAV in terms of range and payload, will operate from run-



ways, including unprepared surfaces and has found interest in the Army and paramilitary forces already. **SP**

## CABS for JV to build operator workstations for airborne platforms



**T**he Centre for Airborne Systems (CABS), currently developing India's AEW&C and AWACS platforms, is scouting a joint venture partner to develop advanced operator workstations for applications in its airborne platforms. The main objective of the effort is to design, develop, qualify and deliver advanced console units qualified to meet the airborne and harsh ground requirements for present and future CABS projects. The laboratory is looking for a modular development that can be incrementally improved for future projects, including special mission aircraft and spy planes. While CABS will provide technical inputs and qualitative requirements, the chosen vendor will carry out fabrication, testing and evaluation as per finalised requirements. Vendors will be required to quote the cost of 50-100 consoles supplied over 5-8 years. Vendors with experience in delivering similar systems to Indian aerospace firms or global majors will obviously be preferred. Overall, the console will be built around a 24-inch high definition display unit, three rugged computer units, one tablet unit for touch inputs. The entire unit will be hard-mounted on the aircraft floorboard. **SP**

## HAL powers on LUH ahead of first flight

**H**AL is powering on with the LUH ahead of a potential first flight in July or August this year. HAL, which has responded to the Indian Army RFI for reconnaissance & surveillance helicopters (RSH) has decided to play its hand aggressively in the 'Make in India' environment sweeping the country's defence procurement. The LUH, displayed in complete form for the first time at Aero India this year, is all set to lift off shortly. At HAL, are currently in the process of identifying crucial on board systems and equipment to speed up the process. For instance, HAL has called for information to supply an electrically operated Rescue Hoist System for lowering or raising personnel from an airborne helicopter using a rescue seat, rescue basket or a rescue stretcher. "The Rescue Hoist System will be an off the shelf fully qualified equipment with necessary minor adaptations incorporated to cater for installation interface of the helicopter & to meet the technical requirements of this specification," says HAL. **SP**





LT GENERAL  
PC. KATOCH (RETD)

# Defence procurement – bottleneck is DPP



T-50 multirole combat aircraft  
designed for the air superiority  
and ground attack functions

**Will the new DPP  
facilitate FDI in  
defence, smooth  
induction of  
new technology  
and speed up  
development?**

PHOTOGRAPH: Sukhoi

**P**rior to Prime Minister embarking on the three-nation trip including France, media had reported that the Rafale deal hinged upon India's insistence being met about honouring the price as agreed to during the year 2012.

However, agreement has been reached for India to purchase 36 Rafale fighter aircraft that would be flown in. There appeared to be another hiccup, in that, the overall deal was to include large number of this Rafale aircraft to be manufactured in India but apparently only 49 per cent foreign direct investment (FDI) has been offered to France, and the latter were unhappy about it. It is only last year that the Union Cabinet approved FDI in defence beyond 49 per cent on case to case basis, especially where transfer of technology (ToT) and joint ventures are involved. However, now that the 36 Rafale are being imported without ToT, it appears that the overall void of 126 medium multi-role combat aircraft (MMRCA) of the

IAF will be made up though Russia's fifth-generation fighter being developed with Indo-Russian collaboration. But coming to overall defence procurements, inviting foreign investments and absorbing foreign technology, it is the Defence Procurement Procedure (DPP) that continues to remain a bottleneck. This is despite the fact that the DPP has been reviewed annually for the past several years and there has been much fanfare every time a new one was issued. However, the fact remains that there has been no change from importing 70 per cent of our defence requirements that shows the sorry state of research and development, indigenisation and government focus on matters military.

Defence Minister Manohar Parrikar having acknowledged on sidelines of Aero India 2015 that 'Make in India' for the defence sector required streamlining, has stated that the new procedure is being worked out and will be issued shortly. It is learnt that some people are working on the new DPP



Defence Production Policy should provide greater autonomy to the DPSUs and OFB units for their expansion, diversification and enable them to take decisions to improve serviceability of platforms available to the armed forces

ister Mano-  
har Parrikar  
had said tha  
MoD would  
be bringing

about major changes in the DPP and the Defence Production Policy to provide greater autonomy to the DPSUs and OFB units for their expansion, diversification and enable them to take decisions to improve serviceability of platforms available to the armed forces. So if you read between the lines, the stranglehold of the DRDO-DPSUs-OFB will remain and private industry would in all probability continue to operate 'through' this nexus even as few odd projects may be thrown to the private industry to show the semblance of fairness. But the fact remains that this is not providing a level playing field. The age-old justification of DRDO-DPSUs-OFB that what they outsource to private industry, also financially benefits the latter fools no one. There is little hope for improvement if the private industry is not given the lead in indigenous defence

production. Unfortunately, we fail to look around what is happening in foreign countries and take the cue.

DRDO will continue to make tall promises and delay modernisation. Take the case of the 'Naag' missile for which the DRDO and the Bharat Electronics Limited (BEL) took the Army for a ride for years that BEL would develop matching weapon locating radar (WLR). Eventually, the Army had to put on file that BEL will not be able to do it. That is how the ANTPQ-37 were imported from the US albeit it was 25 years old technology and US had already provisioned these to Pakistan a decade back. What the arms mafia would have pocketed remains secret but yet media fanfare was used to the hilt as if state-of-the-art technology had been acquired for the forces. Take the Artillery, Command Control and Communication (ACCS) System fielded as the first operational information system in the Indian Army. It is about 95 per cent Israeli though trumpeted as BEL's achievement.

Our defence sector has remained defunct because we have simply not let the private sector come up. Are we going to overlook that in the past 50 years, our defence industry with DRDO at the apex

has not developed a single platform or defence equipment in the laid down time frame? Would this change simply because the Defence Secretary now heads DRDO or will it go worse? The question also is that are we looking at defence equipment 'through' DRDO-DPSUs-OFB or is there parallel opening to the private sector? Will the new DPP facilitate FDI in defence, smooth induction of new technology and speed up development?

Logically, chalking out the new DPP should have been given to an independent body, like a non-government aided think tank, with members from the MoD, military, DRDO-DPSUs-OFB, private industry and scholars. It would not have taken more than three months to come out with an ideal DPP free from the pressures of the mafia. But with that not happening, let us wait and hope for the best. **SP**

as well but it remains to be seen whether the usual in-house Ministry of Defence's (MoD) superficial tinkering will continue to prevail. Agreeably both the Prime Minister and Defence Minister are open to suggestions but if the integration of outside ideas is left to the MoD bureaucrats, then the outcome may not be much different from the game that has been on by the arms mafia in the past decades, and our armed forces may continue to be starved of shortages and modern technology.

All this while the government acknowledges that 50 per cent of equipment held by our defence forces is obsolete while at the same time the Comptroller and Auditor General of India (CAG) has been pointing out that the 30 per cent of defence equipment is 'substandard' and 'overpriced.' That this state of affairs has continued despite the meagre defence budget and with joint secretary level officers on all boards of the Defence Research and Development Organisation (DRDO), the DPSUs and OFB has been the continuing irony. The nexus would be obvious; the lure of individual gains sacrificed on the altar of India First.

Not that governments have not used the Defence Minister in the past to fill up party coffers, Defence Minister not being in-charge for defence of the country. That is why A.K. Antony could fraud with the equipping and modernisation of the armed forces. In such a dispensation, to expect the MoD to come up with the required DPP appears out of the question. Unfortunately, the Defence Minister is dependent on the advice of the very same bureaucrats who are part of the mafia, and who have successfully kept the military out of policy making with respect to matters military. The new policy is reportedly expected to outline measured steps instead of outright blacklisting of firms including steps to be taken against offences committed and allow foreign defence firms to legally hire agents.

But then addressing the Consultative Committee attached to MoD recently, Defence Min-

**There is little hope for improvement if the private industry is not given the lead in indigenous defence production. Unfortunately, we fail to look around what is happening in foreign countries and take the cue.**



Registration of evacuees in progress and embarkation onboard INS Sumitra

# Indian Navy on yet another benign humanitarian mission

[ By Rear Admiral Sushil Ramsay (Retd) ]

**T**he basic structure of a nation's naval forces is founded on the concept of capacity and capability build-up to be able to launch a full-range of operations which a nation is likely to undertake depending upon its geostrategic location, threat perception and the national security construct engrained its national strategy. The capability build-up is made versatile and dynamic for the operations ranging from high intensity war fighting on the end of the spectrum to the humanitarian assistance and disaster relief operations at the other.

The Indian Maritime Doctrine for the Indian Navy accordingly envisages four major roles: military, diplomatic, constabulary and benign. Maritime forces because of its inherent characteristics of quick mobilisation are extremely useful in the early stages of a crisis for providing relief material, first aid and succour. Accordingly the capacities and capabilities such as the mobility, reach, endurance and quick response, coupled with the sealift capability are deeply enshrined in the maritime doctrine.

It is the benign role assigned to Indian Navy which has been tested repeatedly under most trying and adverse conditions and humanitarian assistance and disaster relief (HADR) missions most proficiently and successfully accomplished. The evacuation of Indian citizens and those belonging to as many as 41 other countries by Indian Navy ships in a daring mission from the conflict zone of Yemen is a shining testimony. It has further established Indian Navy's capability to execute such tasks with alacrity and professional competence, whatever be the circumstances. Here is a flashback of the past successful missions which have ensured Indian Navy to rightfully gain global recognition that it truly deserves.

## Operation Madad/Sea Wave/Castor/Rainbow/Gambhir

On December 26, 2004, the tsunami tidal waves hit the shores of 11 Indian Ocean littoral countries — Bangladesh, Burma, India, Indonesia, Kenya, Malaysia, Maldives, Somalia, Sri Lanka, Tanzania and Thailand. While Indonesia and Sri Lanka were hardest hit, Thailand and India's south-eastern coast, Andaman and Nicobar Islands suffered extensive damage.

Indian Navy deployed 32 naval ships, seven aircraft and 20 helicopters under most adverse conditions in support of five rescue, relief and reconstruction missions as part of 'Operation Madad' (Andhra Pradesh and Tamil Nadu coast), 'Operation Sea Waves' (Andaman & Nicobar Islands), 'Operation Castor' (Maldives), 'Operation Rainbow' (Sri Lanka) and 'Operation Gambhir' (Indonesia). The day tsunami hit the subcontinent Indian Navy had deployed 19 ships, four aircraft, and 11 helicopters that rushed to Maldives, Sri Lanka, Tamil Nadu and Andaman & Nicobar Islands. This speaks volumes of the efficiency and the operational readiness of the Indian Navy.

## Operation Sukoon

As the Israel-Lebanon conflict intensified in July 2006, large numbers of foreigners to the region were desperately seeking to leave the conflict zone. India too had a large number of its citizens entrapped in this hot conflict zone. Indian Navy single-handedly undertook the largest, post-Independence, civilian evacuation operation at Beirut, Lebanon from July 21 to 23, 2006. Four Indian Navy ships – Mumbai, Betwa, Brahmaputra and Shakti—under the tactical command of the then Rear Admiral Anup Singh, Flag Officer Commanding Western Fleet successfully evacuated a total of 1,495 stranded Indian, Sri Lankan, Nepalese and Lebanese

nationals, who were brought to safety to the port of Larnaca in south-east Cyprus.

The Beirut sealift by the Western Fleet ships thus brought home 2,280 people to safety that included 1,764 Indian nationals besides nationals from Nepal, Sri Lanka, Lebanon and two Indian origin citizens of United States. In addition, 65 tonnes of relief material such as medicines, clothes and food was also transported to Beirut on August 1, 2006, by Betwa.

Evacuation of so many people through ships designed for war required creation of huge amount of space for the passengers within the ships and dislocation of officers and sailors present on board to most inhospitable places. People were eating and sleeping in helicopter hangars and decks. Ladies and children were accommodated in sleeping cabins of sailors. Cooks worked round the clock for preparing more than 1,000 meals that included breakfast, lunches and dinners for each of the evacuation.

The rapidity and success of the safe evacuation of both Indian and foreign nationals had earned accolades for India's response to the humanitarian crisis. The swift deployment of Indian Navy ships in a theatre of war 4,000 nautical miles (7,200 km) away from its home pointedly underscores Indian Navy's flexibility, mobility and reach for trans-oceanic operations a truly blue water capability.

## Operation Raahat

Yemen witnessed a fierce battle between Saudi-led coalition and Shiites rebels who have battled their way into various cities. The Red Cross had warned of a 'catastrophic' situation in Yemen's main southern city Aden which witnessed fierce fighting over several weeks. International Committee of the Red Cross spokesperson, Marie Claire Feghali described the situation across Yemen as "very difficult...(with) naval, air and ground routes cut off. The war in Aden is on every street, in every corner...Many are unable to escape," she added.

Consequent upon the Government of India issuing an advisory for Indian nationals to leave Yemen, the Indian Navy deployed three ships in support of the evacuation operation. With access to airports within the country denied by warring fragments, sealift was the safest option available to evacuate people.

In a well-coordinated operation involving multiple agencies, INS Sumitra, an offshore patrol vessel, which was deployed for anti-piracy patrol in the Gulf of Aden since March 11, 2015, was the first to undertake evacuation. The ship was redeployed off the Port of Aden on March 30, 2015, and entered Aden Harbour in the evening of March 31, 2015. During frequent evacuation trips heavy shelling was observed by the ship's crew in Al Hodeidah and the adjoining areas. The Captain and crew of Sumitra had gone beyond their call of duty to provide succour and relief to Indian nationals fleeing war-torn Yemen.

Indian Navy ships Mumbai and Tarkash proceeded with despatch from Mumbai on March 30, 2015, for evacuation of Indian nationals from Yemeni ports. The ships escorted two Shipping Corporation of India (Ex Cochin) passenger vessels, Kavaratti and Corals, through the piracy risk area off the Coast of Somalia.

Since the evacuees had gone through agony, faced threat to their lives and were dislodged from their homes, leaving all their belongings behind, instructions were issued by Headquarters Western Naval Command to ensure a comfortable stay for the evacuees during the passage. Accordingly, extensive arrangements were made by the ships' crew to ensure that all evacuees were well looked after with humane face. Crew living quarters were appropriately prepared to accommodate women, elderly persons and children. To accommodate the maximum numbers of persons, male evacuees were accommodated on the upper deck, under the cover of shaminas. The ship also arranged to serve hot meals to all evacuees, despite the limitations ships' galley (or kitchen). Raising to the occa-

sion the ships' cooks continuously worked night and day to provide hot meals using the ships own rations. On their arrival on board, the ship's medical officers attended to those in need of medical attention. Special care was provided to pregnant women and elderly persons.

## Conclusion

As on April 12, 2015 Indian Naval Ships Mumbai, Tarkash and Sumitra deployed in Gulf of Aden have evacuated 2671 persons including 964 foreign nationals from 30 countries. Evacuation operations as part of Op Rahat continues to be progressed by the Indian Navy Ship deployed off the coast of Yemen.

The Yemen rescue effort has enhanced India's strategic leverage. If 'soft power' is what many describe as the ability to form, influence and transform public opinion and social perception without using any means of coercion or persuasion through economic means, then the current effort of India in Yemen is sure to enhance New Delhi's soft power stronghold in global public opinion.



Indian Navy personnel with young children during the evacuation process

The conduct of Indian Navy officers and sailors and their exceptional execution of responsibility which is not their normal task came in for admiration and praise from all concerned. Indian evacuees were proud of their Indian Navy and foreign evacuees were full of gratitude, whilst the international media was awestruck by the rapid response and precision work by the Indian Navy.

Prime Minister lauded the valiant efforts in evacuating citizens from other countries, among the Indians, "Salute the services of our civilian and defence officials and organisations in helping evacuate our citizens from Yemen. Continue your efforts! Seamless cooperation between organisations - MEA, Navy, Air Force, Air India, Shipping, Railways and State Governments—greatly helped in rescue work."

In keeping with the highest traditions of the Navy, Admiral R.K. Dhowan, the Chief of the Naval Staff, was prompt with his laudatory recognition for the valiant efforts of the Indian naval ships under most challenging and hazardous conditions which did India proud. On April 20, 2015, he bestowed 'Unit Citations' upon INS Mumbai and INS Tarkash at befitting glittering investiture. **SP**

## First of Scorpene submarines— Kalvari 'undocked'

**K**alvari, first of the Indian Navy's Scorpene class stealth submarine being built under the Project 75 in collaboration with DCNS of France, achieved a major milestone recently with her 'undocking' at the Mazagon Dock Limited (MDL).

The event was witnessed by the Defence Minister Manohar Parrikar, the Chief Minister of Maharashtra Devendra Fadnavis and the Chief of the Naval Staff Admiral R.K. Dhowan amongst other dignitaries present at the landmark occasion.

Parrikar urged the dock personnel "to strive towards making the yard a globally renowned one and to play a critical role in Indian Navy's goal of becoming a true blue water Navy". The project 75, which has already seen a delay of almost 40 months, has now been brought on track and the delivery schedule for the successive submarines have been reduced. Parrikar asked the defence public sector yards, viz. the Mazagon Dock Limited and the Goa Shipyard Limited to double their production in the coming three years.

Parrikar said as far as P75(I) project is concerned, private players can also be invited for joint venture which would help early fruition of the project. He warned that if the project is not completed in the stipulated time, the defaulting yard would have to pay penalty but an early completion would be rewarded with a bonus. He also asked MDL to take a lead in the skill development of local unemployed youth.

With a name steeped in the long and glorious tradition of its



illustrious predecessor, an erstwhile Russian 'Foxtrot' class submarine, Kalvari, upon its scheduled commissioning in 2016, would lend an enormous fillip to the Indian Navy's underwater capability. The remaining five boats of the Project 75 would be delivered by the yard to the Navy by 2020 and would form the core of the Navy's submarine arm for the next two decades.

The Scorpene submarines would pack a potent punch. She would be equipped with anti-ship missiles and long-range guided torpedoes along with modern sensor suite. **SP**

## Commodore Balbir Kumar Munjal is Station Commander Delhi Area



**C**ommodore Balbir Kumar Munjal has taken over Command of INS India and Station Commander Delhi Area from Commodore Vijesh Kumar Garg. After four years of successful tenure, Commodore Garg now proceeds as Deputy Director General, NCC for Tamil Nadu, Puducherry, Andaman & Nicobar.

Commodore Balbir Kumar Munjal was commissioned into the Indian Navy on January 1, 1986. He is an alumnus of the prestigious

National Defence Academy (NDA), Khadakwasala, and Defence Services Staff College (DSSC), Wellington. A specialist in missile and gunnery, he spent majority of his career in afloat and operational appointments. He has the distinction of being the Commanding Officer of four ships - INTRV-71, Missile Boat INS Pralaya, Submarine Depot Ship INS Amba and Fleet Support Ship INS Deepak. He has also been Chief Staff Officer of 22nd Missile Vessel Squadron at Mumbai for four years besides serving as Director of Naval Plans at IHQ MoD(N). For his distinguished service, he was awarded Vishisht Seva Medal by the President on January 26, 2014. **SP**

## Nuclear-capable Dhanush missile test-fired

**I**ndia recently successfully test-fired its nuclear-capable Dhanush ballistic missile with a strike range of 350 km from a naval ship off the Odisha coast. The surface-to-surface Dhanush, a naval variant of India's indigenously developed Prithvi missile, was test-fired from a ship in the Bay of Bengal off Odisha coast by the Strategic Force Command (SFC) of the defence force.

The single-stage, liquid-propelled Dhanush having 350 km range has already been inducted into the armed forces and is one of the five missiles developed by the Defence Research and Development Organisation (DRDO) under the Integrated Guided Missile Development Programme (IGMDP), defence sources said.

The trial was conducted by the SFC of the defence force in co-operation with DRDO. Dhanush missile is capable of carrying conventional as well as nuclear payload of 500 kg and hit both land- and sea-based targets. The previous trial was successfully conducted on November 14 last year. **SP**

# WASS is India's partner in progress

[ By R. Chandranth ]

**W**hitehead Sistemi Subacquei S.p.A. (WASS), Italy's leading company known for advanced underwater weapon and sensor design and development, has presence in 27 countries, including India where it has established itself. WASS arrived in India in 1976 with the sale of A244s light weight torpedos (LWTs), but has transformed itself as a partner in progress.

In 2010, much before the issue of the Defence Procurement Procedure (DPP) 2013 (which forces OEMs to indigenise), it opened a fully-owned subsidiary and has fruitful relationship with Indian companies such as the Bharat Dynamics Ltd (BDL), HEB, Tata Advanced System, Larsen & Toubro, etc. It has committed itself to offer India the latest and state-of-the-art products, supporting the Indian Navy, Indian industry and research and development organisations in their endeavours for indigenisation.

The Regional Delegate of WASS, Antonio Budroni mentioned how 10 years back, WASS initialised an industrial relationship with Soviet/Russian companies and India gave WASS an opportunity to increase the relationship in submarines and ASW avionics, such as kilo class submarines, IL38 ASW airplane and K28 ASW helicopters. The HWT (heavyweight torpedoes) and LWT families are in the process of integration on the above-mentioned platforms for both India and the worldwide market.

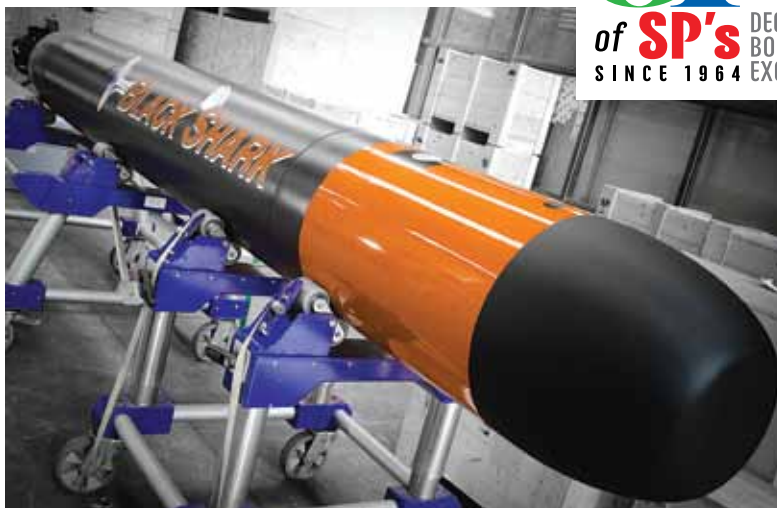
## BDL Collaboration

The collaboration with BDL since 2005 in submarine torpedo countermeasure field has strengthened and has potential for more. WASS believes that the right, reliable and safe way to indigenise production is to find the right partner, preferably a leader in the sector and offer it a production share as to develop technologies. WASS proposals to DRDO and NSTL were in this direction, but till date no agreement has been signed.

WASS believes that offsets and transfer of technology (ToT) are not enough to guarantee real absorption of technologies. All these instruments are based on programmes and not on products. The way BrahMos was indigenised is the most reliable way.

## Black Shark, the Right Choice for Indian Navy

The Ministry of Defence has selected WASS's Blackshark torpedo for the Scorpene submarine and WASS is awaiting final signatures.



With execution of this contract, which involves transfer of technology to BDL and offset, India would receive a large number of technologies and BDL would become established manufacturer of heavyweight torpedoes.

It is the most advanced and combat proven torpedo available in the market today. Its lethality and readiness is the results of years of strict collaboration in the development and qualification phases between WASS and Italian Navy. Recently, Black Shark was tested in Malaysia where the torpedo WARSHOT firing was from a Scorpene submarine against a dismissed ship. The firing confirmed the excellent performance of its communication's reliability with the fire control system through the fibre optic cable, of dynamic and acoustic performances, the effectiveness of its ignition chain and the explosive charge.

WASS's R&D investments have helped WASS to be the 100 per cent owner of the technologies and patented inventions such as acoustic head, insensitive high energy explosive, fibre optic wire guidance, primary and secondary batteries, propellers and wake homing contained in this sophisticated torpedo. The technology level of the other torpedoes in the market are at least 15 years old. WASS outsources its components production and follows a strict supply chain and is the best choice for the 'Make in India' policy of Prime Minister Modi.


## LWT Backbone of Indian Navy

These torpedoes have been the backbone of the Indian Navy underwater operations for over 30 years. WASS is willing and keen to collaborate with DRDO/NSTL for development of future LWT in India, by transferring key technologies.

## Torpedo Decoy System for Submarines

WASS supplied first C303 system to the Indian Navy in the late 1990s. In 2005, Indian Navy contracted WASS for supply of nine C303 additional systems with ToT and indigenisation by BDL is around 50 per cent. BDL has started receiving direct orders from the Indian Navy and WASS has become its sub-supplier.

## HWT for Ships

The HWT for ships is similar to HWT for submarines. WASS is very keen to supply these for the Indian Navy ships and is willing to increase the indigenous content to more than 50 per cent, with transfer of some key technologies. Once BDL has received the entire ToT, it should be the logical choice for placing order for these torpedoes. 

# Indo-French cooperation

*The nation is optimistic that the diplomatic initiatives by Prime Minister Modi will open new vistas of opportunity for international cooperation not only with France but with other nations of the developed world*

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

**T**he relations between India and France have traditionally been close and friendly nurtured by regular interaction by the political leadership of the two nations. After the establishment of the strategic partnership in 1998, there has been significant forward movement in several facets of the relationship. This has been achieved through regular interaction between the functionaries at the top echelons of the government of the two nations. The areas covered during such interaction has included primarily those that are strategic in nature such as the regimes of defence, nuclear energy and space. The exchanges have however been focused largely on the commercial aspects. France has consistently supported India's permanent membership of the United Nations Security Council as well as of the G-8.

## Cooperation in the Regime of Military

Procurement of military hardware from France in modern times commenced in 1949 beginning with some rudimentary equipment for the Indian infantry deployed at high altitudes in the Jammu and Kashmir region.

Despite positive vibes in the relations with France, India was somewhat dismayed at the sales of military hardware to Pakistan which included the Dassault Mirage III and Mirage V combat aircraft, the Breguet Atlantic long-range maritime patrol aircraft, Exocet missiles and Agosta class submarines. The strain in the relationship on account of these sales, which incidentally were driven totally by commercial interest, was partially subdued by the strong relations between India and France in the fields of civil nuclear energy and aerospace.

During the war with Pakistan in 1965, France along with the US imposed an arms embargo on both India and Pakistan. However, France continued to supply spare parts for military equipment of French origin in the inventory of the Indian armed forces. While US and UK tightened sanctions against India after the war, France opted to lift the embargo in March 1966.

India has been purchasing military aircraft since the 1950s from France that has always proved to be a dependable supplier and virtually a reliable partner, not inclined to succumb easily to pressures from any quarter. Beginning in 1953 with the acquisition for the Indian Air Force (IAF) of Dassault Ouragan, a jet fighter aircraft of the first-generation that was renamed as the Toofani in India, in 1956, the IAF received the Dassault Mystere IV that took part in the wars with Pakistan both in 1965 and 1971.

The Mystere IV was followed by the single-engine Mirage 2000 fleet of multi-role aircraft once again from Dassault that was inducted in the early 1980s along with the Anglo-French Sepecat Jaguar Deep Penetration Strike Aircraft. The fleet of 49 Mirage 2000 aircraft that remain in service with the IAF are being upgraded with help from Dassault Avia-



Prime Minister Narendra Modi with the President of France François Hollande in Paris on April 10, 2015

tion and with the new lease of life, are expected to continue in service with the IAF for at least another decade or more. France has also supplied the Indian armed forces with the Aerospatiale SA 315 B Lama and the Aerospatiale Alouette III, renamed in the IAF as Cheetah and Chetak respectively. The two types of single-engine helicopters came in utility as well as in armed versions and were also manufactured under licence in India by the Indian aerospace major the Hindustan Aeronautics Limited (HAL). France also supplied the Turbomeca TM 333 engine and jointly with HAL, developed the HAL/Turbomeca engine called the Shakti. This engine today powers the fleet of advanced light helicopter Dhruv and its variants manufactured by HAL.

France had also supplied the carrier borne 12 Breguet Alize anti-submarine warfare aircraft for the Indian Navy. In addition, the French company DCNS has been contracted to supply six Scorpene submarines that are being built at the Mazagon Dock Limited (MDL) in Mumbai under a transfer of technology arrangement. The first of these vessels was launched by the Minister of Defence Manohar Parrikar on April 6, 2015, and is currently undergoing sea trials. In 1956, the Indian Army procured 164 AMX-13/Model-51 light tanks which gave a good account of themselves in war.

But perhaps the most important deal so far with the French aerospace industry described as the 'Mother of all Deals,' has been for 126 Rafale medium multi-role combat aircraft (MMRCA) once again offered by the reputed French aerospace major Dassault Aviation.

Unlike the cases for procurement in the past of combat aircraft from France, the Rafale contract appears to have got bogged down in an inelegant stalemate wherein either side is willing or appears to be in a position to climb down. It is now up to the wisdom of the enlightened political leadership on both sides to work out a mutually compatible solution. If the effort is not successful, it could seriously undermine the Indo-French relationship that has been forged so carefully over the last five-and-a-half decades. But Prime Minister Narendra Modi is hopeful about the MMRC deal as is evident from in his statement in an interview with the French newspaper *Le Figaro* ahead of the state visit when he said, "The question of the Rafale is still in discussion and we should be able to make progress on mutually acceptable basis".

However Prime Minister Modi sprung a pleasant surprise late evening on April 10, when while enunciating his part of the joint statement, he stated that the French President had accepted his request to provide 36 Rafale combat jets directly in fly-away condition. These 36 aircraft will be priced at ₹700 crore each, the total cost being in the region of ₹25,000 crore. This is a deal between the two governments and would in no way impinge on the ongoing contract negotiations for the 126 MMRC. In fact this deal is beneficial in several ways. Firstly, it will provide the much needed shot in the arm for the combat fleet of the IAF which is dwindling rapidly. Secondly, the ease with which this deal has been concluded and made public, reflects the level of mutual confidence the leadership of the two nations enjoy. It not only adds a feather in their respective cap, it opens a new chapter in the long-standing relationship between the two nations which bodes well for the pending 'Mother of all Deals.' And finally, this deal could help break the deadlock in the contract negotiations with Dassault and pave the way for finalisation of the long awaited MMRC contract, something that both the parties need badly and ought to be looking forward to.

## Cooperation in the Field of Civil Nuclear Energy

France being one of the few nations that did not condemn the nuclear tests at Pokhran in 1998 was also the first country with which India entered into an agreement on nuclear energy following the waiver given by International Atomic Energy Agency and the Nuclear Suppliers' Group enabling India to resume full civil nuclear cooperation with the international community.

A landmark Framework Agreement on Civil Nuclear Cooperation was signed between India and France on September 30, 2008, during the visit of the then Prime Minister Dr Manmohan Singh to France. This agreement paved the way for the sale of French-made nuclear reactors to India. Subsequently, during the visit to India by President Nicolas Sarkozy in December 2010, the General Framework Agreement and the Early Works Agreement between the Nuclear Power Corporation of India Limited (NPCIL) and Areva, for implementation of EPR NPP Units at Jaitapur were signed. Areva is a French multinational group specialising in nuclear and renewable energy.

Today, France is one of the largest suppliers of nuclear fuel to India. However, the one issue that lingers in the domain of cooperation in the field of civil nuclear programmes is that of civil nuclear liability. The way forward in the search of a solution to this problem has already been demonstrated by Prime Minister Modi and President Barack Obama. Hopefully the leadership of both India and France will be able to resolve this issue without much difficulty.

## Cooperation in the Regime of Space

India and France have been important partners in space technology and its applications. The Indian Space Research Organisation (ISRO) and its French counterpart Centre National de Etudes Spatiales (CNES) have a history of cooperation and collaboration spanning about four decades. In 1993, CNES and ISRO entered into an umbrella agreement for cooperation in the area of space exploration. Apart from

joint missions such as Megha-Tropiques and SARAL that have been successfully developed, under a commercial Launch Service Agreement between Antrix Corporation Limited, the commercial arm of ISRO, and ASTRIUM SAS, a company under EADS, France, two advanced remote sensing SPOT satellites were successfully launched in 2013 and 2014 on board ISRO's most reliable workhorse, the polar satellite launch vehicle (PSLV). Arianespace based in France has been the major provider of launch services to Indian geostationary satellites. Subsequent to the



Prime Minister Narendra Modi visiting the Airbus Facility in Toulouse, France

launch of APPLE satellite, 18 Indian satellites have been launched by Arianespace. On December 7, 2014, GSAT 16 communication satellite was launched successfully onboard an Ariane 5 launcher from Kourou in French Guyana. India's Vikas rocket engine, which powers both the PSLV and the geostationary launch vehicle (GSLV) benefited from collaboration on the CNES Viking rocket engine of Ariane 4.

## The Way Forward

There are a number of areas where the strategic interests of India and France converge. First is the cooperation in the regime of defence with India offering a lucrative market for the French aerospace and defence industry and readiness on the part of the French Government to part with the latest technologies. Secondly, both India and France would like to see China's growing influence contained as also would prefer independent foreign policy in the region, something described by Jean-Yves Le Drian, the French Defence Minister, as 'Strategic Autonomy.' Both the nations would like to ensure that the Indian Ocean is safe for maritime traffic that is vital for economic growth.

Having overwhelmed the countries in the Indian Ocean region with his foreign policy initiative, Prime Minister Modi has now turned his attention to the developed world. The nation is optimistic that the diplomatic initiatives by Prime Minister Modi will open new vistas of opportunity for international cooperation not only with France but with other nations of the developed world. **SP**



**Manohar Parrikar**  
Defence Minister of India;  
(Right) Rafale multi-role fighter



# Oxygen to the Indian Air Force

*The statement by the Minister of Defence that the deal for 36 Rafale fighter jets will bring some 'oxygen' to the Indian Air Force accurately reflects the predicament the IAF is currently in*

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

**T**he somewhat unexpected announcement on April 10, 2015, by Prime Minister Narendra Modi while on a state visit to France, pertaining to the purchase of 36 Rafale combat jets from Dassault Aviation of France through a direct deal between the two governments, has surprised many and has confused some. But to the Indian Air Force (IAF) it has come as music to its ears!

As per reports that appeared in the media recently, a Parliamentary Consultative Committee on Defence expressed serious concern on the rapidly dwindling size of the combat aircraft fleet of the IAF which, as per the Committee, had reduced to around 25 squadrons. This is an alarming all-time low against the currently authorised strength of 39.5 squadrons. The government has also approved the strength of the fleet of combat jets in the IAF to go up to 42 squadrons by 2022. Earlier on it had been assessed that to fight a war on two fronts simultaneously, the IAF should ideally have 60 squadrons.

As per data available in the public domain, the strength of the combat fleet of the IAF is presently down to 31.5 squadrons. The breakdown is as under:

Of the combat aircraft, the MiG-27 fleet is already obsolete and should have been retired. But given the declining strength of the combat fleet, the MiG-27 squadrons are

being retained for another two years at the most. So would be the case with the MiG-21 Bison fleet. In all likelihood this fleet would also be retired by 2019 if not earlier. The number of Su-30MKI squadrons, that is currently at ten, is expected to reach its full strength of 15 squadrons (272 aircraft) by 2019 if the Hindustan Aeronautics Limited factory at Nasik adheres to the committed time lines. However, slippage in delivery should not come as a surprise and the IAF ought to be prepared for it.

As for the latest deal with France for 36 Rafale aircraft, delivery of these aircraft is expected to be completed within two years, i.e., by 2017 as stated by the Minister of Defence Manohar Parrikar. This is the year in which a number of combat aircraft will be due for retirement. The IAF therefore is literally gasping for breath with its fighter fleet shrinking rapidly leading to crippling erosion of combat capability. Induction of the 36 hopefully new Rafale aircraft will provide

only temporary relief to the IAF. There is imperative need to build up the strength of the Rafale fleet progressively to at least 126 aircraft if not more through Government-to-Government deal now that the medium multi-role combat aircraft (MMRCA) tender has been aborted.

The statement by the Minister of Defence Manohar Parrikar that the deal struck with France for purchase of 36 Rafale fighter jets will bring some 'oxygen' to the Indian Air Force is a fairly accurate summation of the predicament the IAF is currently in. **SP**

## Strength of the Indian Air Force

Type of Aircraft	No. of Squadrons
Su-30MKI	10
MiG-29	03
Mirage 2000	2.5
MiG-21 Bison	06
Jaguar	05
MiG-27	05
<b>Total</b>	<b>31.5</b>

# Mother of all Deals recedes into history

*The Indian Air Force should have good reason to believe that it will, in due course, get the number of Rafale combat jets it requires*

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

**T**he visit of Prime Minister Narendra Modi to France from April 9 to 12 this year had raised hopes for the Indian Air Force (IAF) that the stalemate in the long-awaited deal pertaining to the 126 Rafale medium multi-role combat aircraft (MMRCA) would finally be broken. While repeated assurances continued to emanate from the corridors of power that the contract negotiations in the MMRCA deal were continuing and hopefully the impediments to finalisation of the deal would be out of the way soon, the proposal for 126 Rafale fighter jet deal with Dassault Aviation and the state visit of the Indian Prime Minister to France were two separate issues which could not be linked.

However, during the joint statement in Paris on April 10, 2015, Prime Minister Narendra Modi sprung a surprise by his public statement that the President of France François Hollande had accepted his request for France to supply 36 Rafale combat jets to India directly in fly-away condition. Once again, this too was not linked with the deal for 126 Rafale MMRCA that appeared to have got bogged down over some seemingly irreconcilable issues; but till then, was not regarded as an aborted endeavour. There was thus excitement in some quarters on the possibility that the IAF could eventually receive a total of 162 Rafale jet fighters (126 plus 36).

On the evening of April 13, 2015, however, instead of an announcement about the deadlock in the contract negotiation being broken, on account of a statement by the Minister of Defence Manohar Parrikar on CNN IBN, the MMRCA contract itself lay shattered along with dreams that the IAF had been nurturing since 2007 when the request for proposal (RFP) for MMRCA was issued by the Ministry of Defence. During the interview with CNN IBN, the Minister of Defence literally dropped a bombshell when he stated that all future deals for Rafale fighters would also be through Government-to-Government route, indicating that the MMRCA tender for 126 Rafale aircraft, the cost of which had escalated from \$10.4 billion to over \$20 billion, had been cancelled. The Minister went on to state that "the contract negotiations for 126 Rafale MMRCA had entered into a loop or a vortex with no solution in sight". The Minister also made a damning observation on the Defence Procurement Procedure (DPP) when he said, "Scope was only possible in Government-to-Government deal. Instead of going through the RFP route where there was lot of confusion and chaos, it was decided that we will go through the Government-to-Government route".

It would be pertinent to mention here that this observation by the Minister of Defence is not without basis. Since its implementation, only one case of procurement of equipment by the IAF, of the Pilatus basic trainer aircraft, has been completed successfully through DPP. As against this, a number of acquisitions for the IAF have been made successfully through the Government-to-Government route. These include the Boeing Business Jets, C-130J Super Hercules and C-17

Globemaster III strategic airlift aircraft. May be it is time the government examines whether a DPP is really required as defence procurements being related to national security could be handled more efficiently through the Government-to-Government route. This has been demonstrated once again in the case of the Rafale combat jets.

Procurement of 36 Rafale fighter jets within two years in fly-away condition would certainly be a matter of relief for the IAF especially in the context of the rapidly dwindling combat fleet. However, this number is much too small to boost the operational capability of the IAF to enable it to fight a two-front war. Besides, the number is too small to justify the expenditure the IAF would have to incur on



Prime Minister Narendra Modi with the President of France François Hollande in Paris on April 10, 2015

creation of maintenance and training infrastructure as also on manpower. There are however indications that the government will not stop at 36 as implicit in the words of the Minister of Defence when he said: "I think it is a bold decision and I will give 100 out of 100 to the Prime Minister. Many people politically fail to take decision. But the need of the nation comes first. What Prime Minister Modi has done is that he has got a deal for 36 aircraft. We will negotiate and will buy more. The ice has been broken".

The finesse with which the Prime Minister Modi has managed to end the uncertainty about the procurement of Rafale fighter jets is a clear indication of the priority his government attaches to national security. The IAF should have good reason to believe that it will, in due course, get the number of Rafale combat jets it requires.

The nation can certainly expect many more of such pleasant surprises from the Prime Minister. **SP**



Team Leader Group Captain A.S. Pathania (4th from left) and Group Captain B.S. Reddy (4th from right), Commanding Officer of Squadron No. 81 which operates C-17s, with Minister of State (MEA) General V.K. Singh at Djibouti

## Kudos to Humane IAF

*The IAF has always had a major role in disaster relief and rescue operations irrespective of whether it is natural or man-made and has always acquitted itself exceptionally well*

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

**I**n the Arab state of Yemen, struggle between two sects of Muslims— the Zaidi Shia backed by Iran and Sunnis supported by Saudi Arabia— for dominance had been simmering since 2011. However, in the middle of last year, Sana'a, the capital city of Yemen, was plunged into a crisis when a violent conflict broke out between the Houthi rebels who represent the Shia community, led by Abdul Malik al-Houthi, and the forces of the somewhat weak Sunni government of Yemen. A UN-brokered deal could not prevent escalation of the conflict which has the character of wider sectarian struggles that are currently raging in the Middle East impinging on the region's heterogeneous social fabric. The confrontation in Yemen is not a simple and straightforward case of another conflict between the Shias and the Sunnis; but is infinitely more complex and is born out of extreme animosity between the Houthis and the Salafists, the Sunni Islamists of Yemen that are also supported by Al Qaeda. The Shiite Houthi rebels succeeded in toppling the government of President Abdrabbuh Mansur Hadi and extended their control over large parts of the country.

The President of Yemen fled as soon as the Houthis launched a determined offensive on the capital city of Sana'a.

In January this year, when the situation in Yemen appeared to be spiralling out of hand, apprehending serious security threat, the Ministry of External Affairs (MEA) issued advisories to India citizens working in Yemen to leave the country. This apparently did not seem to have any impact on the 4,000-odd Indian citizens working in that country who perhaps were not willing to give their lucrative source of income. For India, the Indian nationals working abroad constitute an important economic dimension. Altogether in the world, there are 21 million Indian citizens employed outside India whose annual remittance to the home country is estimated at \$70 billion. This is far more than any other country receives from its overseas workers. Almost 25 per cent of the total global population of expatriate Indians are employed in the Middle East. These are largely employed as health care professionals (read nurses), construction workers, drivers and in miscellaneous assignments in the hospitality industry. Evacuating Indian citizens from conflict-ridden zones in the world is thus an important responsibility of the Government of India, an area in which it has been appre-



Evacuated Indians from Yemen getting into the Indian Air Force C-17 aircraft at Djibouti; an inside view of the C-17 aircraft

ciably responsive. India has evacuated 7,000 citizens from Iraq till November last year as well as nearly 18,000 from Libya in 2011, as violent conflicts raged in these nations.

## Operation Raahat Launched

Concerned about the rapidly deteriorating security situation in Yemen, the MEA issued a second travel advisory on February 20, 2015, urging Indians to avoid travel to Yemen as well as to leave the country. Finally on March 25, the MEA once again issued an urgent advisory urging all Indian citizens to evacuate as soon as possible. Soon after the third advisory was issued by the MEA, on March 27, 2015, the Royal Saudi Air Force led a coalition of Arab states launched air strikes against the rebels of the Shiite Houthi faction. Thus it was that the Government of India had no option but to launch a massive

operation employing all the resources at its command to recover more than 4,000 Indian citizens who were trapped in Yemen.

A massive rescue operation with a number of warships of the Indian Navy, C-17 Globemaster III heavy-lift transport aircraft of the Indian Air Force (IAF) and civilian airliners from Air India was launched immediately. The exercise was code named 'Operation Raahat' and was conducted under the overall supervision of the Minister of State for External Affairs, General V.K. Singh (Retd), the former Chief of Army Staff.

In a well coordinated operation involving multiple agencies, the C-17 Globemaster III strategic airlift aircraft of No. 81 Skylord Squadron based at Air Force Station Hindon, near Delhi, commencing on April 1, 2015, operated continuous shuttle flights from Djibouti to Mumbai and Kochi evacuating a total of 2,096 hapless souls. The national carrier Air India deployed two Airbus A320 and one Boeing 777 to assist in the evacuation of the stranded Indian citizens. The operation successfully concluded on April 10, 2015.

## Details of operation by Indian Air Force

SL No.	Flown From	Flown To	Date	No. of People Evacuated
1.	Djibouti	Kochi	01.4.2015	168
2.	Djibouti	Mumbai	01.4.2015	190
3.	Djibouti	Mumbai	03.4.2015	334
4.	Djibouti	Mumbai	05.4.2015	225
5.	Djibouti	Mumbai	06.4.2015	229
6.	Djibouti	Mumbai	06.4.2015	175
7.	Djibouti	Mumbai	07.4.2015	223
8.	Djibouti	Kochi	08.4.2015	68
9.	Kochi	Mumbai	08.4.2015	150
10.	Djibouti	Mumbai	09.4.2015	177
11.	Kochi	Mumbai	09.4.2015	62
12.	Djibouti	Kochi	10.4.2015	95
<b>Total</b>				<b>2,096</b>

## The Way Forward

Operation Raahat once again convincingly brings to the fore the strategic reach the transport fleet provides to the IAF. This capability is not only critical for projection of national power, it also helps boost confidence levels in the huge Indian expatriate community that the nation will stand by them in the hour of need. The fact that India's experience and expertise in mounting large-scale rescue operations in crisis-ridden areas or zones of conflict is recognised the world over, is evident in the request to the Government of India for assistance from 32 countries in evacuating their citizens from the war zone in the Middle East.

The IAF has always had a major role in disaster relief and rescue operations irrespective of whether it is natural or man-made. The organisation has always risen to the occasion and acquitted itself exceptionally well each and every time bringing glory to the service and to the nation. This peacetime role of the IAF is perhaps as critical as its role in war. The IAF needs to examine the need and the feasibility of creating a specialised apex body for this role and provide it with the required resources of manpower, equipment and infrastructure. The government on its part must accord due priority in the creation and sustenance of such an organisation. The IAF must be kept prepared not only for the defence of our motherland; but must also possess the capability to respond swiftly in aid to civil authority both within the country and in distant lands. **SP**



## Airbus Group commits to Modi

**P**rime Minister Narendra Modi visited the Airbus production facilities in Toulouse where he was received by Airbus Group Chief Executive Officer (CEO) Tom Enders as well as other members of the Airbus Group Executive Committee.

"We are honoured to host Prime Minister Modi in Toulouse and convey to him our desire to forge a stronger industrial bond with India," said Airbus Group CEO Tom Enders. "India already takes a centre-stage role in our international activities and we want to even increase its contribution to our products. We support Prime Minister Modi's 'Make in India' call and are ready to manufacture in India, for India and the world."

Tom Enders was joined by Airbus CEO Fabrice Brégier, Airbus Defence and Space CEO Bernhard Gerwert and Airbus Helicopters CEO Guillaume Faury.

In India, Airbus Group already operates two engineering centres – one focused on civil aviation and the other on defence – and a research and technology (R&T) centre which together employ over 400 highly qualified people. During the meeting with Prime Minister Modi, the Group's senior representatives conveyed their decision to expand these centres so that they can take on comprehensive design responsibilities for future Airbus Group programmes.

Airbus aircraft form a significant part of the fleets of all major Indian carriers and with well over 70 per cent market share; it is India's aircraft of choice. Prime Minister Modi was given a tour of the A380 Final Assembly Line. Currently, four daily A380 flights serve India. With much larger markets waiting to be tapped, the potential for the A380 to help Indian carriers win greater international market share with a flagship aircraft is enormous.

Prime Minister Modi also attended a presentation of Airbus' supplier network in India followed by an interaction with representatives of some of the key local Airbus partners. In 2014, Airbus' procurement from India stood at over \$400 million from around 40 companies (public and private) which together support more than 5,000 jobs locally. The top three procurement areas have been in engineering and IT services, aero-structures, and detailed parts & systems.

The Prime Minister was informed that procurement from the country is set to grow further as the Group plans to award additional manufacturing and engineering work packages to local companies, which will accelerate their integration into the Group's global supply chain.

The Group is willing to set up final assembly lines and establish supply chains and related infrastructure for military transport aircraft and helicopters in the country. These would be in full compliance of the procurement policies specified by the Indian Ministry of Defence and local foreign direct investment guidelines.

Airbus Defence and Space has submitted a joint proposal with Tata to produce the modern C295 aircraft in India as a replacement for the ageing Avro aircraft of the Indian Air Force. The division also plans to develop and manufacture electronic sensors with a partner in India, and has advanced discussions to support the Hindustan Aeronautics Limited's combat aircraft programmes.

Airbus Helicopters is in discussion with Indian companies to finalise teaming arrangements for various helicopter programmes, including the Naval Utility Helicopter, the Reconnaissance and Surveillance Helicopter as well as the Naval Multi-Role Helicopter competitions.

Additionally, both sides use each other's launchers to put satellites into orbit. The most recent example was the launch of Airbus Defence and Space's SPOT 7 satellite aboard ISRO's polar satellite launch vehicle in June 2014. Airbus Group is confident links with Indian industry in the space sector will grow in the coming years through the cooperation on design and manufacturing of larger telecommunication satellites in India. **SP**

## Air Chief asks Commanders to focus on training

**A**ir Chief Marshal Arup Raha, Chief of the Air Staff, addressed all Station Commanders of the Indian Air Force in Bengaluru recently where he urged the Commanders to focus on enhancing quality of training and maintenance. The need for improving training infrastructure, preservation of air assets during peacetime and team building through HR management was emphasised.

As part of the conference, the Air Chief presented trophies to the winners: Best Flying Training Establishment to Air Force Station Tambaram; Best Ground Training Establishment to Air Force Administrative College Coimbatore; Best Airmen Training Institute to Communication Training Institute Jalahalli; Best Maintenance to Air Force Station Hakimpet and Best Administration to Air Force Station Jalahalli. **SP**





## CNES and ISRO sign agreement

**A**s part of the state visit of Prime Minister Narendra Modi, CNES and the Indian Space Research Organisation (ISRO) signed an agreement to pursue their historic partnership in space at the Élysée Palace, in the presence of the

French President.

The signing of this agreement gives fresh impetus to French-Indian space cooperation, which is already intense and is a key strategic strand of the dialogue between the two governments. With the new agreement, the first of such importance since 1993, the close links between the two countries have been further strengthened. It is the longest collaboration in space that India has undertaken with a European nation and confirms CNES's place as ISRO's chief international partner, following the memoranda of understanding signed in 2004, 2007 and 2010, and the long-term statement of intent on space cooperation signed in 2013.

The purpose of the new agreement is to establish a cooperation framework to support future joint missions and activities in the peaceful uses of outer space. It will strengthen the cooperation in place in remote sensing, telecommunication and weather satellites, space science and planetary exploration, data collection and location, operation of ground receiving stations, management of space missions, research and applications.

Several objectives have been identified, including flying an Argos 4 instrument on ISRO's Oceansat mission in 2018, the start of studies for a joint thermal-infrared Earth-observing mission and support from CNES for India's future Mars mission. **SP**

## HAL Board reconstituted

**T**he Board of Directors of the Hindustan Aeronautics Limited (HAL) has been reconstituted with effect from April 1, 2015. The Chairman, T. Suvarna Raju, is now re-designated as Chairman & Managing Director (CMD).

The revised structure consists of five whole time directors, including CMD, two government nominee directors and seven independent directors. The current position of Director Human Resources is held by V.M. Chamola and that of Director (Finance) by Dr A.K. Mishra. and S. Subrahmanyam who was Managing Director (MiG Complex) is now Director (Operations). The position of Director Engineering and R&D will be filled-up soon.



The posts of Managing Directors have been discontinued. The company now has four Chief Executive Officers (below the board level). They are V. Sadagopan, CEO (Helicopter Complex), R. Kaveri Renganathan, CEO (Bengaluru Complex), Daljeet Singh, CEO, MiG Complex and Rajiv Kumar, CEO, Accessories Complex. **SP**

## Boeing acquires 2d3 Sensing

**B**oeing has acquired 2d3 Sensing, a wholly-owned subsidiary of OMG plc specialising in motion imagery processing of critical intelligence, surveillance and reconnaissance data generated from aerial platforms.

2d3 Sensing's software and services are used by the US Air Force and other government and commercial customers. Their products can be found on the ScanEagle and Integrator systems provided by Boeing subsidiary Insitu, and this acquisition will allow further integration of 2d3 Sensing's video analysis and other capabilities, into Insitu and other Boeing platforms.

"This supports our effort to differentiate our platforms and services with integrated information solutions," said Steve Nordlund, Boeing Defense, Space & Security Vice President, Unmanned Airborne Systems.

2d3 Sensing has approximately 40 employees in California and the United Kingdom.

"Insitu has a long history with 2d3 and by integrating them into the team, we can further leverage the unique capabilities the company offers," said Ryan Hartman, Insitu President and CEO. "The services they provide highlight ways in which computer vision and image processing technologies can be used to enhance and analyse full motion video data captured and recorded during live missions. We look forward to incorporating such improvements into our unmanned vehicles." **SP**

## Raytheon completes Mississippi factory expansion

**R**aytheon Company (RTN) completed a 20,000-square-foot addition to its factory in Forest, already one of the biggest in the state. The extra room will allow the company to support anticipated growth in airborne radar and electronic warfare systems.

"Raytheon has been part of this community's fibre for more than three decades," Fred Darlington, a Vice President in the company's Space and Airborne Systems business, said in a ribbon-cutting ceremony with Mississippi Governor Phil Bryant and senior military leaders. "Raytheon stood by the Governor's side here on Veterans Day 2013 with a pledge to add more space for our high-skill workforce, and we kept our commitment."

The state-of-the-art test facility is part of a new common test platform the company is deploying for all of its electronic warfare systems. Raytheon plans to add a number of new positions over time to keep pace with orders for its active electronically scanned array (AESA) fighter jet radars and Sentinel air defence radars. The company is the only manufacturer with combat-proven AESAs in production for tactical aircraft. **SP**

## Government committed to strengthen BSF: Kiren Rijiju

**T**he Union Minister of State for Home Affairs Kiren Rijiju has said that the government is committed for strengthening the Border Security Force (BSF). Rijiju was addressing the Induction Ceremony of Two Mi-17 V5 Helicopters into the BSF in New Delhi.

The Minister said that the induction of these two helicopters into the BSF will bolster the air support missions for BSF troops along India's borders and in the hinterland during anti-let-wing extremist operations. The Russian made Mi-17 V5 choppers will boost the flying capability of BSF Air Wing and these will be deployed for a variety of Internal Security related tasks and also in some of the most arduous and inhospitable conditions on the borders, he added. Rijiju said that the choppers are armed with the latest in avionics and night flying capabilities, both of which were longstanding BSF requirement.

The Director General of BSF D.K. Pathak and other senior officials from the Ministry of Home Affairs and BSF were present on the occasion. **SP**



Minister of State for Home Affairs Kiren Rijiju at the Induction Ceremony of two Mi-17 V5 Helicopters into the BSF, in New Delhi on April 9, 2015

## Withdrawal of AFSPA in Arunachal

**T**he Union Minister of State for Home Affairs Kiren Rijiju has clarified that the 20-km border belt between Assam and Arunachal Pradesh was already declared a 'Disturbed Area' since long time due to various terrorist and insurgent groups operating in Assam. Of late, it has been observed that splinter groups of insurgents, particularly NDFB(S) and ULFA(I) have not only been using Arunachal Pradesh as a transit to Myanmar but also taking sanctuary in the bordering districts of the state with Assam beyond the 20 km belt declared disturbed along the border with Assam and as a result, security forces have been finding it increasingly difficult to act against them, even if they know their whereabouts.

Declaration of the districts bordering Assam, in Arunachal Pradesh, as disturbed has been made with the sole purpose of enabling the forces to chase and arrest these terrorists and insurgents irrespective of the distance they cover in Arunachal Pradesh for a limited period till these violent Assam-based groups are neutralised. Reading anything about this measure beyond this is improper and unfortunate.

The state government does not seem to be comfortable with this measure while at the same time the state police has not proved to be effective in dealing with these terrorists. Under the circumstances, the Ministry of Home Affairs is left with no alternative but to ask the state government as to what alternative would they like so that the national and internal security is not compromised and innocent peace loving citizens of Arunachal are not unnecessarily affected. **SP**

## Appointment of Additional Directors General of CRPF and CISF

**T**he competent authority has approved the following: S.K. Bhagat, IPS (UK:82) is appointed as Additional Director General in the Central Reserve Police Force (CRPF) in the HAG pay scale for a period up to 30.6.2017 (i.e. date of his superannuation) from the date of taking over the charge of the post or until further orders.

Rajiv Rai Bhatnagar, IPS (UP:83) as Additional Director General in the Central Industrial Security Force (CISF) in the HAG pay scale for a period of four years from the date of taking over the charge of the post or until further orders. **SP**

## Naxalites kill BSF jawan in Chhattisgarh

**N**axalites attacked a BSF team killing a jawan in Chhattisgarh's insurgency-hit Kanker district, striking for the third time in the past month. Maoists fired indiscriminately on security personnel who were patrolling in the proximity of Chhote Baithiya BSF camp under Bande police station area, said Kanker Superintendent of Police Jitendra Singh Meena.

A gun battle erupted between security forces and ultras and the rebels soon fled to the core forests, he added. "A BSF head constable succumbed to bullet injuries, sustained during the gunfight, while being taken to a local hospital," the SP said.

Soon after the incident, reinforcements were rushed to the spot, he said, adding that a combing operation has been launched in the region to nab the assailants. Seven Special Task Force (STF) personnel were killed and ten others injured recently when Naxals ambushed them in the forests of restive Pidmel village under Polampalli, around 450 km from state capital Raipur. Naxals also allegedly set ablaze at least 17 vehicles engaged in mining work in Kanker district, 140 km from here. However, no one was injured. **SP**

## Insider threat programmes set to double

**2**015 is set to see a huge rise in the number of IT professionals taking action to address insider threat in their organisations, according to new research. Currently 43 per cent of IT professionals in the UK have an insider threat programme already in place, and 36 per cent are planning to put one in place this year. A further eight per cent are planning an insider threat programme within five years.

The research, which saw IS Decisions survey 250 IT professionals in the UK and 250 in the US, found that combatting insider threat is high on their agenda following a string of high-profile internal security breaches. An average of 37 per cent across the two countries are planning an insider threat programme this year.

The research also found that IT professionals are spending more on security in general, with the proportion of IT budgets spent on security increasing by a third in the last year. "2014 was dubbed by many as the 'year of the breach,'" said François Amigorena, CEO of IS Decisions. "We kept seeing big-name businesses hitting the news as a result of major internal security breaches week after week. **SP**



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