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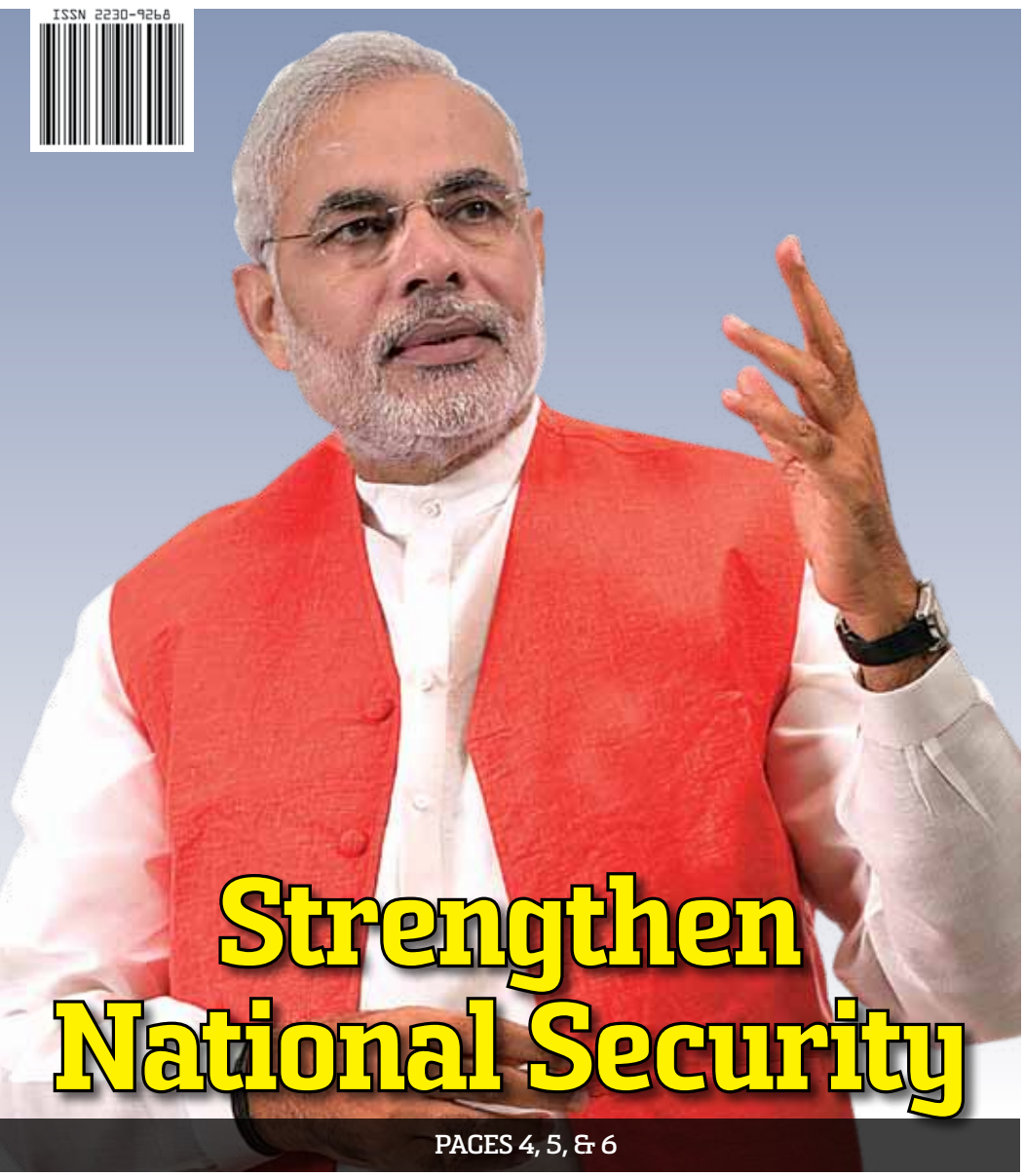

Strengthen National Security

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Air Chief inaugurates the Commanders' Conference of Training Command

A two-day Annual Commanders' Conference of Training Command, the alma mater of the IAF, was inaugurated by Air Chief Marshal Arup Raha, Chief of the Air Staff, on May 15, 2014, at Bengaluru. Commanders of all the Flying, Technical and Non-Technical Training Establishments of Air Force Stations under HQ Training Command are attending the conference. This is the CAS' first visit to the Garden City after he took over on January 1, 2014.

The CAS and Lily Raha, President AFWWA, were received by Air Marshal Paramjit Singh Gill, AoC-in-C, HQ TC, and Pushpinder Gill, President AFWWA (Regional) at Bengaluru. On arrival at Command HQ the CAS was given a Guard of Honour.

In his inaugural address, the CAS acknowledged the hard work and professionalism of all air warriors

PHOTOGRAPH: PIB

of Training Command for their unflinching effort of conditioning every trainee to become fine air warriors. He emphasised the importance of inculcating moral values, qualities of leadership, mental and physical prowess and an indomitable spirit to win against all odds. He also urged all air warriors to be fully involved in the process of IAF's modernisation towards full spectrum strategic force and to keep abreast with the modern developments and technologies for smooth transition and better absorption of modern equipment.

The Chief underlined the importance of staying physically fit and mentally agile so as to meet the challenges of one's profession. He urged all air warrior to work towards the organisational goal with loyalty and dedication.

The CAS awarded trophies to the units for their accomplishments and performance. SP

Cover:
It is hoped that the new NDA Government will fast-track development in various sectors, particularly in aerospace and defence sectors that are keenly awaiting infusion of 'investor confidence', 'proactive industry-friendly policies' and 'accelerated momentum of armed forces modernisation', among other issues.

Cover images: BJP website, Wikipedia, SPSC

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Decisive BJP victory spells stability, prosperity

The Narendra Modi-led Bharatiya Janata Party's (BJP) historic and astounding victory in the general elections is the response of the people for a strong and stable government, not weighed down by regional parties and other forces. It is hoped that the new government will fast-track development in various sectors, particularly in aerospace and defence sectors that are keenly awaiting infusion of 'investor confidence', 'proactive industry-friendly policies' and 'accelerated momentum of armed forces modernisation', among other issues.

In the recent past, we have witnessed how gaps have emerged in armed forces modernisation programmes, how the needs of national security stare in one's face, and how the pace of defence production indigenisation needs to be stepped up. It is not that the outgoing government did not take initiatives, they did, but somewhere along the course, the programmes hit a roadblock, not really helping the aerospace and defence sectors.

Hopefully this will change for the better. In fact, the BJP election manifesto has clearly indicated what it would do to strengthen internal security by giving muscle to the National Investigation Agency. It has said that it would completely revamp the intelligence gathering system by modernising the intelligence department. Reforming the National Security Council to make it the hub of all sector-related assessments, the BJP promises to provide state governments with all assistance to modernise their police forces and equip them with the latest technology.

It is good news that the former Army Chief General V.K. Singh is part of the winning BJP team and his inputs on defence would indeed help the government in understanding the urgency of armed forces modernisation and resolving a host of other issues.

In his frank and forthright viewpoint, Lt General (Retd) P.C. Katoch has pointed out that the priority for the new government should be to define a National Security Strategy (NSS) followed by a Strategic Defence Review, latter ironically glossed over by the Naresh Chandra Committee. The foremost need is to enunciate the NSS to shape the environment in India's favour. In doing so, organisations and entities like the Ministry of Defence, Ministry of Home Affairs, Department of Science and Technology and Indian Space Research Organisation need to be closely integrated.

Lt. General (Retd) V.K. Kapoor has underscored the urgency to create a permanent Chairman of the Chief of the Staff Committee (COSC). Modern warfare demands true operational integration of the three services to win wars in the future and this is not going to come about through the type of "jointmanship" being practised at present. It will require political will to compel the services to be truly joint in their planning and conduct of future wars.

In this issue, Air Marshal (Retd) B.K. Pandey has called for a relook into the status of the armed forces. The politico-bureaucratic leadership has so far succeeded in keeping the armed forces out of policy formulation and decision-making at the national level, quite ironically even in matters of national security, we hope it will change.

We at *SP's M.A.I.* congratulate the BJP on its victory and hope that it will give the necessary fillip to the armed forces, national security and overall economic growth.

Jayant Baranwal
Publisher & Editor-in-Chief

LT GENERAL (RETD)
P.C. KATOCH

National Security Strategy
Priority for new government

While threats are mostly identifiable, vulnerabilities may not be clearly identifiable as latter are only indicators. Challenge of implementing NSS lies in preventing vulnerabilities transforming into threats using non-military elements of national power.

ILLUSTRATION: Anoop Kamath

India is all set for a new government which by all indications will be a stronger one considering the party around which the government is to be formed would have far larger base than in the earlier two governments elected in 2004 and 2009. This provides India the opportunity to undergo the much required strategic transformation, setting in motion the country's aspiration to attain its rightful place in the comity of nations.

A priority task for the new government would be to define a National Security Strategy (NSS) followed by a Strategic Defence Review (SDR), latter ironically glossed over by the Naresh Chandra Committee. It is not surprising that former Ambassador G. Parthasarathy (himself a member of the Committee) has gone on record to say that the conduct of the Naresh Chandra Committee left much to be desired. The foremost need is to enunciate the NSS to shape the environment in India's favour. In doing so, organizations and entities like the Ministry of Defence, Ministry of Home Affairs, Military, Economic Ministries, Department of Science & Technology, Department of Atomic Energy, Indian Space Research Organisation, etc need to be closely integrated.

Threats and vulnerabilities need to be taken into account. While threats are mostly identifiable, vulnerabilities may not be clearly identifiable as latter are only indicators. Challenge of implementing NSS lies in preventing vulnerabilities transforming into threats using non-military elements of national power. The NSS should include the following: one, India's political aims goals in terms of power projection, promoting security, economic, technology, environmental and biodiversity interests; two, India's interests in other countries and regions extending outwards from South Asia; three, interests and relationship matrix with major powers and the UN; and four, threats, challenges and competitors to India's interests in respect of the above paradigms.

Like NSS of any country, there would also be a need to include the following that may remain undeclared: first, strategy to deal with competition and challenges by setting time bound objectives in diplomatic, economic, technology, and defence and security fields vis-à-vis the competitors; second, identify economic, strategic, military and technology leverages—inter-se priorities of countries; third, lay down strategic choices for entering strategic partnership in the short- mid- and long-term context; fourth, review of internal dynamics of India, its linkages with trans-border threats and challenges posed for the security forces including assessing degree of expected involvement of armed forces in the internal dynamics.

As mentioned earlier, the SDR must immediately follow up from the NSS though work on both can progress simultaneously. The SDR should state present military strategy as derived from the NSS and project into the future or we would indeed always be fighting yesterday's wars. In this context, the NSS could be broadly relevant up to next 15 years and the thinking into period beyond that may be termed as vision. The SDR should comprise: analysis of the present military strategy and the changed goals; related emerging technologies and consequent revolution in military affairs (RMA); mesh future conflict spectrum and the battle space milieu; compare above with roles and individual responsibilities of the Army, Navy and Air Force, leading to development of joint force capabilities including for network-centric warfare (NCW).

Future military perspective (short- mid- and long-term) or joint military vision and military missions so developed would lead to formulation of Long Term Integrated Perspective Plan based on integrated systems dynamics and force development imperatives. The undeclared portion of the SDR should include: adversaries or countries that are in security competition, cooperation and friends; comparative evaluation of the nature of threats or competition; threat from competing strategic and security alliances; goals and objectives of bilateral, multilateral and international defence cooperation; policy on role of armed forces in asymmetric threats and internal conflict; strategy for protection of critical infrastructure from cyber threats; defence related aspects of cyberspace, space and perception warfare, and; strategy for energy, water and food security. Axiomatically, appropriate core groups would need to be established working out the NSS and SDR.

Simultaneous to the NSS and SDR, work should also commence to holistically review comprehensive national security, to include: personal security; community security; food security; health security; military security; economic security; energy security, political security, and; environment security. SP

The views expressed herein are the personal views of the author.

AIR MARSHAL (RETD)
B.K. PANDEY

Restore status to armed forces

Over the years, the status of armed forces personnel in India has suffered progressive downgrade vis-à-vis their civilian counterparts. Since the days of the British Raj when the Commander-in-Chief resided in the mansion in New Delhi called Teen Murti, the then Flagstaff House that later became the official residence of the first Prime Minister of India Jawaharlal Nehru, there has been significant erosion of his status in the warrant of precedence. Today, the Chief of Army Staff along with his equivalent in the Indian Navy and the Indian Air Force, is placed in the 12th slot in the combined civil-military warrant of precedence. They are ranked below the Attorney General of India, the Cabinet Secretary and Lieutenant Governors. The warrant of precedence defines the relative status of the various posts in the different departments of the Government of India.

But what is of greater concern is the lowering the status across the complete cadre structure of the armed forces not only in the officer ranks but also down to the lowest rung. Personnel serving in the armed forces have generally been existing in the protective comfort of an environment that offers little opportunity for direct or frequent interaction with the civilian counterparts. In fact, many would not even be aware of their own status vis-à-vis their counterparts in the civilian establishment. This aspect also does not form a part of their normal training routine.

Normally the average serviceman would remain somewhat indifferent to the issue of civil-military equation. The ignorance of this important aspect often undermines the dignity of the armed forces personnel in civilian society. However, successive pay commissions have lowered pay scales of servicemen as compared to their civilian counterparts thus in effect lowering their status as parity with the civilian cadre is fixed on the basis of pay scales. Servicemen are now beginning to become aware of the anomalies and the rancour is growing both amongst the serving and retired armed forces personnel.

Although the Sixth Pay Commission in 2006 revised upwards the salary of armed forces personnel and did not lower the status of the three Service Chiefs having retained them next to the Cabinet Secretary, the proposals forwarded to the Central Government actually downgraded the status of all other ranks, placing them one grade lower than the existing equation with their civilian counterparts. Also, the edge enjoyed by defence officers of higher starting salary at each grade as recommended by the Fifth Pay Commission was also done away with.

The progressive erosion in the status of the armed forces in society has serious implications. Apart from lowering their morale, armed forces personnel are rapidly losing faith in the civilian bureaucracy who they feel are not prepared to appreciate the unique challenges of military service. The politico-bureaucratic leadership has so far succeeded in keeping the armed forces out of policy formulation and decision-making at the national level, quite ironically even in matters of national security. On the other hand, the civilian bureaucracy is of the view that "expectations and demands of the armed forces that live in their own fiefdoms, have become highly unrealistic". This is likely to further vitiate the already tenuous civil–military relations. The impact of the changing paradigms that is more immediate and disconcerting, is that it is making the armed forces somewhat unattractive as a career option. Consequently, the youth of this nation with the right attributes, would no longer be interested in serving the motherland through the armed forces. This in the long term will only aggravate the already alarming shortage of officers especially in the Indian Army.

In view of the deleterious impact this phenomenon can have on national security, it is incumbent on the new government to examine this issue de novo and institute measures to not only restore the status and dignity of the armed forces personnel in society but also to institute safeguards such that the system is not vulnerable to distortion in the future by vested interests. SP

The politico-bureaucratic leadership has so far succeeded in keeping the armed forces out of policy formulation and decision-making at the national level, quite ironically even in matters of national security.

PHOTOGRAPH: Wikipedia

LT GENERAL (RETD)
V.K. KAPOOR

A relook at the Chief of Defence Staff / Permanent Chairman COSC

It will require political will to compel the services to be truly joint in their planning and conduct of future wars. This will demand some radical changes at the higher operational levels and the Chairman with the powers vested in him by the government could set the ball rolling.

Indian Army soldiers with the 99th Mountain Brigade's 2nd Battalion, 5th Gurkha Rifles, during an exercise

PHOTOGRAPH: US Army

Kargil Review Committee

In 1999, the Kargil Review Committee, headed by the late K. Subrahmanyam, had been asked to "review the events leading up to the Pakistani aggression in the Kargil District of Ladakh in Jammu & Kashmir; and, to recommend such measures as are considered necessary to safeguard national security against such armed intrusions." Though it had been given a very narrow and limited charter, the committee looked holistically at the threats and challenges and examined the loopholes in the management of national security. The committee was of the view that the "political, bureaucratic, military and intelligence establishments appear to have developed a vested interest in the status quo." It made far-reaching recommendations on the development of India's nuclear deterrence, higher defence organisations, intelligence reforms, border management, the defence budget, the use of air power, counter-insurgency operations, integrated manpower policy, defence research and development, and media relations. The committee's report was tabled in Parliament on February 23, 2000.

The Cabinet Committee on Security (CCS) appointed a Group of Ministers (GoM) to study the Kargil Review Committee report and recommend measures for implementation. A comprehensive systemic overhaul of the country's security and intelligence apparatus in keeping with the technological revolution and the need for integrated management structures was unfolded by the GoM, in a report submitted by them to The Prime Minister on February 26, 2001. The GoM, under the Chairmanship of L.K. Advani, also included the Defence Minister, External Affairs Minister and Finance Minister. The GoM held 27 meetings in all. In order to facilitate its work, it had set up four Task Forces one each on Intelligence Apparatus, Internal Security, Border Manage-

ment and Management of Defence. These Task Forces were multidisciplinary in character and were made up of acknowledged experts.

Arun Singh Committee

The Arun Singh Committee on Defence Management, recommended the creation of the Chief of Defence Staff (CDS) post since the existing system of Chairman Chiefs of Staff Committee (COSC) had not been able to deliver on important issues. The committee recommended that the CDS should be created for carrying out four main functions:

- Providing single-point military advice
- Administer strategic forces.
- Ensuring jointness in the armed forces.
- Enhance planning process through inter-service coordination and prioritising.

The CCS considered the GoM report on May 11, 2001, and accepted all recommendations contained in the GoM report except that of the creation of a CDS. It seems that there was opposition to creation of the CDS both from within the armed forces as well as by the politico-bureaucratic combine. While some in the military felt their identity might get swamped, bureaucratic resistance stemmed from the feeling that the CDS may become more powerful than the Cabinet Secretary. The political hierarchy, meanwhile, felt apprehensive about too much power vested in one person. As a result, while a majority of the recommendations were implemented, including the creation of a full-fledged office of the integrated defence staff comprising almost 200 officers, its head, the CDS, has not been put in place till date. Lack of political consensus on the issue has been cited as the reason for non-implementation.

Naresh Chandra Committee

Naresh Chandra Committee, a 14-member task force on national security, was set up by the UPA Government on June 21, 2012, to suggest ways to revamp of defence management in the country. The reasons can be attributed to the large number of legal complaints in the various courts against the Ministry of Defence (MoD) on pay and allowances discrepancies, defence procurement scams and the threat perception from our adversaries China and Pakistan. The main objective behind the constitution of the committee was to contemporise the Kargil Review Committee's Report, which was tabled in the Parliament on February 23, 2000. Besides, the task force was also asked to examine the state of country's border management. The Committee submitted its report to the government on August 8, 2012. The 14-member Naresh Chandra Task Force on national security, in its report recommended a permanent Chairman of the COSC to exercise "administrative control" over the nuclear arsenal, head a separate joint special forces command, prioritise modernisation of the armed forces and prepare annual defence operational status reports.

Permanent Chairman of COSC

Currently the COSC is a forum for service chiefs to discuss matters having a bearing on the activities of services and to advise the ministry. Its members include Chief of the Army Staff (COAS), Chief of the Naval Staff (CNS), Chief of the Air Staff (CAS), and Chief of Integrated Defence Staff (CISC) who is a non-voting member. The position of chairman devolves on the longest serving Chief of Staff and rotates amongst the chiefs of the three services. However, it has no powers to take any strategic or administrative decision.

The permanent Chairman COSC by virtue of his appointment will have no allegiance to any service and must be given the status to implement the political directions in this regard. Therefore he will have to be the first among the "equals".

The permanent Chairman of COSC, a four-star general like the Army, Navy and IAF chiefs who currently constitute the panel, was to also be an "invitee" to the Cabinet Committee on Security (CCS) and the National Security Council (NSC) as well as advise the Defence Minister on all matters concerning two or more Services.

Just as the the politico-bureaucratic combine had scuttled the recommendation for a CDS after the 1999 Kargil conflict, the Defence Ministry has expressed major reservations against the fresh proposal for a permanent COSC Chairman as recommended by the Committee. Sources said the MoD, in its comments to the NSC Secretariat under the Prime Minister's Office (PMO), virtually rejected the creation of a permanent Chairman COSC post as well as some other "critical reforms" desperately needed to reform the country's higher defence management that were suggested by the Naresh Chandra Task Force.

The fear that a permanent Chairman of COSC or a CDS will erode the supremacy of the civil over the military is unfounded. He will not be a Supreme Commander. He will only be an Inter-Service professional coordinator, with individual Service Chiefs. But MoD's reservations may well have pushed the proposals into the cold storage.

The Way Ahead

The new government should accord priority to creating a permanent Chairman of the COSC. Modern warfare demands true operational integration of the three services to win wars in the future and this is not going to come about through the type of "jointmanship" being practised at present. It will require political will to compel the services to be truly joint in their planning and conduct of future wars. This will demand some radical changes at the higher operational levels and the Chairman with the powers vested in him by the government could set the ball rolling. This will not only ensure operational efficiency but will also be cost-effective.

The permanent Chairman of COSC by virtue of his appointment will have no allegiance to any service and must be given the status to implement the political directions in this regard. Therefore he will have to be the first among the "equals".

With finite capital budgets it is imperative that the capital budget be prioritised to acquire capabilities for the armed forces and not merely add new weapon systems to the inventory of each service. By a thorough professional audit we will avoid duplication in acquiring capabilities.

Some of the roles that may be given to the permanent Chairman of COSC are as under:

- Exercise administrative control over the nuclear arsenal.
- Head a separate joint Special Forces Command.
- Ensure jointness in the armed forces.
- Exercise administrative control over all joint services commands such as the Andaman and Nicobar Command; Strategic Forces Command; Cyber Command (when created); Aerospace Command (when created).
- Prioritise allocation of capital budgets for acquiring vital capabilities for the armed forces.
- Prepare annual defence operational status reports.
- Will be an "invitee" to the Cabinet Committee on Security and the National Security Council as well as advise the Defence Minister on all matters concerning two or more services. SP

LT GENERAL (RETD)
P.C. KATOCH

The indigenisation route

In doing the demarcation of who does what including overlaps, a road map is essential to be clear what technologies we need in what time frame, particularly to bridge the asymmetry vis-à-vis our adversaries, particularly China.

PHOTOGRAPH: ADA

In a recent seminar on 'Self Reliance in Land Systems Through Indigenisation – The Future Perspective' organised by a primary think tank in New Delhi, the chief guest mooted the idea that the seminar must provide a platform to the defence industry to project their capabilities and gain insight into the policies and procedures on indigenisation as well as provide an opportunity to both the Army and the industry to build an enduring partnership which will be instrumental in addressing the issues related to indigenisation of military equipment.

The seminar showed there is no dearth of compelling thoughts and ideas which came up during the technical sessions that gave a positive direction to the industry houses in planning their future investments and the policy-makers in framing policy guidelines to keep all the stakeholders on the same page and focused towards the common goal. What is significant to note is that this was not the first such seminar on the issue that many of this type have been held over the years and yet we continue to import over 80 per cent of our defence needs.

This despite crores of rupees expended on the Defence Research and Development Organisation (DRDO) and the Defence Public Sector Undertakings (DPSUs) simply because our R&D is not focused, our policies and procedures are not streamlined to drive and fast-track indigenisation and are poorly executed, we have not optimised public-private partnership including small and medium enterprises (SMEs) and lack organisational structures to do so, we have not leveraged ICT and modern manufacturing processes to accelerate indigenisation, we do not have a road map to leapfrog technology, we do not capitalise upon innovativeness private industry and the academia, and we continue to re-invent the wheel, plus accredited reasons.

Another overbearing reason is stagnation in the pattern of functioning that has set in over the past decade, which resists change for many reasons, corruption included indicated by Haschke turning approval in the AugustaWestland Helicopter scam – a first time exposé that would perhaps help heal the system. The good news is that with the change of government in the offing, the new setup will likely provide the much delayed boost to indigenisation.

Why 67 years after independence, DRDO officials admit they only have "pockets of excellence" is no mystery. When Defence Minister A.K. Antony ordered the CAG to do a secret audit of DRDO last year, the highlights of the report were gloomy to say the least, major ones being: one, DRDO has been developing equipment which is either substandard or have extended deadlines and additional budgets; two, many projects have no government approval – only 10 per cent projects have the Ministry of Defence (MoD) clearance; three, corruption and nepotism exists in the upper echelons; four, there is an exodus of qualified scientists. DRDO challenged the findings but MoD took cognisance and ordered review of the approval processes.

Additionally, the Controller General Defence Accounts (CGDA) audit findings raise serious questions on the DRDO capability despite annual budget of ₹10,610 crore (2013-14).

The audit notes that in several cases, DRDO bought equipment from other companies after spending crores on R&D. For instance, the CGDA found that after spending two years and ₹29.96 crore to develop satellite signal monitoring, DRDO ultimately bought the same from a public sector undertaking on a single tender basis for ₹24.50 crore in April 2011.

When commercial off-the-shelf (COTS) technologies are available, DRDO still spends crores of rupee on reinventing the wheel. For example, DRDO spent ₹6.85 crore to develop explosive detectors, which were offered to the army for ₹30 lakh each while COTS versions were available for ₹9.8 lakh apiece including repair and maintenance. The CGDA report criticised the 'joint development' technology initiative of DRDO, calling it "import of older, foreign technology under the disguise of joint development." The CGDA accused DRDO of promoting foreign firms without the mandatory formal ToT agreement. In an earlier CAG report in 2011-12, DRDO was found spending crores on random research projects and out of 55 high priority projects based on user-requirements, only 13 had gone into production.

A modular bridge being developed for the army was shelved in 2010, after eight years of experiments and spending ₹21.46 crore. Six months later, ₹13.25 crore was sanctioned for another modular bridge project. The initiative to produce next generation laser weapons was closed down within a month after equipment was procured. So forth and so on the story remains the same but it also indicates lack of

focus and monitoring by the government. The military as the user oft has to put up with sub-standard products despite time delays. Many products are not anywhere close to their foreign counterparts, for example, night vision equipment despite import of infrared (IR) tubes. The fact that the military and the Central Armed Police Force (CAPF) too have to import small arms is a matter of shame.

So where do we go from here? The first requirement is to reorganise the MoD and in this case the Department of Defence Production (DoPD). This is necessary to break the time wrap in which the system is caught up in, plus the corruption. This was explicitly explained by L&T CEO Manibhai Naik in a letter to Prime Minister Manmohan Singh in 2011 saying, "Defence Production (MoD) Joint Secretaries and Secretaries of Defence Ministry are on the Boards of all PSUs – sickest of sick units you can think of who cannot take out one conventional submarine in 15 years now with the result that the gap is widening between us and China and bulk of the time we resort to imports out of no choice. The defence industry which could have really flowered around very high technological development and taken India to the next and next level of technological achievement and excellence is not happening." There is merit in what he says. Definitely induction of serving military officers, especially as Defence Secretary, Secretary Defence Production and Secretary Defence (Finance) is needed to break the current logjam.

Next is the need for a thorough review of the functioning and capabilities of the DRDO, DPSUs and Ordnance Factories (OFs), particularly what they should develop individually, what should be the JVs and what defence products should be undertaken exclusively through indigenisation, which in turn would permit cutting down some of these flabby government organisations running contrary to worthwhile costs benefit. In doing the demarcation of who does what including overlaps, a roadmap is essential to be clear what technologies we need in what time frame, particularly to bridge the asymmetry vis-à-vis our adversaries, particularly China. These would include smart, stealth and nanotechnologies, directed energy weapons (DEWs), strategic air and theatre missile defence, hypersonic platforms, and technologies for space and cyberspace combat, radiation combat, robotic combat, besides improved C4I2SR and NCW capabilities.

Considering the state of our R&D and advances worldwide, JVs are actually the route to leapfrog technology, aside from reverse engineering, latter being freely practised by countries like China, Pakistan and North Korea. In this context defence offsets too play an important part. Opening of a Facilitation Cell by the Defence Offsets Management Wing (DOMW) in a civil area for easy access has been a good step. However, it needs to be remembered that the DOMW was preceded by the Defence Offset Facilitation Agency (DOFA) that was established in 2006 but had to be shut down as it could not deliver upon what was expected. At the same time, foreign companies which invest considerably in R&D may not be comfortable in sharing those high-end critical technologies with India at a multiplier value level. There are no specific incentives to share high-end technologies and foreign OEMs can get the benefit of multipliers by sharing comparatively non-critical technologies for the same multiplier value.

Perhaps there is need to provide higher multiplier values to extremely critical technologies required by DRDO in order to attract foreign vendors. It may be helpful if MoD assigns multiplier values on a case to case basis, based on criticality, importance, requirement and urgency; DOMW should ensure there is no ambiguity in the process including through a fully automated system that will monitor, account for, and audit offsets in real time, which should be preferably web based; and, DOMW must provide accurate and detailed information about the status of offset contracts and the technology/capability received from each contract to help stakeholders undertake cost-benefit analysis, facilitating mid-course corrections.

Then is the procurement process, complicated beyond imagination. Trefor Moss quoting the Army Chief wrote in *The Diplomat* on March 25, 2012, saying, "The procurement game is a version of snakes and ladders where there is no ladder but only snakes, and if the snakes bite you somewhere, the whole thing comes back to zero." The hurdles in absorbing foreign technology are too many even if the foreign vendor is eager for the JV and ToT. Take the case of the US, where US technology and exports control areas are being looked at as in the case of closest allies of US; for the US system to operate on a timescale consistent with the needs of India.

However, it is equally important for us to introspect especially since we failed to attract the foreign direct investment (FDI) in defence despite hiking the limit from 26 to 49 per cent. For that matter, little attention has been given to why our own private industry does not find the defence sector attractive enough or rather their participation is far less than desired. For a JV with a US firm, issue of RFI with usual response time of three months for 'Buy and Make' projects would require concerned US firm to obtain permission from the US Government every time for export. If the equipment or system is itself a JV within the US, then each of these firms too have to obtain US Government approval for export of specific technology; something that may take up to 12 months or more. Additionally, before the JV is established with the Indian firm, what items and in what specific quantities have to be identified and applied to the US Government by the Government of India (GoI) since the said items can only come through the foreign millitary sales (FMS) route on a government-to-government basis. On balance, if all these complications are not addressed, Indo-US JVs for a 'Buy and Make' project will remain misnomer.

Despite all the annual hoopla of simplifying the Defence procurement Procedure (DPP), the changes have been largely cosmetic, largely due to vested interests. Otherwise there is no reason why review of the DPP is done in-house by MoD. The fact that we have not been able to sufficiently attract our own private industry into the defence sector should lead us to focus why this is happening. The fact is that there are just too many disincentives: first, there is little monetary incentive for R&D; second, there is no change to the no-cost-no-commitment trial system; third, no assurance of subsequent phase even when undertaking current phase; fourth, complicated, costly and time-consuming tendering, custom clearances (as applicable), multiple demonstrations in varied terrain and places, etc; fifth, corruption – bribes at various levels; sixth, despite costs, time and efforts, possibility of termination and blacklisting even through anonymous letter; seventh, lack of transparency and the like. Logically, review of the DPP should be done by a panel fully integrating the private industry and the stakeholders or still better, by an independent body represented by all concerned. To this end, establishment of such an independent and all encompassing expert body can solve the complicated jigsaw of not only the DPP, but establishment of JVs, optimising defence offsets, road map and leapfrogging of technology, plus recommending division of responsibilities between the defence industrial comlex; DRDO, DPSUs, OFs and private industry.

For indigenisation to succeed, we must provide a level-playing field to the private industry and optimise their potential as well. We cannot aspire to be a global or regional power without being substantively self-reliant in defence production. Our defence procurement must aim to transform our defence-industrial base to become an active hub for state-of-the-art defence exports besides making India self-reliant in defence needs on an upward graduating scale. The DRDO must concentrate its efforts on developing critical cutting-edge technologies that strategic partners are unlikely to share. SP

INS Vikramaditya deployed with MiG-29K aircraft: Navy Chief

India's largest warship, the aircraft carrier INS Vikramaditya, is "operationally deployed" along with its fleet of MiG 29K combat aircraft, Navy Chief Admiral Robin Dhowan has said. "The navy has inducted aircraft carrier INS Vikramaditya which is now operationally deployed with MiG 29K aircraft embarked and being flown by Indian naval pilots," he told reporters.

The 44,500-tonne aircraft carrier procured from Russia at a cost of $2.33 billion had arrived in India in January this year and is stationed at its home base in Karwar in Karnataka.

Navy sources said the aircraft carrier has already taken part in one of the war games conducted recently by the Western Navy. The aircraft carrier, which does not have air defence guns, is expected to get its weaponry for protection against aerial attacks at its scheduled first refit, they said. SP

Lt General Dalbir Singh Suhag is the next Chief of the Army Staff

The Indian Government has appointed Lt General Dalbir Singh Suhag, presently Vice Chief of the Army Staff as the next Chief of the Army Staff (COAS) after retirement of the present Chief of the Army Staff, General Bikram Singh, on July 31, 2014.

Lt General Dalbir Singh was commissioned in the Army on June 16, 1974. During a career spanning nearly 40 years, he has held various Command and Staff appointments. He has done National Defence College, Long Defence Management Course and Senior Command Courses.

Lt General Dalbir Singh is presently serving as Vice Chief of the Army Staff since January 1, 2014. Earlier he commanded the Eastern Army Command. The General Officer is decorated with PVSM, UYSM, AVSM and VSM awards. SP

Saab launches five new radars for total air domain awareness

Defence and security company Saab extends its surface radar portfolio, with the introduction of five all-new complementary Giraffe radars for land and sea. This strengthens the current product offering but also takes the Giraffe firmly into the long-range air surveillance domain and puts an entirely new capability onto the market.

Saab's combat-proven and highly-regarded surface radar portfolio, including the renowned Giraffe AMB and Arthur radars, has been improved and expanded through the addition of new technologies and designs. Alongside its existing products, Saab is now producing new active electronically scanned array (AESA) radar variants for land and sea.

These radars use leap-ahead design techniques that put them in a class of their own in terms of performance and capability. For the first time Saab's Giraffe radars also offer a solution for long-range air surveillance. There is now a Giraffe option for every air surveillance and air defence application, on land and at sea.

Saab has more than 30 years of AESA design experience. This depth of experience – and Saab's understanding of radar cost, performance, reliability and packaging issues – results in a unique technology solution. Saab's advanced surface-based radars are highly-effective against multiple 'difficult' air targets in the most dense and challenging operational environments.

Saab is one of the world's leading radar suppliers with 60 years of experience and more than 3,000 radar systems in operation in 30 countries. SP

Navantia to build two OPVs for the Spanish Navy

The Government of Spain has acquired two new OPVs (BAM) for the Spanish Navy, following the series of four already in service, built by Navantia from 2006 to 2012. The ship is moderately-sized with a total length of between 90 metres and 95 metres and a displacement of 2,400-2,500 tonnes, a small crew and a high level of habitability. It is a high-performance ship with great versatility regarding missions, enjoys a high level of system commonality with other Spanish Navy ships, and has low acquisition and life-cycle costs.

Her main missions are: Protection and escort of other ships; Control of maritime traffic; Control and neutralisation of terrorist actions and piracy; Operations against drug trafficking and the traffic in persons; Maritime rescue and salvage operations; Crisis situation support and humanitarian assistance; Control of fishing legislation and Control of environmental and anti-pollution legislation. SP

PHOTOGRAPHS: Indian Navy, Saab, Indian Army

MBDA's air defence system for Britain enters assessment phase

A £36-million contract from the UK Ministry of Defence (MoD) has been placed with MBDA for the land variant of the future local area air defence system (FLAADS Land). This will fund an assessment phase that will demonstrate the adaptation and evolution of core weapon system subsystems (e.g. command and control) for the land environment, and prepare for the transition from Rapier field standard C (FSC) in British Army service. The FLAADS Land System will provide the British Army with a world leading ground-based air defence (GBAD) system that will be one of the most advanced and capable in its class, providing operational, logistical and cost benefits.

At the heart of the FLAADS Land System is MBDA's common anti-air modular missile (CAMM) and its weapon command and control system, contracted for installation

onto the Royal Navy's (RN) Type 23 Frigates as Sea Ceptor. This approach leverages the existing investment to deliver the MoD with an affordable but highly capable air defence system for both the Army and Royal Navy, with a shared support and future upgrade path across both services.

The opportunity to exploit a CAMM-based air defence system on land and sea also provides potential international customers with the opportunity to share in the benefits that the UK is reaping from the multi-service adoption of the missile. SP

IAI presents SAHAR autonomous robotic route clearance system

Israel Aerospace Industries (IAI) presents SAHAR – an autonomous robotic route clearance system. SAHAR is a joint development of IAI, QinetiQ North America and Watairpoll. A model of the system will be presented at the Association for Unmanned Vehicle Systems International (AUVSI) exhibition.

SAHAR is a fully autonomous robotic system designed for the efficient performance of combat engineering missions. The system handles the process of route clearance including functions such as environmental terrain mapping, surveillance, removal of roadblocks and disposal of IEDs. The system is designed to handle a variety of tasks, missions and threats autonomously.

Combat engineering missions include route clearance, landmines and explosive device neutralisation in diverse operational arenas. These missions are currently executed using manned and remote-controlled mechanical engineering equipment. SP

PHOTOGRAPH: MBDA, Oshkosh Defense, IAI

Oshkosh Defense equips M-ATV for unmanned route-clearance missions

Oshkosh Defense has integrated its TerraMax unmanned ground vehicle (UGV) technology onto an Oshkosh MRAP all-terrain vehicle (M-ATV) to demonstrate capabilities for route-clearance missions. TerraMax UGV technology has the potential to reduce troops' exposure to threats, such as improvised explosive devices (IED) in route-clearance missions, as well as optimise the number of troops needed for such operations.

"The clearance of threats like IEDs, mines and unexploded munitions pose challenges that global military forces have faced since World War II, and are expected to continue long after Afghanistan," said John Urias, President

of Oshkosh Defense. "Our TerraMax UGV technology can bring autonomous capabilities to existing manned vehicle platforms, like the M-ATV, to remove troops from targeted routes and provide greater stand-off distance from explosive threats. It also has force-multiplication benefits with one operator controlling several vehicles, so logistics operations can be successfully completed with fewer troops."

Equipped on the M-ATV, as well as other heavy and medium tactical wheeled vehicles, TerraMax UGV technology enables one or multiple vehicles in a route clearance convoy to operate autonomously, resulting in fewer troops exposed to threats. SP

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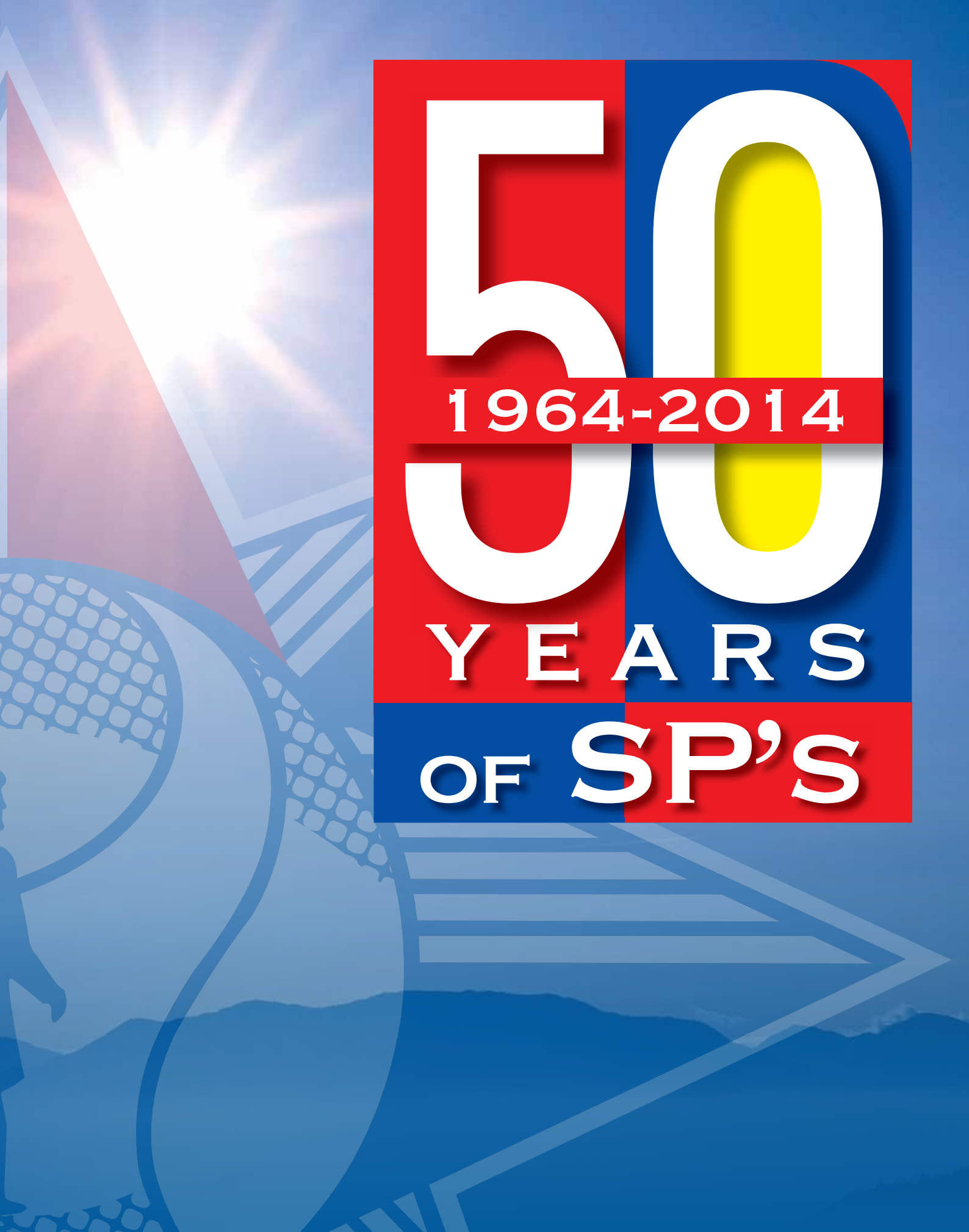
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IAF Pilatus PC-7 MkII fleet clocks record performance

The Indian Air Force (IAF) PC-7 MkII fleet has notched up commendable milestones even as training on the PC-7 MkII proceeds apace at the IAF training centre at Dundigal. The PC-7 MkII fleet has achieved more than 12,000 flying hours and accumulated well over 24,000 landings, since the first delivery of the new basic trainer aircraft (BTA) to the IAF in February 2013.

This significant achievement demonstrates the outstanding performance of the new PC-7 MkII training platform and the excellent cooperation between the IAF and Pilatus Aircraft Ltd in maintaining and operating a highly reliable BTA. As of April, less than two years after contract signature, the IAF has taken delivery of 35 PC-7 MkII aircraft and the remaining 40 aircraft are being flown-in on a monthly basis under the accelerated delivery schedule.

Due to the excellent endurance, low maintenance and reliability of the PC-7 MkII aircraft, the IAF supported by Pilatus has been able to maintain a very high availability rate on the flight line since the introduction of the new platform. Thanks to this, the IAF is already planning to advance their plans to enhance the number of student pilots by 150 per cent from the next course as they are confident that the PC-7 MkII will continue to measure up to their requirements and expectations.

Furthermore, the PC-7 MkII has enabled the IAF to increase the basic training syllabus in terms of flight hours by 220 per cent compared to the old syllabus and increase the solo content from only one to 14 sorties.

In March this year another significant project milestone took place. The first PC-7 MkII fixed base full mission simulator became operational at Dundigal with a second simulator and additional ground-based training systems due to be installed by the end of 2014. Pilatus remains firmly committed to serving the IAF with its renowned dedication to Swiss precision and quality, through delivering and supporting the most advanced basic flight training turboprop trainer in the world – the Pilatus PC-7 MkII. SP

Sikorsky wins US Navy deal for President's Marine One helicopters

Sikorsky Aircraft, a unit of United Technologies Corp, won an initial $1.24 billion contract to develop and build six new US Presidential helicopters, the first step towards a fleet of 21 new aircraft by 2023, the Pentagon announced.

The award capped years of efforts by the US Navy to replace the current fleet of ageing Marine One helicopters, also built by Sikorsky, some of which have ferried the President and other top officials since 1974. Sikorsky has built all Presidential helicopters since 1957, when Dwight Eisenhower became the first US President to regularly use helicopters.

The total value of the new programme is expected to be about $3 billion, said Marty Hauser, Director of Government Communications for United Technologies. Lockheed will be the key subcontractor to Sikorsky on the new programme, which is based on the Sikorsky S-92 helicopter that is already used by 10 nations for their head of state missions.

"For 57 years, our company has been trusted with the critical responsibility of building and supporting a safe and reliable helicopter fleet for the President of the United States," Sikorsky President Mick Maurer said in a statement. "We stand ready to deliver the next Marine One, the world's most advanced executive transport helicopter." SP

US Navy's electronic attack aircraft reaches centennial milestone

Boeing delivered the 100th EA-18G Growler to the US Navy, marking a major milestone in the programme that has transformed airborne electronic warfare capability for the US and its allies.

A derivative of the F/A-18F Super Hornet, the Growler is the only aircraft in production that provides tactical jamming and electronic protection for US and allied forces. Growlers provide a unique capability to nearly all US combat missions and are expected to be in service until at least 2040.

"Given the threat environment we are moving into, the Growler will play a major role in identifying, tracking, targeting and potentially firing upon the enemy," said Capt. Frank Morley, US Navy F/A-18 and EA-18G Program Manager.

The US Navy has 22 Growlers on its unfunded priorities list for the 2015 fiscal year budget. Current orders take Growler and Super Hornet production through the end of 2016. SP

PHOTOGRAPHS: IAF, US Navy, Sikorsky

Raytheon delivers 1,000th miniature air launched decoy jammer to USAF

Raytheon Company delivered the 1,000th miniature air launched decoy jammer (MALD®-J) to the US Air Force as part of the Lot 5 production contract.

"The MALD programme has enjoyed a perfect 33-for-33 flight test record over the past two years," said Mike Jarrett, Vice President of Air Warfare Systems for Raytheon Missile Systems. "The MALD has demonstrated it can simultaneously increase the combat capability of platforms, sensors, weapons and decision-makers working in the battlespace."

The ADM-160C MALD-J variant, a highly autonomous stand-in-jammer, can also operate in decoy mode when selected by the warfighter. The first three lots delivered contained the ADM-160B MALD, a highly effective aerial decoy.

MALD is a state-of-the-art, low-cost flight vehicle that is modular, air-launched and programmable. It weighs less than 300 pounds and has a range of approximately 500 nautical miles. MALD protects aircraft and their crews by duplicating the combat flight profiles and signatures of US and allied aircraft. MALD-J adds radar-jamming capability to the basic MALD platform.

MALD confuses enemy air defences by duplicating friendly aircraft flight profiles and radar signatures. SP

First C-27J Spartan for the Fuerza Aerea del Peru commences

The fuselage of the first c-27J for the Fuerza Aerea del Peru has arrived at the Alenia Aermacchi Turin plant for final assembly. Manufactured at Alenia Aermacchi's Capodichino Naples site, the fuselage reached Turin by sea freight to Genoa and then by truck (from Genoa to Turin).

The Peruvian order for two aircraft was signed in Lima in December 2013. The first C-27J will arrive in Perù in early 2015 and will be used for tactical airlift and civil protection role. They will integrate, and start to replace, the fleet of Antonov An-32, which are in service since 1987.

In the tactical transport role the C-27J provides the best possible integration with the existing Peruvian fleet. It will provide an airlift capability between the smaller PC-6, DHC-6 and Y-12 and the larger C-130 Hercules. SP

TAI delivers first T129 ATAK helicopter

Turkish Aerospace Industries Inc (TAI) delivered the first "T129 ATAK" advanced attack and tactical reconnaissance helicopter to Turkish armed forces on April 22. The programme started in 2007 for development and production of 91 helicopters, as a Joint Collaboration of TAI and AgustaWestland also known as "ATAK Team".

Within the scope of programme, the first T129 ATAK Helicopter was delivered to Turkish armed forces and as of today over 4,000 flight hours were conducted during the flight and firing tests, qualification and acceptance flights and training activities.

Overall programme is a success story of Turkish aviation and defence industry in terms of design and development and also international collaboration. SP

April marks new F-35 flying records

The Lockheed Martin F-35 Lightning II aircraft fleet, which surpassed 16,000 cumulative programme flight hours to date in April, flew a monthly record high for System Development and Demonstration (SDD) with 282 flight hours and 153 flights in April.

"The SDD fleet achieving more than 150 flights in one month speaks to the quality of this aircraft and the commitment of this team," said J.D. McFarlan, Lockheed Martin's Vice President for F-35 Test & Verification. "We're nearly complete with Block 2B software flight science testing on the F-35As, and we'll move forward with Block 3 software testing this summer. The SDD programme is scheduled to complete Block 2B testing for the F-35B this year in support of the US Marine Corps' initial operational capability (IOC) in 2015 with its F-35B fleet."

In April, operational F-35s fleet-wide flew 812 hours, with SDD F-35 aircraft flying 282 flight hours in one month. In 2014, through April, F-35A test aircraft flew 420 hours; F-35B test aircraft flew 281 hours; and F-35C test aircraft flew 222 hours. Operational F-35s of all three variants flew 2,790 hours for the year.

Operational F-35s at Eglin Air Force Base, Florida, flew 515 flight hours in April, and operational F-35 at Marine Corps Air Station Yuma, Arizona, flew 172 hours. Eglin's 33rd Fighter Wing is home to 48 F-35A/B/Cs and provides training for US military and programme partner nation pilots and maintenance personnel. Yuma is home to the Marine Corps' first operational F-35B short take-off vertical landing aircraft.

Among the record SDD flights, the F-35B version completed its 700th vertical landing, and it began crosswind take-offs and landings and expeditionary operations. SP

PHOTOGRAPHS: TAI, Lockheed Martin

French Rafales operational in Poland

Since May 6, 2014, the French Air Force detachment deployed to Poland at the request of NATO has assumed its quick reaction alert (QRA), standing by to scramble aircraft to ensure the territorial integrity of the airspace of the Baltic States.

This deployed is manned by about 70 soldiers supporting four French Air Force Rafale combat aircraft, which since April 28 are stationed at Malbork airbase. Its goal is to help ensure the national sovereignty of the Baltic countries over their air space, which have no air defence forces of their own, and to defend their territory against any air threat. In case of doubts about any aircraft flying in this airspace, the Rafales can take off in a few minutes, 24 x 7.

During its deployment, the French detachment alternates the NATO Air Police mission with training missions together with the Polish Air Force. A two-hour training mission, for example, was flown on May 6 alongside other NATO combat aircraft.

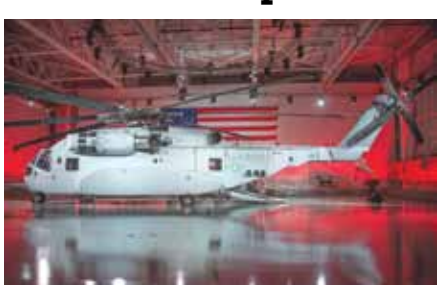
The deployment of these fighters comes under the reassurance measures decided by France to show its solidarity with its Eastern European allies. Decided on April 16 at the request of NATO, it complements the deployment of E-3F AWACS aircraft which, since April 1, share in NATO surveillance missions of Polish and Romanian airspace from their base at Avord, in central France.

This is the first time that the Rafale are thus deployed to ensure an ongoing operational mission in a foreign country. Their deployment was facilitated by the deployment of a precursor detachment

on April 24. Consisting of 60 military personnel, this echelon set up several tonnes of equipment in time for the arrival of the Rafales.

This detachment has a dual mission: Conduct training at NATO Air Policing alongside Polish crews; and Participate, at the request of NATO, in monitoring the airspace of Lithuania, Latvia and Estonia and ensure their sovereignty. SP

Sikorsky unveils CH-53K helicopter



Sikorsky Aircraft Corp., a subsidiary of United Technologies Corp., has unveiled the CH-53K heavy-lift helicopter, the next generation in the CH-53 type series that the US Marine Corps expects to begin operational service in 2019. During the rollout ceremony, attended by members of Congress, the Department of Defense, major suppliers to the programme, international guests and company employees, the Commandant of the Marine Corps General F. Amos introduced the name for the new aircraft: the "King Stallion."

"The rollout of the CH-53K helicopter introduces a new era in Marine Corps aviation and is an exciting milestone in our company's 91 year history," said Sikorsky President Mick Maurer. "The CH-53K aircraft will effectively triple the external load carrying capacity of the CH-53E aircraft—to more than 27,000 pounds over a mission radius of 110 nautical miles. With its 88,000-pound maximum gross weight, powerful new engines, lightweight composite structure, new rotor blades and fly-by-wire flight controls, the CH-53K will have the means to move troops and equipment from ship to shore, and to higher altitude terrain, more quickly and effectively than ever before."

The CH-53K is one of the first all-digitally designed helicopters. This approach enabled Sikorsky to assemble the aircraft inside a 3D virtual reality lab at its Stratford, Connecticut, headquarters before prototype production began. SP

Peru orders two more Alenia C-27Js

Peru has doubled its order for Alenia Aermacchi C-27J Spartan twin-engined tactical transport aircraft, and will ultimately order as many as eight more. Peru awarded an initial order for two aircraft in November 2013, worth about $122 million, and will now order another two for a similar price. The order will be finalised before the end of the year.

Alenia Aermacchi's CEO, Giuseppe Giordo, said the company would soon open an office in Lima, "given the size of Peru's

programme," to manage the contract, which he said "opens interesting market prospects throughout Latin America," the only continent in which Alenia Aermacchi was not previously present. SP

First Iraqi F-16 completes first flight

Lockheed Martin successfully completed the first flight of the inaugural F-16 Fighting Falcon for the Iraq Air Force. The jet is the first of 36 F-16 Block 52 aircraft on order through the US Department of Defence for Iraq.

With more than 4,540 F-16s delivered to date, the foreign military sale to Iraq adds to the F-16's reputation as the world's most versatile and affordable fourth-generation multi-role fighter. Lockheed Martin's F-16 production line is expected to continue through 2017, with major upgrades. SP

PHOTOGRAPHS: defense.gouv.fr, Alenia Aermacchi, Sikorsky

Northrop Grumman, Yamaha Motor collaborate on unmanned helicopter system

Northrop Grumman Corporation and Yamaha Motor Corporation, USA have agreed to work together to develop and market an innovative small, unmanned autonomous helicopter system.

Called the Rotary Bat (R-Bat), the new system merges a proven airframe produced by Yamaha, with the latest autonomous control and intelligence-gathering technologies for use in urban environments for applications such as search and rescue, power line inspection and forest fire observation.

"The R-Bat joins our existing Bat family of unmanned aircraft systems [UAS] used for tactical intelligence, surveillance and reconnaissance missions," said George Vardoulakis, Vice President for medium-range tactical systems, Northrop Grumman. "Yamaha Motor's lineage of reliable products speaks to the strength of R-Bat as a new member of our proven unmanned system portfolio."

The R-Bat is based on the Yamaha Motor RMAX remotely-piloted unmanned helicopter that is currently used for industrial and farming applications. With more than 2 million accumulated flight hours, the RMAX platform provides agricultural support services to more than 2.4 million acres of farmland in Japan each year. SP

Vector Hawk SUAS features multiple mission capability

Designed for versatility and affordability, the new Lockheed Martin Vector Hawk addresses a broad set of unique missions and operating needs within a single system. With a gross take-off weight of only four pounds and a vertical profile of only four inches, Vector Hawk boasts best-in-class payload capacity, speed and endurance.

"We are proud to deliver Vector Hawk, a waterproof system that provides leading edge multi-mission capabilities in all environments," said Kevin Westfall, Director of Unmanned Solutions at Lockheed Martin's Mission Systems and Training business. "The Vector Hawk can be field reconfigured to multiple missions including fixed-wing, vertical take-off and landing (VTOL), and tilt-rotor enabling VTOL with transition to fixed-wing flight. Our fixed-wing variants may be hand or tube launched, and VTOL and tilt-rotor variants may be launched from land or water surfaces."

Vector Hawk features fully autonomous flight, landing and fail-safes. It is inaudible at operational slant ranges. The data link features a high bandwidth software defined radio, mesh networking (including 3G, 4G, and LTE cellular), over-the-air reconfiguration, and is capable of employing a variety of waveforms. With an open architecture, reconfigurable variants, adaptable data link, and scalable payload, Vector Hawk is engineered for unmatched capability. SP

PHOTOGRAPH: Northrop Grumman

US Navy's X-47B ramps up flight test

The X-47B unmanned combat air system is gearing up for shore-based flight test activities in preparation for the next round of sea trials this summer. The programme's test team will conduct various test events with the X-47B over the next few months in an effort to mature air traffic control and ground support standard operating procedures for co-use of airspace between unmanned and manned aircraft during day and nighttime operations.

"Continuing to fly the X-47B in the Patuxent River air space will further exercise the research, test, development and evaluation (RDT&E) infrastructure with an unmanned air system," said Capt. Beau Duarte, Program Manager for Unmanned Carrier Aviation at Patuxent River. "These tests are a build-up for the next carrier event this summer."

As the first unmanned aircraft to take off and land from a modern aircraft carrier, X-47B will once again embark on USS Theodore Roosevelt (CVN 71) in the August time frame. This time, the test team will focus on perfecting flight deck operations and integrating the X-47B with manned carrier aircraft.

The Navy will conduct X-47B flight operations over the next year to mature technologies for the future unmanned carrier launched airborne surveillance and strike system and refine the concept of operations to demonstrate the integration of unmanned carrier-based aircraft within the carrier environment, Duarte said. SP

Fire Scout to undergo electromagnetic interference tests

In preparation for ship-board flights Northrop Grumman Corporation-built MQ-8C Fire Scout will be tested for its ability to operate safely in the intense electromagnetic environment aboard US Navy ships.

The MQ-8C Fire Scout uses specially-designed cages, known as Faraday cages, to protect sensitive equipment on the aircraft from signal interference.

"All Navy aircraft must go through electromagnetic interference testing to ensure they can operate safely in the ship environment," said Capt. Patrick Smith, Fire Scout Program Manager at Naval Air Systems Command. "We're confident that the design of the Faraday cages and other engineering work done on the MQ-8C Fire Scout will pass these tests."

The MQ-8C is based on a larger helicopter airframe and can fly almost twice as long and carry three times more intelligence-gathering sensor payloads than the MQ-8B variant. Since first flight October 31, the MQ-8C Fire Scout has flown 102 flights. The initial flight tests will validate that the autonomous control systems of the helicopter are working properly before its first ship-based demonstration. SP

National Security Council revamp likely

With the Bharatiya Janata Party winning the general elections decisively under the leadership of Narendra Modi, there is keen anticipation that the post of national security adviser (NSA) will get more muscle.

While a revamp of the National Security Council (NSC) is on the cards, there is also speculation on whether the BJP-led Government would restore the importance of the chair of the NSA who reports directly to the Prime Minister. Incidentally, the post was created by the Vajpayee-led NDA Government in 1998 but suffered major dilution during the tenure of the UPA Government.

Top sources said this may be done by allowing a gradual tactical shift of functions from the Ministry of Home Affairs (MHA) to the NSC, particularly on matters related to intelligence. The NSA is the chief executive of the NSC and the primary adviser to the Prime Minister. The NSC is currently a toothless body rendered redundant by the multiple agencies performing overlapping functions of internal security threat assessments and intelligence gathering.

The country's first NSA was appointed by the NDA Government in November 1998 and played a major role in the country's foreign policy and security manoeuvres. The first NSA, Brajesh Mishra, who was also principal secretary to the then Prime Minister Atal Behari Vajpayee, had an all-encompassing role in matters of national security.

Meanwhile, the second-biggest task the BJP has set out for itself in the MHA is to improve Centre-state relations by bringing all state governments on board on the key issues of anti-terror operations, intelligence-sharing and tackling left-wing extremism.

Some tough measures include insulating intelligence agencies from political intervention and interference — a key pointer to the overhauling of the Intelligence Bureau and National Investigation Agency set up by the UPA Government in 2009 and accused of working as a tool of the government of the day. SP

LTTE is am unlawful association

The Government of India, under the provisions of the Unlawful Activities (Prevention) Act, 1967, has proscribed the Liberation Tigers of Tamil Eelam (LTTE) as an 'Unlawful Association'. The declaration of LTTE as an 'Unlawful Association' has been extended for a further period of five years with effect from May 14, 2014. SP

Explosives seizure keeps cops on toes

A huge explosives haul from Udupi district's Karkala taluk in Karnataka in March has kept police officers on their toes and the main accused is said to be ducking an intensive police hunt by changing his hideout from one state to another.

According to Karnataka Police, 95 tonnes of ammonium nitrate, 95,000 electrical detonators and 19,250 metres of safety fuse were seized in the taluk, and the sheer size of the cache has sent shockwaves in the coastal region. Reports said the haul was meant for quarrying in and around Karkala, but police are investigating the case from all angles, including possible sabotage or suspected terror activities.

Karnataka Police recently asked the National Investigation Agency (NIA) for help in investigations, but Karkala's Assistant Superintendent of Police Annamalai told the media that he was yet to receive orders on handing over the probe to the top agency.

Since Karkala is a Naxal-affected area, the stocking of explosives appears dangerous, more so because of the Lok Sabha elections. But Annamalai spiked those fears, saying they have taken measures to ensure the smooth conduct of the elections.

Biju Thomas is said to have emerged as a top accused in the case, sources said. This is not the first time he's on the police radar. On February 7, 2007, Karkala Police had nabbed him for stocking huge quantities of ammonium nitrate and seized 300 kg of the toxic solution. In 2010, Bengaluru City police had taken Biju into custody in connection with the Chinnaswamy Stadium blasts case, but let him off due to lack of evidence. SP

TSA expands PreCheck screening programme to international airlines

The US Transportation Security Administration (TSA) is expanding its PreCheck screening programme to passengers on international airlines. Air Canada is the first international carrier to join the list of PreCheck carriers, which includes Alaska Airlines, American Airlines, Delta Air Lines, Hawaiian Airlines, JetBlue Airways, Southwest Airlines, United Airlines, US Airways, and Virgin America. Passengers in PreCheck lanes can pass through standard metal detectors, not the full-body scanner, during security checks, with their shoes, belt, and light jackets on. They also are allowed to keep liquids and laptops in their bags.

PreCheck was launched in October 2011 at four airports. It is now available in 118 of the 450 US commercial airports. The programme was initially open to frequent fliers of US airlines and the 2.4 million travellers enrolled in one of the Customs and Border Protection's expedited entry programmes — Global Entry, Nexus and Sentri. Last December, the TSA began to enroll people directly in the PreCheck programme through stations at 17 airports and 237 off-airport sites.

The TSA needs to have more travellers enrolled in the PreCheck programme in order to justify having dedicated lanes at 118 airports. Recently, TSA agents have been inviting travellers to step out of normal security lines and into PreCheck lanes. Those passengers are randomly selected after confirmation from canine teams or behaviour detection officers. The TSA believes that expanding the PreCheck programme to foreign carriers will help recruit more passengers to PreCheck status. In a recent TLG poll of 2,700 travellers, 62 per cent of participants were unable to identify whether the PreCheck programme has made any significant difference in wait times for security screenings. SP

Homeland Security: Don't use Internet Explorer due to bug

The US Department of Homeland Security is advising Americans not to use the Internet Explorer Web browser until a fix is found for a serious security flaw that came to light recently. The bug was announced by FireEye Research Labs, an Internet security software company based in Milpitas, California.

It recommended that users and administrators "consider employing an alternative Web browser until an official update is available." The security flaw allows malicious hackers to get around security protections in the Windows operating system. They then can be infected when visiting a compromised website. Because the hack uses a corrupted Adobe Flash file to attack the victim's computer, users can avoid it by turning off Adobe Flash. "The attack will not work without Adobe Flash," FireEye said. "Disabling the Flash plugin within IE will prevent the exploit from functioning." SP

Thales Alenia Space expands in Europe with British subsidiary

Thales Alenia Space announced that it is further expanding its presence in Europe with the creation of a new British subsidiary, Thales Alenia Space UK.

Based at the Harwell Science and Innovation Campus (HISC) in Oxfordshire, Thales Alenia Space UK is an integral part of the company's strategy to bolster its presence in key countries that invest heavily in the space sector. It follows the opening of Thales Alenia Space subsidiary in Germany in 2011 and the extension of the presence of Thales Alenia Space in Belgium by the creation of an office in Leuven.

The decision to locate a new subsidiary in the UK was spurred by the UK Government's commitment to fund space activities and create new initiatives to foster growth in the space industry – including the formation of the UK Space Agency, an increased contribution to the European Space Agency (ESA), the investment in the UK Space Gateway at Harwell, and more recently securing a significant share of the Neosat programme for the UK. Thales Alenia Space UK will be an integral part of Thales Alenia Space Neosat prime engineering activities, and will contribute to the design and production of the propulsion subsystem for this new platform. SP

Mubadala takes control of Piaggio Aero

PHOTOGRAPH: Piaggio Aero

Abu Dhabi-based investment and development company Mubadala has become the majority shareholder in Piaggio Aero, the Italian manufacturer of the fast turboprop the Avanti II and the Hammerhead UAS.

Mubadala bought out the shares held by India's Tata and has received formal Italian Government approval according to the "Golden Power" law. Mubadala now holds 98.05 per cent of the share capital of Piaggio Aero Industries and Piero Ferrari, on behalf of the Ferrari family, holds the remaining 1.95 per cent.

Mubadala has been a shareholder in Piaggio Aero since 2006. In 2013, it participated in a share capital increase which increased the equity of Piaggio Aero to support the restructuring and diversification plan focused on the development of existing core activities and new programmes in line with industry requirements.

Following the transfer, Piero Ferrari has stepped down as Chairman of the company and is succeeded by Alberto Galassi, who has been CEO of the business since 2009 and led the move to diversification into the defence and security sector, developing both the multi-role patrol aircraft and the P.1HH HammerHead unmanned aerial system.

The company also named Carlo Logli as the new CEO. Logli is currently the Chief Restructuring Officer of Piaggio and is the former CEO of SuperJet International. SP

Northrop Grumman to expand investment in Florida

Northrop Grumman Corporation (NOC) announced it is making additional new investments in its Melbourne-based Manned Aircraft Design Centre of Excellence.

Initial plans call for a new 220,000-square-foot building and the addition of 300 employees, with the potential for additional jobs and capacity in the future. These investments are part of the company's ongoing effort to improve its strategic alignment with its customers' need for increasingly innovative and affordable products, services and solutions.

"We're extremely appreciative of the support we've received from the state of Florida and the local community in our continuing effort to drive our affordability and competitive position," said Tom Vice, Northrop Grumman Corporate Vice President and President, Aerospace Systems. "This expansion further cements our strong partnership with Florida, and will greatly benefit our employees, customers and shareholders."

The facility's continued growth, enabled by Florida's positive business climate, will enhance competitiveness across Northrop Grumman's operations and support the company's focus on creating innovative and affordable products for its customers. SP

Safran acquires Eaton Solutions business

Safran has completed the acquisition of the Aerospace Power Distribution Management Solutions and the Integrated Cockpit Solutions business of Eaton. The definitive agreement to acquire the businesses and the financial terms of the transaction were announced on January 20, 2014.

The business generated revenues of approximately $102 million and EBITDA in excess of $14 million in 2013. Aerospace Power Distribution Management Solutions account for around 60 per cent of the activity, and Integrated Cockpit Solutions around 40 per cent. The business employs approximately 350 people at manufacturing facilities in Costa Mesa, California, and Sarasota, Florida.

The business will be consolidated by Safran with effect from May 9, 2014. The Aerospace Power Distribution Management Solutions activities will be consolidated within the Aircraft Equipment business. The Integrated Cockpit Solutions activities will be consolidated within the defence business. SP

DARPA's Warrior Web project may provide superhuman enhancements

PHOTOGRAPH: DARPA

Dismounted Soldiers carrying full battle gear are pushed to their physical limits. Soldiers often heft 100 pounds or more of essentials. How the Soldier of the future maintains a decisive edge may lie in innovations developed by the Defense Advanced Research Projects Agency, better known as DARPA.

"That load is a critical issue," said Lt Colonel Joe Hitt, who until recently was Warrior Web Program Manager. "In Warrior Web, we want to explore approaches which make that kind of load feel, in terms of the effort to carry it, as if its weight has been cut in half. That's the goal."

DARPA launched the Warrior Web programme in September 2011, seeking to create a soft, lightweight undersuit to help reduce injuries and fatigue while improving mission performance.

"The number one reason for discharge from the military in recent years is musculoskeletal injury," Hitt said. "Warrior Web is specifically being designed to address the key injuries at the ankle, knee, hip, lower back and shoulders."

Warrior Web would protect injury-prone areas by stabilising and reducing stresses on joints and promoting efficient and safe movement over a wide range of activities, he said. While protecting against injury, Warrior Web also seeks to make Soldiers into better performers by giving them the feeling of a lighter load and enhancing their existing physical capabilities.

Wearable technologies are the newest buzz in the commercial tech world. Sensors can measure heartbeats, blood pressure and steps taken. This information is useful to an individual interested in trying to live a healthy, active lifestyle. However, the information may be critical to a small unit leader when Soldiers are networked together. A leader would be able to monitor health signs in real time to better evaluate situations and make good decisions.

DARPA, along with scientists from the Army Research Laboratory Human Research and Engineering Directorate (ARL-HRED), tested nine prototype Warrior Web systems on Soldiers over 21 weeks during the first phase of the programme.

The Army has looked at offloading gear to a robotic asset or even precision airdrops as ways of reducing Soldier load.

The initial prototypes went through rigorous evaluation at the Soldier Performance and Equipment Advanced Research Facility at Aberdeen Proving Ground, Maryland. This facility features a state-of-the-art biomechanics laboratory where researchers capture high-resolution, highly-controlled data. Immediately adjacent to lab, there is a two-and-a-half-mile cross-country course through the woods.

DARPA is also partnering with the Natick Soldier Research, Development and Engineering Center (NSRDEC), and Natick Soldier Systems Center in Massachusetts.

During the first period of testing, known as Task A, researchers are exploring technologies to augment muscle work and increase Soldier capabilities. The team is addressing five key areas:

- Core injury mitigation
- Comprehensive analytical representations
- Regenerative kinetics
- Adaptive sensing and control
- Suit human-to-wearer interface

Warrior Web will soon get its final test.

"Thirty months from today, we will outfit a squad with our suits and we will compete against a squad without them in activities such as the 12-mile rucksack march, marksmanship and the obstacle course," Hitt said. "Our vision is to significantly reduce the time it takes to do a rucksack march and then when you get onto the marksmanship course, you're almost as fresh as if you hadn't marched at all."

The Army Research Laboratory is part of the US Army Research, Development and Engineering Command, which has the mission to develop technology and engineering solutions for America's Soldiers.

The US Army Research, Development and Engineering Command is a major subordinate command of the US Army Materiel Command (AMC). AMC is the Army's premier provider of materiel readiness – technology, acquisition support, materiel development, logistics power projection, and sustainment – to the total force, across the spectrum of joint military operations. If a Soldier shoots it, drives it, flies it, wears it, eats it or communicates with it, AMC provides it. SP

'DARPA sows seeds of technological surprise,' Director Arati Prabhakar

Many of the advances that contribute to national security resulted from early investment in developing new technologies, the Director of the Defense Advanced Research Projects Agency (DARPA) told Congress yesterday.

Dr Arati Prabhakar represented the Defense Department at a Senate Appropriations Committee hearing called to address concern that the national investment in research and development had shrunk since 2001, along with the education pipeline for young scientists and engineers.

The directors of the Office of Science and Technology Policy of the Executive Office of the President, the National Science Foundation, the National Institutes of Health and the Energy Department also testified at the hearing.

"DARPA is part of Defense Department science and technology investments," Prabhakar said. "We're also part of this much larger national ecosystem for R&D. But within those communities, we have one very specific role: to make the pivotal early investments that change what's possible so we can take big steps forward in our national security capabilities."

DARPA's output is technology, but the organisation counts its mission complete only when the technologies change outcomes, she added.

"Every time a stealth fighter evades an air defence system, every time a soldier on the ground is able to place himself precisely with GPS and get the data he needs, every time a radar on an aircraft carrier allows us to see a threat to a carrier strike group before it sees us – that's when we count our mission complete," Prabhakar said.

In every case, DARPA made a pivotal early investment that showed the technologies were possible, and what followed from that, Prabhakar said, was equally important.

"That was the investment, often by our partners in other parts of the Defense Department and the military services – their science and technology investments, their development investments or their acquisition programs," the director said. "Of course," she added, "many in industry were involved deeply in those efforts, and ultimately to make those technologies into real capabilities for our warfighters."

Along the way, as DARPA focused on its mission of investments for national security, the organisation's scientists and engineers planted some of the seeds that formed the technology base that the U.S. commercial sector has built layer on layer above the foundation, Prabhakar said.

"Every time you pick up your cell phone and do something as mundane and miraculous as check a social networking site, you're living on top of a set of technologies that trace back to that early work we did," she added. "Public investment laid that foundation. Billions of dollars of private investment and enormous entrepreneurship is what built those industries and ended up changing how we live and work with these technologies."

DARPA's mission of creating breakthrough technologies for national security is unchanged across more than five decades, she told the panel, but the world in which DARPA invests and pursues its mission continues to change, and so do the things DARPA does that reflect the national security and technology context in which the organisation must operate today.

"In one arena, we see information at massive scale affecting every aspect of national security," the Director said. "So if you look in our portfolio today, you will find game-changing investments in cyber and in big-data programmes." One example is work DARPA is doing to tackle the networks that drive human trafficking around the world, she added.

In another arena, Prabhakar said, DARPA is looking at what's happening with the cost and complexity of military systems today.

"We recognise that [such systems] are becoming too costly and too inflexible to be effective for the next generation of threats we will face around the world," Prabhakar explained, "so at DARPA we are investing in programmes that are fundamentally rethinking complex military systems."

DARPA is investing in technology its experts believe will lead to powerful new approaches for radar, communications, weapons and navigation, she said.

"And in a range of research areas, we can see the new seeds of technological surprise," Prabhakar said. "One example is where biology is intersecting with engineering today, and in areas like that, we are making investments that will lead to new technologies like synthetic biology and neurotechnology." SP

PHOTOGRAPH: DARPA

Woman arrested for break into John Cusack's home

A woman has been arrested on suspicion of attempting to break into John Cusack's home in Malibu, and is said to have been obsessed with the actor. The suspect is Elizabeth Pahlke, is 45-years-old, and is accused of allegedly attempting to get through a window at the actor's Malibu estate and was later caught by security staff as she scaled a fence in the grounds. Officers arrested the woman and she has been booked for felony stalking and burglary. She is currently being held on $1,50,000 bail. SP

PwC says costs of information security breaches doubled

The 2014 Information Security Breaches Survey (ISBS) found that 81 per cent of large organisations suffered a security breach, down from 86 per cent a year ago, while 60 per cent of small businesses reported a breach, down from 64 per cent in 2013.

More businesses (59 per cent) than previously said they are confident that they have the skills required within their organisations to detect, prevent and manage information security breaches compared with last year (53 per cent).

However, the average cost of incidents rose significantly for the third consecutive year. For small organisations the worst breaches cost between £65,000 and £1,15,000 on average and for large organisations between £6,00,000 and £1.15 million.

Andrew Miller, cyber security director at PwC, said: "Breaches are becoming more sophisticated and their impact more damaging. Given the dynamic nature of the risk, boards need to be reviewing threats and vulnerabilities on a regular basis. Organisations also need to develop the skills and capability to understand how the risk could impact their organisation and what strategic response is required." SP

Security threat reported on Detroit-Denver Delta flight

A Delta Airlines flight that landed at a Denver airport was directed to a remote taxiway after an unspecified "potential security threat" onboard and passengers were ushered off the plane, but authorities later saw the threat as unlikely to be credible.

Flight 1500, a Boeing 737 with 151 passengers and six crew, landed roughly on time at Denver International Airport from Detroit Metropolitan Airport at about 4:40 p.m., airline spokesman Russell Cason said.

The passengers were quickly sent off the plane without their luggage and taken by bus to a separate part of the airport, where they were being interviewed by the Federal Bureau of Investigation (FBI) officials. There were no reports of injury.

After screening passengers, crew and the plane, authorities said by 10 p.m. local time all travellers were allowed to collect their bags and go on their way, with no arrests made. "We currently do not believe a creditable threat existed to the flight," said FBI spokesman Dave Joly. SP

Melbourne Airport evacuated after security breach

Recently a security breach at Melbourne Airport forced hundreds of passengers to evacuate the Qantas and Jetstar terminal, causing delays on several flights. The scare was sparked by a person mistakenly entering the terminal through an exit without going through a security check, Qantas spokesman Tom Woodward said.

Woodward said the entire Qantas and Jetstar terminal had to be emptied as a result, with emergency evacuations beginning about 7.15 p.m. When the terminal reopened about 8.30 p.m., passengers who had been screened by security had to be sent through for a second time. Flights from the terminal resumed about 9 p.m. "The whole process took about an hour and a half," Woodward said. "Five domestic flights were delayed by about an hour." SP

PHOTOGRAPH: www.kimberlybutler.com

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