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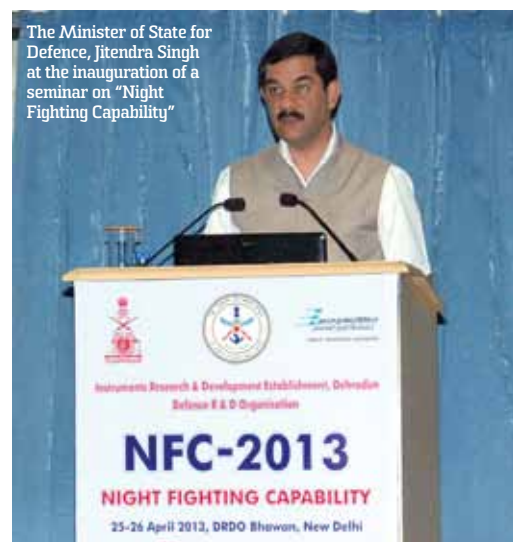
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AEROSPACE
INTERNAL SECURITY


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**Every possible step
will be taken to safeguard
our interests: Antony**

The Minister of State for Defence, Jitendra Singh at the inauguration of a seminar on "Night Fighting Capability"



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Alenia Aermacchi celebrates 100th anniversary


On May 1, 2013, Alenia Aermacchi turned 100 years old. The sole aeronautical company in the world to boast over a century of activity under the same shared brand Alenia was incorporated in 1913 by Giulio Macchi as Società Anonima Nieuport-Macchi. Hundred years later, the brand Alenia Aermacchi oversees the aviation sector of Finmeccanica, Italy's main industrial group that ranks in the top ten groups in the aerospace, defence and security sectors.

Created on January 11, 2012, from the merger of Alenia Aeronautica, Alenia Aermacchi and Alenia SIA, today's Alenia Aermacchi is the final step of a long integration process launched in the mid-1960s aimed at streamlining operations to better compete in the international markets—markets which demanded solid companies that offered integrated product portfolios.

Today, Alenia Aermacchi has grown its workforce to about 12,000 people – a distinct contrast from the 10 workers who built the first Nieuport-Macchi monoplane in 1913. With its activities balanced equally between the military and the civilian sectors, it is a global major player in the aviation industry.

During its century of activities, the “Alenia” companies which progressively merged with under today's brand have designed, developed, built, delivered and supported nearly 30,00,000 aircraft in both the civilian and military sectors. These aircraft have been operated by air forces, airlines and private operators around the world.

Giuseppe Giordo, Alenia Aermacchi's CEO, commented: “Our first 100 years mean a century of records, of technological achievements and of development of an industrial system which has been generating a significant economic and social impact in our country. Today Italy boasts one of the few aviation industries in the world able to offer a last generation fighter, a tactical transport aircraft whose superiority is acknowledged worldwide, an outstanding advanced jet trainer and several industrial collaboration programmes ranging from the modern Boeing 787 up to the A380, the world's largest passenger aircraft.”

During the remaining months of 2013, several initiatives will be promoted to celebrate Alenia Aermacchi's centenary, highlighting the role the company has played in the development of aviation technology and its impact on economy and society. 



Cover:

The Defence Minister says our bilateral relations with China are, at times, bedevilled by border issues, particularly along the Line of Actual Control. The recent developments are no exception. Among the various initiatives to safeguard our border, the thrust has been on development of our border roads and Advance Landing Ground.

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PIB, Alenia Aermacchi

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Firm response, diplomatically or otherwise, is imperative

Of late, the hotly contested debates in the media, particularly on television, are those concerning India's external and defence stance in the light of incidents with neighbours— China and Pakistan. Chinese incursion into India and Pakistan's manslaughter of Indian soldiers have disturbed the peace process and put pressure on India's External Affairs and Defence Ministries to come up with a firm response. The perception not just in the media, but generally, is that India's response to such offensive tactics has been 'meek'.

While the government is treading a 'soft path' there is a growing segment of military experts who believe that India should respond to such incursions with equal vehemence. In his fortnightly column, Lt General (Retd) P.C. Katoch states that when the Chinese intrusion is so very deliberate in establishing 10 kilometres inside our territory, the least we could do is to establish a post north of their posi-

tion, behind the Chinese intrusion. Certainly, this is one viewpoint and there are others and the government of the day will have to consider the best option in the interests of the country.

Recently at the Unified Commanders' Conference, the Defence Minister A.K. Antony reiterated that India remains committed to a "peaceful resolution of the situation (bordering China), through dialogue within the framework of the agreements for maintaining peace and tranquillity." While stating so, he emphasised that the country remains united in its commitment to take every possible step to "safeguard our interests."

This not only applies to border relationship, but also to businesses and to make Indian enterprises globally competitive, the government has initiated several measures to encourage India Inc. The Defence Procurement Procedure (DPP) has been amended further to bring about greater efficiency in the procurement process and to strengthen the defence manufacturing base in the country.

We are pleased to mention that Air Marshal (Retd) Anil Chopra, our Editorial Adviser, has been felicitated with Param Vishisht Seva Medal (PVSM) by the President of India Pranab Mukherjee on April 27, 2013. We convey our heartiest congratulations to Air Marshal Chopra and his family for such an honourable achievement.

We solicit feedback from our valued readers on *SP's M.A.I.*, our continuous effort to update you on the latest in the defence, aerospace and security world, every fifteen days.



Air Marshal (Retd) Anil Chopra being conferred PVSM by President Pranab Mukherjee

Jayant Baranwal
Publisher & Editor-in-Chief



LT GENERAL (RETD)
P.C. KATOCH

China baring fangs

Requesting and holding a second flag meeting with the Chinese by itself was displaying weakness when the Chinese Foreign Ministry had already brazenly denied 'any incursion' into Indian territory.

The fact that this is a deliberate intrusion is evident from the admission by our Ministry of External Affairs (MEA) spokesperson that the Chinese were at least two-three kilometres inside our territory even when going by the Chinese perception of the line of actual control (LAC).

It is apparent that this Chinese intrusion is on a permanent basis and the Chinaman is coolly jeering the Indian hierarchy. Defence Minister A.K. Antony's statement that "India will take every step to protect its interests" sounds very hollow. Looks like it is more for his own comfort. Hollower is the stance of External Affairs Minister Salman Khurshid who is more bothered about the visit of Premier Li Keqiang than loss of vital Indian territory.

It would not be surprising if some pet underdogs will be asked to pay back favours by publicising that Daulat Beg Oldi has no strategic significance, as was being manoeuvred in building the case for withdrawal from Siachen. The so-called "taking every step to protect Indian interests" has boiled down to the Indo-Tibetan Border Police (ITBP) reportedly being asked to camp approximately 300 metres opposite the location and ironically this move too has been kept on standby. The possibility of the hierarchy actually giving executive orders to the ITBP to this effect appears remote in the first place. But even if such a miracle does happen, does this constitute Antony's declaration of "taking every step to protect Indian interests"?

When the Chinese intrusion is so very deliberate in establishing 10 kilometres inside our territory, the least we could do is to establish a post north of their position, behind the Chinese intrusion; create the catch-22—who is behind whom? Better still, why not make a similar intrusion elsewhere when we are sure up to where the Indian territory is in 'our' perception. We could even go deeper in consultation with the Dalai Lama

since we share a border with Tibet and not China.

This Chinese intrusion is all the more brazen since both countries through mutual agreement had put the resolution of the border on the backburner. To say that this Chinese move is to buttress its bargaining position when the two countries discuss the unresolved borders along Arunachal Pradesh and the underlying question of Tibet too is naïve considering that resolution of the border is way off. Why this deep intrusion at this point of time?

The intrusion is apparently timed with little manoeuvring space of the Indian polity on account of forthcoming elections and our foreign policy mandarins being overawed with the visit of Premier Li Keqiang. Zhang Yan, the Chinese Ambassador in New Delhi, must also have fed the CCP reports of Home Minister Sushil Kumar Shinde inviting Rehman Malik in both instances and hugging him as the latter snubbed India, plus Salman Khurshid rushing off to Jaipur (again against bureaucratic advice) to feast Raja Pervez Ashraf on a private visit, with the latter returning to move a resolution in the Pakistani Parliament against hanging of Afzal Guru.

It is the propensity of our polity to bend backwards that both China and Pakistan bank upon. It may be recalled that US think tanks had warned a decade and a half back that China will start flexing its military muscle since 2010. That assessment is coming true. If we make the mistake of taking the issue lightly, there will be more intrusions including impacting adversely on the defence of Ladakh. In all probability, Chinese will now bring a dozer to the area, construct a road linking with Aksai Chin and simultaneously develop high altitude habitat and defence works including a helipad. Asking the ITBP to establish a post 300 metres facing the Chinese would be a highly stupid response, perpetuating the show of impotence. The call of the time is to show some spunk. Is the hierarchy capable of it? **SP**



When the Chinese intrusion is so very deliberate in establishing 10 kilometres inside our territory, the least we could do is to establish a post north of their position, behind the Chinese intrusion

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

Every possible step will be taken to safeguard our interests: Antony



Describing the current situation in Eastern Ladakh as “not one of our creations,” the Defence Minister A.K. Antony on April 30 said India remains committed to a peaceful resolution of the situation, through dialogue within the framework of agreements. Addressing the Unified Commanders’ Conference in New Delhi, Antony, however, emphasised that the country remains united in its commitment to take every possible step to safeguard our interests.

“The current situation is not one of our creations. However, we remain committed to a peaceful resolution of the situation, through military and diplomatic dialogue within the framework of the agreements for maintaining peace and tranquility. At the same time, I wish to emphasise that there should not be any doubt that the country remains unanimous in its commitment to take every possible step, at all levels, to safeguard our interests.”

Antony said our bilateral relations with China are, at times, bedeviled by border issues, particularly along the line of actual control (LAC). The recent developments are no exception. Among the various initiatives to safeguard our border, the thrust has been on development of our border roads and advance landing grounds.

Referring to the security situation in Pakistan, Antony said, the capability of Pakistani Taliban to strike at will at innocent public and strategic targets is worrisome. He said the growing nuclear stock of Pakistan needs to be factored in our overall strategy towards our western neighbour.

Antony reiterated the government’s strong commitment to the modernisation of the armed forces and to ensure the all-round welfare of the troops. Despite financial constraints, funds will never be an issue when it comes to national security. “However, the onus lies collectively on all of us to make the optimum use of the financial resources with all the honesty, transparency and fairness.

Dwelling at length on the recent changes in the Defence Procurement Procedure (DPP) to encourage the indigenous defence industry, Antony said the objective is to bring about greater efficiency in the procurement process and to strengthen the defence manufacturing base in the country. He expressed confidence that the changes brought about in the DPP will lead to greater integrity and transparency in the procurement process. “We should not give any chance to any agency to point fingers at our defence procurement process and acquisition.”

“The contemporary concept of security encompasses not merely military threats, but also cyber attacks, insurgencies, organised trans-border crimes, pandemics and contingencies of natural disasters. Such an environment of security necessitates need for constant monitoring and building up capacities to enable multi-level, multi-agency responses.”

The conference was attended among others by the Minister of State for Defence, Jitendra Singh, the Chairman COSC and Chief of the Air Staff, Air Chief Marshal N.A.K. Browne, Chief of Army Staff, General Bikram Singh, Chief of the Naval Staff, Admiral D.K. Joshi and Defence Secretary, Shashikant Sharma. **SP**

DAC approves major changes in DPP to encourage Indian defence industry

With the twin objective of infusing greater efficiency in the procurement process and strengthening the defence manufacturing base in the country, the Defence Acquisition Council (DAC), the apex decision-making body of the Ministry of Defence, took a series of decisions recently, including amendments to the Defence Procurement Procedure (DPP).

The Defence Minister A.K. Antony, who chaired the meeting, said the only way forward for the country is rapid indigenisation of defence products, with both the public and the private sectors playing pivotal roles in this endeavour. He said the government will make all efforts to create genuine level playing field for Indian manufacturing industries vis-à-vis global players.

Following are key amendments to the DPP-2011:

- **Prioritisation of various categories for capital acquisitions under DPP**

Preference for indigenous procurement in the Defence Production Policy 2011 has now been made a part of DPP through an amendment that provides for a preferred order of categorisation, with global cases being a choice of last resort.

The order of preference, in decreasing order, shall be: (1) "Buy (Indian)"; (2) "Buy & Make (Indian)"; (3) "Make"; (4) "Buy & Make with ToT"; and (5) "Buy (Global)". Any proposal to select a particular category must now state reasons for excluding the higher preferred category/ categories.

- **Release of public version of LTIPP**

The DAC has approved the release of a public version of its 15-year long-term integrated perspective plan (LTIPP), outlining the Technology Perspective and Capability Roadmap (TPCR) against LTIPP 2012-27. The TPCR will provide useful guidance to the Indian Defence Industry for boosting its infrastructural capabilities and directing its R&D and technology investments.

- **Maintenance ToT (MTot) no longer through nomination**

MToT has been hitherto reserved largely for OFB and DPSUs through the nomination process. A DPP amendment has been approved that does away with nomination by the Department of Defence Production and facilitates selection of MToT partners by Indian bidders. This measure is expected to have a positive impact on private sector participation in maintenance, repairs and overhaul work.

- **Advance Consultations for "Make" Procedure**

The DAC has approved an amendment mandating consultations to begin sufficiently in advance of actual procurement by Service Headquarters (SHQs), so that capital acquisition plans can be translated into national defence R&D and production plans. In addition, a high-level Committee has also been constituted for simplification of "Make" procedures, with a view to unleash the full potential of this important category.

- **Simplification of "Buy & Make (Indian)" Procedure**

The DAC has approved an amendment further simplifying this com-



plex category. Its procedures have been brought on par with other categorisations, resulting in faster processing of cases under this category.

- **Clear definition of indigenous content**

Indigenous content has now been defined in an unambiguous manner, providing requisite clarity and a common understanding.

- **Ensuring faster progress in "Make" and "Buy & Make (Indian)" cases**

The Ministry has a limited number of acquisition cases under "Make" and "Buy & Make (Indian)" categories, with an estimated value of ₹1,20,000 crore. Instructions have been issued for speedier conclusion of these cases.

- **Defence Items List**

The Defence Items List has been finalised by the Ministry and sent to DIPP for notification, which will bring required clarity in the licensing process.

- **Licensing for Dual-Use Items**

The Ministry has categorically clarified to DIPP that dual-use items will not require licensing, thereby bringing added clarity to the licensing process.

- **Consultations on Security Guidelines for Indian Defence Industry**

Draft Security Guidelines that will apply to all licensed defence industries have been circulated for consultations with various stakeholders. It is expected that a complete security framework for Indian private industries participating in defence cases will be in place in the near future.

- **Resolution of Tax-related Issues**

Resolution of deemed exports status for certain defence projects and rationalisation of tax and duty structures impinging on the Indian defence industry has been taken up by the MoD with the Ministry of Finance.

- **Funds for MSMEs in the Defence Sector**

In order to ensure regular supply of funds to MSMEs involved in manufacturing of defence products, SIDBI has decided to earmark an amount of ₹500 crore for providing loans, and further, a fund of ₹50 crore for equity support out of "India Opportunities Fund" managed by its subsidiary, namely, SIDBI Venture Capital Ltd.

- **Efficiency and Transparency in Defence Procurement**

A stipulation to freeze the SQRs before the "acceptance of necessity" (AoN) stage has been accorded, and the validity of AoN has also been reduced from two years to one year. These measures are expected to expedite the acquisition process and increase transparency.

- **Enhanced Delegation of Financial Powers**

The financial powers of Service Chiefs/DG Coast Guard have been enhanced from ₹50 crore to ₹150 crore for capital acquisition cases.

- **Powers to DAC**

Approval for all deviations from the Defence Procurement Procedure will henceforth be sought from the DAC instead of the Defence Minister. **SP**



The dragon dares

[By Air Marshal (Retd) Anil Chopra]

On the night of April 15, platoon strength (around 50 soldiers) of the Chinese People's Liberation Army (PLA) carrying small arms intruded nearly 19 km into the Indian territory near Burthe, very close to the strategic Karakoram Pass, in DBO (Daulat Beg Oldi) sector. They established a tented post within 900 feet of Indian positions and created a condition for a face-off with Indian troops and also symbolically claimed sovereignty. This place is not too far from the Indian advanced landing ground (ALG) which has been the lifeline of the area for decades. The type of accommodation appears to be for long haul and amounts to redrawing the line of actual control (LAC), tantamount to claiming over 700 sq km of Indian territory. The incursion was first confirmed on April 16 through an aerial survey. Very significantly, the Chinese had used air effort to carry out and support the deployment. The government initially kept the affair low-key but Indo-Tibetan Border Police (ITBP) and Army positions were strengthened by moving troops and logistics by air. Unlike in most cases, the transgression has not been removed even after three weeks of protests/consultations at various levels of the government including three flag meetings. The Joint Secretary level mechanism set up in 2012 was activated.

The historic boundary dispute with China in Ladakh, Central sector and Arunachal Pradesh is well known. In 1950, the PLA annexed Tibet and later they extended their influence by building a road through Aksai Chin and placing border posts. They formally laid claim on Arunachal Pradesh and Aksai Chin. As part of well-documented so-called India's Forward Policy, in 1959 India started sending border patrols into disputed areas. This soon became a regular two-sided affair. The activity has been sporadic ever since. Normally the Chinese would make short incursions, leave behind some telltale marks like empty cold drink cans and markings on prominent rocks to remind their Indian counterparts that they have claim to the area. There has been a pattern in these Chinese activities; change of leadership in China, visit of a senior leader to India, visits of major Indian delegations to China are occasions to create incidents to put the Indians on a backfoot and start the negotiations from a position of advantage. Chinese premier Li Keqiang is expected in India in May 2013. Analysts are drawing comparisons with Sumdorong Chu incident of 1986-87 when a military stand-off was involved. Among the first statements of the new Chinese President Xi Jinping on taking over was his concern about the complex Sino-Indian border. There are on average around 400 incursions in a year and there have been around 100 till now in 2013.

In the 1962 Sino-Indian conflict, the Indian Air Force (IAF) was restricted to air logistics and reconnaissance roles. Having flown extensively over this inhospitable region of northern Ladakh, let me analyse some air aspects and see how the two sides are placed. Former Indian Army Chief General Malik said in a TV programme that the Chinese army is in a dominant position in DBO sector. Air assets wise the two sides are evenly placed. China operationalised the Gar Gunga airport on Indus River just 80 km from our border in July 2010. This civil-cum-military airfield at 4,700 metres altitude has already been used for mili-

tary operations. Not too far from the area are major airbases of Kashgar and Khotan in Xinjiang. All these airfields are regularly activated during exercises. Storage areas, aircraft hangars and other support facilities are clearly visible on Google maps. Chinese have a well developed highway cutting through Aksai Chin, connecting to Pakistan on their eventual way to Gwadar port in Baluchistan. India's major airfields Leh and Thoise were created to support logistics for the army, and air operations of the IAF in Ladakh. To increase our air support capabilities in the region, an old ALG at Nyoma was operationalised in 2009. This is now the closest landing strip to Gar Gunga. Smaller strips at Fukche (4,300 metres) near Demchok (now under Chinese control) and Chushul (4,500 metres) on the banks of Lake Pangong Tso are within line of sight of Chinese positions. DBO ALG is at 5,320 metres. At such altitudes



Map not to scale

there are serious restrictions on load carriage and take-off and landing performance for both sides. Unfortunately, infrastructure development on Indian side is proceeding slowly. IAF's IL-76s and AN-32s fly round the year to build up supplies in the region. The helicopter fleet has been the ultimate lifeline and providing the last mile connectivity. The Mi-17s and heavy lift Mi-26 have been the main work horses. The Hindustan Aeronautics Limited (HAL)-built Cheetah, Cheetal and ALH of IAF and Indian Army have been supporting the very high altitude posts.

China which is deeply occupied with events in North Korea, Sea of Japan, South China Sea and Taiwan should normally not have opened another confrontationist front. Is India fully seized of the situation? Are the Indian military and foreign service mutually coordinated? Is China taking advantage of India's timidity? Is this a signal for us to strengthen our armed forces? The forthcoming exchanges of important visits are under cloud. While the two countries work closely to resolve issues diplomatically, military has no choice but to strengthen its ground position. **SP**



Provide the Indian armed forces with state-of-the-art equipment: Jitendra Singh

There is a need to change the approach from 'acquiring technology' to 'development of technology' in order to achieve desired level of indigenisation. The aim should be to equip the Indian armed forces with state-of-the-art equipment to bring them at par with the world leaders," said Minister of State for Defence Jitendra Singh, while inaugurating a two-day seminar on Night Fighting Capability on April 25-26, 2013, in New Delhi.

Appreciating the strides made in indigenous design and development and production of equipment to enhance night fighting

capabilities, Jitendra Singh emphasised on self-reliance in the field of instrumentation and to reduce the import content to a minimum. He also emphasised the need of greater synergy among different stakeholders in the process of development i.e. DRDO, public sector and private industry.

"We are facing incursions from across the land borders and there is need to have early warning systems to handle such situations more effectively."

Dr V.K. Saraswat, Scientific Adviser to the Defence Minister, Secretary Department of Defence R&D and DG DRDO, highlighted the achievements of DRDO in the field of electro-optics. He also mentioned about the development of Thermal-imaging based commander's sight for T-72 and T-90 tanks as well as BMPs, thus removing the night blindness of these armoured fighting vehicles.

Mentioning the progress made by IRDE in this critical area, he gave the example of recently developed integrated multi-functional sight that weighs 3.5 kg, as compared to the first-generation devices of similar nature that used to weigh around 55 kg. Emphasising the need to strengthen manufacturing infrastructure in the country, he stated that the country had to gear up to produce the advanced thermal detectors indigenously, "Our biggest weakness is the availability of infrared imaging detector fabrication facilities."

Delivering the keynote address, Lt. General S.K. Singh, Vice Chief of Army Staff briefed about the Army acquisition plans for the next decade and expected DRDO to match the expectations of the armed forces. The partnership of private industry could be crucial, he emphasised. The services today are looking for innovative technological solutions to stay ahead of their adversaries.

Anil Kumar, Chairman and Managing Director of the Bharat Electronics Limited (BEL) in his address put forth the industry perspective. He assured that BEL centres are always ready to support the indigenisation efforts of the country and will deliver the quality instruments in time to the armed forces. **SP**

Thales's multi-function radar on Danish frigate

The first sea acceptance test (SAT) of Thales's active phased array radar (APAR) multifunction radar on the new Iver Huitfeldt class frigates of the Royal Danish Navy was a success. The test was performed with the first APAR delivered to the Royal Danish Navy, installed on HDMS Peter Willemoes.

In December 2006, the contract was signed for the delivery of the three APAR systems for the Iver Huitfeldt class frigates. Between January 2011 and January 2012 the factory acceptance tests for all three radars were performed and in 2011 and 2012 the systems were installed on the three ships of this class: HDMS Iver Huitfeldt, HSMS Peter Willemoes and HDMS Niels Juel.

Thales Nederland CEO Gerben Edelijn says: "This SAT demonstrates our capability to maintain the highest possible level of product quality over a long period of time. We are proud of the excellent relation with



the Royal Danish Navy."

Following this SAT, there will be a harbour acceptance test later this year to test the

ship's anti-air warfare and fire control capabilities. The programme is scheduled to end early 2014. **SP**



Northrop Grumman launches next-gen UGV

Northrop Grumman Corporation has launched CUTLASS, its latest generation unmanned ground vehicle (UGV), expanding its range of industry-leading capabilities in unmanned systems for the remote handling and surveillance of hazardous threats.

CUTLASS includes significant advances in technology and performance and a range of features that provides capabilities for national security and resilience applications.

“Our CUTLASS vehicle is setting new standards in the UGV market and significantly enhancing the ability of users to handle hazardous threats safely. It is more dexterous, cost-effective and, as a package, four times faster than any other UGV,” said Greg Roberts, Managing Director, Defence and Security, Northrop Grumman Information Systems Europe.

“The vehicle is already in service across the UK and has proven itself to be robust and capable in the most demand-

Armadillo delivered

BAE Systems has delivered a new variant of CV90 Armadillo, finished in traditional Danish Army camouflage, to the Danish Army Oksbol base for competitive evaluation to meet Denmark’s armoured personnel carrier requirement.

Armadillo offers class-leading protection and optimum mission flexibility. A “hot” production line (CV90 is in build for Norway) and six existing operators mean a proven low-risk solution, both for initial purchase and

long-term sustainment and upgrade.

Denmark is looking to replace its existing M113s in a deal which will also include a 15-year innovative support contract.

Armadillo is a turretless version of CV90 with ballistic and mine protection which exceed Stanag 4a/b. Removal of the turret gives six tonnes of “spare” payload for further protection or other purposes on top of its “fighting configuration” while its state-of-the-art electronic architecture allows “plug and play” of new systems. **SP**

Phalanx close-in weapon system delivered to Adelaide

A key piece of the combat system for the Hobart class air warfare destroyers – the Phalanx close-in weapon system (CIWS) – has arrived in Adelaide. The Phalanx system for the future destroyers Hobart and Brisbane have been shipped from the United States to the AWD Alliance, CEO Rod Equid said.

“The Phalanx CIWS includes a fast-reaction 20mm Gatling gun that will provide the destroyers with a line of defence against anti-ship missiles, littoral or close to shore warfare threats, and aircraft at short range,” Equid said.

“It has the ability to automatically carry out functions usually performed by separate systems including target detection, evaluation, tracking and engagement.

“The weapon system is made up of a rotating cluster of six barrels that fire ammunition at a rate of up to 4,500 rounds per minute, as well as search and track radars, with an integrated electro-optic sensor.

“The AWD Phalanx CIWS, the Mk15 Block 1B, is integrated into the Aegis Weapon System and is an updated ver-

sion of the equipment already in use by the Royal Australian Navy on the Adelaide Class guided-missile frigates.” The Phalanx is located at the rear of the ship on top of the helicopter hangar, overlooking the flight deck.

The Phalanx CIWS, built by Raytheon Missile Systems USA, was acquired by Raytheon Australia on behalf of the AWD Alliance. The \$35-million contract includes the manufacture and delivery of the Phalanx weapon system for all three air warfare destroyers. **SP**



ing environments. We look forward to exploiting the potential opportunities for exporting this capability into international markets.”

Using CUTLASS, a hazardous situation can be restored to normal up to four times more quickly than with any other UGV. The combination of the speed of the wheeled platform, which can reach speeds of up to 12 kmph, and the ability of CUTLASS to carry multiple tools and sensors negates the need to return to the incident control point, thus saving considerable time. The robot is able to creep along at deliberately slow speeds for delicate operations and may accelerate to high speeds to enable rapid travel. The six-wheeled design offers mobility on all types of hard and soft terrain and in all-weather conditions. **SP**



Oshkosh FMTV deliveries reach new milestone

Oshkosh Defense has reached a new milestone in its family of medium tactical vehicles (FMTV) truck programme, having recently delivered the 15,000th vehicle to the US Army and National Guard.

Since being awarded the FMTV contract in 2010 by the US Army, Oshkosh has delivered more than 21,000 FMTV trucks and trailers, including the FMTV Wrecker with its tested retrieval system. The FMTV is used for tactical and combat operations, relief efforts, and unit resupply missions.

The Oshkosh FMTV is a series of 17 models and 23 configurations ranging from 2.5-tonne to 10-tonne payloads. The vehicles feature crew-protecting armour and advanced technologies to provide the capability, versatility, mobility and protec-



tion to move troops and supplies, recover vehicles and weapon systems, or haul equipment wherever the mission requires. Commonality of parts of over 80 per cent across chassis variants optimises logistics efficiency and reduces operational costs.

John Bryant, Senior Vice President of defence programmes for Oshkosh Defense, said: "The FMTV programme is exemplary of the quality and value that Oshkosh provides to our military customers across all of our operations. Our team has worked in harmony with the army's goals and schedule from the onset to produce and deliver a vehicle with Oshkosh quality and performance, which provides soldiers with greater confidence as they perform their missions."

The five-year FMTV requirements contract for the production of trucks and trailers, as well as support services and training, runs through fiscal year 2014. **SP**



Denmark orders heavy tactical recovery vehicles from RMMV

Rheinmetall MAN Military Vehicles (RMMV) is supplying the Danish armed forces with 14 heavyweight protected recovery vehicles. Weighing some 36 tonnes, the heavy tactical recovery vehicle (HTRV) is based on the tried-and-tested RMMV SX45 8x8 chassis, combining extreme stability, safety and crew comfort with outstanding manoeuvrability, whether on the road or in the toughest terrain.

Thanks to its integrated Miller recovery module, the RMMV HTRV is able to recover heavy disabled vehicles weighing up to 40 tonnes or containers weighing up to 17

tonnes—quickly and safely, even under the most extreme conditions. The RMMV HTRV thus ideally complements the array of equipment fielded by modern armies: many of the tactical and logistical vehicles with protective modules used in deployed operations today have become heavier, making a high-performance recovery capacity imperative.

Level 3/3 ballistic and anti-mine protection keep the crew safe from small arms fire and IED blasts.

The Danish armed forces will be the first on the European mainland to introduce the RMMV HTRV. Denmark already has a number of tactical and logistical vehicles from the company's HX and SX families in its inventory. Delivery begins in the first quarter of 2014, and is scheduled to conclude in the second quarter of 2015. **SP**

Navistar Defense delivers first Afghan armoured cabs

Navistar Defense has delivered the first batch of armoured cab units designated for service with the Afghan National Security Forces. The company is delivering the armoured cabs as part of a \$23 million urgent delivery order received from the US Army in February.

Under the February contract Navistar Defense is retrofitting 205 armoured cabs onto Navistar Medium Tactical Vehicles (MTVs), which are based on the international WorkStar platform. The work involves replacing the current commercial cab with the specially designed armoured cab — providing savings by reusing the original components of the MTV.

The armoured solution will protect the Afghan National Army (ANA) and Afghan National Police (ANP) from ballistic and blast threats in the theatre of operations. The order also includes enhancing addi-

tional vehicle elements for improved survivability to provide Afghan National Security Forces with the capability to conduct route clearance missions with mine roller applications.

Bob Walsh, Vice President and General Manager, Navistar Defense, said: "Today we are celebrating the rapid manufacturing and delivery of armoured cabs that will assist in the transition of our security mission and facilitate the withdrawal of US forces while protecting the Afghan National Security Forces." **SP**



Russian T-50 fighter jet flight test next year

Russia will start state flight tests of its fifth-generation T-50 fighter jet in 2014, according to the United Aircraft Corporation's President Mikhail Pogosyan. "In 2013 we are expected to wrap up its preliminary tests and start operational testing. In 2014, we are planning to start official state tests. The first stage of the state trials should be complete by 2015."

The test programme involves six prototype airframes, including four flying, one static and one systems test airframe. Another flying prototype will join the tests this year, Pogosyan said. "Flight testing this year will go ahead with five aircraft," he said.

The T-50, which will be the core of Russia's future fighter fleet, is a fifth-generation multi-role fighter aircraft featuring elements of stealth technology, super-maneuvrability, supercruise capability (supersonic flight without use of afterburner), and an advanced avionics suite including an X-band active phased-array radar.

India will also buy a fighter aircraft based on the T-50, known as the fifth-generation fighter aircraft (FGFA). **SP**



The first AN-158 jet enters operation



On April 18, 2013, a ceremony of the AN-158 first regional jet delivery to Cubana de Aviación Airline, Cuba, was held. This aircraft with 97-seat layout, ordered by Ilyshin Finance Company, was constructed at the Antonov serial plant. This Russian leasing company provides the AN-158 delivery to the Cuban company on terms of leasing.

Events were held with participation of Mykola Azarov, Prime Minister of Ukraine. In his speech he said: "Today we are handing over the first AN-158 serial aircraft. This means that Ukrainian aviation building is reviving. This magnificent aircraft will continue good traditions of Antonov Design Bureau, Antonov plant and all our country. An advanced future is to be open towards the enterprise".

Ricardo Castillan Miranda, Vice President of the National Aviation Corporation

of Republic of Cuba, said: "Today it is a great day for us. We receive the first AN-158 serial aircraft on the Antonov highly distinguished enterprise we have a long-standing and fruitful cooperation with. For Cuba Antonov aircraft symbolises bright friendship between our nations". **SP**

Airbus Military C295 demonstrates release of Marte missile

Airbus Military and MBDA have successfully demonstrated the release of an instrumented Marte MK2/S anti-ship inert missile installed under the wing of the C295 maritime patrol aircraft. This flight was the last of a series of trials performed in a joint Airbus Military - MBDA collaboration to validate the aerodynamic integration of Marte on C295, its handling qualities and performance tests.

The installation of weapons under the wings provides new operational capabilities to the C295 MPA allowing the aircraft to perform new missions demanded by customers. In the anti-submarine warfare (ASW) role, the C295 is already in-service carrying the MK46 torpedo.

This successful trial provides further proof of the operational versatility of the Marte missile and clearly establishes it as the benchmark weapon in the medium weight anti-ship missile sector.

The MBDA Marte MK2/S missile is a fire-and-forget, all-weather, medium-range sea-



skimming anti-ship weapon system, equipped with inertial mid-course guidance and radar homing terminal guidance, and capable of destroying small vessels and heavily damaging major vessels. The missile has a weight of 310 kg and is 3.85 metres long. **SP**

Lockheed wins additional \$830 million order for 18 Iraqi F-16s

Lockheed Martin Aeronautics Corp., Fort Worth, Texas, is being awarded an \$830 million firm-fixed-price, cost-plus-fixed-fee modification to contract FA8615-12-C-6012 for additional production of 18 Iraq F-16 aircraft and associated support equipment, technical orders, integrated logistics support, contractor logistics support and an electronic warfare system. Work will be performed in Fort Worth with an expected completion date of April 30, 2014. **SP**



1964

Our Journey Starts as Guide Publications was founded by its Founder Publisher & Founder Editor Shri S P Baranwal...

Apart from many publications written, edited and published by the Founder, Military Yearbook is introduced in 1965...

1974

Military Yearbook continues relentlessly with collective support from dignitaries including the Prime Ministers and Presidents of India...

1984

50

JUST 1 STEP SHORT OF

2014

WE SHALL BE 50 THIS YEAR

Guide Publications is rechristened as SP Guide Publications offering tribute and gratitude to its Founder...Also envisioned is the path of introduction of a few magazines...

2013

Military Yearbook is rechristened as SP's Military Yearbook conveying gratitude to Founder Publisher...

SP's Aviation, SP's Land Forces, SP's Naval Forces are launched starting from '98 and within a span of a few years...

SP's Airbuz, SP's M.A.I. follows the intensity of magazines introduction...

1994

2004

50 YEARS



SP GUIDE PUBLICATIONS

First A400M close to getting IOC

Airbus Military has said that the first production A400M is expected to be delivered to the French Air Force and achieve military initial operation capability (IOC) in the second quarter of 2013. The aircraft is undergoing final testing in Seville.

Airbus Military is expected to deliver two more aircraft (MSN-8 and MSN-10) to the French Air Force and another aircraft (MSN-9) to Turkey this year. Airbus Military will be ramping up production next year to achieve a rate of 2.5 aircraft per month from 2015.

Parts of the A400M aircraft are manufactured in the UK, Germany, and France and are sent to Seville for final assembly and integration. There are eight initial customers for the A400M. France wants 50 aircraft; Turkey ten; Germany will begin to receive the first of its 53 aircraft along with the first of 22 for the UK from 2014. Malaysia will begin to receive the first of four aircraft from 2015 and Spain will see the first of its order of 27 from 2016. Belgium has orders for seven and Luxembourg has an order for one aircraft which will enter production in 2019. **SP**



US, Israel arms deal



A major American arms sale will “ensure Israel’s air superiority in the future” while enhancing its long-range capabilities, US Secretary of Defence Chuck Hagel has said during a joint press conference with Defence Minister Moshe Ya’alon in Tel Aviv.

Hagel pointed out that the deal involves the selling of defence platforms never before made available by the United States to another country, adding that he had begun talks with Ya’alon about a future assistance programme to Israel for 2017, when the current agreement ends.

The arms sale includes V-22 Osprey helicopter-plane aircraft, refuelling tankers, advanced radars for fighter jets and advanced missiles that target air defences.

The deal is part of a wider \$10 billion package involving US sales to Israel, Saudi Arabia and the United Arab Emirates, designed to provide Washington’s allies in the region with enhanced military capabilities against Iran. The UAE will take stock

of 25 F-16 Desert Falcon jets worth nearly \$5 billion. **SP**

IAI signs contract with Lockheed Martin to produce F-35 wings

Israel Aerospace Industries (IAI) signed a contract with Lockheed Martin to produce wings for the F-35 fighter. IAI will begin delivering the F-35 wings in 2015. The contract’s duration is for about 10-15 years, with potential sales reaching \$2.5 billion.

The contract marks a key milestone in the existing F-35 cooperation between IAI and Lockheed Martin. Both companies recently began assembling an F-35 wing production line, with IAI investing in the required advanced systems and technologies.

Joseph Weiss, President and CEO of IAI, said: “This agreement represents an important milestone for IAI and ensures its involvement in the world’s most advanced

fighter aircraft. I welcome the strengthening relationship with Lockheed Martin, a leading manufacturer of aircraft.”

Yosef Melamed, General Manager of IAI’s Lahav Division, said: “IAI has extensive experience and knowledge in producing wings. Our Lahav Wing Production Center produces wings for Lockheed Martin’s F-16 and the United States’ Air Force T-38 aircraft.”

“This agreement is another important milestone in the long-standing partnership we have with Israel Aerospace Industries,” said Steve O’Bryan, Vice President of F-35 Program Integration and Business Development, Lockheed Martin Aeronautics. “IAI has been supplying Lockheed Martin with essential components for our platforms for many years and their participation in the F-35 programme is a natural development of this relationship.” **SP**

Iraq to receive final three C-130Js airlifters

The Iraqi Air Force (IQAF) is set to receive its final three Lockheed Martin C-130J Super Hercules airlifters. Aircraft number 5721 was the first of these to be ferried from Lockheed Martin’s production facility on April 23, 2013. All three C-130Js were ferried to the US Air Force bases prior to delivery to the IQAF.

The IQAF, a legacy C-130 operator, received its first C-130J in December 2012 and will have a total of six C-130Js in its new Hercules fleet. The IQAF uses the airlifters for intra-theatre support for its troops and to provide humanitarian relief operations in various locations. **SP**



Typhoon test pilots begin Night Vision Goggles trials



Adding to the very latest technologies that the helmet mounted symbology system offers along with the night compatible cockpit, the FENN NG2000Ti goggles will provide pilots with x-ray like vision right through the night.

Night Vision Goggle trials are ongoing and demonstrate the continued efforts to integrate the latest technologies into the Typhoon system.

Nat Makepeace, Typhoon project pilot tells us about his experience from the recent trials.

"The first thing to say about Night Vision Goggles is that they do not work in total darkness. They need some light to work, but in practice even on the darkest night in the

remotest part of the world, there is normally enough light to make them work. It should also be noted that the amount of light is proportional to the performance, i.e. the picture quality, so on a moonlit night the quality of the image is amazing, but on a dark night it is grainy and hard to see any fine detail. This, amongst other reasons, is why it often takes a lot of time to test military equipment. It has to cover such a wide spectrum of use and it is important to understand the strengths and weaknesses before operational use.

"So with this in mind we had to look at how they would perform in service use. As well as the tactical stuff I looked at formation flying. It's quite odd being sat a few feet away from an aircraft that can't see you, I was happy but the other pilot must have been thinking he was insane. We did some formation manoeuvring as well as a formation approach.

"Once that was complete I had to do a climb to over 50,000 feet to make sure that the breathing system was unaffected by the changes to the helmet. At that point, even though the sun had set about two hours before, there was a beautiful glow at this height to the west with some amazing blue and purple hues. It was a very clear night and the Milky Way was easily visible, but through Night Vision Goggles it was incredible, just millions of more stars became visible, a truly amazing sight to see. It was a bonus to an otherwise routine test flight. It really did make the universe look "out of this world." **SP**

ITT to provide airborne minesweeping system

ITT Exelis has been awarded a contract valued at more than \$10 million to provide one MK 105 Mod 4 airborne minesweeping system for the Naval Surface Warfare Center Panama City Division in Panama City, Florida.

The Exelis MK 105 Mod 4 system will provide significant reliability and performance improvements, increasing the US Navy's capability to conduct quick response, high-speed airborne mine countermeasures missions for the next decade. Minesweeping is a key feature of the Navy and Marine Corps Anti-Access, Area Denial strategy.

Since its introduction to the US Navy fleet in 1972, the Exelis MK 105 system has been used in every major mine-clearance operation. The Navy's MH-53E Sea Dragon helicopter tows the system through the water, and twin magnetic tails, consisting of open-electrode magnetic sweeps, are towed behind the sled, detonating mines to clear the water for vessels.

"Exelis mine countermeasure systems enable safe passage of military and commercial vessels through global waterways, ports and harbours," said Dave Prater, Vice President and General Manager of the Exelis radar, reconnaissance and undersea systems business. "With our affordable sweep solutions, our customers can continue to stay ahead of modern sea mine threats." **SP**

Hagel, Crown Prince discuss US-UAE defence cooperation

US Defense Secretary Chuck Hagel's first trip to the Middle East included a visit and official dinner with Gen. Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates armed forces.

The two men reaffirmed the strong US commitment to defence and security cooperation between their countries, Pentagon Press Secretary George Little said in a statement.

In particular, he said, they discussed UAEs' purchase of 25 F-16 Block 60 aircraft and the US decision to release standoff weapons for sale to defend the UAE. The smart standoff weapons can navigate to their targets and are more precise and can be fired at further distances than conventional weapons.

"The additional F-16s will increase both nations' interoperability and enhance their ability to perform joint and coalition security operations," Little added.

"The Secretary and the Crown Prince concurred on the need to build on the already robust defence ties, which include bilateral exercises and training, to expand cooperation in such areas as ballistic missile defence," Little said.



The two countries agreed to hold regular bilateral defence consultations to further coordinate expanding military activities. They also discussed a range of regional challenges, he said, including the need for Iran to meet its international obligations with respect to its nuclear programme, the ongoing conflict in Syria, and countering the threat of violent extremism. **SP**



Eurocopter validates OPV

Eurocopter validated its optionally-piloted helicopter capabilities with successful unmanned EC145 demonstration flights at Istres, France.

Eurocopter's ability to integrate unmanned flight capabilities into its helicopter family has been validated by an optionally piloted vehicle (OPV) demonstration programme, which used an EC145 to fly routes that included deployment of an external sling load and a representative observation mission.

Eurocopter is now positioned to pursue OPV flight capabilities for its product line of light, medium and heavy-lift helicopters—enabling these rotorcraft to be flown by pilots or in an unmanned mode.

“Eurocopter innovation is once again expanding the mission capabilities of helicopters, and we are ready to apply the proven optionally piloted vehicle competence in meeting customers’ needs,” explained Eurocopter Chief Technical Officer Jean-Brice Dumont. “This latest achievement results from our company’s expertise in flight control and autopilot systems, human-machine interface, system architecture and integration.”

The unmanned demonstration—along with the previous flights—used a four-dimensional flight plan that was uploaded to the helicopter, with its starting and completion points situated on the Istres Air Force Base’s Runway 15/33. After an automatic take-off, the EC145 flew the circuit via multiple pre-programmed waypoints, during which the helicopter performed a mid-route hover to deploy a load from the external sling. The EC145 continued on a return route segment representing a typical observation mission, followed by an automatic landing.

For delivery of the external load, the helicopter entered a planned hover—enabling the ground station controller to provide flight control inputs in orienting the EC145 over the drop point. The ground controller then transmitted a command to release load once the helicopter and load were correctly positioned.

The OPV flight capability was developed in an internally-funded Eurocopter programme, and was coordinated by a team at the company’s Donauwörth, Germany, facility. Initial tests with a monitoring pilot aboard the EC145 were flown from Donauwörth and then at Istres.

The EC145 demonstrator is a Eurocopter test bed helicopter with an enhanced dual-duplex four-axis automatic flight control system and the latest navigation systems. In addition, the helicopter is fitted with the “plug-in” OPV avionics rack in its cabin behind the pilot seats, which contains the data link subsystems. **SP**

Advanced Cockpit Ground Control Station flies Predator C Avenger

General Atomics Aeronautical Systems, Inc. recently announced that it has successfully demonstrated its Advanced Cockpit Ground Control Station’s (GCS) capability to fly Predator C Avenger. The flight occurred November 15, 2012, at the company’s Gray Butte Flight Operations Facility in Palmdale, California.

“This flight paired our most advanced GCS with our most advanced aircraft,” said Frank W. Pace, President, Aircraft Systems Group, GA-ASI. “Since 1994, our GCS have amassed over two million flight hours. The Advanced Cockpit is the next logical step in GCS progression. Our objective with this GCS is to fully satisfy customer interoperability requirements, enabling any GA-ASI RPA to be flown from the system.”

The goal of this Congressionally-directed, US Air Force (USAF)-supported demonstration was to show that the Advanced Cockpit’s open systems software architecture adapts

rapidly for other RPA operations. More than two years ago, the system successfully flew the MQ-1 Predator over a three-month period. In April 2012, the Advanced Cockpit flew the SARC-1 UAS under a jointly funded company effort with strategic simulation solutions. This effort demonstrated the system’s ability to control third party RPA. This summer, the Advanced Cockpit is scheduled to fly Predator B/MQ-9 Reaper.

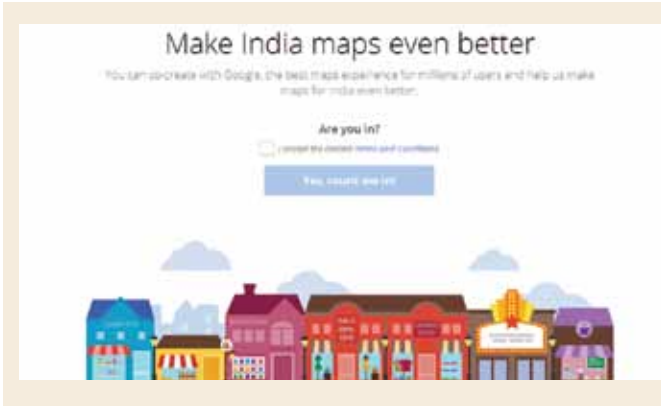
“Advanced Cockpit’s wrap-around visual display and multi-dimensional moving map dramatically increases situational awareness, while the integrated digital checklist

decreases pilot workload,” said Jason McDermott, the test pilot who successfully handed off control of Avenger from GA-ASI’s legacy GCS to the Advanced Cockpit and controlled the flight during a three-hour mission. “The combination of these unique features greatly increases the ease and simplicity of mission planning, reduces pilot workload, thereby increasing flight safety.”

GA-ASI’s Advanced Cockpit GCS is being designed in accordance with the US Air Force’s Unmanned Aircraft System Command and Control Initiative to enable interoperability with all USAF RPA and the US Department of Defense’s vision for GCS interoperability and commonality as outlined by the Office of the Secretary of Defense’s Unmanned Control Segment Working Group.

The Advanced Cockpit GCS features intuitive interfaces designed to make hazardous situations easier to identify, enhancing safety and improving the pilot’s reaction time and decision-making processes. Its ergonomic human-machine interface significantly improves situational awareness and reduces workload so the pilot can more effectively and efficiently accomplish his or her mission. **SP**





Google's Mapathon stopped

The Minister of State for Home, R.P.N. Singh has stated in the Parliament that Google, without any approval from any agency of the Government of India, conducted the Mapathon 2013 Competition to encourage participants to map their neighbourhood and places they 'care about' within the geographical boundaries of India.

From national security point of view, civil and military vital areas (VAs)/vital points (VPs) cannot be shown in the map/data published in public domain. The Surveyor General of India on March 21, this year wrote to Google to stop the competition. A Police complaint has also been lodged by the Surveyor General of India at the R.K. Puram Police Station, New Delhi, against Google. **SP**

Community policing for students

The National Police Mission under the Bureau of Police Research & Development (BPR&D) has prepared a plan proposal on 'Community Policing for Students' on the basis of the student police cadet model of Kerala, for implementation in selected states during the Twelfth Five Year Plan on pilot basis.

The proposal prepared by BPR&D has been received in the Ministry of Home Affairs. Its implementation is subject to availability of funds, consent of state governments and acceptance of other agencies, who are proposed to be engaged in the project implementation, according to Mullappally Ramachandran, Minister of State for Home Affairs. **SP**

Workshop on freezing terror funds

A workshop on Terror Financing and Implementation of Section 51A (concerning freezing of terror funds) of Unlawful Activities (Prevention) Act, 1967 was organised by the Ministry of Home Affairs in conjunction with the National Investigation Agency (NIA) in Delhi.

Inaugurating the workshop, S. Jayaraman, Special Secretary (IS), Ministry of Home Affairs, said that attention on terror finance is extremely significant, as finance is the oxygen necessary for terrorism to thrive. He stated that these investigations, though difficult and painstaking have always led to successful results.

The workshop discussed the strategies for countering the financing of terror; and the recent amendments to the Unlawful Activities Prevention (Act), 1967. The delegates shared their experiences in fighting terror financing and counterfeit currency. Discussions revolved on the nascent and evolving regime in respect of terror financing in India, and the steps to be taken by the Government and investigation agencies in this regard. **SP**

Special Director General of CRPF

The Competent Authority has appointed Smt. Aruna Bahuguna, IPS as Special Director General in the Central Reserve Police Force (CRPF) with effect from the date of taking over the charge of the post and till the date of her superannuation or till further order, whichever event takes place earlier. **SP**

EMP attack scenario

Two US scholars from the congressionally mandated 2010 Commission to Assess the Threat to the United States from electromagnetic pulse (EMP) attack make the case to protect the US from a potentially catastrophic nuclear EMP attack on the US by terrorists or rogue states.

William Radasky and Peter Vincent Pry point out that the EMP Commission report was a collaborative effort between "the Intelligence Community...the military services...the National Nuclear Security Administration laboratories...the Department of Defense and the Department of Homeland Security," all of which concluded that the US is unprepared for an EMP attack.

An EMP is a high-intensity burst of electromagnetic energy caused by the rapid acceleration of charged particles. An EMP can change the magnetic field in the earth's atmosphere to disrupt electronic devices by a pulse flowing through electricity transmission lines, overloading and damaging transmission distribution centers.



An EMP attack would cause cascading failures in other critical infrastructures and a possible national blackout. These conclusions are based on tests showing that E1 high-EMP simulators couple well to electric grid distribution power lines and low-voltage cables. Radasky and Pry point out that "electronic control systems are effectively the Achilles' heel of our power delivery network."

China, North Korea, and Russia have targeted EMPs as the primary means of attack to be used as a credible deterrent threat against the US. The US should develop a comprehensive ballistic missile defence system to address this threat. In addition, the country needs to harden its infrastructure and make it more resilient to withstand potential attacks, according to Jordan Harms, currently a member of the Young Leaders Programme at the Heritage Foundation. **SP**



China's cyber attacks

Time to take note

[By Air Marshal (Retd) Anil Chopra]

New Age War: Cyber Attacks

Espionage is an activity which nations have practised during war and peace since ancient times. It was documented in the Indian epic Mahabharata and is part of the still relevant *Art of War*, written by famous Chinese General and strategist Sun Tzu in 500 BC. Last century it became more glamorous with agents like Mata Hari and 007 James Bond hitting the celluloid. Unlike manuscripts of the past, all information nowadays resides on computers, and the Internet has effectively connected them all. Stealing important information from computers has become a full-time espionage activity. Also you could deny the information to your enemy by destroying or corrupting the information on enemy's computer, a term now called 'hacking'. After the Chinese cyber attack on Google's computer systems in December 2009, China has been classified as a major cyber threat. Over 50,000 have been employed in this state-sponsored cyber warfare team. All are specially trained and most are English proficient. Americans coined a new term advanced persistent threat (APT) and a Chinese Organisation been designated as APT1. Word 'advanced' means top of the line capability, 'persistent' means it is not a one-time activity, and 'threat' means they have a clear purpose to steal or destroy. A report released by a US cyber security company Mandiant in mid-February this year has focused on activities of People's Liberation Army (PLA) Unit 61398 which has been very active in cyber espionage and cyber attacks. The unit is located in Pudong area of Shanghai. Pudong also happens to be location of the main undersea cable between China and the United States. APT1 has reportedly stolen hundreds of terabytes of data from at least 141 organisations though an extensive network of computers spread across the world. China of course most vehemently rejects the report. When they went public, Mandiant felt there was more to gain by exposing APT1 than by keeping it in wraps.

Modus Operandi

What is the modus operandi? One gets an email purportedly from a familiar source. It contains an attachment with a 'sleeper' programme that then gets embedded on the receiving computer. This computer is

then controlled remotely to access documents and arrange for e-mails to be 'unknowingly' exfiltrated elsewhere. The computer's web camera could be remotely operated to monitor the activities in the room. The attack on Google was essentially to steal intellectual property rights. It was also directed to assess and use the near 500 million Google user passwords. It also targeted accounts of Chinese human rights activists. The report lists about 35 more companies that had also been attacked which included military major Northrop Grumman, Yahoo, *New York Times*, Adobe, among others. Major targets are strategic industries, defence establishments, weapon and military technology companies. Targeted also are those who write against Chinese leadership. China also uses the organisation to exercise greater 'cyber control' over its own population.



What is Apt?

It is essentially a threat designation to any country or organisation that has capability and engages in cyber espionage and attack on the Internet. Individual hackers or solo operators are not covered in this definition. It need not be threat only to the western world. There are cyber attack cases from outside China too. The famous Wikileaks was achieved through cyber espionage. The 'Stuxnet' Computer Worm that targeted hardware of Iran's nuclear programme was a cyber attack. Like any military operations, APT has clear objectives with timelines, allocates dedicated resources, does risk analysis, and uses advanced skills and tools. Attempt is made to achieve foothold, normally by spear phishing e-mails using 'zero-day' viruses. Compromised systems then become gateways into networks and to expand to other work stations. Hackers normally cover their tracks to allow future similar forays.

A *PC World* report has said that there was 81 per cent increase in advanced computer attacks from 2010 to 2011. The US Cyber Command's General Alexander Keith recently briefed media on President Obama's new cyber security policy and the importance attached therein. Last one decade has seen emergence of Computer Emergency Response Teams (CERT) all over the world. The United States Cyber Command coordinates US military response to cyber threat. Other countries, including India, are in the process of setting up similar military commands. CERT teams are now there in most organisations in India. Cyber is where the action is. Need to be on guard. SP

DST-Lockheed Martin India Innovation Growth Programme 2013

[By Sucheta Das Mohapatra]

Some of the best brains of the country gathered at the Federation House in New Delhi on May 2. The occasion was the Department of Science and Technology (DST)-Lockheed Martin India Innovation Growth Programme (IIGP) 2013 closing ceremony. Thirty young innovators including engineers, scientists and researchers, were felicitated by Lockheed Martin and the Department of Science and Technology for their technological innovations, which can bring about sea changes in the lives of people.

Montek Singh Ahluwalia, Deputy Chairman of Planning Commission; Dr T. Ramasami, Secretary in the Department of Science and Technology, along with officials from Lockheed Martin, University of Texas and the Federation of Indian Chambers of Commerce and Industry (FICCI), gave away the awards.

The event began with the welcome address by Dr A. Didar Singh, Secretary General of FICCI. Singh said, "FICCI is committed to expand the outreach of the programme to engage more innovators even in smaller cities and ensure that many more innovations are commercially successful." Giving the keynote address, Ahluwalia emphasised on the need for creating the right ecosystem for injecting greater value for innovation. "Ability to innovate is scarcer than starting a business and innovators don't get a price unless marketed. There is the need for a whole range of venture capital. To risk failure, somebody needs to finance failure. Innovators should be encouraged." He informed that for the first time the Twelfth Five Year Plan has a chapter on innovation.

The DST-Lockheed Martin IIGP initiated in the year 2007 aims at accelerating innovative Indian technologies into markets across the world. The programme is funded by the Department of Science and Technology, Government of India, and Lockheed Martin Corporation, and has been developed with the assistance of the Indo-US Science and Technology Forum, IC2 Institute at the University of Texas, and FICCI.

Of the 1,500 applications received from diverse fields such as clean energy, agriculture, healthcare, pharmaceuticals, automobiles, robotics, etc this year; 50 were shortlisted in the initial phase. Faculty members from the Stanford Graduate School of Business, which joined the programme this year, provided week-long training to the innovators on the principles of product commercialisation, readiness for market, business models, intellectual property (IP) rights, competitive positioning and mechanisms to earn revenue. Road shows were organised in 20 cities of the coun-

try including Ahmedabad, Hyderabad, Goa, Mumbai, Pune, Nagpur, Chennai, Bengaluru, Delhi, Vadodara, Kolkata, Bhubaneswar, Jaipur, Cochin, Guwahati, Ludhiana, Ranchi, Patna, and Indore with an aim to scout the best innovations from the country.

Among the winners, also was Aakash Sinha of Omnipresent Technologies who has awarded for conceptualising a light-weight unmanned drone; and Srinath Mallikarjunan of Unmanned Dynamics for developing the fault tolerant unmanned aerial vehicle (UAV). Sinha's drone can be controlled from a distance of 15 km. It is an ultra-portable robotic unmanned drone which has high payload capacity, fixed-wing plane like structure made from balsa wood and fibreglass. It has a day-and-night surveillance camera with a gimbaled mount, remote controllable 10X optical zoom, GPS, accelerometer, gyro, compass, air pressure sensor, wind speed sensor and ultrasonic sensor; autopilot brushless DC motor engine and wireless control. Mallikarjunan's UAV is low in cost and self-tuning. It can keep flying even with incredible damage, which the existing UAVs cannot endure without user intervention. The UAV has the latest in adaptive control called L1, which adapts to uncertainty while giving guaranteed flight performance.

T. Ramasami, who has been associated with the programme for the past few years, said that the programme has been an important growth promoter and a success. "Innovation is a process and has a purpose and the Indian innovation system combines both these goals." He congratulated the winners of the programme and stressed on the need to bridge the gap between innovation and market and teaching the innovators commercialisation strategies so that they become self-reliant in promoting their innovations in the global market. Poverty, he said, is the greatest promoter of innovation and hoped that the IIGP will bring common gains.

Dr Ray O. Johnson, Senior Vice President and Chief Technology Officer, Lockheed Martin Corporation, said: "Lockheed Martin is proud to be a sponsor of this exciting programme now in the seventh year," and added, "The programme recognises the creative spirit of Indian inventors and trains them in business innovation, which leads to the commercialisation of products and services that help solve global problems and create jobs and wealth." Sid Burbuck, Director, IC2 Institute at the University of Texas stated: "The candidates this year are highly competitive and skilled at showcasing their technologies."

In his concluding remarks, Rajiv Sharma, Executive Director, Indo-US Science and Technology Forum, informed that more than 200 innovators and entrepreneurs have already been trained under the programme on how to pitch their ideas and impress potential investors. **SP**



Eurocopter Corporate Foundation takes flight

Eurocopter recently held the first board meeting of its new Corporate Foundation, which unites the company's humanitarian and philanthropic activities worldwide, underscoring the company's increased commitment to social responsibility.

The Eurocopter Corporate Foundation is an independent, apolitical and non-profit legal entity funded by Eurocopter, Eurocopter Deutschland and Eurocopter Group subsidiaries.

The Foundation is dedicated to the following areas of service: emergency humanitarian aid; support for developing countries; assistance for the disadvantaged including the ill, handicapped, and those living in extremely difficult conditions; and youth development through the transfer of aeronautical know-how to underprivileged youth.

"Social responsibility and providing help to those in need is a part of Eurocopter's DNA. Many of our helicopters perform vital missions every day, and we have been involved for many years in



a wide range of humanitarian initiatives," explained Eurocopter President & CEO Lutz Bertling. **SP**

Ralf Kannefass named new Head of Programs at Cassidian

Ralf Kannefass has been named as Cassidian's new Head of Programs. As part of his function, Kannefass will also be a member of Cassidian's Executive Committee. The appointment will come into effect as of June 1.

Prior to his appointment at Cassidian, Kannefass served as the Head of the Turbo Equipment business segment within the Oil and Gas Division of Siemens Energy.

Kannefass holds a degree in aeronautics and mechanical engineering. He started his career at the Siemens Transportation Group in the Mergers and Acquisitions (M&A) and Strategic Marketing Department. Later on he moved to programme, sales and general management assignments within the energy sector of Siemens, including international positions in the US. In the course of this career Kannefass has become an experienced manager in turnkey projects in international environments. **SP**



Safran to purchase Rolls-Royce share of the joint RTM322 helicopter engine programme

Safran has announced that it has reached an agreement with Rolls-Royce to acquire Rolls-Royce's 50 per cent share in their joint RTM322 helicopter engine programme. Upon closing, Turbomeca (Safran's world-leading helicopter engine business) will assume global responsibility for the design, production, product support and services for the RTM322 engine, a 2,100-2,600 shp engine family equipping the Apache, EH101 and NH90 helicopters.

Rolls-Royce will provide full support during a transition phase enabling progressive transfer of all their activities to Turbomeca under this programme. The cash consideration for the transaction amounts to €293 million. The transaction, which is expected to close

before year end, is subject to regulatory approvals and satisfaction of other customary closing conditions. **SP**

General Norton Schwartz joins Aurora

Aurora Flight Sciences announced that General Norton A. Schwartz, retired Air Force Chief of Staff, has been elected to its Board of Directors. General Schwartz entered the Air Force Academy in 1969 and retired as the 19th Chief of Staff of the United States Air Force in 2012 in a career spanning over 43 years.

"As the US armed forces enter a period of transition, learning how to do more with less, General Schwartz brings a unique perspective that will be invaluable to Aurora," said Aurora Chairman and CEO John S. Langford. "We are honoured and delighted that he has chosen to join us." **SP**



Samsung Thales signs development agreement with Novelda

Samsung Thales, Co., Ltd (South Korea) has launched the development programme of vehicle-mounted landmine detector. Samsung Thales' development will be based on the Novelda NVA6100 Nanoscale Impulse Radar system.

Landmines left behind from wars worldwide are one of the century's main unsolved problems of war and remain the focus of humanitarian mine detection and removal. Novelda is proud to contribute to this development. **SP**

Phil Shaw new Chief Executive, Lockheed Martin India

Phil Shaw is the new Chief Executive of Lockheed Martin India. Prior to this he was in charge of the International Business Development-India and the Americas, Lockheed Martin. Shaw has served in the Royal Navy for 20 years from 1983 to 2003. **SP**

L-3 gets contract from US Army

L-3 Link Simulation & Training has announced that it has been awarded a contract from the US Army's Programme Executive Office for Simulation, Training and Instrumentation (PEO STRI) to build two UH-60M Operational Flight Trainers (OFTs) for the Taiwan Army.

The six-DoF motion equipped devices are similar to those used on the US Army's Flight School XXI programme. This award represents the company's first export sale of its advanced rotary-wing OFT product line and as such, presents a major opportunity for future UH-60 simulator sales.

The first UH-60M OFT, which will be delivered to Taiwan Army's Shin-shou Training Facility, will become ready for training during the fourth quarter of 2014 as the service begins to receive its initial UH-60M helicop-



ters. The second UH-60M OFT will begin training pilots during the first quarter of 2015. Under a one-year contract, with an option for a second 12 months, Link will also provide contractor logistics support to maintain the UH-60M simulators and support equipment.

"We look forward to providing the Taiwan Army with advanced technology flight simulators that will enable UH-60M aircrews to gain aircraft-equivalent training for all modes of flight," says Lenny Genna, President of L-3 Link. "The delivery of the OFTs will enable the Taiwan Army to conduct pilot training commensurate with the US Army's Flight School XXI training capability."

As part of the contract, Link will integrate the OFTs with a Taiwan geo-specific database that will be NVG compatible. The company is yet to announce what visual system is being used for this foreign military sales (FMS) programme. **SP**

Simulator recreates sea conditions in controlled environment

A state of the art facility at Memorial University is attracting researchers and businesses from around the globe. The \$4 million-Virtual Environments for Knowledge Mobilization project recreates dangerous sea conditions in a controlled environment.

Memorial is developing simulator technologies and virtual environments to train those who work in the offshore industry with the ultimate goal of improving safety of life at sea. Researchers and scientists are in St. John's to study how people behave in challenging offshore search and rescue scenarios

"There are few facilities like this in the world, and those that exist are hard to get access to," said Fredrik Forsman, a scientist from Sweden. "This is a unique opportunity that we are all very grateful to be a part of Scott MacKinnon, acting dean of Memorial's School of Human Kinetics and Recreation, said the laboratory has two main functions.

"Training for emergency procedures is normally done under very controlled and benign conditions. It's a resource for entrepreneurs to come and try their technologies to see if they meet the standards associated with testing and training; and also it's a human factors laboratory where we use it to understand how humans behave in harsh environments," said MacKinnon.

"This way we can improve upon the training and systems used in the oil and gas industry. These platforms can also be used for procedural training. More regular, recurrent training should prepare people to act instinctively should an emergency arise." **SP**

CMI orders VSTEP simulators

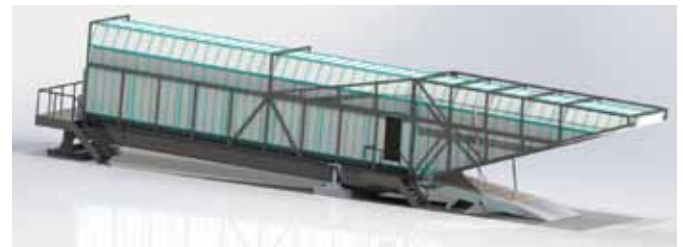
The Caribbean Maritime Institute (CMI) has ordered multiple VSTEP simulators for its new high-tech simulation centre at the campus in Kingston, Jamaica.

VSTEP will deliver all simulator solutions for the facility, including a NAUTIS full mission bridge simulator and a class C engine room simulator. CMI also ordered full classroom setups for both NAUTIS desktop trainers and NAUTIS engine room desktop trainers.

The new simulation centre of CMI will serve as one of the most innovative hubs for maritime training and education in the Carib-

bean region, and will provide high quality training of maritime students and professionals alike in ship-handling, collision avoidance, Engine Room procedures and operations, as well as ECDIS, Radar/ARPA, AIS and other navigational aids. **SP**

Dytecna bags UK contract



UK engineering specialists, Dytecna, has been awarded a competitive contract from UK Ministry of Defence (MoD) through the Defence Equipment & Support (DE&S) agency to provide three Part Task Trainers (PTTs) for rear crew training for the A400M Atlas aircraft. Britain has 22 A400M aircraft on order with the first aircraft due to be delivered in September 2014.

The PTTs will enable the Royal Air Force (RAF) to conduct specific to type training on loading, unloading and despatch procedures, cargo restraint techniques, aircraft drill and parachuting techniques for the A400M Atlas aircraft. This award is another major step in preparing for the new A400M fleet and follows on from the work already underway at RAF Brize Norton on the new Thales-Airbus Military training centre.

The devices will be located at the RAF's tactical and strategic transport base at Brize Norton in Oxfordshire and will be used by the Air Movements School, 47 Air Despatch Squadron and the Airborne Delivery Wing to conduct advanced training for A400M operations. In addition Dytecna will provide in-service support for the devices until 2018.

This multimillion-pound contract builds upon Dytecna's previous experience in delivering high fidelity C-130J fuselage training devices for the RAF and the US Air Force. **SP**

Past security breaches at Buckingham Palace

Buckingham Palace has had several security breaches. The most serious breach came in March 1982 when Michael Fagan broke into the Queen's bedroom at the palace. She woke to find him sitting on her bed.

And in 1981, Marcus Sarjeant, 17, fired six blank shots at the Queen at the Trooping the Colour ceremony. In 1990, Stephen Goulding was jailed for three months after breaking into palace grounds in 1990. He claimed he was Prince Andrew Windsor and declared the Queen was his "mum".

In 1992, an intruder walked into St James's Palace and downed a whisky in Princess Alexandra's private apartment. And in 1994, a naked paraglider landed on the roof of Buckingham Palace. American James Miller was fined £200 and deported. In 1995, student John Gillard rammed the palace gates in his car at 80 kmph, tearing one off its hinges. In 2003, an undercover reporter from the *Daily Mirror* got a job as a footman at the palace. **SP**



Reno airport security breach

In March, Reno airport officials say a security breach that prompted them to send passengers through checkpoints a second time was an "innocent mistake." Reno-Tahoe International Airport spokesman Brian Kulpin said two passengers mistakenly went through a wrong door. Airport police cleared the concourse and had passengers leave planes that were parked on the tarmac. Kulpin says about 1,000 passengers were sent to the other side of security to be re-screened.

Flights were delayed for about 90 minutes.

Kulpin says airport police and Transportation Security Administration officials who questioned the two passengers determined the pair took a wrong turn and "felt bad about what had occurred." **SP**

SAS commander's cover blown in security breach

An SAS chief responsible for planning top-secret operations in the Middle East was under armed protection recently after a life-threatening security blunder led to his identity being exposed on the Internet.

The commander met high-ranking officers from a Middle Eastern country earlier this month to discuss joint operations between UK Special Forces and local troops. During the get-together a photograph was taken of the officers in their desert uniforms. This image and a report of the event should have been vetted by British officials before being released to the media in the host country. Astonishingly, the leaking of the officer's name and his role were discovered not by the Ministry of Defence or the Foreign Office but by *The Mail*.

Due to his status, the man is considered a prime target for Islamic terrorist groups. *The Mail* intervention triggered a tightening of his personal security arrangements.

The MoD also thanked *The Mail* for bringing the matter to its attention and a spokesman insisted that efforts were being made to remove the material from websites. **SP**

Brooke Mueller finds rehab security breached

Brooke Mueller, Charlie Sheen's wife, has moved from one rehabilitation facility to another as she found that security was an issue in the earlier one. The supposed security breach at The Canyon facility in Malibu was a deal breaker for Mueller. The breach allegedly led to a leaked admission report containing personal information about her substance abuse.

Brooke is continuing her rehabilitation "in a private, more secure, confidential environment," said a spokesperson of the family. Brooke is contemplating filing a lawsuit against the Canyon facility for security breach. **SP**



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