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Subdued Farnborough Airshow

One of the world's biggest aerospace events, the Farnborough International Airshow, which concluded recently was a subdued one. There were no orders raining down, like what happened in Paris last year, albeit on the commercial side. The massive cuts in defence spending across Europe and elsewhere, excluding the Middle East and Asia, has put the defence industry in a tailspin. Competition is getting fiercer and in the West the defence and aerospace industry is looking at ways and means of becoming viable, through outsourcing, job cuts, reworking strategies, etc.

Though there were deals struck, there were none which caught world attention. Most of the talk, however, remained on how to 'balance budgets' and almost all majors remained 'subdued', unlike Northrop Grumman which opted out of the show for strategic reasons. Defence contractors seemed worried that defence spending has taken a hit, led by the US which has planned \$500 billion in cuts and have aggressively started looking at emerging markets, China and India being on the top.

At Farnborough, PricewaterhouseCoopers (PwC) released a report which reflected how the aerospace and defence industry were facing mounting pressures and the manufacturing and R&D shifts that were taking place. PwC has reported that between 2000 and 2011, China ranked as the number one country receiving the most manufacturing investments by aerospace and defence companies, followed by India and the US. The United Kingdom ranked seventh. As for R&D investments during the same period, India has topped the charts, followed by the US, Russia and the UK. Two-thirds of the R&D investments were in countries outside of North America, the UK and Western Europe.

In this issue, Rear Admiral (Retd) Sushil Ramsay has featured the Indian Coast Guard – Aviation which is being recast, post Mumbai 26/11. The Coast Guard has projected a force-level of 268 vessels, including 173 small patrol craft, 113 aircraft, 18 Nishant unmanned aerial vehicles and aerostat by 2017. The worrisome factor is that the acquisition and procurement processes have been quite tardy which could be detrimental to the envisaged capacity build plan for the nation's coastal security.

In his frank and forthright column, Lt General (Retd) P.C. Katoch has rubbished Pakistan's claim to mending fences with India, saying it would not have sent Jilani to India after he had been unceremoniously kicked out through funding separatists by him. The retired General exposes Pakistan's double-speak.

Jayant Baranwal
Publisher & Editor-in-Chief

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PUBLISHER AND EDITOR-IN-CHIEF: Jayant Baranwal

ASSISTANT GROUP EDITOR (BANGALORE): R. Chandranth

SENIOR TECHNICAL GROUP EDITORS: Air Marshal (Retd) B.K. Pandey, Air Marshal (Retd) V.K. Bhatia, Lt General (Retd) Naresh Chand, Lt General (Retd) V.K. Kapoor, R. Adm (Retd) S.K. Ramsay

SPECIAL CONTRIBUTOR:
Lt General (Retd) P.C. Katoch

SENIOR COPY EDITOR & CORRESPONDENT:
Sucheta Das Mohapatra

CHAIRMAN & MANAGING DIRECTOR: Jayant Baranwal

PLANNING & BUSINESS DEVELOPMENT
EXECUTIVE VICE PRESIDENT: Rohit Goel
ADMIN & COORDINATION: Bharti Sharma

DESIGN & LAYOUT

SENIOR ART DIRECTOR:
DESIGNERS:

Anoop Kamath
Vimlesh Kumar Yadav
Sonu Singh Bisht
Survi Massey

RESEARCH ASSISTANT-GRAPHICS:

SALES & MARKETING

DIRECTOR:
GENERAL MANAGER SALES:

Neetu Dhulia
Rajeev Chugh

SP'S WEBSITES

SR WEB DEVELOPER:
WEB DEVELOPER:

Shailendra Prakash Ashish
Ugrashen Vishwakarma

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FOR ADVERTISING DETAILS, CONTACT:

advertise@spsmai.com, guidepub@vsnl.com,
neetu@spguidepublications.com,
rajeev.chugh@spguidepublications.com

LETTERS TO THE EDITOR:

editor@spsmai.com

SP GUIDE PUBLICATIONS PVT LTD:

A-133 Arjun Nagar, (Opposite Defence Colony)
New Delhi 110 003, India.

Tel: +91 (11) 24644693, 24644763, 24620130

Fax: +91 (11) 24647093

Email: guidepub@vsnl.com

REPRESENTATIVE OFFICE:

BENGALURU, INDIA

534, Jal Vayu Vihar, Kammanhalli Main Road

Bengaluru 560043, India.

Tel: +91 (80) 23682534

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Dassault Rafale

Nuclear capable Rafale sweetens progress

As final commercial negotiations between India and France proceed on a deal for 126 Dassault Rafale fighters as part of the medium multi-role combat aircraft (MMRCA) competition, a recent event has sweetened progress. Last month on June 19, the French Air Force demonstrated a nuclear deterrent capability by test-firing the MBDA ASMP-A stand off nuclear capable cruise missile. The mission lasted five hours and involved pilots from the 113 Air Base conducting a mid-air refuelling, a high-altitude cruise phase, and a dived low-altitude phase to enter enemy territory.

Dassault Aviation, it may be noted, was the only one of the six MMRCA firms that explicitly detailed for the IAF its nuclear deterrent capability along with the test plans. The IAF, in fact, was briefed and kept in the loop about the ASMP-A test. **SP**

Attack helicopters from Army

The government has accorded crucial clearance to the Army to operate its own attack helicopter units, bringing to a close a long-standing spat between the Army and the Air Force over tactical battlefield assets. India currently has two attack helicopter units, both under the command and control of the Army, but flown and maintained by IAF pilots and personnel.

The government's approval could mean either of the three things: (a) that the two Mi-25/35 flights under two helicopter units will soon be flown by Army Aviation pilots (the choppers are in IAF livery) and the IAF will raise new units to house the 22 new attack helicopters (prospectively, the Boeing AH-64D Apache Block III) and, later, the light combat helicopter or, (b) The Mi-25/35s will be transferred to the IAF command and control, while the Army raises new units and floats fresh requirements (it already stands to receive the Dhruv-WSI), or (c) a status quo on command and control of the current units, until new platforms enter service. **SP**

Boeing AH-64D Apache Block III





Eurocopter AS550 Fennec



Kamov Ka-226 Sergei

Strategic Forces Command exercises Agni-I

India's nuclear command, the SFC has once again exercised the 700-km range nuclear capable Agni-I ballistic missile. The missile was successfully launched 1006 hours on July 13 from Wheeler Island off the coast of Odisha. "It was a textbook launch meeting all mission objectives and the missile reached the target point in the Bay of Bengal following the prescribed trajectory," said Dr Avinash Chander, Chief Controller R&D (Missiles & Strategic Systems) and Agni programme director. The Agni-I was launched from road mobile launcher system and was tracked by radar and telemetry stations located along the coastline. Two Indian Navy warships located near the target point tracked the missile in its terminal phase of the flight. The Agni-I is already a part of India's nuclear deterrence arsenal. **SP**

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Decision on I97 light helicopters soon

Eurocopter is waiting with baited breath with the crucial 197 reconnaissance and surveillance helicopter competition headed towards a possible decision shortly. A special technical oversight committee (STOC) that had been set up by the Defence Ministry to scrutinise certain qualitative requirement waivers in the competition had been raised by a third party that was not part of the trials. It is understood that the STOC has recommended that the waivers are acceptable to both the Indian

Army and the Indian Air Force, for whom the helicopters are intended. The Eurocopter AS550 Fennec and Kamov Ka-226 Sergei are in close contention for the \$750-million deal that will progressively replace Cheetah and Chetak fleets in the Army and the IAF. For Eurocopter, the deal is a delicate one. In late 2007, after its Fennec was short-listed for a contract, the deal was aborted at the last minute following allegations of divergence from laid down procurement norms. Another abort could prove disastrous to both the competitors as well as to the armed forces, which desperately need light helicopters, especially for high altitude operations. **SP**



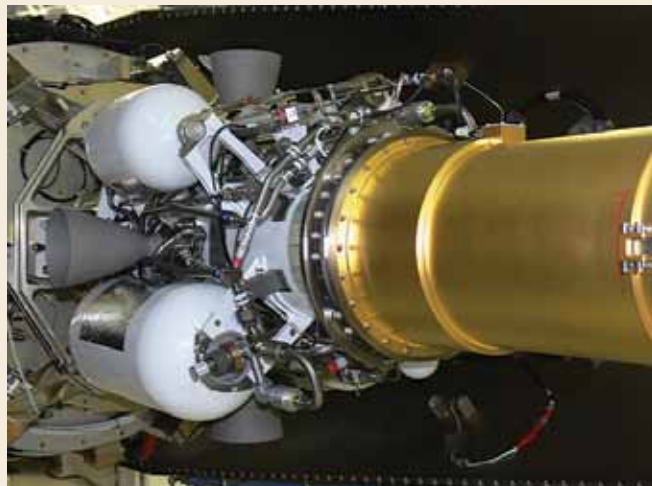
Raytheon's Exoatmospheric kill vehicle in demand

Raytheon was awarded a \$636-million development and sustainment contract to provide the Exoatmospheric kill vehicle (EKV) to Boeing, which is the prime contractor for the ground-based mid-course defence programme. Raytheon booked the award during its second quarter.

EKV represents the centerpiece for the Missile Defense Agency's GMD as the intercept component of the ground based interceptor, also known as GBI, which is designed to engage high-speed ballistic missile warheads in space.

"When it comes to developing, testing and deploying technologies that enable the intercept of threats in space, Raytheon is a world leader," said Dr. Taylor W. Lawrence, Raytheon Missile Systems President. "We are proud to contribute to our nation's first line of defence against the threat of ballistic missiles."

Under conditions of the contract, which extends through November 2018, Raytheon will provide EKV development, fielding, testing, system engineering, integration, configuration management, equipment manufacturing and refurbishment, and operation and sustainment. Leveraging more than two decades of kill vehicle



technology expertise, the EKV is designed to destroy incoming ballistic missile threats by colliding with them, a concept often described as "hit to kill." **SP**

Sagem's Hammer air-to-ground guided weapon tested



French defence procurement agency DGA has successfully carried out the first qualification firing test of the laser terminal guidance version of the AASM Hammer modular air-to-ground weapon built by Sagem (Safran group).

The test was carried out by the DGA's missile test department at the Cazaux airbase recently, with the Hammer weapon being fired from a production Rafale fighter. The target, a bridge pier located more than 50 kilometres from the release point, was illuminated by an airborne illuminator that was activated during the last few seconds of the weapon's flight.

The AASM Hammer's guidance was deliberately initialised by offsetting the target's GPS coordinates by over 50 metres. Thanks to its navigation, laser spot detec-

tion and terminal guidance algorithms, the AASM hit its target to within a metre. Prior to the impact, the missile steered itself to a glide slope of 20°, preferred for this type of operational scenario.

Developed and produced by Sagem, with the DGA as contracting authority, the AASM Hammer is a family of air-to-ground weapons comprising guidance and range augmentation kits attached to standard bombs.

The AASM has been deployed in foreign theatres of operation, demonstrating its performance and reliability. During long-range missions on the Rafale fighter, the AASM has shown its ability to engage high-value targets, previously reserved for cruise missiles. It has also shown that it can neutralise opportunity targets, in short time loop, as well as enemy air defenses, day or night and at stand-off distance. **SP**

Australian Defence Capability Plan

The Australian Minister for Defence Stephen Smith and Minister for Defence Materiel Jason Clare recently released the 2012 Defence Capability Plan (DCP), which has priority projects planned for the four-year forward estimates period. The DCP contains 111 projects, or phases of projects, worth approximately \$153 billion.

These projects will deliver key capabilities for the Australian Defence Force (ADF). The release of a four-year DCP is based on consultation with Australian defence indus-

try and aligns the DCP with the four-year forward estimates period in the budget. This provides greater certainty for industry.

The public DCP provides information for industry on project cost, project schedule and local industry content. As the public DCP includes only those projects approaching either first pass or second pass in the four-year forward estimates period, it is a much more reliable guide of the Government's priorities for investment in ADF capability. **SP**

L-3 bags contract from USSOCOM

L-3 Communications subsidiary L-3 GCS has been awarded a contract by the US Special Operations Command (USSOCOM) to develop and manufacture very small aperture terminal (VSAT) satellite systems.

The programme, known as special operations forces deployable node-family of terminals (SDN-Lite FoT), will provide tactically deployed Special Operations Forces (SOF) users with worldwide communications connectivity. The total contract value is up to \$500 million over the next five years.

"L-3 GCS is honoured to have been selected for this programme, which represents new business for our unit and highlights the priority our customer has placed on SATCOM equipment. We look forward to a continued productive partnership with USSOCOM, ensuring its deployed users are equipped with the best possible communication systems," said Bob Jacobson, President of L-3 GCS. **SP**



AIR MARSHAL (RETD)
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Need for Seamless Integrated Planning

Forever a victim of its die-hard habit of sensationalising any and every bit of news, the Indian media has once again tried to give an ominous twist to the inter-service relations within the armed forces. This time it has picked up the newly appointed Army Chief General Bikram Singh, who is reported to have launched an 'aggressive' campaign among the top echelons of the government demanding that the Army be allowed to have its own attack helicopters. And, true to its form and character, the media lost no time suggesting that the move has triggered a fresh round of stand-off between the Army and the Indian Air Force (IAF).

Before commenting on the issue, it would be worthwhile taking a closer look at the prevailing scenario and the developments already in the offing. It is common knowledge that the IAF currently fields two squadrons of Russian-built Mi-25/Mi-35 attack helicopters primarily in support of the armoured formations of the Army on as required basis. During exercises and in actual operations, these operate directly with the affiliated Army formations from 'FAARP' (Forward Area Arming and Refuelling Point) locations, thus providing the necessary synergy between the two services. These could also be used in complementary roles such as combat search and rescue, etc, when required. The IAF is known to have opted for 22 US Apache Longbow AH-64Ds, as an initial order through import to augment/replace its ageing Mi-25/Mi-35s.

On the home front, however, HAL is feverishly developing India's own attack helicopter called the light combat helicopter (LCH) which is derived from the advanced light helicopter (ALH) Dhruv. Of note are the facts: first, ALH is already operating in the IAF as well as the Army, and second, LCH is being developed for both the services with the Army's initial order for 114, far out-stripping the IAF's 65. Concurrently, the HAL is also 'weaponising' the Dhruv in its ALH weapon systems integrated (WSI) avatar called 'Rudra', to be supplied to the Army and the Navy for combat support and maritime ASW roles, respectively. Incidentally, not only the LCH but also the weaponised Rudra will have the capability to carry different types of weapon loads such as air-to-air and air-to-surface missiles, rockets, etc—even chin-mounted cannons—just like any other attack helicopter. The difference, if any, lies primarily in the all up weight (AUW) between the light combat

and heavier attack helicopters. For example, the indigenous LCH and ALH (WSI) fall in the five-tonne AUW class, while the IAF's Mi-25/Mi-35 and, to be acquired AH-64D Apache Longbow, belong to the 10-tonne+ class.

It is clear therefore that the Army is already on the way to get its own light-weight attack/combat helicopters and from that point of view media's frenzy would be meaningless. Under the Joint Army Air Instruction of 1986, the Army is empowered to operate light utility helicopters for communication, directing artillery fire, etc. To that, it is also adding the light-weight combat helicopters in support of 'contact battle', etc, as mentioned above. However, major problems could arise—including for the Army—if it went pitching for the heavier specimens too.

It is not clear at this stage whether reports emanating from a section of the media that Army has demanded helicopters heavier than five tonnes, including attack choppers for itself, in the long term integrated perspective plan (LTIPP) for 2012-27, are true or not? In the same context, it has also been reported that though LTIPP for the military was approved by the Defence Acquisition Council, headed by Defence Minister A.K. Antony, in April; this aspect has been referred to a panel, headed by the Deputy Chief of the Integrated Defence Staff (Perspective Planning and Force Development) and comprising representatives from various services. In the event, these reports do turn out to be real, it is sincerely hoped the panel (in line with the IDS' character and mandate) will not hesitate to disagree with the proposal. Because, more than preventing avoidable turf wars, such a move will do great service to the Army itself. Lack of domain expertise plus logistics and maintenance support issues could prove to be crippling factors and the Army would do well not to invite trouble at this stage.

In the final analysis, more than physical ownership, what really matters is for the services to integrate themselves for modern warfare—with each doing what it is best at—to deliver the decisive knockout combat punch against the enemy. It is believed, the Indian military planners have already articulated joint doctrines for fighting such a battle. But are they also ready to implement these through true joint planning and seamless integrated execution? **SP**

In the final analysis, more than physical ownership, what really matters is for the services to integrate themselves for modern warfare – with each doing what it is best at – to deliver the decisive knockout combat punch against the enemy



Apache Longbow AH-64D

Indian Coast Guard – Aviation

[By **Rear Admiral (Retd) Sushil Ramsay**]

The Indian Coast Guard is the principal agency for enforcement of provisions of all national enactment in force in the Maritime Zones of India (MZI) and provides following services to the nation and marine community.

- Ensuring safety and protection of the artificial islands, offshore installations and other structures in India's maritime zones.
- Providing protection to fishermen and assistance to them at sea while in distress.
- Preservation and protection of maritime environment including prevention and control of maritime pollution.
- Assistance to the Department of Customs and other authorities in anti-smuggling operations.
- Enforcement of MZI Acts.
- Initiating measures for the safety of life and property at sea.

The need for a full fledged Air Wing for Indian Coast Guard (ICG) was felt right from the time of its inception. The first ICG aviation unit to be commissioned was 800 SQN on May 22, 1982, with two Chetak helicopters at Goa.

The first fixed wing squadron of Indian Coast Guard was commissioned with two Fokker Friendship (F-27) aircraft on July 30, 1983. These aircraft were taken on dry lease from Indian Airlines. These aircraft did a yeoman service to ICG through their tireless operations from Dum Dum Airport in maritime surveillance and search and rescue roles covering the entire exclusive economic zone (EEZ).

The first planned induction included 12 fixed wing aircraft for coastal surveillance and six single engine helicopters to support ships at sea. The first Dornier squadron was commissioned as 750 Squadron (ICG) at Daman in January 1987.

The first full-fledged Air Station was commissioned at Daman on October 29, 1987. Since then the following air squadrons/flights have been inducted into the service and are located as shown in the box.

The primary role of these squadrons include search and rescue and embarkation on board helicopter operating ships to undertake the following missions:

- Logistics and operational cover for the Indian Coast Guard ships at sea.
- Pollution response.
- Casualty evacuation.
- VIP commitments.

- Reconnaissance and shadow.
- Security patrol of offshore installations/oil rigs.

Modernisation of ICG - Aviation

The present force levels of ICG comprise 44 ships, six hovercraft, 24 interceptor boats, 28 Dornier coastal surveillance aircraft, four twin-engine Dhruv advanced light helicopters and 20 Chetak single-engine helicopters. As per its assessed requirement in 2007-08, ICG had projected a requirement of 154 ships and 93 boats.

Since the formation of Aviation Wing in May 1982 and nearly two decades later, in a comprehensive Long Term Perspective Plan 2002-12, the Coast Guard envisioned its aviation assets to be enhanced to 99 aircraft. Post Mumbai 26/11 and in a major revamp of the country's coastal surveillance and security apparatus, the Coast Guard had projected a force-level of 268 vessels, including 173 small patrol craft, 113 aircraft, 18 Nishant unmanned aerial vehicles (UAV) and aerostat and over the horizon (OTH) radars by 2017. The aviation component of the projected force levels comprise; 60 helicopters, 35 Dornier 228 aircraft for coastal surveillance, an increase from the 24 aircraft currently in service, and 11 medium range,

maritime reconnaissance aircraft. The plan also encompasses commensurate increase in the manpower strength to man the augmented aviation assets of ICG.

As a short term measure, Cabinet Committee on Security on February 26, 2010 accorded sanction for the acquisition of 60 surface platforms and 42 aircraft which is being processed with stringent timelines. However, as long term measure, the 11th development plan for 2007-12 was recast on a 15-year perspective spanning from 2007-22.

The approved modernisation plans for ICG Aviation, broadly include 42 aircraft, prominent among them being six MRMR (medium range, maritime reconnaissance) aircraft. The ICG version of MRMR, aircraft is multi-mission maritime aircraft (MMA). In the recent past RFP were issued for six MMA. Two leading aircraft manufacturers, the Russian Irkut's Beriev Be-200 and the American Bombardier Q400, whose bids were conforming to the RFP, were short-listed for trials. However, both aircraft failed to qualify the stringent field evaluation tests. Considering the strategic importance of MMA for ICG, currently a case is being pursued with the Ministry of Defence for expeditious issue of fresh RFP for six MMA.

For upgrading surveillance capabilities

Fixed Wing Squadrons

750 Squadron (ICG)	Daman
700 Squadron (ICG)	Kolkata
744 Squadron (ICG)	Chennai
745 Squadron (ICG)	Port Blair
746 Squadron (ICG)	Porbander
757 Squadron (ICG)	Kochi

Rotary Wing Squadrons

800 Squadron (ICG)	Goa
841 Squadron (ICG)	Daman
842 Squadron (ICG)	Mumbai
848 Squadron (ICG)	Chennai
Chetak Flights	Port Blair, Kochi and Visakhapatnam

Advanced Light Helicopter

850 Squadron (ICG)	Porbander
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The Air wing inventory of the ICG is as follows:

Aircraft	Origin	Type	Quantity	Remarks
HAL, Dhruv	India	Utility helicopter Attack helicopter	4	
HAL, Chetak	India, France	Utility helicopter	20	Manufactured under licence by HAL
Dornier Do 228	India, France	Maritime surveillance and search & rescue	32	18 built by HAL



AgustaWestland
AW109 Power



Sikorsky S-76



Eurocopter AS565 MB



Chetak helicopter

of ICG, the 11th development plan catered for induction of 12 Dornier aircraft at a cost of \$ 320 million, of which four have already been inducted into the service.

Request for proposals for eight helicopters for coastal surveillance and search and rescue (SAR), two each to be based at Chennai, Kochi, Daman and Port Blair were issued. The tender envisaged initial lease period of two years, extendable to two more years. Initially, RFP was issued to four major helicopter manufacturers – French Eurocopter, British-Italian Agusta Westland and two American Companies Kaman and Sikorsky. However, towards the end 2009 the same was cancelled for technical reasons. To elicit response from a larger segment of helicopter manufacturers and the operators, both of Indian and for-

eign origins, a fresh RFP was issued in early 2011 to as many as 16 vendors. In response though, only Sikorsky and Agusta Westland responded to the tender. While the present status of the dry-lease programme is not known, it is understood that the plan is presumably in limbo.

In addition, a \$200 million RFP for 16 twin-engine light helicopters to be deployed on ICG ships to augment aerial patrol and surveillance, as also the search and rescue capabilities has been approved by the Ministry of Defence. The RFP has been issued to four leading helicopter manufacturing companies, namely Eurocopter, Agusta Westland, Sikorsky and Hindustan Aeronautics Ltd. Since none of the vendors qualified during the technical evaluation, fresh RFI has been issued. Considering urgent

requirement for ship borne helicopters, it is estimated that it will not be long before fresh RFP to the qualified vendors is issued.

Further, there are reports to suggest that RFP for procurement of additional 14 twin-engine shore-based helicopters for ICG is at final stage for approval by the Government.

The modernisation plan for ICG Aviation is an integral part of the major revamp of coastal security apparatus prompted by the events of Mumbai 26/11. Whilst the recast 11th development plan on a 15 years long perspective was fast tracked for approval of the Government, the consequential acquisition and procurement processes have been quite tardy which may be detrimental to envisaged capability build plan for the nation's coastal security. **SP**



Eurocopter's Puma Mk2 helicopter upgraded

The upgrade of UK Ministry of Defence Puma aircraft took a major step forward last week with Eurocopter completing its first internal qualification of the Puma Mk2 aircraft. This upgrade will significantly enhance the aircraft's performance, mission capability and safety. The first modified aircraft will fly into the UK in the coming weeks to conclude test and evaluation activities at QinetiQ's Boscombe Down facility.

Eurocopter's first internal qualification of the Puma Mk2 was achieved on July 6, concluding the first phase of the planned developments, with further enhancements to its mission capabilities planned over the coming months. To date, Eurocopter has completed the initial upgrade process on three Puma helicopters, all of which are now involved in flight testing. The first of these will be delivered to QinetiQ's Boscombe Down military test and evaluation centre for further trials.

The Puma Mk2 helicopters represent a key element of the UK's medium battlefield support helicopter capability, and will be deployed for tactical troop and load movement by day and night. The upgrade will extend the operational lifetime and significantly upgrade the capabilities of 24 of the Royal Air Force Puma helicopters. **SP**

Boeing offers medium-sized maritime surveillance aircraft



Boeing has announced that it is offering a medium-sized maritime surveillance aircraft (MSA) to the global market. MSA builds on technologies developed for Boeing's larger intelligence, surveillance and reconnaissance (ISR) platforms to provide a highly capable, low-risk and cost-effective ISR solution.

"The Boeing maritime surveillance aircraft directly applies advanced, proven and fielded capabilities from our P-8, airborne warning and control system, and airborne early warning and control programmes to solve our international customers' maritime surveillance challenges," said Tim Peters, Boeing Vice President and General Manager, Surveillance and Engagement. "We've selected a preferred aircraft and are in discussions with a manufacturer about supply-

ing and modifying their aircraft. We hope to have an announcement on that element by the end of this year." **SP**

Gripen NG flying with Raven ES-05 AESA radar

The Gripen NG test aircraft is now flying with a Selex Galileo Raven ES-05 AESA radar installed, following extensive testing with an earlier AESA prototype.

Raven ES-05 is a high performance active electronically scanned array (AESA) fire control radar designed for the Saab Gripen NG multi-role fighter that builds on over 60 years of Selex Galileo's fire control radar experience. It has been designed in close collaboration with Saab and is a vital part of the Gripen next-generation multi-functional sensor system.

The sensor suite includes active and passive sensors, integrated for central sensor command and sensor fusion. This will significantly increase the multi-role capability and sensor performance against future threats and more complex scenarios. **SP**

MBDA's meteor firings conclude with lethal display

Having now completed 21 air-launched test firings, MBDA is on track to deliver the first production Meteor BVR air-to-air missiles by the year

end. MBDA's meteor beyond visual range air-to-air missile (BVRAAM) has concluded its guided firing programme with three direct hits from three firings during Government-sponsored electronic protection measure (EPM) trials against targets deploying countermeasures. The comprehensive development and Government trials programme involved a total of 21 air launched firings, providing evidence of a progressive maturity. As a result, MBDA is on track to complete qualification and make the first production deliveries of this unrivalled capability by the year end.

The UK will be the first of the partner nations to receive deliveries of the production missile from MBDA's UK-based Lostock site, with the programme on schedule making the first delivery around the end of 2012. **SP**





Second Boeing P-8I aircraft for India completes first flight

The second Boeing P-8I aircraft for the Indian Navy completed its initial flight on July 12, taking off from Renton Field at 3:29 p.m. and landing two hours and 14 minutes later at Boeing Field in Seattle. The P-8I, a derivative of the Boeing Next-Generation 737-800 commercial airplane, is the second of eight long-range maritime reconnaissance and anti-submarine warfare aircraft Boeing is building for India.

"The programme is on plan and the Indian Navy is excited for the P-8I to join its fleet," said Leland Wight, P-8I Program Manager for Boeing.

During the flight, Boeing test pilots performed airborne systems checks and took the P-8I to a maximum altitude of 41,000 feet prior to landing. Boeing will begin mission systems installation and checkout work on the aircraft in the coming weeks. **SP**

Alenia Aermacchi introduces MC-27J, multi-mission version of the Spartan

Alenia Aermacchi has introduced a new version of the C-27J battlefield airlifter, the MC-27J. The MC-27J is a multi-mission, armed, roll on/roll off (RO/RO) derivative of the C-27J Spartan. Alenia

Aermacchi and ATK will jointly produce and market this new offering.

The new MC-27J is an adaptable, agile, and affordable solution for various airborne multi-mission requirements that today are performed by a wide variety of aircraft, including special operations versions of the C-130. The MC-27J is not just a gunship, but a battlefield tested platform equipped with proven sensors, communications, and weapons suite able to execute a wide range of customer-driven missions. **SP**



Sikorsky wins \$8.5 billion contract

The US Army and Navy have signed an \$8.5 billion contract with Sikorsky Aircraft Corp. to buy a baseline quantity of 653 Black Hawk and Seahawk helicopters through December 2017.

The five-year contract will yield significant savings for the US Government compared with purchasing the same quantity

across five separate annual agreements.

The five-year agreement also allows the Army and Navy to order as many as 263 more aircraft within the same contractual terms. If exercised, the optional purchases could push the contract value as high as \$11.7 billion. Actual production quantities will be determined year-by-year over the life of the programme based on funding allocations set by Congress and Pentagon acquisition priorities. **SP**



Static and flying display of aircraft



Boeing's C-17 Globemaster III

Defence orders in a tailspin

[By R. Chandrakanth in Farnborough]

On the opening day of the Farnborough International Airshow—primarily a commercial aerospace show—a £50 million defence contracts were signed between a number of UK manufacturing companies and the Ministry of Defence.

Did that deal set the agenda for more mega deals? The answer is a capital No.

While many deals were signed in the realm of defence, the writing was on the wall – defence budget cuts had impacted spending. The fact that one of the top five defence companies Northrop Grumman was not at the show is indicative of the gravity of the economic situation. Though Northrop Grumman said the decision of not being present at Farnborough was ‘in full alignment with its affordability and cost reduction goals. Northrop Grumman continues to focus its international business development activities and resources in areas that better support its customers’ needs.”

Other majors too were subdued exhibitors, while the commercial aerospace sector was placed in a relatively better position.

The UK Prime Minister David Cameron who inaugurated the airshow said, “In a hugely difficult time in the global economy UK aerospace is, quite simply, flying – employing more than 1,00,000 people, turning over more than £20 billion a year, holding a 17 per cent share of the global market. But there can be absolutely no complacency. International competition gets more fierce by the year. The UK has got to fight for every contract and every opportunity.

“That’s why we as a government are doing everything possible to get behind UK aerospace. We’ve established an Aerospace Growth Partnership to make sure that five, ten, twenty years down the line this industry continues to thrive and grow. We’re investing in skills, including 500 masters level qualifications in aerospace engineering over the next few years. We’re pulling every lever we’ve got to make sure those good, high-skilled jobs come to Britain and stay in Britain.

“The further development of Typhoon that we have been working on with our partners is good for the RAF who need this capability, good for our export customers who want it too and brilliant for the British manufacturers and British workers who are going to benefit.

“From this Government you will see nothing less than an unstinting, unrelenting, unflagging commitment to making Brit-

ain the best place in the world for aerospace businesses to invest, design, manufacture and export.”

It was loud and clear that the aerospace industry (both military and civil versions) needed all the support to keep sailing in these difficult times. To prop the industry, the UK Ministry of Defence placed an order for 22 full flight simulators for the Airbus A400M. They will be designed and built by Thales in Crawley.

Purple patches

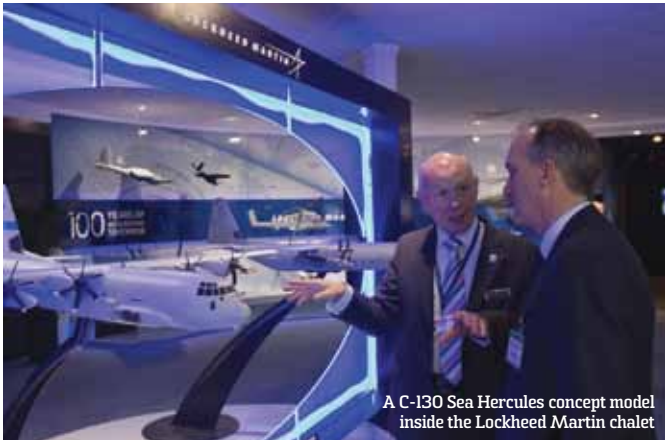
However, in this gloomy scenario, there were some purple patches. The Indonesian Air Force ordered eight A-29 Super Tucano high-performance military turboprop aircraft for light attack and tactical training from Embraer, besides a flight simulator for training military pilots. The President of Embraer Defense and Security, Luiz Carlos Aguiar said that “this decision shows the recognition given to the quality of the Super Tucano by the international market.”

In line with Asia-Pacific and some Middle East markets driving the defence industry, the Royal Air Force of Oman awarded Lockheed Martin a \$23 million contract to provide additional sniper advanced targeting pods (ATP) for their F-16 fleet. Similarly, Goodrich Corporation got a foreign military sale (FMS) contract to provide its DB-110 airborne reconnaissance system for the Royal Saudi Air Force F-15S modernisation programme.

India seen as the next R&D hub

According to consultancy firm PricewaterhouseCoopers (PwC) which released a report at Farnborough, China ranks as the number one country receiving the most (23) manufacturing investments by aerospace and defence companies, followed by India and the US. The UK ranks 7th. However, for R&D investments in the same period, India tops the charts, followed by the US, Russia and the UK.

The report identifies five key areas for programme managers to focus on success: getting systems integration right; solidifying partnerships and joint ventures; agility and speed in business processes; being world citizens in relationship management, and applying a collaborative approach to supply chain management. In the past, companies would specialise in one area such as solutions leadership, operational excellence or customer intimacy. But today’s environment means that



A C-130 Sea Hercules concept model inside the Lockheed Martin chalet



Various models of US military aircraft on display

they, and their programme managers, need to be top of their game in all three and deliver innovation and affordability in tandem.

Neil Hampson, PwC's global A&D leader said: "Our report reveals that companies will need a different kind of programme management 'mindset' in which partnership, internationalism, inclusivity and innovation rank as highly as 'getting it out the door' approach.

"We are in an era of fierce international competition. The winners will need to demonstrate they can use innovation as a key competitive advantage as well as anticipate, understand and match customers' needs."

Internationalisation is an important theme in the evolving world of programme management, according to participants. In the report, French defence firm DCNS said whereas exports accounted for only 15 per cent of revenue a decade ago, they now account for 35 per cent and are set to jump up to 70 per cent in the next decade. Similarly EADS' defence division, Cassidian, has seen its export share rise from 10 per cent to 35 per cent today with a target of around 55 per cent in the next decade.

Russian twist

Amidst all the economic gloom, Russia seemingly is reworking its strategy of propping its industry. There appears to be concerted efforts on various Russian entities to get a rebranding and this was spelt out at a media briefing of United Aircraft Corporation (UAC). One of the strategies mentioned by UAC President Mikhail Pogoyan was that the business model would prop commercial, reducing defence. UAC's defence revenues, he said, would be brought down

from the current 80 per cent to 58 per cent by 2014. UAC, he added, was looking at a more balanced business plan across its three sectors – defence, commercial and transport.

Russian Helicopters, a leading global designer and manufacturer, made its presence felt, announcing a collaboration with AgustaWestland to produce a new light helicopter and showcasing the latest Mi-171A2. It also introduced to the international market for the first time the multi-role medium Ka-62 helicopter. There was a media blitz on their capabilities.

Situational awareness

ITT Exelis, Moog Controls, FLIR Systems and others showcased situational awareness capabilities. Moog unveiled its new intelligence, reconnaissance, surveillance (ISR) and targeting pod, the ProtectIR, which integrates forward-looking infrared (FLIR) imaging systems with an integrated moving map.

ITT Exelis won a \$19.6 million contract to provide software enhancements for Integrated Defensive Electronic Countermeasures (IDECM) ALQ-214 on-board jammer for the US Navy's F/A 18 aircraft.

FLIR Systems broadcast enlivens proceedings Farnborough International Ltd, Flightglobal and FLIR Systems had teamed up to broadcast live coverage of the flying displays. For the first time at any airshow ever, the broadcast included air-to-air footage of the displays, thanks to the FLIR Systems Star Safire 380-HD sensor, mounted on the company's Pilatus PC-12 aircraft. FLIR Systems which specialises in imaging solutions for airborne missions made an emphatic presence at the show. **SP**

Saab unveils new surveillance aircraft

Defence and security company Saab unveiled its new Saab 340 Maritime Security aircraft which is capable of effectively monitoring large areas and is the key to maritime domain awareness. The aircraft will meet the world's latest demands for maritime security and safety. The 340 MSA delivers the capability to safeguard territorial waters through the ability to rapidly respond to emerging maritime security threats.

"Maritime Airborne Surveillance is a fast growing market throughout the world. With the 340 MSA, Saab has a strong market position with a highly capable and cost-effective solution", said Rickard Hjelmberg, Vice President Marketing for Airborne Surveillance at Saab's business area support and services. **SP**



MBDA launches Spear

MBDA, Europe's leading missile systems company, unveiled Spear, a new, high precision surface attack weapon for fast combat aircraft. Spear is the solution being proposed by MBDA to meet the UK Ministry of Defence's (MoD) requirement for a network-centric, low collateral damage, multi-target stand-off strike weapon for multiple loadout in the internal carriage bay of its future fleet of F-35 Joint Strike Fighter aircraft.

With a range out beyond 100 km and, high subsonic flight, Spear is capable of dealing with an extremely broad target set ranging from fast moving manoeuvring vehicles including main battle tanks (MBTs), hardened structures, air defence units and missile launchers to naval vessels. In fulfilling the UK requirement, Spear is unique in providing such a range



of capabilities in such a high loadout weapon system.

The Executive Group Director Technical and MBDA UK Managing Director Steve Wadey said: "A weapon like Spear is vital for the future multi-role missions of the F-35 because it maximises the network and sensor potential provided by the aircraft and maximises enhanced aircrew survivability in hostile airspace. I also think it to be indispensable for a number of other combat aircraft aspiring to a true multi-role capability. In this respect, and based on extremely enthusiastic feedback from our global customer base, I am very confident that Spear has the potential of making a very significant impact on the export market." **SP**

PHOTOGRAPHS: MBDA, Pratt & Whitney, Embraer, NH Industries

Pratt & Whitney delivers first engines for Boeing C-17s to India

Pratt & Whitney, a unit of United Technologies Corporation has delivered the first four F117 engines for the Indian Air Force to power its fleet of Boeing C-17 Globemaster III transport aircraft. India's Ministry of Defence signed a Letter of Offer and Acceptance with the US Government in 2011 to acquire 10 C-17s. India will take delivery of its first C-17s in mid-2013.

"Pratt & Whitney is pleased to deliver the first four F117 engines for the Indian Air Force's C-17 programme," said Bev Deachin, Vice President, Military Programs and Customer Support, Pratt & Whitney. "We look forward to a continued partnership with India as we complete the remaining F117 engines to fulfill this contract." **SP**



Indonesian Air Force to buy second batch of A-29 Super Tucano

The Indonesian Air Force has signed a commercial contract for a second batch of eight light attack and tactical training A-29 Super Tucano. The order also includes a flight simulator that will be used for instructing and training Indonesian pilots.

In August 2012, Indonesia will receive the first four airplanes from the initial batch of eight aircraft ordered in November 2010.



Deliveries of the second batch are scheduled for 2014. **SP**

The NH90 marvels crowds at airshow

The NH90 new generation helicopter was displayed at Farnborough airshow. The NH90 NFH is the most recent and most flexible helicopter for naval warfare, it is designed according to precise NATO Staff Requirements, and it is equipped with a state-of-the-art weapon system combining on a modern platform several types of sensors with a complete weapon suite.

The NH90 NFH is able to cover AsuW and ASW primary missions in any type of environment and to perform the widest spectrum of missions such as SAR and rescue, amphibious operations, anti-piracy, boarding party and maritime surveillance.

"The NH90 Helicopter is the best helicopter in its class because it benefits from the expertise of AgustaWestland, Eurocopter and



Fokker, three leading aerospace companies with a long tradition of excellence," declared Xavier Poupardin, delegated Managing Director of NH Industries. **SP**

Globemaster C-17 arguably the most efficient airlifter

*The Farnborough skies were clear and a team of international journalists, including yours truly, were all set for a sortie on the heaviest airlifter of Boeing, the Globemaster C-17. However, that was not to be as the British authorities did not 'clear' the flight. So we had to contend doing a tour of the static aircraft which was parked imposingly in the Boeing zone. Making up for the missed sortie, **Tommy Duneheew**, the Boeing Vice President, Business Development, Mobility, gave a run-down on the Globemaster C-17 which has done 2.3 million hours and still going strong. Here are the excerpts of an interview with SP's M.A.I.*



Globemaster C-17

[By R. Chandrakanth in Farnborough]

SP's M.A.I. (SP's): Is Boeing on schedule with regard to the C-17 deliveries to India?

Tommy Duneheew: We are on schedule and the first delivery will be mid next year. We have delivered so far internationally 244 aircraft and almost 200 of them we have either delivered ahead of schedule or on time.

SP's: Are they any specific modifications requested by the Indian Air Force on the C-17?

Duneheew: We do modifications, but they are limited. As for your question, you will have to

ask the Indian Air Force. We have standard fits but if you look at our aircraft, they are top of the line with upgradations happening constantly. Every C-17 has the latest technology on it—updated satcoms, navigation systems etc. Most of the enhancements are on the software side which is very dynamic.

SP's: We are given to understand that the Indian Ministry of Defence is not going to go for additional C-17s. What do you have to say on that?

Duneheew: I am not aware of that. But let me tell you, once they get the aircraft, they will just love it and like all international custom-

ers will increase the order after a 'hands-on' experience. Boeing will work towards creating that experience.

SP's: What is the market outlook for the Globemaster C-17?

Duneheew: We have an order backlog of 20 aircraft. We are talking to about six international customers with focus on the Middle East and Asia-Pacific. We have revised our production rate, bringing it down from 15 to 10 based on the market outlook. We will keep it at that as it is viable in the current economic situation. Yes, low production rate, job cuts are happening but we ensure that the aircraft is affordable.

SP's: How do you compare it with other similar aircraft or the A400M?

Duneheew: One, the Globemaster C-17 is a bigger aircraft. The airplane can fly long strategic distances with oversized cargo. It is very capable and very flexible. It can take-off and land on runways as short as 3,000 feet and semi-prepared ones. It is arguably one of the most efficient heavy airlifters, very reliable and low-risk. The C-17 is efficient and affordable and scores highly over the others.

SP's: What is unique about the aircraft?

Duneheew: Like I said it is very efficient and we have satisfied customers talking about the quick turnaround times and its airlift capabilities. We brought a Lakota helicopter on this to the airshow. Depending on the cargo, we have quick turnaround times with max up to three hours. As for troops, they are self-loading and we can fit in about 160 troops in double-quick time. **SP**

The Russians are coming

UAC reworks strategy to take on world market

[By R. Chandrakanth in Farnborough]

In a clear shift of strategy, the United Aircraft Corporation (UAC) is reducing its dependence on military and inching towards commercial and transport to take on the world market. In a major move, it has embarked upon a 'restoration of Russian aerospace industry' which has taken a beating, so to say, in the international area. Rebranding is the Russian mantra now.

And the UAC President, Mikhail Pogoyan grabbed the opportunity of a world platform at Farnborough to make this strategic announcement. Speaking on the sidelines of the press conference to *SP's M.A.I.*, Mikhail Pogoyan said India has been and will always be an important partner in aerospace and defence programmes.

The theme of his talk was 'balanced business' and this would happen in the next two years with shift in the revenue structure. "We are reshaping the resources of the company." The commercial sector which is presently at 10 per cent would increase to 27 per cent by 2014, thus reducing the defence component from 80 per cent to 58 per cent.

"It is not that we are moving away from military, but we are going to take that expertise into the commercial sector. In fact, 2012 has been very fruitful for the military. We currently have over 270 combat aircraft and 100 transport aircraft on order." The UAC has also signed contracts for 300 civilian airplanes such as the Sukhoi Superjet 100, the AN-148 and the MS-21.

Talking about various programmes, Pogoyan said that the Sukhoi T-50 fifth-generation fighter has been undergoing series of flights and would come into test mode in 2013. "Since January this year, a joint team of Russian and Indian specialists are working on it." The first production standard T-50 is slated to join in 2015 the Russian Air Force which plans to acquire 60 of them.

At present, a complete range of ground and flight tests are in progress, with the total number of flights exceeding 125. "Compared to previous generation fighters, the PAK FA (T-50) has a number of unique advantages: it combines strike aircraft and fighter functions. The aircraft is equipped with conceptually new avionics with 'electronic pilot' integrated functions and advanced radar with an active phase antenna array."

The export version of the fifth-gener-



Sukhoi T-50 fifth-generation fighter

ation advanced multi-role fighter (AMF), he said, was being developed with India. "We have approved the AMF specifications, defined their contributions and identified the systems and sub-systems to be developed by India."

With regard to MiG-29K/KUB, the UAC President said both the single- and double-seat multi-role fighters have improved airframes with a high percentage of composite materials, fly-by-wire control systems with quadruple redundancy, a significantly reduced radar footprint, an increased weapons load and internal fuel capacity.

On Indian deliveries, he said in March 2010, an option on the 2004 contract was exercised, confirming an agreement for the

delivery of another 29 MiG-29K/KUB fighters. "The production of these aircraft has been started by JSC RAC."

To a question by *SP's M.A.I.* on the Multi-role Transport Aircraft (MTA), he said a contract had been signed with the Hindustan Aeronautics Limited (HAL). "The general contract is in place. The contract on research and development will be signed in August."

At the airshow, UAC showcased for the first time the Yak-130 fighter trainer which is expected to provide pilots with training to handle fourth- and fifth-generation Russian and foreign-made combat aircraft. In 2011, Irkut Corporation began exporting the Yak-130 and the mid-term export potential is estimated at 250 aircraft. **SP**

BAE Mantis concept demonstrator to fly in the UK

BAE Systems has announced its intention to re-fly the Mantis UAS concept demonstrator – this time in UK airspace. This will be the first flight of a UAS (unmanned air system) of this class in UK airspace.

Flying Mantis will enable BAE to continue to mature a number of UAS capabilities and technologies, underpinning BAE Systems' strategy to become a world-class provider of unmanned air systems. The flight activity will support the development of future MALE (medium altitude long endurance) and UCAS (unmanned combat air systems) operational capabilities, including the programmes announced at the Anglo-French summit in February this year. By looking to fly Mantis in the UK, BAE Systems is directly aiming to address the associated challenges of airspace integration and safe operation of an airborne system in accordance with UK rules and regulations. **SP**



US Navy to land UAV on aircraft carrier

A team from the Navy Unmanned Combat Air System programme office tested communication software for the Unmanned Combat Air System Carrier Demonstration (UCAS-D) programme aboard the aircraft carrier USS Harry S. Truman (CVN 75) during its sea trials, July 7-10.

The UCAS-D programme, based at the Naval Air Systems Command (NAVAIR) on Naval Air Station (NAS) Paxtent River, Maryland, is designed to demonstrate the ability for the unmanned, autonomous X47-B unmanned air vehicle (UAV) to launch from and land safely on an aircraft carrier. **SP**

Laser powers Lockheed Martin's Stalker UAS for 48 hours

Lockheed Martin and LaserMotive, recently demonstrated the capabilities of an innovative laser power system to extend the Stalker Unmanned Aerial System

(UAS) flight time to more than 48 hours. This increase in flight duration represents an improvement of 2,400 per cent.

Stalker is a small, silent UAS used by Special Operations Forces since 2006 to perform intelligence, surveillance and reconnaissance missions.

"We're pleased with the results of this test. Laser power holds real promise in extending the capabilities of Stalker," said Tom Koonce, Lockheed Martin Skunk Works' Stalker Programme Manager. "A ground-to-air recharging system like this allows us to provide practically unlimited flight endurance to extend and expand the mission profiles that the Stalker vehicle can fulfill." **SP**

Selex set to rollout new Falco Evo UAV

Selix Galileo, a Finmeccanica company, has announced a further export customer for its Falco Tactical Unmanned Aerial System (TUAS). This new sale brings the total number of nations who have purchased the Falco to four, while the worldwide operating fleet exceeds 50 air vehicles.

In another UAS development, Selex Galileo has released photos of the company's new Falco EVO undergoing a runway rollout – the



final step before the official "maiden flight", which is expected to be held during the Farnborough Air Show, and will be followed by a comprehensive flight test campaign. "From the smallest sensor to the most fully-featured tactical system, at Selex Galileo we understand what makes UAS tick," said Selex Galileo CEO Fabrizio Giulianini. **SP**

Taranis passes the test



Taranis, the UK's unmanned combat air system technology demonstrator, has successfully completed a series of key tests on the way to commencing flight trials in 2013. The low observable (LO) platform recently completed radar cross section tests at BAE Systems' Warton site and the initial analysis has indicated that the programme has met and potentially exceeded the extremely challenging targets jointly aspired to by the UK's Ministry of Defence (MoD) and Industry.

Tom Fillingham, Future Combat Air Systems Director, said: "When considered together, the results of these two key test programmes demonstrate the UK's ability to design low observable solutions for our future unmanned combat systems." **SP**



LT GENERAL (RETD)
P.C. KATOCH

Second Jilani-Geelani nuptial

Jalil Abbas Jilani meeting hardliner separatist leaders of Kashmir headed by Syed Ali Shah Geelani of Jamat-e-Islami (JeI) in New Delhi recently ahead of his meeting with his Indian counterpart evoked much media commotion.

There were comments that the Indian Government is likely to convey its displeasure to Pakistan – speculation that never materialised. The Foreign Secretary level talks came in the wake of startling disclosures by Abu Jundal concerning the Pakistani Military and ISI direct involvement in planning and executing the 26/11 Mumbai terror attack. Foreign Secretary Ranjan Mathai emphasised that terrorism was the biggest threat to peace and security in the region and bringing the guilty to justice in the Mumbai terror attacks would be the biggest CBM of all, adding that arrest and ongoing interrogation of Abu Jundal has added urgency to the matter.

Jilani responded by saying, “I very strongly reject insinuations of the involvement of state agencies in terror against India”. Jilani meeting separatist leaders is like the second Jilani-Geelani nuptial. Having been caught funding Kashmiri separatists as High Commissioner of Pakistan he had been expelled from India nine years back – February 8, 2003, to be exact and given 48 hours to leave the country.

While Abu Jundal has disclosed state agencies of Pakistan had even supplied ammunition for the 26/11 Mumbai terror attacks, Jilani had continued to supply funds to Geelani and his cohorts even after the December 2001 Parliament attack. If Pakistan had any sincerity in mending fences with India, it would not have sent Jilani to India after he had been unceremoniously kicked out though funding separatists by him was obviously at the behest of Pakistan. What he parroted, like most Pakistani politicians and bureaucrats, was what the Pakistani Military-ISI wanted for keeping his seat secure in Pakistan. What instructions he would have whispered when hugging Geelani and gang is no surprise either as immediately thereafter a

spokesman of JeI was declaring dress regulations for tourists in Kashmir.

Even Umar Farooq hallucinated he was the tourism minister and was passing judgement Israelis should not be permitted in India since they were killing Muslims. Doesn't he know that thousands of Muslims killed in Pakistan are by Muslims, the horrifically brutal periodic killing of Shias within Pakistan and the state-sponsored genocide against them in Gilgit-Baltistan in PoK? Why then should Pakistanis be allowed in India and why did he travel to Delhi to hug Jilani – to collect his pay packet?

Slush with Pakistani funds, Geelani and cohorts are celebrities even though spewing venom against India; master Geelani maintains a Facebook page for tourists alleging Kashmir was never part of India and that India since 1947 has killed half a million people in Kashmir, 10,000 gone missing, 7,000 women dishonored, 2,700 mass graves discovered, 50,000 children orphaned, 35,000 women widowed and 1,465 Kashmiris languish in jails.

This indigenous Fai doesn't mention the marauding hordes of Pakistani terrorists who right from 1947 have raped or forcibly married how many Kashmiri women, flooding the Valley with AIDS. Are terrorist attacks on the military includ-

ing the recent one in Pampore side effects of the Jilani-Geelani honeymoon? Do we really believe Pakistan will accept her own nationals were responsible for 26/11 terrorist attack and punish them? The fact is that radicalisation of Pakistan is being systematically upgraded through institutionalised mechanisms.

Northern Army Commander's warning of scores of terrorists in training camps in POK awaiting chance to infiltrate is just tip of the iceberg. We could perhaps learn from France and Australia how to deal with separatists. The least we can do is to ensure their faces are blackened every time they appear in public. **SP**

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



Jalil Abbas Jilani

If Pakistan had any sincerity in mending fences with India, it would not have sent Jilani to India after he had been unceremoniously kicked out though funding separatists by him was obviously at the behest of Pakistan

India-Pakistan joint group on maritime borders

The meeting of the India-Pakistan Joint Working Group to work out a mechanism for release of fishermen and their boats who cross maritime borders inadvertently was held recently. The Indian delegation was led by Vice Admiral M.P. Muralidharan, Director General Indian Coast Guard, while the Pakistan delegation was led by Rear Admiral Waseem Akram, Director General, Pakistan Maritime Security Agency (PMSA).

The group held preliminary discussions on the issue and recognised the need for addressing the humanitarian aspect of inadvertent crossing of maritime borders by legitimate fishermen. The discussions were fruitful in mutual exchange of ideas and deliberating way ahead in evolving a suitable mechanism for release of such fishermen and their boats. It was also acknowledged that focused approach and sustained efforts of the group needs to be continued. **SP**



India and Mozambique sign security cooperation pact

India and Mozambique have signed an agreement on security cooperation. The Minister of State for Home Affairs, Mullappally Ramachandran signed the agreement with Jose Mandra, Minister of Interior, Government of Mozambique at Maputo, Mozambique.

Earlier, he called on the Vice Minister of Foreign Affairs and Cooperation of Mozambique, Henrique Banze. The two leaders also discussed cooperation between the two countries and to develop these relations further in various fields for mutual benefit of the two countries. **SP**

Anti-counterfeiting day observed

The world observed 'anti-counterfeiting day' on June 13, 2012. The issue of counterfeiting is big in India and as per the latest report by the Ministry of Home Affairs large quantities of fake Indian currency notes (FICN) are pumped into India from countries like Pakistan, Nepal, Bangladesh, Sri Lanka, Malaysia, Thailand, and the UAE.



While Australia detected seven pieces of counterfeit notes per million notes in circulation (2008-09), in Canada it was 76 (2008). In New Zealand, the number was as low as 0.71 counterfeits per million notes in circulation (2008-09), whereas in Switzerland it was ten. As for the euro, there was roughly about one counterfeit per 14,600 bank notes in circulation (2008).

As per the analysis of Zee Research Group, between 2009 till June 2011 nearly ₹60 crore worth of fake currency had been seized by the Government of India.

State profiling on counterfeiting currency suggests that during 2009 till June 2011 period, Maharashtra had recovered the highest amount of fake currency worth ₹8.49 crore followed by Delhi (₹8.24 crore), Uttar Pradesh (₹7.71 crore) and West Bengal (₹6.37 crore). **SP**

London Olympics, tighter airport security

Britain's Olympic security plans fell under fresh scrutiny, with a newspaper reporting that several people on a terror watch list have been waved through airport border controls without being flagged and officials trying to calm the uproar over a security contractor's failure to provide its promised number of staff.

The *Observer* newspaper's report is the latest in a series of last-minute concerns to surface as London gets ready to host the Olympic Games from July 27 to August 12.

The paper said that, since the start of the month, immigration staff at London's Heathrow Airport had missed several people on a security watch list whose arrival in the country was meant to have been reported to counter-terrorism police or Britain's domestic intelligence service.

The newspaper cited unions as suggesting that staff brought in to help relieve the pressure at Heathrow, which has faced recurring problems handling large influxes of passengers, weren't being properly trained. The airport, Europe's busiest, has recently struggled to clear huge lines that build up at immigration checkpoints during peak times, leading to fears of Olympics-related chaos as tourists fly in to watch the games. **SP**



Averting catastrophe in cyberspace: core requirements



The information revolution has transformed every facet of commerce and culture, including the military enterprise. Unfortunately, it has also empowered extremists, criminals and agents of enemy nations who can use cyberspace to subvert or destroy information resources vital to US security. The federal government has launched a comprehensive cybersecurity initiative to counter such threats. The most advanced, persistent threats are posed by state-sponsored perpetrators, especially those operating in China and Russia.

The federal government has made major strides in developing defences against cyber espionage and aggression. However, its efforts are impeded by the changing character of threats and the infancy of techniques for addressing them. The absence of agreed standards and metrics for assessing performance sometimes leads federal agencies to select cybersecurity providers who lack the breadth and depth to cope with all potential threats. The government cannot sustain a truly comprehensive cybersecurity posture unless its top providers satisfy five core requirements:

1. Situational awareness. Capable providers must be able to precisely monitor the performance of information systems and networks they are protecting, predicting and/or detecting threats based on extensive understanding of adversary behaviour. Awareness of dangers must be shared with potential victims in time for them to minimise harm, and providers must then be able to assess the success of remedial actions.

2. Full-spectrum skills. A comprehensive cybersecurity posture requires providers with expertise and experience in the full array of relevant skills. That includes all the major disciplines associated with computer-network defence, computer-network attack, and

computer-network exploitation. Without an integrated understanding of all the necessary skills, federal providers cannot deploy the full panoply of tools needed to counter advanced threats.

3. Operational agility. The pace of activity in cyberspace requires providers that are extremely agile in responding to new threats. Ideally, those providers should be able to apply their situational awareness and full-spectrum skills to anticipate danger before it actually occurs, but at the very least they must have the capacity to detect, analyse, isolate and defeat enemy moves quickly, even when the threat is a “zero-day” attack with no previous history.

4. Organisational maturity. Maturity models are used in many fields to assess organisational effectiveness in applying best practices. In the cybersecurity arena, such models can be used to assess both government preparedness and the practices of outside providers. Mature solutions to cyber challenges typically stress values such as affordability, scalability and technical readiness. Companies capable of providing those solutions tend in turn to have mature cultures stressing retention of talent, continuous training, and diverse expertise.

5. Enterprise commitment. Cybersecurity is an infant industry with many recent entrants. The commitment of some providers to the business is hard to gauge. However, it is not feasible to fashion comprehensive responses to cybersecurity challenges unless customers and providers alike are committed to the mission. The commitment of providers can be determined by assessing how long they have been in the business, how deeply they have invested in talent, and how extensive their collaborative ties are with other centres of expertise. **SP**

Excerpts from a Lexington Institute report



Boeing, Elbit Systems to collaborate to market Hermes 450 and 900 UAS

The Boeing Company and Elbit Systems signed a memorandum of understanding to collaborate on the marketing and sales of Elbit Systems' Hermes 450 and 900 unmanned airborne system (UAS) product lines in the United States and select international countries.

"This partnership further expands and enhances Boeing's long-standing relationship with Elbit Systems to include unmanned products," said Debbie Rub, Boeing Missiles and Unmanned Airborne Systems Vice President and General Manager. "The Hermes product line provides a medium-altitude, long-endurance capability that complements the Boeing unmanned portfolio while addressing an important need for US warfighters and allies on today's ever-changing battlefields." **SP**

ITT Exelis, EADS North America and Cassidian join forces in electronic warfare

ITT Exelis, EADS North America and Cassidian, the defense and security division of EADS, will work together to provide enhanced electronic warfare solutions, particularly in the area of aircraft survivability equipment.

In a memorandum of understanding, the three companies agreed to combine their respective capabilities for targeted global opportunities. One of their first joint projects is expected to be a missile approach warning solution for the US Air National Guard.

"This agreement will help our companies, each with complementary electronic warfare systems, grow in new markets," said Rich Sorelle, Acting President of the Exelis Electronic Systems division. "Cassidian will bring its distinctive products to the US with partners that understand the American defence market, and Exelis will benefit from Cassidian's knowledge of European defence platforms, as well as its marketing reach in Europe, Asia and Africa." **SP**

Sagem and MTU Aero Engines create JV

Sagem (Safran group) and MTU Aero Engines announced the signature of an agreement to form a 50:50 joint venture, AES Aerospace Embedded Solutions GmbH to provide safety-critical software and hardware for military and civil aviation applica-

tions. The agreement was signed by Philippe Petitcolin, Chairman and CEO of Sagem (Safran group), and Egon Behle, CEO of MTU Aero Engines, in a ceremony also attended by Jean-Paul Herteman, Chairman and CEO of the Safran group.

This signature follows the memorandum of agreement announced in December 2011 by Sagem and MTU Aero Engines.

"The grouping of competences is a determining step to jointly open new markets. Therefore, the new joint venture will offer additional positive perspectives for our businesses. Together with Sagem we will focus on accessing a multitude of future development programmes within the global aviation and defence industry," said Egon Behle, CEO of MTU Aero Engines. **SP**

Rosoboronexport, Selex Elsag, Selex Galileo and WASS join hands to grow patrol aircraft market

The Russian defence export agency JSC Rosoboronexport and the Finmeccanica companies Selex Elsag, Selex Galileo and WASS have signed, at the Farnborough Airshow, three cooperation agreements to propose to the markets newly built or upgraded patrol aircraft based on different types of Russian aircraft, equipped with Selex Galileo ATOS Mission Management System integrating a CNI (Communication, Navigation and Identification) suite provided by Selex Elsag and an Armament System including WASS Light Torpedoes.

The agreements have been signed by Alexander A. Mikheev (Rosoboronexport Deputy General Manager), Paolo Piccini (Selex Elsag COO), Fabrizio Giulianini (Selex Galileo CEO) and Renzo Lunardi (WASS CEO). **SP**

New Raytheon Standard Missile factory almost ready

Raytheon Company's all-up-round Standard Missile production facility in Huntsville, Alabama, is nearing completion. The state-of-the-art factory, located on the US Army's Redstone Arsenal, should be completed before the end of the year. Once operational, the 70,000-square-foot facility will assemble and test Standard Missile-3 and SM-6 interceptors.

"This factory will be an asset to our nation and the men and women defending freedom around the world," said Dr Taylor W. Lawrence, Raytheon Missile Systems President. "SM-3 and SM-6 are important parts of the nation's advanced missile defence capability; the new factory will play a critical role in providing a missile defence shield to the nation and our allies in Europe." **SP**



British tabloid 'tests' Olympic security

Olympic Games organisers in London said they were looking into a tabloid's report claiming that a worker had been able to sneak a fake bomb—a plastic container with batteries, a phone and modeling clay—into Olympic Park.

The *Sun* newspaper acknowledged that the unidentified worker had been "properly vetted" and "thoroughly searched" once before entering the park but said he was later able to leave the park and re-enter without being challenged. The tabloid claimed that he managed to take in a container that looked like a "dummy Semtex device" and trumpeted what it alleged was the discovery of a "terrifying flaw" in Olympic security.

"Clearly a Tupperware box containing batteries, a mobile phone and some loose wires would not pose a threat on a construction site," said a statement from the London Organising Committee of the Olympic Games and Paralympic Games. British tabloids routinely have reporters or others sneak into high-profile venues ahead of major events to highlight alleged security failings. **SP**



Munich massacre

The Munich massacre is an informal name for events that occurred during the 1972 Olympic Games in Munich, Bavaria in south West Germany, when members of the Palestinian Olympic team were taken hostage and eventually killed by the Palestinian group Black September. Shortly after the crisis began, the Palestinians demanded the release of 234 prisoners held in Israeli jails. They also demanded the release of all members of the German Red Army Faction being held in German prisons. Black September called the operation 'Ikrit' and 'Biram' after two Christian Palestinian villages whose inhabitants were expelled by the Haganah in 1948.

The kidnappers killed 11 Israeli athletes and coaches and a West German police officer. Five of the eight members of Black September were killed by police officers during a failed rescue attempt. The three surviving assassins were captured, but later released by West Germany following the hijacking by Black September of a Lufthansa airliner. Israel responded to the killings with Operation Spring of Youth and Operation Wrath of God, during which Palestinians suspected of

involvement in the massacre were systematically tracked down and killed by Israeli intelligence and special forces. The Israeli operations cost the lives of one innocent in Norway and of four passersby in Lebanon during the killing of Ali Hassan Salameh.

At the time of the hostage-taking, the Games were well into their second week. The West German Olympic Organising Committee had encouraged an open and friendly atmosphere in the Olympic Village, to help erase memories of the militaristic image of wartime Germany and, specifically, of the 1936 Berlin Olympics, which had been exploited by Nazi dictator Adolf Hitler for propaganda purposes. The documentary film *One Day* in September claims that security in the athletes' village was intentionally lax and that athletes often came and went from the village without presenting proper identification. Many athletes bypassed security checkpoints, and climbed over the chain-link fence surrounding the village. **SP**

Atlanta Summer Games bombing

The tragic bombing of Centennial Olympic Park, a popular hub for athletes and spectators, took place during an open-air concert, and claimed the lives of two people. On July 27, 1996, three pipe bombs were discovered in a black sports bag. Richard Jewell, a security guard who was considered a prime suspect for the attack, was later cleared of any wrongdoing.

In the end, the culprit of the 1996 Olympic bombing was found to be Eric Robert Rudolph, a twisted individual who also bombed an abortion clinic, and a lesbian bar, in the Georgia area. Rudolph is currently serving life without the possibility of parole at one of America's harshest Supermax prisons, ADX Florence. **SP**



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