

NATION SHIELD

**“Rumors” in Social
Networking and their
Negative Impact**

**TITUS offers excep-
tional mobility**

EXCLUSIVE

**HH Sheikh Hamdan bin Zayed:
UAE has achieved remarkable progress**

معاً نحو وطن أكثر جاهزية

أكاديمية ريدان هي صرح وطني تعليمي فريد من نوعه، توفر برامج تدريبية وتعليمية للخريجين، ولمنتسبي وموظفي المؤسسات الحكومية والخاصة تتناسب مع جميع المستويات ابتداءً من الدورات القصيرة وانتهاءً بالبرامج الأكاديمية والمهنية المعترف بها محلياً وعالمياً والتي تنتهي بمنح شهادة أكاديمية في مجالات السلامة، الأمن، الدفاع، التأهب لحالات الطوارئ وإدارة الأزمات. كما تعمل الأكاديمية على رفع استعدادية وجاهزية المؤسسات الوطنية من خلال تطوير قدراتها البشرية للتصدي لأي مخاطر ولصيانة مكتسبات الدولة وسيادتها ومكانتها المرموقة.



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Nipping Rumors

A rumor is just a fast moving “message”, intended to bring about confusion or chaos to achieve objectives that are mostly destructive, because they exploit the public’s curiosity to know the news in an attempt to achieve their circulators’ targeted influence, especially in times of crisis. It also seeks to promote unfounded stories, and relies on exaggeration and distortion of the news in order to influence public opinion for different goals.

Social networking has become one of the most important tools that are used negatively in spreading rumors, on the grounds that the prevalence of rumors is directly proportional to the progress in communication technology and the proliferation rates of social networking among members of the community.

The initiative of HH Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces to deny rumors related to the health of the President of UAE during the past few days (Khalifa is Well) provides a good example of how to deal decisively with such rumors. His Highness’ response to this rumor in a clear and conclusive language underscores the deep understanding of His Highness of the effects of the spread of such and other rumors through social networking. HH is one of the leaders who deal with social networking with openness and awareness that it has become a widespread means one of the tools of modern era, so it is necessary to deal with it openly and use it in the interest of the nation, while avoiding its negative effects. To act effectively and clearly with rumors that spread through social networks has become necessary in order to nip them in the bud. Therefore, the remarks of His Highness in this regard have been a real model for the positive engagement with harmful rumors and eliminating them in the bud. His Highness has, as usual, shown officials by example how to deal with this kind of news and not just to ignore it or wait for its effect to disappear.

On the other hand we all, before promoting any news, should take care not to circulate any news that comes to them through social networks or their smart phones before they check the official sources of the news in the country, so as to stop those who seek to create confusion and chaos in society.

Rumors are contrary to the teachings of Islam, because religion is keen on the safety of the community from all that affects its members, including bad ethics, false beliefs or negative behavior. The Qur’an and Sunnah have warned against rumors in many verses and traditions. The Glorious Qur’an states, “O you who believe! if an evil-doer comes to you with a report, look carefully into it, lest you harm a people in ignorance, then be sorry for what you have done.” The Prophet, peace be upon him, said: “A Muslim is one who keeps other Muslims safe from his tongue and hand.”

Finally, local media need to develop a preventive information strategy in order to raise community awareness of the concept of rumors and the conditions associated with their initiation, evolution, dangers and their implications. It is also necessary to adopt a positive approach to a proactive media approach, as was done by H.H. the Crown Prince of Abu Dhabi, when he denied the rumors immediately in clear and explicit words since HH realizes the danger of leaving such rumors affect the public.

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Editorial

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AFRICA GEARS UP FOR AERO-SPACE, DEFENSE SHOWCASE



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Record \$201bn sales at Farnborough

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“Rumors” in Social Networking and their Negative Impact



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Drones the future?

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HH Sheikh: Hamdan Bin Zayed: UAE recorded very high rates in the level of long life, education, standard of living per capita income, gender equality and social welfare.

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AFRICA GEARS UP FOR AEROSPACE,

AAD2014 - The leading expo of air, sea and land technologies on continent



The countdown is on to the Africa Aerospace and Defence (AAD2014), the premier exhibition of air, sea and land technologies on the African continent.

AAD2014 will once again bring together industries from all over the world to showcase the latest technological innovations. This year's show will have many more exhibitors than in the past plus two new first time country exhibitors – Argentina and Uganda.

With 30 confirmed participating countries and 14 national pavilions, AAD2014 will host an excellent mix of first-timers and repeat exhibitors, some with increased exhibition space.

"This event will provide excellent marketing opportunities for exhibitors wishing to promote their products and services amongst African countries," says Sandile Nqayi, marketing & PR

manager at AAD.

It is jointly hosted and presented by Aerospace Maritime and Defence Industries Association of South Africa (AMD), the Commercial Aviation Association of Southern Africa (CAASA) and the Aerospace and the Armament Corporation of South Africa (Armscor).

Substantial support is also received from National Government and the co-operation of the Department of Defence as well as the Department of Trade and Industry. The exhibition takes place on a biennial basis in September.

The first three days of the exhibition are traditionally trade days, followed by two air show days that are open to the public. Hosted in the city of Tshwane, the eighth installment of the event September 17-21 and will once again bring

together worldwide industry players to showcase the latest technologies.

Industry esteem

Ninety nine per cent of the indoor space and 89 per cent of the outdoor space have been sold, which gives an indication of the esteem in which the exhibition is held in the industry.

Experts say there is no better time to establish your presence in Africa than to exhibit with AAD2014. The quality of attendees is unparalleled and the networking opportunities endless.

AAD2012 hosted a good mix of first-timers and repeat exhibitors as well as attendees. Whether it is defense and security, commercial aviation, maritime and more, AAD2014 aims to put exhibitors at the center of the world's fastest growing market.

DEFENSE SHOWCASE



AAD2014 organisers have met formally to introduce official contractors to the participating exhibitors to present the processes that will be in place before, during and after the exhibition.

AAD has, for the first time, launched a MobiEvents app that will keep AAD attendees updated with the full exhibition experience. This is a one-stop mobile event guide for AAD2014 exhibition and airshow, featuring a show programme, venue map, ticket sales, admission rules of the airshow as well as live news updates. The MobiEvents app will be available for free download from the Apple App Store and Android marketplace.

Youth programme

A Youth Development Programme (YDP) will be staged in a dedicated

Many new exhibitors taking space at September event

hangar, together with the Department of Defence, where the youth will enjoy interactive programmes, such as plastic virtual aviation, simulator, target shooting, first-aid and the intricacies of crime scene investigation.

YDP encourages South African companies in the aerospace, maritime and

defence industry to sponsor career development for the youth who will eventually benefit the industry. YDP is planning a number of activities pre-AAD2014 such as roadshows, and science and maths competition.

The public will be treated to a mass parachute drop, a mini-war re-enactment which will see Special Forces Pathfinders parachuted in to the secure area followed by the insertion of troops, vehicles and the air-dropping of supplies.

There will be aircraft participating in aerobatic displays and the popular truck and armoured vehicles in the displays at the mobility demonstration track. The local favourites like the Gripen, Hawk and Silver Falcons will be expected to thrill the crowds during the airshow days.



AAD generates new business with African and international companies. It's where participants create partnerships, showcase new innovations and products, network, speak to decision makers, establish sales leads and do deals onsite.

AAD2012 saw 40 000 trade visitors attending the Africa Aerospace and Defence testament to the business value seen in attending the show.

In 2012, AAD was the hub for over 300 accredited media, gaining global exposure for exhibitors beyond the five days of the event. Media coverage was secured across a wide media platform (print, broadcast and online) leading up to the exhibition and a total of 413 pieces of coverage was secured.

Vehicle mobility

AAD will again bring some of the world's most exciting military and civilian vehicles together to showcase vehicles across the unrivalled tracks over the five days. The track is designed to introduce the military vehicles to trade

AAD2012 FACTS AND FIGURES

- 7 hangars
- 15 national pavilions
- 347 exhibitors from 26 countries
- 40 000 trade visitors from 101 countries
- 92 983 general public visitors
- 61 official delegations from 26 Countries
- 84 aircraft civil and military static display
- 300 accredited journalists from all over the world
- 600 pieces of coverage about the exhibition & air show

visitors. Exhibitors and vehicle manufacturers are invited to add their vehicles to the mobility track to display the true capabilities of their products.

The mobility track includes eight challenging obstacles that will put vehicles through their paces. AAD2012 demonstrated tanks, amphibious vehicles and personnel carriers to show their full mettle on the track, which included water troughs, ditches, steps, steep inclines, out-of-phase cobbles and tight turning circles. The exhibition also includes a mobility demonstration

track, on which land-based vehicles will be tested as they tackle a challenging obstacle course over difficult terrains and water features.

Aircraft

Over 110 aircraft exhibited at AAD2012. During the five-day event, the show saw manufacturers showcasing their latest civil and military aircraft both on static display and in the air from general aviation, business jets and jet airliners to fighter planes, helicopters, museum aircrafts and aerobatic display teams.

Aircraft Park is located within the main static display area. Flexible exhibiting options exist for participation within this area. The static display gives visitors the opportunity to view the aircraft close up. This is a fundamental part of the exhibition.

The display showcases the most advanced aircraft in both commercial and military design. The flying display takes place during the afternoon. The well-structured display provides a valuable presentation in which exhibitors can



demonstrate the capabilities of their products, enhanced by commentary broadcast across the exhibition site.

To enable aircraft exhibitors to provide potential customers with the opportunity to appreciate the qualities of their product in the air, it is possible for them to arrange flying displays with the organizers.

Flying Displays at AAD2012 saw impressive performance of motorised paraglider formation, Cavalcade, mass parachute drop, Zimbabwe Air Force K-8, SAPS, Gripen, Rooivalk, Chee-

tah, MX-2 extra harvard formation, SAA / Silver Falcons, Gabriel Pitts formation, HAWK, PAC-750, P-51 Mustang, BK 117 and L29. AAD2014 Flying Program will only be available at the gate on the day of the air show (September 20-21)

All exhibitors have the opportunity to take advantage of the comprehensive international military delegations program which will run at AAD2014. Exhibitors may be included in the program of pre-arranged visits and meetings, which at AAD2012 had 61 official

delegations from 26 Countries.

Prominent exhibitors at this year event are Northrop Grumman, Thales, Dassault Aviation, Cassidian/GEW Technologies, Saab, SAFRAN, Airbus Helicopter, Russian Technologies State Corporation, BrahMos Aerospace, Rheinmetall, Denel Munition, DCNS, Russian Helicopters, Rheinmetall, BAE Systems Land Systems SA, Streit Group, Navantia and Colt •

Credit: www.aadexpo.co.za

Record \$201bn sales at Farnborough

Cameron announces major defense spending



Red Devils thrilled Farnborough visitors

The Farnborough International Airshow, for years a yardstick for the aerospace industry, has seen orders and commitments reach a staggering US\$201bn, beating all previous records set at the event.

Analysts point out that this year's figure represents an extremely positive note for the sector.

Across the course of the five days, orders and commitments for civil jet engines reached 1,600 units with a total value of US\$34.5bn and over 1100 aircraft totalling US\$152bn. A further US\$14.5 was also achieved in service contracts all reflecting the buoyancy of the aerospace industry internationally and in the UK.

UK Prime Minister David Cameron announced 1.1 bn pounds in spend-

ing on defense projects as he officially opened last month's Farnborough International Airshow.

During his visit to the show, the Prime Minister announced a £1.1bn investment in capabilities for the armed forces and set out the action plan taken by the Defence Growth Partnership of industry and Government. It is part of the long-term economic plan to improve competitiveness, boost the UK defense sector which is vital to economic growth, and make sure our Armed Forces have the best equipment in the world.

Overall, the event has been well received with visitors numbering 100,000 and strong government attendance with the Prime Minister Cameron opening the show and a powerful contingent of other politicians and other government

figures including Deputy Prime Minister, Nick Clegg, Vince Cable, Philip Dunne, Michael Fallon and Philip Hammond.

A Meet the Buyer event has proved incredibly successful this year with over 1200 meetings taking place with 30 delegate companies and UK Trade and Industry commercial officers. It is more than doubled in size compared to 2012 with over 300 companies taking part.

An official delegations programme was also well attended with over 77 military delegations in attendance from over 59 countries including 10 delegations from the US. The civil delegations programme has also seen strong participation with senior management from 12 organisations including HAL, Augusta Westland, Italy, Airbus and Sukhoi.



Red Arrows - The flying display for the airshow celebrated 100 years of aviation



Static Displays at Farnborough International Airshow

Amanda Stainer, commercial director for show organisers, Farnborough International, said: "We are delighted by the orders and commitments at the show, however, it's the networking outside of those deals that are just as important. We are very pleased."

Captor-E radar for Eurofighter Typhoon

Significant news includes a commitment to develop the Captor-E radar for the Eurofighter Typhoon fighter aircraft and the expected announcement to maintain

the Royal Air Force's (RAF) Beechcraft King Air 350-derived Shadow R.1 electronic intelligence (ELINT) and Raytheon Sentinel R.1 Airborne Stand-Off Radar (ASTOR) surveillance aircraft in service until 2018.

Putting an active electronically scanned array radar (AESA) capability on the Typhoon has long been a goal for the UK and the other Eurofighter Typhoon partners, with AESA seen as a key selling point for export orders.

The Captor-E announcement sits with a 300 million pound spending package

that also includes new spending on the Future Combat Air System.

The flying display for the airshow celebrated 100 years of aviation featuring aircraft from every decade of the last century. Show highlights included the AV-8B Harrier, the Red Arrows and the regular favourite the Airbus A380.

Commercial planes, advanced defense capabilities

Boeing marked 40 years as an exhibitor at the Farnborough event by highlighting its innovative, efficient commercial airplanes and its advanced defense capabilities. Boeing reported orders for 201 aircraft worth \$40.2bn at the show.

Boeing announced a new 200-seat 737 MAX 8 option that will give airlines up to 11 more seats of revenue. This latest addition to Boeing's comprehensive product and services line-up will deliver 20 per cent fuel-consumption savings compared to today's next-generation 737.

Boeing also announced new details about the interior of the 777X. The new model will build on the award-winning interior of today's 777 and apply 787 Dreamliner cabin innovations: higher



Spacezone, Farnborough Airshow 2014

cabin humidity, windows more than 15 percent larger and a cabin that is 40.6 cm wider than the competition, allowing airlines a variety of economy class seat widths.

Boeing also unveiled its new Maritime Surveillance Aircraft. The aircraft, based on a Bombardier Challenger 605 business jet, will provide customers with maritime and overland surveillance, anti-piracy, coastal security and search-and-rescue capabilities.

Boeing signed a memorandum of collaboration with Paramount Group to jointly develop defence and security opportunities in key international markets. Paramount Group is Africa's largest privately-owned defense and aerospace business.

Boeing products in the air at the show included the new 787-9 Dreamliner, the P-8A Poseidon - a military derivative of the company's Next-Generation 737-800 - and the multi-role F/A-18E/F Super

Hornet strike fighter.

The first day of FIA 2014 saw the launch of the Airbus A330-800neo and the A330-900neo as well as the reveal of the Trent 7000 which will be the exclusive engine on the A330neo.

Airbus reported total orders for 496 aircraft worth a combined \$75.3 billion at Farnborough. Airbus signed firm orders for a total of 358 aircraft and memoranda of understanding for a further 138. As the last deal of the show, Russian carrier Transaero signed up for a total of 20 Airbus A330s. Among the aircraft are 12 A330neos. Together with an order for 50 A330neos from Air Asia X and lessors including Air Lease Corp., Avolon and CIT, Airbus managed to secure orders and commitments for 121 A330neos planned to enter service at the end of 2017.

"This was the best Farnborough Air Show in Airbus history," Airbus CEO Fabrice Bregier said.

Big spending in regional segment

There was some serious spending in the regional aircraft segment between Embraer and Bombardier. Embraer finished ahead of Bombardier, with orders and commitments for 156 aircraft worth \$7.11 billion, compared to 68 aircraft worth \$5.81 billion for Bombardier. Bombardier's next generation CSeries family of aircraft is garnering significant interest internationally. Chinese regional carrier Zheijian Loong Airlines placed a \$1.28 billion order for 20 CS100s and U.K.-based aircraft lessor Falko Regional placed an order for 24 CS100s.

Raytheon Company will serve as weapons integrator for Italian aircraft manufacturer Alenia Aermacchi, providing 31 months of engineering services support for integration of MK 54 and MK 46 torpedoes onto the Alenia Aermacchi ATR-72-600ASW maritime patrol aircraft.

Raytheon received a \$5.7 million contract to support Alenia Aermacchi's test, integration and qualification for the external carriage and tactical employment of the lightweight torpedoes. Alenia Aermacchi is the prime contractor on the Meltem III contract under which it is obligated to provide ATR-72-600ASW aircraft to the Turkish Navy.

The MK 54 and MK 46 can be deployed from a surface ship, helicopter or fixed wing aircraft to track, classify and attack underwater targets. The ATR-72-600ASW is designed for patrolling, rescue, sea and coastline protection from security and environmental threats.

BAE-Rockwell wins 777X deal

Boeing selected a BAE Systems-led team to provide the fly-by-wire (FBW) flight control system for the 777X, marking a new phase of system and supplier decisions for its ultra-long range, larger capacity 777 derivative family.

BAE, together with Rockwell Collins, already provides the primary flight-control electronics and autoland system on the current 777, but will take their role to a new level to control the more complex flight surfaces of the 777X. BAE

will develop the integrated flight-control electronics and air-data function, which will manage the overall FBW system. Rockwell will develop the flight control module which forms part of the IFCE.

Textron-Scorpion flies in

The Scorpion fighter jet, which was on display at Farnborough, has been built by US firm Textron Air Land. Designed from the outset as a platform that can accommodate a number of ISR sensor and weapon options, the Scorpion has a straight-wing, twin-tail composite airframe with a tandem cockpit. Its twin Honeywell TF731 powerplants produce about 4,000lb of thrust each, to give the aircraft a maximum speed of about 450kts.

Crucially, however, the Scorpion will cost less than US\$20 million to procure and around US\$3,000 per hour to operate, according to Textron.

Emphasising the Scorpion's reliability, Textron AirLand president Bill Anderson said: "We have not lost one scheduled flight for unscheduled maintenance, and the only thing we needed to get to the United Kingdom was good weather and fuel, and we got here right

on schedule."

ASL Aviation Group, owner of Safair, the South African-based C-130 operator, signed a letter of intent with Lockheed Martin for up to 10 LM-100Js, the commercial variant of the C-130J military airlifter. First deliveries are expected in late 2018 pending the completion of FAA certification.

"We started the FAA certification process at the beginning of this year and we expect it to go through the end of 2017," said Orlando Carvalho, Lockheed Martin Aeronautics executive vice president. "At which point we will enter the test period for validation, which will extend through 2018, so we are looking at first deliveries towards the end of that year."

BAE Systems says it is negotiating with the UK defense ministry on the potential of a third round of test flights for its Taranis unmanned combat air vehicle (UCAV) demonstrator.

"The ground-based and flight trials that have continued to meet all test objectives," said Chris Garside, BAE Systems's chief Future Combat Air Systems engineer, speaking at the F air show.

Testing of sensors "was taken to a certain level" in the first two flight phases,



Boeing products in the air at the show included the new 787-9 Dreamliner



UAV, Farnborough Airshow 2014



Wing Walkers display at Farnborough International Airshow 2014

Garside said. "Sensors were part of the original evaluation criteria and we are currently discussing options for further trials with the defense ministry."

It is hoped that further trials will now feed into the joint UK and France UCAV feasibility study, announced by defense ministers of the two countries during talks at Brize Norton airbase at the end of January and also signed at Farnborough. It is hoped that this deal will lay the foundations for a future system, and possibly lead to the joint development of an Anglo-French UCAV.

Saab's super order book

Four years after taking on the job, Saab's CEO is optimistic about the company's

outlook.

Boeing picked Saab last year as its design and development partner for the T-X trainer replacement program. Most recently, Saab and ThyssenKrupp reached final agreement on Saab's purchase of the former Kockums shipyard, which will make Saab the prime contractor on Sweden's new A26 submarine class.

"Our order backlog is the highest ever," Bukshe said, "and it does not yet count the submarines or the Brazilian order. He added that "75 per cent of our backlog is for export and 50 per cent of it is outside Europe."

"I'm very hopeful," said Bukshe of the company's T-X partnership with Boe-

ing. "The leadership of Chris Chadwick (Boeing's defense, space and security CEO) is amazing. He's not a guy who will back off over some obstacle. He'll make that happen."

L-3 Communications, Selex ES and Ultra Electronics have partnered to offer Bombardier's Q400 turboprop airliner as the platform to meet an expected requirement for a multi-mission aircraft for the U.K.

The aircraft would be highly modified, with extended-range fuel tanks and an under-fuselage canoe fairing that could be configured to carry a wide-area surveillance sensor or even weaponry to meet a range of tasks such as maritime patrol, overland surveillance or anti-submarine warfare.

The move comes as UK defense officials plan to deliver the results of a study on the country's future intelligence-gathering capability this summer and there is a widely expected push to resurrect a maritime patrol capability in next year's Strategic Defense and Security Review.

The three companies believe the multi-mission Q400 aircraft would be capable of delivering 80 per cent of the capability of an established type such as Boeing's P-8 Poseidon but at less than half to a third of the purchase price and direct operating costs.

"Countries are looking for more flexible capabilities, so it is a case of finding the optimum aircraft for the capabilities desired," said Nicholas Gordon, director of international programs at L-3.

Implementing Strategy: Elements of National Power

Strategies are useless without effective implementation, so strategic leaders need an understanding of the tools of national power and the ways they may be used to implement policies. National power is best defined by Joseph S. Nye, Jr. as “the ability to effect the outcomes you want and, if necessary, to change the behavior of others to make this happen.” Most commonly, implementation at the national level involves one or more of four key instruments of power: diplomacy, economics, military and information. Diplomacy is the continuous conduct of negotiations with regard to the full range of national issues between representatives of states. International treaties are usually negotiated by diplomats prior to endorsement by national leaders. Diplomats represent their nations in embassies worldwide and within international organizations, maintaining the dialog that dominates foreign relations; cessation of diplomacy traditionally leads to conflict. More informally diplomacy uses tact to gain strategic advantage or to find acceptable solutions to national challenges.

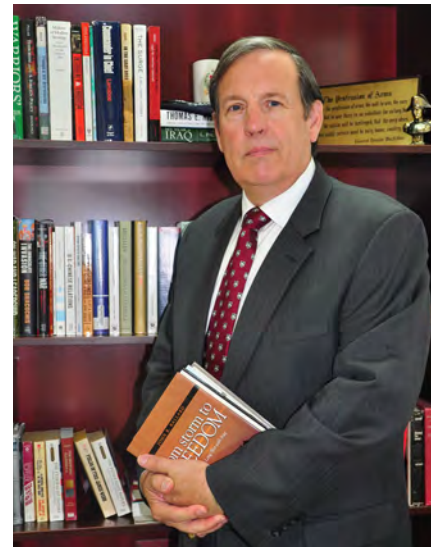
National economic power is the allocation of resources and the apportioning of goods and services, for reasons of policy or to foster national goals. It may include economic pressure or sanctions, as well as economic incentives such as aid and favorable trade relations. The economic instrument of national power is only partially controlled by governmental agencies, indeed, the private (business) sector wields significant economic power through foreign investment and trade, which may not be subject to national controls. Even so, for many nations, economic power is their most influential tool of statecraft.

Military power is more than the sum of the armed forces of a nation. Military power should include the capabilities of intelligence, surveillance, arms sales, international military training and education and other like capabilities that nations can use to influence other states using defense resources. In its ultimate form, military power dominates (but never replaces) the other instruments in time of war, but it can also develop significant leverage in peacetime.

National information power includes efforts to engage audiences to develop conditions favorable for the advancement of national interests through the use of tailored messaging. It traditionally includes public affairs, public diplomacy, information operations and other communications efforts. From the most simplistic press release, to speeches given by national leaders, to messages sent via Ambassadors or other emissaries, to more complex approaches such as disinformation, propaganda and even national branding, information can be a tremendously powerful instrument of foreign policy.

Some analysts argue that law enforcement or intelligence should be considered as tools of statecraft, but in most cases those capabilities are subsumed within one of the other four instruments mentioned above. For example, international law has been used as tool to obtain the return of the UAE's three occupied islands, but to date that effort has been pursued largely using diplomatic tools. Scholars such as Colin Gray have used the terms “hard” and “soft” power, with the former being achieved through military or economic threats or use, and the latter gained through influence or by co-opting others to share values (mostly using diplomacy and information) and ascribe to a common agenda for international security. Hard power in Gray's view involves calculable costs and benefits, while soft power works more subtly through persuasion and attractive ideas. In the case of the UAE, cultural influence may also play an important role in exerting power. There is no doubt that the UAE can exert significant soft power among other nations by setting an example or by taking a stance designed to align with cultural values. The effective coordination of these four instruments to achieve national interests is the utmost challenge of national leadership.

Strategic Perspectives



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Boeing delivers Canadian CH-147F Chinooks



A Canadian CH-147F Chinook lands at Boeing's aerospace manufacturing facility near Philadelphia.

Boeing and the Royal Canadian Air Force have completed the delivery of the 15th CH-147F Medium-to-Heavy-Lift Helicopter, ensuring advanced operational capability for the Canadian Chinook fleet.

"The Medium-to-Heavy-Lift Helicopter project is making an exemplary contribution to the Canada First Defence Strategy," said Col. Andrew Fleming, program manager for the Medium Heavy Lift Helicopter Project Management Office. "The combined efforts of the Government of Canada, Boeing and all partners involved in delivering this new capability, on time and on budget, serve as a model for future Canadian Defence acquisitions."

The Canadian CH-147F is an advanced, multi-mission helicopter that features a modernized airframe with a long-range fuel system allowing it to fly twice as far as standard range models. An upgraded electrical system provides additional power and redundancy, while a fully integrated Common Avionics Architecture System cockpit and Digital Automatic Flight Control System reduce pilot workload and provide greater situational awareness.

"This was a complex aircraft program, yet the partnership and collaboration between Boeing, the Canadian customer and our industry partners enabled us to deliver all 15 aircraft on or ahead of schedule," said

Steve Parker, Boeing vice president Cargo Helicopters & H-47 program manager. "And the advanced technology in the Canadian Chinook will meet the operational needs of the Royal Canadian Air Force well into the future, allowing them to move troops and equipment, and provide support to humanitarian relief efforts, anywhere in the world."

The aircraft also has an advanced Aircraft Survivability Equipment suite that includes a Directional Infrared Countermeasures system that increases crew safety while allowing operations to be conducted in a wider range of threat environments.

Boeing is providing in-service support to the CH-147F fleet over the next 20 years under a Performance-Based Logistics contract, with Canadian industry playing a key role. The final CH-147F will join the Royal Canadian Air Force's 450 Tactical Helicopter Squadron, under command of 1 Wing Kingston, Ontario, and will be based at CFB Petawawa.

Canada is among the 18 countries around the world operating Chinooks. H-47s also have performed humanitarian support, disaster relief, rescue, fire-fighting and nation-building missions on six continents in all climates and conditions.

Australian Helicopters to buy six AW139 helicopters

Finmeccanica – AgustaWestland signed a contract with Australian Helicopters to supply six AW139 helicopters that will be operated for Ambulance Victoria. These aircraft are expected to enter service in January 2016 and will be used to perform emergency medical service missions.

The AW139 is a new generation helicopter designed with inherent multirole capabilities and to provide maximized op-

erational flexibility. It features a wide cabin, superior performance and the highest levels of safety and comfort. Thanks to its characteristics, the AW139 is ideally suited for emergency medical service operations.

The AW139 is the bestselling helicopter in its category in the world market, with orders for over 770 units from more than 200 customers in over 60 countries so far to perform a number of missions such as

rescue, passenger transport, offshore transport supporting the Oil & Gas industry, law enforcement and public utility duties.

This latest contract further strengthens the presence of Finmeccanica- AgustaWestland in the region with over 50 helicopters currently in service in Australia and New Zealand.

Saab gets order for underwater weapon system

Defense and security company Saab has received an order from the Swedish Defence Materiel Administration (FMV) regarding design plans for a New Lightweight Torpedo (NLT). The order refers to the period 2014-2015 and amounts to the value of MSEK 43. The order is part of the Letter of Intent regarding the Swedish armed forces' underwater capability announced recently.

Saab has received an order from FMV regarding design plans for a New Lightweight Torpedo. This is the first step in de-

veloping a new lightweight torpedo. Final delivery of this order will be during 2015.

"We are very pleased and proud to have the continued confidence to deliver torpedo weapon systems to FMV and the Swedish Navy in the commencement of the work to deliver the replacement for Torpedo 45", says Görgen Johansson, Senior Vice President and Head of business area Saab Dynamics.

"Saab Dynamics has over the years established a unique experience and expertise in

developing underwater systems for shallow waters and the types of environment that exist in the Baltic Sea. Many of our systems are world leading in its segment, and with this order, we are able to maintain our global leadership position and continue to provide the market with competitive products", says Agneta Kammeby, Vice President and Head of business unit Underwater Systems.

Vigie Aviation: A step further



DCI has bought out Vigie Aviation, and is implementing a strategic and operational export partnership with Chalair

DCI and Chalair have decided to move toward development in order to give a new direction to their partnership. Therefore, DCI has bought out Vigie Aviation, up to 95 percent of the company's shares, and is implementing a strategic and operational export partnership with Chalair.

As of now, DCI will be recapitalizing Vigie Aviation in order to develop the innovative concept of a French solution providing aerial surveillance assets. Its particularity relies on the incorporation of state-of-the-art surveillance equipment onboard light aircrafts, cutting costs at the same time.

Vigie Aviation's ambition is to become the major French stakeholder in light ISR, to the benefit of both the French forces and France's friendly countries. The proposed solutions will take full account of the constraints, especially of the Ministry of Defence and the Air Forces' expectations.

Rolls-Royce merges subsidiaries to improve business

Rolls-Royce has announced the merger of two wholly owned subsidiaries, Aero Engine Controls (AEC) and Optimized Systems and Solutions (OSyS), to form a new business, Controls and Data Services (CDS), which will continue to operate as part of the Rolls-Royce Group.

The new business will bring together equipment sensors, controls and monitoring systems with performance analysis and health management services, delivering greater asset intelligence at a faster pace.

Colin Smith, Rolls-Royce, Director of Engineering and Technology, said: "Being

world leaders in controls and data analysis is key in supporting Rolls-Royce's promise of better power for a changing world. With the creation of Controls and Data Services, Rolls-Royce will be able to provide an integrated end to end capability that will enhance our asset lifecycle management solutions."

Harry Holt, President of Controls and Data Services, said: "Our aim is to be the world's best provider of power system controls and intelligence. Through monitoring, capturing, analysing and managing equipment data we will be able to provide the insight to optimise asset cost and

performance. Both OSyS and AEC have heritages they are proud of, giving me the utmost confidence the new combined business will deliver even greater results in safety critical controls, equipment health management and operational efficiency."

Controls and Data Services will operate across all Rolls-Royce market sectors, civil and defense aerospace, industrial power and marine. The business will continue to support current customers in High Integrity Controls and Monitoring and Data Solutions functions, strengthening the current offering while building new integrated capability.

Study initiated to integrate Brimstone 2 onto Typhoon



BRIMSTONE on Eurofighter Typhoon

BAE Systems has been awarded an initial study contract, valued at £5 million by the UK Ministry of Defence to evaluate the integration of the MBDA Brimstone 2 air-to-ground precision weapon with the Typhoon aircraft.

Work is currently underway at Warton, Lancashire to assess the aerodynamic properties of carrying the weapon through a series of wind tunnel tests. Alongside delivering an effective route to Brimstone

2 integration for the UK Royal Air Force (RAF) by 2018, the study is also set to deliver wider benefits through the exploration of a common launcher approach which could also be used for other multiple weapons stores such as SPEAR 3.

The Brimstone 2 weapon will add to the swing-role capability of the Typhoon aircraft. Brimstone 2 is effective against the most challenging, high speed and maneuvering targets over land and sea. As low

collateral, close air support weapon it is already combat proven in Afghanistan and Libya by the RAF. The study contract will transition the Dual Mode Brimstone capability that is combat proven on Tornado GR4 to Typhoon utilising the Brimstone 2 missile.

Mark Bowman, Chief Test Pilot for BAE Systems explains "With a proven track record on RAF Tornados, the Brimstone 2 weapon offers uncompromising precision and a flexible capability that meets the emerging threats of modern warfare. The Typhoon pilot will be able to confidently engage a wide range of target types including fast moving vehicles. When integrated Brimstone 2 will be another significant development step for Typhoon, enhancing the aircraft's credentials and relevancy going forward."

Typhoon is already regarded as one of the world's leading swing role combat aircraft and the program continues to deliver the latest capabilities to meet the needs of a complex and ever changing environment.

The first A320neo jetliner is getting ready

The highly-efficient NEO (new engine option) single-aisle jetliner project is another step closer to taking flight with the rollout of the initial A320neo – a key milestone as Airbus continues on-schedule.

Prominently featuring the NEO branding on its livery, this aircraft – designated MSN6101 in the company’s numbering system – is powered by Pratt & Whitney PW1100G-JM engines and is the first in Airbus’ A320neo Family developmental fleet. It is equipped with extensive flight test instrumentation for handling qualities, performance and engine tests, along with the high-altitude, and hot- and cold-weather campaigns.

The company’s rigorous A320neo Family flight-test and certification programme is facilitated by the jetliner’s fly-by-wire commonality, as well as previous flight dynamics testing during the Sharklet-certification campaign, explained Sandra Bour-Schaeffer, Project Flight Test Engineer for the NEO program at Airbus. “We have optimised the flight-test programme – building on our family concept – to progress



A320neo

through this process as efficiently as possible,” she said.

Once MSN6101 takes flight, Airbus will begin with initial development and aircraft flight manual tests, before proceeding into its A320neo development and certification phase and maturity campaign – to ensure the A320neo fully meets customer requirements at service entry, which is scheduled for the fourth

quarter of 2015.

Airbus already is well advanced with “up-front” A320neo testing, including approximately 250 flight hours performed on the company’s A320ceo (current engine option) in-house developmental aircraft to evaluate hardware and software for NEO flight control laws, and test bench validation of thrust reversers.

ATK test to help NASA land advanced payloads on Mars

ATK has moved one step closer to help NASA land advanced payloads on Mars following the successful test of a next generation braking system. A world-leading producer of rocket motors, ATK provided both the rocket motor and test vehicle backbone for the test of NASA’s experimental Low-Density Supersonic Decelerator (LDSD). During the June 28 test at the Pacific Missile Range Facility at Barking Sands, Kauai, Hawaii, a balloon carried the test vehicle from the

Navy test range to an altitude of about 120,000 feet. The LDSD test vehicle dropped away from the balloon and the ATK STAR 48B motor ignited to accelerate the vehicle to more than Mach 3.8 and an altitude of over 180,000 feet.

The flight test simulated the low pressure and punishing speeds experienced by payloads dropped into the Mars atmosphere. ATK’s STAR 48B rocket motor provided the axial propulsion for the

test, while the ATK-manufactured Core Structure Assembly (CSA) served as the platform for two breakthrough technologies from NASA’s Jet Propulsion Laboratory (JPL): an inflatable Kevlar® tube around the vehicle, called the Supersonic Inflatable Aerodynamic Decelerator, and a mammoth parachute called the Supersonic Disk Sail Parachute. These new drag devices will pave the way for delivery of increasingly larger payloads to the surface of Mars.

“In Finland, conscription is compulsory for its

Col. Hannu Hypponen, Chief of Education and Training in Defense Command Finland talked to Nation Shield giving a broader picture of national service

In Finland, conscription can take the form of military or civilian service. A majority of the Finnish citizens under the age of 30 do national service of one kind or the other while a number of female citizens do voluntary service. Col. Hannu Hypponen, Chief of Education and Training in Defense Command, Finland talked to Nation Shield giving a broader picture of national service. Excerpts:



Col. Hannu Hypponen, Chief of Education and Training in Defense Command, Finland

By: Khalfan AL Kaabi

What are the objectives of the Federal Law regarding national and military service?

According to the Constitution of Finland every Finnish citizen is obligated to participate or assist in national defense, and is liable for military service starting from the age of 18 until 60. National service is mandatory for all male while military service (conscription) is voluntary for women.

When is someone exempted from national service?

Approximately 7 percent select alternative civilian service, which lasts 12 months for everybody. Approximately 10 percent are exempted for health reasons. Other exemptions,

approximately 10 percent, apply to Jehovah's Witnesses, Aland islanders, about 450 multinational persons etc.

What are the steps for joining national service?

After reaching the age of 18, all male citizens have to attend a call-up event, organized together with the local municipality, to enhance the connection between people and defense forces. Before that everyone takes a commonly defined medical test. During the call-up event, general information about the person is collected considering service location and branch requested, as well the health factors. After call-up, all conscripts will receive their service allocations (service,

branch, unit, location, and timing).

What are the benefits and privileges that accrue to the recruits of national service?

The conscripts' daily allowance is 5,00 (0 – 165 days), 8,35 (166 – 255 days) or 11,70 Euros (256 days). The benefits and privileges include free health care, food, accommodation and clothing, daily allowance, accommodation and travel allowance, home care, pilots' and divers' allowance and women's equipment allowance, free travel, support network, psychosocial support and family support.

What is the duration of national service for males and females?

citizens according to the constitution”



Firing Training

According to the Constitution of Finland every Finnish citizen is obligated to participate or assist in national defense, and is liable for military service starting from the age of 18 until 60



Part of fitness training tests

Soldiers will serve 5.5 months (165 days), special soldiers (like military police) and skilled soldiers (like tank drivers) 8.5 months (255 days), and NCOs and officer aspirants 11.5 months (347 days).



NCOs military club

Do you consider the period of national service as part of government service?

It is not considered as part of government service.

What are the cases in which recruits are called for service again?

Reservists can be called for refresher training by defense forces, extra training by president and mobilization by government.

What are the rewards and privileges granted to non-staff re-



Recruits morning parade



The Lecture Hall



Armament training



Assisting recruits

Recruits?

Officers and special officers get 63,85 euro per day, NCO 60,90 euro per day and soldiers 58,25 euro per day. Besides, all will have a daily allowance of 5 euro per day.

Can anyone be called for service without prior coordination between his employer and the recruitment authorities?

Yes, he can be called for service without prior coordination.

What is the mechanism of cal-

culating the financial benefits of employer in the public and private sectors?

In national service conscription and refresher training is mandatory. Employers do not have any financial benefits. People can apply for postponement of service and refresher training and one reason can be that he is so important to the employer that service or refresher training will cause significantly economic side effect.

Is it possible to postpone national

service for those who are residents with relatives abroad until they return from abroad?

National service is mandatory. National service has to be done between the ages 18 to 30 years. In call-up event, one can apply for postponement of service for 1-3 years.

What is the alternative service, and what are its nature and conditions?

Civilian service center is responsible for the execution of the alternative civilian service basic training and



Colonel Hannu receives copy of Nation Shield Journal



Recruit's Military bags

/People can apply for postponement of service and refresher training and one reason can be that he is so important to the employer that service or refresher training will cause significantly economic side effect

call-up event one can apply for postponement of the service for 1-3 years.

it is planned and supervised by the Ministry of Employment and Economy.

Alternative civilian service (excluding the basic training) is executed by selected agencies or non-governmental organizations, primarily in the areas of social and health services (like hospitals), educational or cultural service (like in the education of handicapped people), in environmental service (like in waste management) or in emergency service (like in fire brigades). Reserve is only military. There is no civilian reserve.

Is it possible for citizens over the age of 30 to join national service?

Over the age of 30 it is not possible to join national service. But one can take part in voluntary national defense training.

Is a graduate from high school permitted to postpone national service until the completion of undergraduate study in the event of receiving a scholarship out of state?

Yes. Though national service is mandatory and has to be done between the ages 18 to 30 years, during the

Will national service recruits be subject to the same penalties applied to military personnel in the armed forces?

No. National service recruits will not be subjected to the same penalties.

How do you find out the public and national reactions toward the issuance of national and reserve service law?

There is a special parliamentary committee, appointed by the government, that makes regular surveys or opinion polls among the citizens on security policy, national defense and security.

BORDER SECURITY SOLUTIONS

The Middle East has a particular vulnerability to cyber attacks

By: Sakha Pramod

Nation Shield had an exclusive interview with JEAN-MARC NASR, Head of Europe, Middle East and Africa, Airbus Defence and Space. He outlines the complex and vital issue of handling border security.

What is the most important factor to be kept in mind in terms of border security in the contemporary context?

Globalisation has led to increased mobility. Each year, one billion people cross borders all over the world for business and pleasure. Illegal migration potentially exceeds that figure. In the United States alone about 11.7 million immigrants are living illegally. Also, international trade and the exchange of goods is rising. The annual worldwide volume of merchandise exchange exceeds \$18,200 billion (2011).

This means that in the contemporary context, border security has a key role in facilitating legal border crossing such as in ensuring efficient flow of people and goods that cross borders legally, avoiding unnecessary delays at borders, processing goods professionally and efficiently as well as contributing to the prevention and stopping of illegal border crossings. There is the fighting of illegal migration and human trafficking, stopping illegal exchange of goods, detecting and fighting terrorism, fighting smuggling of arms, drugs, counterfeits and other illegal goods.

Would it be correct to say that in modern times, border patrol has been taken over more by technology-driven solutions than people-



JEAN-MARC NASR, Head of Europe Middle East Africa

oriented strategies?

This is not the way I see it. First of all it's the authorities who define the requirements of their border security system in order to gain complete control over their borders and increase the efficiency of resources, staff allocation and planning. And from the border guards up to the highest level decision makers, they all use the latest technology as a tool to be more effective, to manage regional and high profile missions, to enable the whole command chain to share an accurate view of the situation and to ensure and facilitate joint operations of different bodies on both national and international level.

The goal is to integrate various technologies into a concept of operations and to construct an effective border security system. And this integrated system using the latest and proven technologies is a specific area of expertise of Airbus Defence and Space. But it always needs very well educated and trained personnel to operate the sys-

tems.

What are the key systems that you offer for border security?

Our border security solutions are built on four pillars:

Sensors fixed – tower-mounted radars, cameras, intelligent fences - and mobile - sensor equipped vehicles, helicopters, airplanes, UAS, riverboats, patrol boats - ones for control and surveillance, high-performance software for analysis of collected data. This equals 'observe and detect'.

Next are the secured networks and control rooms. Collected sensors data is transferred through secured networks to responsible operation centres. Operators are informed about potential threats and further processed in the command chain to decide on action to be taken. At the heart of border security operations are the control rooms on local, regional and national level as well as reliable secured networks to connect those facilities with the sensor sites, mobile units and customer staff. This is 'decide'.

Third pillar is secure radio communication. Border patrols and command centres are connected by secure radio communication - an exclusively dedicated, 24/7 available, encrypted and secured radio network. Orders can be received and real-time reports can be sent back to the control centres allowing the whole command chain to share an accurate view of the situation. Checks at border crossing points are performed on travellers, transportation and databases. This is 'act'.

And finally, we provide threat assess-



Eurosatory was the perfect platform to show the collective expertise of Airbus Defence and Space

‘Our customers need to take the right decisions on time, in a complex and moving environment

manding operational missions with the full range of products and services. We bring together the collective expertise of our former divisions, Astrium, Airbus Military and Cassidian into one division called Airbus Defence and Space. This provides our customers with the full interconnected chain of solutions in four areas: deployment of forces, infrastructure protection, intelligence and communication and C2 -Command and Control. And Eurosatory was the perfect platform to show this.

So at the show we presented the A400M new generation airlifter, which offers ‘three aircraft in one’ - strategic, tactical and tanker. Another area we presented at the show was our cyber security offer. Within the infrastructure protection area, Airbus Defence and Space offers products that are able to provide cyber security to secure information at all levels and guarantee business continuity as well as border security as illustrated by the largest border security projects ever delivered.

A third important area is the UAS sector. Airbus Defence and Space presented a selection of its Unmanned Air Systems and complete geospatial intelligence chains managing all kind of sources from satellite imagery down to

ment. After each event to increase efficiency and improve the system, meaning speed up the reaction chain, better allocation of resources and the like. This is ‘learn’.

Border situations differ from region to region depending on topography and other factors. What is special about border security in the Arabian Gulf region from your experience?

The climate and weather conditions in the region, the long distances to be covered, patrolled and secured, and the desert environment with lack of proper access are for sure specific to the region.

Beside this, the geographical location of a country in terms of exposure could be a challenge. Qatar, for example, forms a peninsula and is therefore in an exposed strategic situation with sea borders and related resources. Thus, the requested expertise is to identify and provide the right technology that works seamlessly under these harsh conditions on ground, air and sea.

What was your focus at Eurosatory?

Airbus Defence and Space is one of the few defence, space and security providers that can fully support military and security customers to meet their de-



Tower-mounted radars, fixed cameras and intelligent fences can secure borders

‘We have governmental and commercial customers in the whole GCC region covering the entire portfolio of Airbus Defence and Space’

open sources.

Our customers need to take the right decisions on time, in a complex and moving environment. Therefore, they expect trusted, efficient, and resilient communication solutions as well as user-friendly decision tools. From satellite down to land communication, Airbus Defence and Space is offering seamless end-to-end communication solutions such as terminals, networks and managed services. We propose broadband solutions to connect highly demanding mission C2. Logistic systems and medical C2 capabilities - regulation, tele-expertise- were also presented. For all these capabilities, Airbus Defence and Space can offer its customers an adapted approach in terms of procurement of equipment, systems or managed services.

Nowadays, terrorists look for porous borders to infiltrate and create security problems. As some borders are very long, how best can you monitor them?

It's a mix of various fixed and mobile technologies and activities. On ground, vehicles or patrols are in oper-

ation. There are also tower-mounted radars, fixed cameras and intelligent fences. Air surveillance is covered by helicopters, small airplanes and UAS while on sea or rivers various kinds of boats are in place. The data collected by these sensors is transferred through secure networks to responsible operation centres so the operators are informed about potential threats, enabling the command chain to decide on action to be taken.

Apart from Qatar which countries are your major customers in the region and in what areas?

We have governmental and commercial customers in the whole GCC region covering the entire portfolio of Airbus Defence and Space. There are satellites, Eurofighter, MRTT and C295, border security, C4ISR, cyber security, secure mobile communication, optronics and radars – just to name some of our products and capabilities.

What are the main general issues concerning security in the Middle East?

The Middle East has a particular vulnerability to cyber attacks because of the centrality of the energy sector to the region's economy and its society at large. Everything in the Middle East is focused on oil and gas, energy and water distribution. Not only the Middle East region but the world at large would feel the consequences of an attack on the Middle East's crucial energy sector. So the region has understood that it's not only at the heart of the global economy, but it's also a matter of national security and this is where awareness is very high and where authorities have decided to go for plans to put the measures in place that are needed. Protecting these energy plants, these assets, is part of protecting global security. According to Frost & Sullivan, Saudi Arabia will have spent \$33bn on IT cyber security alone in the period 2007-2018. The UAE and Qatar have similar ambitious plans•



CLA: continuous development to ensure quality

Since its establishment in 2012, Caracal Light Ammunition (CLA) has been constantly working on developing its products to meet the highest standards of quality. Through these relentless efforts, CLA succeeded in building a brand of trust and becoming one of the acceptable choices within the small arms ammunition sector, across the region and international markets.

"The company is motivated to grow and it is continually searching for collaborations with key players in order to realize its goal of leading the ammunition development and manufacturing, whilst ensuring the highest safety and quality standards," Says Mohamed Al Falasi, CEO – CLA.

CLA, formerly known as ADCOM, CLA is a subsidiary of Tawazun and specializes in the production of various calibers and variants of small arms ammunition (SAA) for both military and special purposes.

To ensure improved productivity, CLA made a few changes internally in order to enhance the current processes and facilities in order to meet new targeted requirements and better CLA's position in order to cater for the growing demands in the market. The process started with the assessment of the existing manufacturing processes, machinery, procedures and resources in order to identify the avenues for improvements. Based on this exercise, restructuring was recently implemented in order to accommodate improved production and quality.

CLA is in the market to collaborate with key market players and establish new projects of

strategic value. New projects in the pipeline are the production of shot shell ammunition in collaboration with professional partners in the field and CLA also envisions opening a platform from which ammunition can be sold commercially for individuals.

CLA has recently established the R&D department, this department has several key functions that include; keeping ahead of key developments within the market, meeting evolving international standards, accomplishing end user special requirements and investigating quality issues. To support this capability, the acquisition of simulation software, flash X-ray, Doppler Radar and high speed cameras are necessary in accomplishing CLA core objectives.

In CLA's commitment to improving Quality, the company has obtained the ISO 9001:2008 for Quality Management Systems, ISO 14001:2004 Environment Management Systems and also the OHSAS 18001:2007 Occupational Health and Safety Management. Further to this achievement, CLA has received the Sheikh Khalifa Industry Silver-Level Award.

New opportunities include the Joint Venture between CLA and MP3 for the purpose of establishing a pyrotechnics manufacturing capability called Caracal Pyrotechnics (CPT).

The construction of the pyrotechnics plant at Tawzun Industrial park is on track and is expected to be fully operational by end of 2015.

UAE Plans To Send Unmanned Probe to Mars By 2021



HH Sheikh Khalifa bin Zayed Al Nahyan,
President of the UAE and Supreme Com-
mander of the Armed Forces



UAE Vice President , Prime Minister and
Ruler of Dubai, HH Sheikh Mohammed
bin Rashid Al Maktoum

A new space agency is being created in the country to supervise the mission

The UAE has announced plans to send an unmanned probe to Mars by 2021, in a bid to send the Arab world's first mission to another planet. A new UAE Space Agency will be created to supervise the mission and coordinate the country's space technology sector.

The proposed probe's journey will take nine-months and span more than 60 million kilometres.

The mission, to be led by Emiratis, will make the UAE one of nine countries with space programmes to explore Mars, and will also coincide with the 50th anniversary of the country's formation.

UAE President HH Sheikh Khalifa bin Zayed Al Nahyan said: "The UAE Mars probe represents the Islamic world's entry into the era of space exploration. We will prove that we are capable of delivering new scientific contributions to humanity.

"The UAE's purpose is to build Emirati technical and intellectual capabilities in the fields of aerospace and space exploration and to enter the space industry and to make use of space technology in a way that enhances the country's development plans."

UAE Vice President, Prime Minister and Ruler of Dubai, HH Sheikh Mohammed bin Rashid Al Maktoum, said, "Despite all the tensions and the conflicts

across the Middle East, we have proved today how positive a contribution the Arab people can make to humanity through great achievements, given the right circumstances and ingredients.

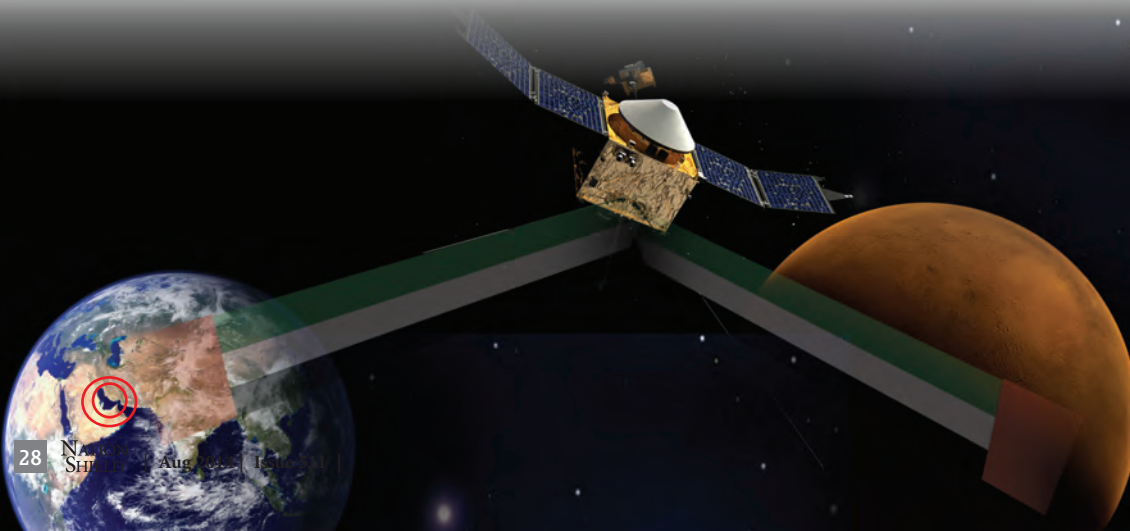
"We chose the epic challenge of reaching Mars because epic challenges inspire us and motivate us. The moment we stop taking on such challenges is the moment we stop moving forward."

UAE investments in space technologies currently exceed Dhs20 billion, and the project will establish the space technology sector as a key component of the national economy in the future, state news agency WAM reported.

HH Sheikh Mohammed said the UAE Space Agency will be responsible for supervising and organising all space activities, developing the sector, ensuring knowledge transfer, enhancing the country's position as a global player in aerospace, and maximising the contribution of space industries to the national economy.

The agency will report to the cabinet and have financial and administrative independence.

HH Sheikh Khalifa added: "We aim for the UAE to be among the top countries in the field of aerospace by 2021".



Oshkosh Defense Delivers C4 and Systems Integration as a Total Solution for Next Generation Vehicles



A fully-integrated Oshkosh Defense M-ATV, delivers a complete system to the military customer and improved user experience

The nature of warfare has changed and future battlefields will bring an unpredictable combination of terrain, tactics and threats. Now more than ever, the overall network is critical to mission success. Military forces in the Middle East have increasingly complex requirements for the transmission and sharing of voice and digital information. To ensure protection, combat troops today need command, control, communications and computer equipment, known as C4, and such systems as intelligence, surveillance and reconnaissance, or ISR.

When integrating these systems into ground vehicles, the vehicle manufacturer traditionally has supplied the truck, while another supplier integrates the C4 systems and equipment. This approach of tearing down a vehicle and reassembling it proves expensive, wastes time and is risky as military vehicles become more complex. With its extensive grasp of vehicle design and integration, Oshkosh Defense employs a streamlined process

of concurrently building the truck and integrating C4 systems.

Oshkosh Defense delivers its own unique C4 and systems integration process to equip military forces in the Middle East with exceptional access to necessary information and technology. Since a separate integration supplier isn't required, Oshkosh expedites vehicle fielding. This enabled the company on a highly accelerated production schedule to deliver MRAP All-Terrain Vehicles, or M-ATVs, to the U.S. Government prewired and ready for C4 equipment. Oshkosh played a critical role in supporting the C4I integration process to support the Government customer.

Oshkosh Defense is currently participating in the U.S. Department of Defense's Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development (EMD) phase with its Light Combat Tactical All-Terrain Vehicle (L-ATV). The Oshkosh L-ATV is a systems-engineered solution that lever-

ages Oshkosh's proven history of design and integration capabilities, to deliver new levels of protected mobility for a lightweight vehicle.

As an Original Equipment Manufacturer, Oshkosh has an in-house team of vehicle and C4ISR experts who designed the C4ISR solution for the fully integrated JLTV prototype vehicles it has delivered for the program. Oshkosh Defense's L-ATV platform offers a unique combination of proven technology, systems integration and manufacturing readiness at an affordable cost. The L-ATV's lightweight, compact design leverages a decade of research and development – and critically important field operating vehicle and C4I experience during conflicts in Iraq and Afghanistan.

Oshkosh uses a 3-D modeling and simulation, and rigorous design process to develop vehicles with the required systems and capabilities. Virtual modeling and testing reduces potential system conflicts or interference up front, before vehicle prototypes are created or production begins. Oshkosh operates a sophisticated System Integration Lab to fully test and optimize the equipment for specific applications. The Oshkosh C4ISR experts work directly with the customer and leverage feedback to improve the user experience, such as strategically placing power sources and the most-commonly used equipment for easier access and use.

As C4 equipment and weapon systems become increasingly sophisticated, effective integration of these technologies is critical. Oshkosh's C4 and systems integration can provide an improved user experience, reduce time to delivery and lower costs, and provide greater communication and information-sharing among friendly forces on the battlefield.



Two birds coming from the Sevilla plant in Spain - the light Casa 235-200 on the left, and the massive Atlas, on the right

Atlas, the French Air Force giant

Revolutionary aircraft brings new standards in airborne operations

French Air Force will have its first operational unit on Atlas (French designation of the A400M, name of mythologic giant) this autumn.

From August 2013, an international team has worked on training and tactics in Orleans, 100 km south of Paris.

By: Jean Marc Tanguy

The multinational entry into service team (MEST) is the leading unit for all the A400M nations to get the first lessons learned and to conduct the experimentation process. It mainly comprises French teams, but also four British aviators (three mechanics and a pilot) and a German pilot. Many of them have grown with Transall and Hercules, but some come from the Airbus aircrafts used for

Military transport (A310, A330, A340), and one guy has been piloting Rafale. A few have also a great experience of special operations. New experiences are to come from tankers C-135FR (the French designation of the KC-135) or from other types of aircrafts.

For French Air Force (FAF), Atlas is a total revolution. The aircraft carry more, more quickly, and on a longer distance

as the first overseas missions have clearly shown it. The first standard delivered to FAF is just focused on logistics flights : the aircraft must take off from a prepared runway, and to land on the same type of strip. The tactical are still being developed by Airbus Defense & Space.

FAF has used its two aircrafts to carry freight to Mali on December, 2013 (only five months after the delivery of the first



A light multimission helicopter Fennec is loaded aboard the Atlas, for a transatlantic trip to French Guyana

aircraft), but also a Fennec helicopter to the French Guyane (south America) and the French Antilles. Ground trials have also been done to load on/load off a 31 tonnes VBCI, an armoured combat vehicle in service with the French Army.

In a few weeks (September), FAF will have its first operational unit, Transport Squadron 1/61 "Touraine" with four aircraft. It will be based in Orléans, 100 km south of Paris, where the MEST already operates the type. This base is also home of the simulators, and sees daily flying C-130, C-160 and Twin Otters.

The initial operational capability (IOC) will allow low level flights up to 500 ft and transport up to 32 tonnes of load. This first operational unit will help French projections in Africa. France currently uses heavy carriers, such as An-124 rented to Russia, to send helicopters and vehicles to Mali and Central Africa Republic. Atlas will offer a national heavy load capability. Each Atlas can easily ferry two Tiger attack helicopter, or one Caracal in only seven hours. The cruise altitude, which is the best for

The next Atlas versions, available on 2015, will bring new capabilities, such as a 37 tonnes max load, paratrooping, in flight refueling and very low level flight

the TP400 turbos, allows the aircraft to fly as a commercial jet, up to Mach 0,74. This speed reduces the time spent to sent troops and loads. Passengers are also less tired when arrived to destina-

tion.

This revolutionary aircraft also brings new standards in airborne operations. France is one of the few able to lead this kind of mission: Tombouctou, in Mali, was seized by airborne troops launched at night by five C-130 and C-160 taking off from Abidjan (Ivory Coast). The same would have only needed two Atlas. Flying at Mach 0,74, those two aircraft would have been quicker on their target : as a result, the paratroopers would have been more ready to fight. Many limited airdrop operations have been led by France on 2013 and 2014 in Mali : some needed to insert Special operations team, in order to seize at night high value target (HVT). Another ones were only supporting long range deep penetration groups patrolling the desert : C-160 and C-130 were the sole life line with main operating bases hundreds kilometers far away, bringing water, fuel and ammunitions.

Atlas has also a clear advantage upon An-124 : it carries less, but it can land directly (with 37 tons aboard) in Tes-



Atlas stands for the first time on the Lamentin base parking, in the French Antilles

salit, Kidal, Tombouctou or Gao. The much heavier An-124 can only land in Bamako, and the goods need tactical airlift to reach the forward operating bases, or ground convoys covering 900 km.

In Central Africa Republic, where French troops have been operating since December 2013, Atlas would have been very helpful, too. French Special Operations needed dozens of rotations of Transall and Hercules to insert more than 150 tons of freight in N'Dele, in order to create a forward operating base. One daily

C-130 flight was also necessary, to keep it operational. With only a few Atlas operating from N'Djamena (Chad), FAF would have done it easily, and with the same aircraft used to support simultaneously Serval operation. Speed, availability and load offered will clearly help France to engage less aircraft in Africa, for an improved service to the ground forces. A strategic base of Atlas in Chad will transport, refuel, and perhaps one day, be able to carry also air-to-ground effectors, or leading ISR missions.

On a short time, France will receive

five aircrafts on different stages in the Sevilla plant : MSN 10 et 11 (ready to be delivered), 12, 14, 19. This year, other operators such as UK and Germany will receive their first aircrafts.

Airbus works

6343 hours have been gained by Airbus Defense & Space in 2278 flights, as of June, 9, 2014. AD&S teams are still working on new standards, even if the test fleet is going to be reduced. The next Atlas versions, available on 2015, will bring new capabilities, such as a 37 tonnes max load, paratrooping, in flight refueling for both aircrafts and helicopters, and very low level flight. A full self protection system is also to be achieved : Thales, Airbus Defense & Space, Indra and MBDA are still working on it. The first test flights have been done on Airbus Defense & Space aircrafts and more than 1.000 flares were ejected during five flight tests campaigns, on 2013-2014. The infrared sensors (MWS-PE) of the self protection system has also been tested.

Many airdrop campaigns –loads and paratroops- have been done since the beginning of 2014, on January and April. Another paratroops campaigns have to be realized in Turkey, the second A400M user. The EPC French canopy has been tested on April, and the T10 canopy, used by Spain and Turkey was to be tested during this summer. These capabilities are a key point for the FAF, which is of the latest ones to practice regularly airborne operations.

The flight test team has also to lead another unpaved runway campaign dry hot weather. Initially, the selected zone was in Western Africa (Burkina Faso) but was quickly threatened by terrorist activity in the region. Djibouti was then selected, but a recent bomb attack obliged to consider another area, in Middle East.



Air-to-air refuellings are also a central capability for French Air Force. It can give a longer autonomy for Atlas special flights, but also allow fighters and helicopters to improve their endurance. No test has been done for the moment on the French assets, except Caracal helicopter. This low speed aircraft refuels on the wing pods qualified by AD&S.

The first aircraft with this core capability (MSN15) will be delivered to the British Royal Air Force. FRAF will get.

French air transport capabilities
FAF is still operating 34 Transall, most of them belong to a second tranche of C-160 produced after 1981. These can be air-refuelled, but their freight load is reduced. The C-160 will live up to 2023 : 60 years after its first flight, on 1963 ! The latest aircrafts in service should be two modified C-160 called "Gabriel" with ELINT capabilities.

12 C-130H/H/30 were bought on 1987 and they're still flying, with two second hand C-130H refurbished from Zaïre (now the Democratic Republic of Congo). 20 Casa CN-235 were also ordered in the 80's to fit new demands in

Air-to-air refuellings can give a longer autonomy for Atlas special flights

the French overseas territories (Antilles, Guyane, Reunion, Nouvelle-Calédonie and Polynésie). One was lost on 2003. FAF decided to buy another tranche of the more powerful CN-235-800 (8 aircraft) that are all now delivered. This courageous light transport aircraft was deployed in Mali as a Medevac asset and it is being qualified to airdrop freight up to 3 tons. It's already used for paratrooping training.

FAF doesn't operate heavy load aircraft and, since 1993, the joint high command has regularly lend An-124. In order to deploy as quickest as possible, France asked its allies to bring air

transport assets at the beginning of Operation Serval, in Mali, on January 2013. US Air Force, Canada, and the British Royal Air Force have flown thousands of C-17 flight hours during this short period.

FAF transport assets are operated in Orléans, 100 km south of Paris which will be the Atlas'home. Also here is based the Special Operations transport squadron 3/61 "Poitou" and the main C-130 user, 2/61 "Franche-Comté". Evreux, 100 km west of Paris, is also a transport base with two squadrons flying the C-160, 1/64 "Béarn" and 2/64 "Anjou".

The Casa 235-200/300 are mainly living in Creil, 50 km north of Paris. Two squadrons are flying it : 1/62 "Vercors" and 3/62 "Ventoux". Flights with two or three aircrafts are also based in Guyane, Nouvelle Calédonie and Polynésie. In this demanding territories, they're used for search and rescue, or tactical light cargo, to insert freight in the forest to defeat gold smugglers.

Boeing Offers KC-46 Tanker to South Korea

Features low lifecycle costs, high combat readiness, interoperability with U.S. Air Force



Unique among tankers, the KC-46 can operate in chemical, biological and nuclear conditions, features cockpit armor, and can operate from a large variety of smaller airfields

Boeing has formally offered to the Republic of Korea (ROK) the KC-46, the U.S. Air Force's next-generation tanker, as Korea prepares to acquire four aircraft for its first tanker squadron.

"We've been a strategic and industrial partner with the Republic of Korea for more than six decades and remain committed to helping Korea strengthen its defense capabilities and aerospace industry," said Eric John, president of Boeing Korea. "With the KC-46, Korea will acquire a force-multiplier and the ability to operate seamlessly with the U.S. Air Force during combat and humanitarian relief operations."

Boeing made the offer in response to Korea's request for proposals for an aerial refueling tanker. Korea's Defense Acquisition and Program Administration is expected to complete its competition

by the end of this year.

The KC-46, the most advanced tanker ever built leverages Boeing's 75 years of expertise with air refueling systems. In addition to its refueling mission, it can transport cargo, passengers and support aeromedical evacuations.

Boeing will build and deliver to the U.S. Air Force 179 KC-46As by 2027 if all options under the contract are exercised.

"Based on the proven 767 airframe, which has an in-service readiness rate of approximately 99 percent as an airliner, freighter and tanker, the KC-46 will be able to fulfill more mission requirements with fewer aircraft than is possible today," added Chuck Johnson, Boeing vice president, Air Force Programs.

In addition to a cargo door, the KC-46 features a main deck cargo floor which

can be reconfigured by one person in no more than two hours or two persons in no more than one hour to accommodate any mission. Unique among tankers, the KC-46 can operate in chemical, biological and nuclear conditions, features cockpit armor for protection from small arms fire, and can also operate from a large variety of smaller airfields and forward-deployed austere bases.

In 2013, Boeing spent over \$400 million with Korean companies, up from \$340 million in 2012 -- maintaining Korea's position in the top quartile of nations with which Boeing does business. More than 50 Korean companies provided products and services for Boeing production and sustainment programs, research and development and a broad range of internal services that support Boeing operations. •

Northrop Grumman gets \$3.6 bn contract

The deal is for delivering 25 E-2D Advanced Hawkeye Aircraft to US Navy

The U.S. Navy has awarded Northrop Grumman Corporation a \$3.6 billion fixed price, incentive fee multiyear contract to deliver 25 new E-2D Advanced Hawkeye aircraft, bringing the total number of aircraft on contract to 50.

Developed and produced by Northrop Grumman, the E-2D Advanced Hawkeye is the world's only aircraft specifically designed as a carrier-based airborne early warning and control (AEW&C) system. With its structurally distinctive design – a rotating rotodome and four vertical stabilizer tail configuration – the E-2D Advanced Hawkeye provides unprecedented, 360-degree surveillance to the warfighter.

“The E-2D Advanced Hawkeye is the Navy's primary airborne early warning and battle management command and control platform,” said Navy Capt. John S. Lemmon, program manager, E-2/C-2 Airborne Tactical Data System Program Office (PMA-231). “I'm confident that as the E-2D Advanced Hawkeye attains initial operational capability later

this year, the E-2D will continue to be ready, relevant and capable for decades to come and continue serving the Navy Carrier Strike Group with distinction.”

As the only DOD designed, tested and in-production AEW&C platform, the E-2D Advanced Hawkeye has undergone a significant transformation from previous E-2 models, resulting in revolutionary capabilities. This includes the new, more powerful AN/APY-9 radar system, exclusive to the E-2D Advanced Hawkeye, which represents a two-generational leap in radar technology and allows the warfighter to “see” a greater number of targets at much greater distances – as well as new avionics and a glass cockpit.

“A multiyear procurement of these additional E-2Ds will take advantage of efficient, stable production lines at both Northrop Grumman and our suppliers, and will generate significant cost savings for taxpayers and the Navy,” said Bart LaGrone, vice president, E-2/C-2 Programs, Northrop Grumman Aerospace

Systems. “It's a win-win – our warfighters will get the advanced AEW&C technology that the E-2D Advanced Hawkeye brings, at a lower cost for taxpayers.”

The Northrop Grumman-led supplier team – “Team Hawkeye” – brings together the best in industry, ensuring the continued success of the Advanced Hawkeye program. Lockheed Martin Naval Electronics and Surveillance Systems, Syracuse, New York, serves as the principal AN/APY-9 radar system supplier and is teamed with Northrop Grumman Electronic Systems, Baltimore, and Raytheon's Space and Airborne Systems, El Segundo, California. Rolls-Royce (Indianapolis, IN) provides the T-56-A engines while BAE Systems, Greenlawn, New York, is responsible for the identification friend or foe system and L-3 Communications Randtron Antenna Systems, Menlo Park, California, developed the ultra-high frequency electronically scanned array antenna.

“Since the first E-2D Advanced Hawkeye delivery in 2007, every aircraft has been delivered on schedule and on budget,” LaGrone said. “It is this kind of proven program performance and partnership with our customer that results in a multiyear contract – validating that the E-2D Advanced Hawkeye is the right system at the right time for the right cost.”

The Navy's E-2D Advanced Hawkeye program of record is for 75 aircraft, of which Northrop Grumman has already delivered 13 production aircraft.



E-2D Hawkeye

UAE on course to be major sustainable energy pioneer

The UAE, despite being best known for being oil-based, is embracing sustainable technologies



HH Sheikh Mohamed bin Zayed attended the signing of the strategic framework agreement in the Renewable Energy between U.A.E. & Saudi Arabia

The UAE could be a defender of the status quo on energy use, but the country is a powerful advocate for a cleaner environment and efforts to halt climate change. The UAE proves it with a pivot of historic proportions, trying to build a oil-free future in the desert and countless other important initiatives.

The UAE has become a major player in clean technologies, funding large-scale renewable energy projects around the world, and investing millions in fundamental research (in partnership with MIT) in energy, water, microelectronics, advanced materials, and transportation systems.

The UAE is positively progressive on clean energy. At the Future of Energy Summit, UAE leaders announced a partnership with Denmark, and with Vestas Wind in particular, to tackle energy poverty in the developing world.

The Wind for Prosperity project will offer carbon-free electricity to those who mostly use very expensive diesel generators for power. This partnership is only one example of the UAE's strategy to help bring

about a clean economy future, which, according to Bader Al Lamki, the director of Masdar Clean Energy, has two major elements.

First, the country is helping build the global supply of clean energy, recognising that conventional forms of energy are going to decline. Masdar clean energy runs several couple of funds investing hundreds of millions of dollars in some of the largest utility scale solar and wind projects in the world, as well as water desalination, energy storage, and energy efficiency.

Second, UAE built Masdar City, a demonstration project and research facility, to show how clean technologies could work in practice. UAE partnered with Massachusetts Institute of Technology (MIT) to build a graduate degree programme and research facility to patent and leverage new technologies.

And the quest for a clean, green environment is not new. Decades ago, the father of the UAE, Sheikh Zayed bin Sultan Al Nahyan, laid out a vision of critical issues that would shape the future of his coun-

try. The four main ideas, according to Fred Moavenzadeh, the MIT professor running the Masdar Institute of Technology, were the diversification from oil and gas, concern about climate change, the importance of good education for his people, and equal rights for women.

UAE is certainly not alone in trying to make a fundamental pivot away from fossil fuels. There's a surprisingly long list of countries that get over half their electricity from renewables already, although most are using hydropower to get there. A smaller group is going for the true renewables like solar, wind, and geothermal.

Germany, while struggling at times, is pursuing green energy aggressively. Kenya is planning to get half its electricity from solar by 2016. Morocco is shooting for 42 per cent renewables by 2020. Saudi Arabia has some aggressive solar goals and is investing over \$100bn in a solar future.

The scale of UAE's clean activity may not be enough to replace the oil-based economy any time soon. But it's clear that the country is on the right track, big time.



Gemasolar Concentrated Solar Power Plant, a joint venture between Masdar Power & Sener



London Array

Experts note that companies and countries of all sizes should heed the UAE example.

Saudi Initiatives

Masdar and King Abdullah City for Atomic and Renewable Energy (known as K.A.CARE) recently announced the conclusion of an agreement to work together to advance the development of renewable energy and clean technology across the region.

The accord, which comes at a time of increasing interest in renewables across the region, lays down a framework to jointly invest in clean energy projects and green technology investment funds. It will also create opportunities for collaboration on the research and development of advanced clean energy technologies, including solar, wind and water.

General Shaikh Mohammad bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the UAE Armed Forces, attended the signing of the strategic framework agreement in Abu Dhabi where it was signed by Dr Sultan Ahmad Al Jaber, Minister of State, Chairman of Masdar, and Dr Hashim Abdullah

Yamani, President of King Abdullah City

Shaikh Mohammad hailed the agreement and its important role in adding to the strong historic and strategic relationship between the UAE under the leadership of President His Highness Shaikh Khalifa Bin Zayed Al Nahyan and the Kingdom of Saudi Arabia.

“Increased cooperation among GCC countries is crucial to advancing security, stability and sustainable growth throughout the region,” said Shaikh Mohammad. “Energy is fundamental to all economic and social development. The enhanced cooperation between Masdar and K.A.CARE will contribute to extending the region’s energy leadership.”

Dr Al Jaber said: “Masdar shares many strategic objectives with K.A.CARE. The UAE is a pioneer in deploying renewable energy and is also a major contributor to the international deployment of clean energy.

“By sharing our knowledge and experience with K.A.CARE, we believe that, together, we can further advance the use of renewables and ensure our long-term economic and energy security.”

K.A.CARE was established in 2010 with

the aim of diversifying Saudi Arabia’s energy sources, to include nuclear and renewables.

Through the agreement, Dr Yamani said, King Abdullah City for Atomic and Renewable Energy aims to diversify Saudi Arabia’s energy sources.

“We are delighted to sign this agreement with Masdar, that has a proven track record and demonstrated credible achievements during the last eight years in this emerging sector. As renewable energy solutions approach grid parity, we are confident our combined efforts will contribute to the implementation of renewable energy projects in the region and around the world,” he said.

Since its establishment in 2006, Masdar has played an increasingly important role in extending Abu Dhabi’s energy leadership beyond hydrocarbons, by adopting an integrated, holistic renewable energy business model merging higher education, research and development, investment and sustainable living. The company has deployed close to 1GW of clean energy projects in the UAE and around the world.

Airbus Helicopters signs record deal for 123 rotorcraft in China

The five year contract with three general aviation operators landed during Chancellor Angela Merkel's visit to Beijing



During German Chancellor Angela Merkel's state visit in Beijing where she met with Chinese Premier Li Keqiang, Airbus Helicopters signed a record deal for 123 civil helicopters with three customers from various Chinese provinces.

The rotorcraft will be used for general aviation activities covering multiple missions including utility work, aerial tours, passenger transport, business aviation, emergency medical services and search and rescue.

The three contracts were signed with Fujian Xinmei General Aviation Co. (GAC), Guangdong Baiyun GAC and Yunnan Fengxiang GAC. The total fleet of 123 helicopters comprises mainly light single-engine helicopters from Airbus Helicopters' Ecureuil family, as well as the light twin-engine EC135.

"We are grateful to the operators for selecting Airbus Helicopters to be their partner in developing the general aviation market to serve China's needs," said Airbus Helicopters CEO Guillaume Faury. "It is evident that China's relaxation of its low-altitude airspace regulations is enabling the

country's burgeoning helicopter market to realize its potential."

Fujian Xinmei GAC will be acquiring five units of the AS350 B3e to be delivered this year. Together with their existing AS350 B3e acquired in 2012, Xinmei will become one of the biggest operators of this helicopter type in China. The company, whose core activities include agricultural and utility missions, has also committed to an additional 50 units in the coming six years, made up of light single-engine and light twin-engine helicopters.

Guangdong Baiyun GAC has placed an order for 50 helicopters, consisting of Ecureuil and EC135 helicopters. An EC130 T2 from the Ecureuil family will be delivered this year; while the first three EC135 T2e will arrive by April 2015. The remaining aircraft are expected in the country in the next five years, as Baiyun aims to grow its business in general aviation, particularly in the relatively new segments of helicopter emergency medical services (HEMS), search and rescue and corporate transportation.

Finally, Yunnan Fengxiang GAC, a new

general aviation enterprise focused on investing and developing the business of utility operations, is acquiring 18 units of the AS350 B3e, on top of their existing two AS350 B3e. The first four helicopters are scheduled to be delivered this year. The remaining 14 aircraft are expected in the next two years, and Fengxiang intends to engage in multiple missions including aerial tours, business aviation and even HEMS.

"The Ecureuil and EC135 are the most successful light helicopters globally," added Norbert Ducrot, President of Airbus Helicopters China. "The agreements show that Chinese customers are making the right choice in selecting these aircraft types, which already occupy 60 percent of the light helicopters market in China."

Airbus Helicopters, formerly Eurocopter, is a division of Airbus Group, a global pioneer in aerospace and defense related services. Airbus Helicopters is the world's No. 1 helicopter manufacturer and employs more than 23,000 people worldwide. With 46 percent market share in civil and parapublic sectors, the company's fleet in service includes some 12,000 helicopters operated by more than 3,000 customers in approximately 150 countries. Airbus Helicopters' international presence is marked by its subsidiaries and participations in 21 countries, and its worldwide network of service centers, training facilities, distributors and certified agents.

Airbus Helicopters' range of civil and military helicopters is the world's largest; its aircraft account for one third of the worldwide civil and parapublic fleet. The company's chief priority is to ensure the safe operation.

CAE wins defense contracts valued at \$110 million

Contracts provide a range of training systems and services for defense customers

CAE has won a series of contracts valued at approximately C\$110 million to provide a range of training systems and services for global defense customers. These include contracts to provide the T-6C ground-based training system and services for the Royal New Zealand Air Force (RNZAF), a contract to upgrade the visual systems on the German Air Force's Eurofighter simulators, a contract from Korea Aerospace Industries to provide the visual system for a T-50IQ full-mission simulator, and a contract to provide a KC-135 boom operator weapon systems trainer for an undisclosed international customer.

"We are well positioned across a range of opportunities around the world, involving defense and security forces that increasingly recognize the benefits of simulation-based training," said Gene Colabatistto, Group President, Defense and Security, CAE. "CAE is a skilled and experienced training systems integrator, and we are focused on pursuing long-term, integrated training solutions."

Beechcraft Defense Company/ Royal New Zealand Air Force

CAE was awarded contracts from the Beechcraft Defense Company LLC to develop and support a comprehensive T-6C ground-based training system (GBTS) for the Royal New Zealand Air Force (RNZAF). The T-6C GBTS will be an integrated training system that includes two T-6C operational flight trainers, computer-based classroom training systems, and courseware customized for RNZAF pilot training. CAE has established CAE New Zealand Pty Ltd to provide long-term training support and maintenance services at RNZAF Base Ohakea. The



T-6C GBTS is part of an overall training solution Beechcraft is providing to the RNZAF that includes 11 T-6C Texan II military trainer aircraft and 30 years of logistics support.

"We are pleased to be partnering with Beechcraft to deliver the Royal New Zealand Air Force with a proven, low-risk and comprehensive integrated pilot training solution that cost-effectively meets their current and future pilot training requirements," said Colabatistto.

The two CAE-built T-6C operational flight trainers (OFTs) will include a high-fidelity replica of the T-6C cockpit with a fully-enclosed 270 degree by 70 degree field-of-view display system driven by the CAE Medallion-6000 image generator. The T-6C OFT will also feature the CAE-developed common database (CDB), an open database architecture that enhances the ability to correlate and rapidly update databases to support training and mission rehearsal requirements. The comprehensive T-6C GBTS will be delivered to RNZAF Base Ohakea in 2015 and CAE will then provide on-site training support services.

German Air Force

Germany's Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) has contracted CAE to replace obsolete components and upgrade the visual systems on the German Air Force's Eurofighter simulators. The visual system upgrade

will include the addition of CAE's latest generation CAE Medallion-6000 image generator along with new high-resolution projectors and dome display systems for the Eurofighter full-mission simulators and Eurofighter cockpit trainers located in Laage, Norvenich, Wittmund and Neuburg, which are the four main Eurofighter operating bases in Germany.

Korea Aerospace Industries (KAI)

Korea Aerospace Industries Ltd (KAI) has contracted CAE to provide its CAE Medallion-6000 image generator for a T-50IQ full-mission simulator that KAI is developing for the Iraqi Air Force. In late 2013, KAI signed a contract with the Government of Iraq to provide its T-50IQ supersonic advanced jet trainer and light attack aircraft, including a ground-based training system. In addition to providing the CAE Medallion-6000 image generator for the T-50IQ full-mission simulator, CAE will provide a database modeling station and support KAI with integration and training services.

The CAE Medallion-6000 image generator combines a proven, industry-leading feature set and image quality with the power and capabilities of the latest commercial-off-the-shelf graphics processors. The CAE Medallion-6000 image generator provides training benefits such as:

- Extremely detailed virtual environments and realistic night scenes;
- Smooth dynamic shadows correlated to sun/moon positions;
- High resolution imagery and textures for enhanced fidelity;
- Highest scene density on the market;
- High-end sensor simulation capabilities.



UAE'S REMARKABLE PROGRESS

Hamdan bin Zayed:

"I am pleased to point out that the UAE has assumed, in recent years, the lead in many of the specialized reports of international and regional institutions"



His Highness Sheikh Hamdan bin Zayed Al Nahyan, Ruler's Representative in the Western Region and Chairman of the Red Crescent Authority has given a wide-ranging interview on numerous achievements by the UAE across the spectrum including the Western Region vision and accomplishments. He has stressed how progress and pride in the nation follows the outstanding vision and tireless work of the founding father, the late Sheikh Zayed Bin Sultan Al Nahyan. He spoke to Editor-in-Chief, Staff Lieutenant-Colonel Yousef Juma Al Haddad.

By: Staff Lieutenant-Colonel Yousef Juma AL Hadad, Editor-in-Chief

The strategy of the state aims to achieve balanced sustainable development and ensure prosperity for citizens and strengthen the country's position regionally and globally. How does Your Highness view what has been achieved and what are your expectations in light of political and economic empowerment launched by His Highness Sheikh Khalifa bin Zayed Al Nahyan?

The progress attained by our nation today is the fruit of a long process of continuous challenges, hard work, tireless effort and perseverance, led by the founding father, the late Sheikh Zayed Bin Sultan Al Nahyan, after he harnessed the country's wealth and potential, and dedicated himself and his life to building the renaissance of the nation and the dignity of citizens, until he achieved progress, prosperity, security and stability for the UAE and its people.

Comprehensive development achievements continued thanks to the wise and generous leadership of to HH Sheikh Khalifa bin Zayed Al

Nahyan, HH Sheikh Mohammed bin Rashid Al Maktoum, UAE Vice President and Prime Minister and Ruler of Dubai, and Their Highnesses Supreme Council Members rulers of the Emirates, and HH Gen. Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces, as well as the concerted efforts of citizens.

The UAE has achieved - in record time and in accordance with international standards - high rates of overall development in various fields, after its GNP jumped from only AED6.5 billion only when the Union was established in 1971, to AED 1.5 trillion this year. The UAE has been ranked the 14th happiest country in the world, and first among the Arab countries in the second United Nations World Happiness Report in 2013.

I am pleased to point out that the UAE has assumed, in recent years, the lead in many of the specialized reports of international and regional institutions, especially in the indica-



tors of global competitiveness reports, which classified it in the lists of the most progressive countries in the world in economics, business, infrastructure, human development, tourism, transportation and communications, information, culture, environment, and other indicators of sustainable development.

I cannot fail to note the position attained by the UAE in the international community, as reflected by its winning the right to host Expo 2020. It is one of the largest and oldest exhibitions in the world, as it dates back to 1851, and receives over six months, about 25 million visitors from all continents.

What is Your Highness' evaluation of the overall achievements in of social development and the level of public services provided by the state to citizens in various service sectors - especially education, health, housing, social welfare and more?

Since its inception the state has given

top priority to the establishment of infrastructure for social development sectors where infrastructure projects for these important sectors had been limited in number and potential, even non-existent in some cities and regions.

The state continues efforts to execute more of these projects in all cities throughout the country.

For example, the huge financial funds allocated by the federal government for the sectors of development and social benefits in 2013 budget, which amounted to AED22.7 billion which is 51 per cent of the total budget.

Since its inception, the UAE has taken significant steps on the path to women's empowerment. UAE women have achieved excellent results in all fields. How does Your Highness evaluate Emirati women's achievements in political participation through membership of the Federal National Council? And what are your thoughts regarding their gen-

eral role and empowerment?

The significant gains obtained by Emirati women at the national level, and the high position reached by them regionally and internationally, have not been achieved by chance. Thanks to the Leader of Women Action, Her Highness Sheikha Fatima bint Mubarak, Chairwoman of General Women's Union, her pioneering efforts, strong will and solid determination have helped to overcome all obstacles and difficulties.

The past decade was a golden one. UAE women today occupy four seats in the cabinet, which is one of the highest percentage of representation at the Arab level, and are represented by eight member women in the Federal National Council in its current session among its 40 members, or 22 per cent, which is also one of the highest percentages in terms of representation of women in parliamentary institutions.

Moreover, an Emirati lady is the first woman to be a permanent representative of the state to the United Nations, and four women are serving as ambassadors of the UAE in Spain, Sweden and Montenegro, and as Consul General in Hong Kong, out of 148 diplomats employed in the Ministry of Foreign Affairs.

We would like to refer to the outstanding international achievement of the UAE this year by ranking first globally according to the Social Progress Index, which was launched by the World Economic Forum's Global Agenda Council.

The UAE leadership, government and people have always provided humanitarian assistance to the needy in various parts of the world which is one of the main pillars of its foreign policy. How can the state play an even greater role in various areas and relief operations and reconstruction in the areas of crisis and regional conflicts?

In view of the numerous initiatives of



the UAE, it has become a major center for the United Nations and its humanitarian organizations which have made Dubai a starting station from which to direct relief operations across the world in cases of disasters, calamities, armed conflicts, violence and wars.

It was no coincidence that our country received the appreciation of the international community, and has assumed the top ranking as the leading donating nation of relief assistance, according to

Disaster Emergency Committee (DEC).

The volume of relief aid provided by the United Arab Emirates in 2013 alone was more than US\$5.2 billion.

The UAE enjoys a proud regional and international reputation thanks to our prudent leadership and its achievements in development and prosperity of its citizens and residents on its territory. What would Your Highness say to the citizens so that they would maintain these achievements?

Throughout the past decade, our country has topped Human Development Reports issued annually by United Nations Development Program the latest of which was 2013 report, which placed it in second place regionally and 4th globally among 157 countries in the world.

It recorded very high rates in the level of long life, health, education, knowledge, standard of living, per capita income, gender equality, social welfare, communication and technology.

The concrete reality clearly shows that our citizens enjoy well-being, prosperity, happiness, security and stability, and feel reassured about their lives in the future. I must point out here, in addition, that our state has maintained its position of first place in the Arab world, and advanced three positions globally in the second survey, which was conducted by the United Nations in 2013 to measure the indicators of happiness and satisfaction among the nations of the world, to rank 14th.

Thanks to the insight of His Highness Sheikh Khalifa bin Zayed Al Nahyan, the Supreme Commander of the Armed Forces, our Armed Forces have become



a safety valve in the defense of the nation and maintaining national interests and rights. How does Your Highness view their role and participation abroad in peacekeeping operations and aiding global stability?

The UAE is a state of love and peace. It pursues consistent and clear strategies in its foreign policy. The most important is its belief in the peaceful coexistence between nations and peoples, and its constant calls to dialogue and peaceful means to resolve any differences or disputes based on commitment to the principles of the UN Charter and conventions, international laws and eagerness to support security, stability and world peace.

The UAE has built a modern strong army equipped with integrated kit and gear, and enjoys high combat capacity, readiness and willingness to deal with all global technical military developments to defend the nation's sanctities, territory, sovereignty and independence.

We remember proudly, the positive and effective contributions of our Armed Forces along with the international community to the UN peacekeeping forces in many troubled countries and regions, including Lebanon, Kosovo, Afghanistan, Somalia and other ar-

reas. Add to this their participation in the fight against terrorism and piracy and their support for international efforts to remove mines and cluster bombs left by Israeli invasion forces in South Lebanon in 2007.

His Highness Sheikh Khalifa bin Zayed Al Nahyan, the Supreme Commander of the Armed Forces, issued the National Service Law, which has had a positive impact in the hearts of citizens and embodied the meanings of national cohesion. What are Your Highness' thoughts on the importance of this law?

The National Service Act is an important national decision that reflects that the protection of the homeland and preserving its sovereignty and national gains is a sacred duty for every citizen.

We highlight our support for the sincere efforts of the National and Reserve Service Authority and the positive steps it has carried out for the implementation of this strategic law. It instills in them the spirit of discipline, order and responsibility. They will always be ready on the front lines to defend the nation.

We look forward with confidence to the first batch of graduates.

The Western Region has made, through the efforts of Your Highness, many development achievements, and is

currently witnessing the implementation of many projects which attracted large investment companies to the region - what are the implications of these developments for life in the region?

The comprehensive achievements achieved by the Western Region in a short period, reflect the wise vision of His Highness Sheikh Khalifa bin Zayed Al Nahyan, and his passion and interest in the development of all areas across the country and turning them into modern cities.

During the past five years, the Western Region has witnessed major breakthroughs to upgrade its infrastructure in all its regions, provide high levels of basic services, especially in education, health, housing and comprehensive social development.

The value of the investment projects that have been completed and are being implemented in many sectors is more than AED 220 billion, where these projects spread in a number of cities of the Western Region, especially in the cities of Zayed, Ghayathi, Marfa, Ruwais, Liwa, Sila' and Sir Bani Yas. The cost of the projects that have been invested in the sector oil and gas industry in the region AED 125.73 and AED 57 billion in the energy.

What are the most prominent features of the comprehensive plan for the development of the Western Region and what are the plans that have been drawn up?

The initiative for Western Region Development Plan was launched in the context of the Overall Development Plan of the Emirate of Abu Dhabi until 2030, where the volume of investments have ranged between AED 500 to AED 600 billion, including more than AED 100 billion allocated for the development of the Western Region.

The plan mainly aims to improve the lives of the citizens in those regions through an integrated strategy that

seeks primarily to develop the public and higher education sector, upgrade and provide world-class health care, and provide the highest standards for sustainable infrastructure.

We have succeeded in attracting the attention of many major global investment companies and establishments that wished to partner for the construction of large strategic projects, mainly the construction of the Nuclear Plants Project at Braka, Solar Plant Project in Ruwais, the Union Train Project, the Strategic Road Project linking Mafraq and Ghuwaifat, and others in the economic, trade and infrastructure sectors.

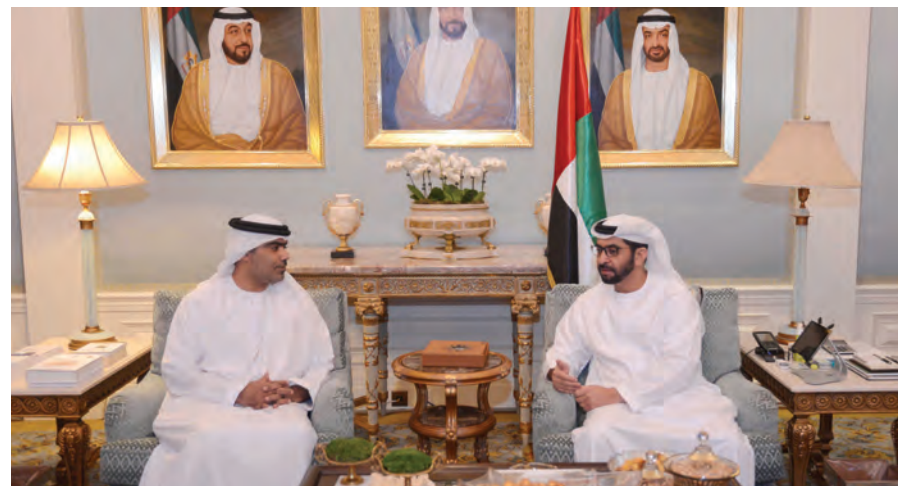
Plans to accelerate the development of the Western Region include establishing g two industrial zones in Ruwais and Zayed cities on 16.4 square kilometers, creating about 43 jobs.

The Western Region is ideal location for tourism. What are the major tourism projects that have been completed and what is coming up?

We have made the tourism sector a fundamental pillar for growth and development of the Western Region considering the tourism resources and potential of the region. They include unique and charming nature that combines views of the sea, golden sandy beaches, beautiful green oases and yellow desert sand that extends to the edge of the Empty Quarter. There are also historical archaeological areas whose history dates back millions of years.

During the past few years a number of outstanding world-class tourism projects have been completed, including the Desert Islands Resort on Sir Bani Yas Island, the heritage touristic hotel Qasr Al Sarab in Liwa, Tilal Liwa Hotel, which overlooks the landscapes of the Empty Quarter desert and lush gardens that characterize the area of Liwa, in addition to the world-class City Mall.

The project Desert Island in the area



HH Sheikh Hamdan speaks to Nation Shield Editor in Chief

of Jebel Dhanna, where the volume of investments in public and private sector exceeds AED 11.5 billion.

More than three decades have elapsed since the establishment of the Red Crescent Authority. How does Your Highness view its achievements and the challenges it faces?

The founding of the Red Crescent Authority in January, 1983, is a true translation of the vision and thought of the generous humane personality of the founding father, the late Sheikh Zayed

Bin Sultan Al Nahyan, which embodied all meanings of nobility, benevolence, generosity and giving.

The total cost of projects and charitable and humanitarian programs carried out by the Red Crescent, since its inception up to 2013, is more than AED 8 billion that provided aid to nearly 100 countries.



Involve political, economic and social dimensions and affect the security and stability of communities

The call by His Highness General Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces, in which he denied the rumors through social networking about the health of the UAE President, His Highness Sheikh Khalifa bin Zayed Al Nahyan, may God protect him, and called for caution and verification when conveying information and news via these means, is a vital way to reconsider the approach employed by many people in the use of social networking.



In this issue of the “Nation Shield”, we address rumors through social networking and how to employ modern technology without slipping into the trap of abuse of the nation’s security and stability.

While social networking has become one of the important tools of the so-called social media, or new or alternative media, it is yet a source of threat to the national security of the States and communities, in view of its adverse investment in spreading rumors and malicious lies. Rumors have even benefitted more than ever from modern means of communication, as is happening in trading rumors in financial markets and elsewhere through e-mails and mobile phones. A rumor may cause a collapse or at least a significant decline in the performance of stock markets.

The United Arab Emirates, since it represents a successful model in governance and development, management and capital market, has recently become a target of multiple rumors with the aim of distorting this model, shaking its image abroad or provoking panic and confusion at home among the different groups of society. Some rumors have spread that target symbols of the UAE, such as the false news and

information about the health of His Highness Sheikh Khalifa bin Zayed Al Nahyan, UAE President, the Supreme Commander of the Armed Forces, may God protect him, which prompted HH Gen. Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces, to deny these rumors, stressing that “the news circulated recently across social networking sites about the health of His Highness, the UAE President, is untrue. These are just rumors, and the fact is that he is in good health, thank God.” H.H. called everyone to be careful and cautious about any conveyed information and news, so that our use of social networking is for the good of our society and nation, praying to Allah Almighty to perpetuate the blessings of security, stability, progress and prosperity in our beloved country.

If these tendentious rumors have targeted the symbol and president of the nation, another rumor has spread through the sites of social

networking relating to food security, about the presence of Syrian meat that is injected with carcinogenic substances in the markets of Abu Dhabi, which has been denied by Abu Dhabi Food Control Authority, denying the presence of any kind of Syrian meat in the markets of the emirate.

The proliferation of these kinds of rumors in turn raises many questions: What is a rumor? How does it impact on the national security of the state in general? What is the role of social networking in spreading rumors? And how to respond to such rumors?

The Concept of the Rumors and the Role of Social Networking in their Dissemination

A rumor is just a fast moving “message”, intended to bring about confusion or chaos to achieve objectives that are mostly destructive, because they exploit the public’s curiosity to know the news in an attempt to achieve their circulators’ targeted influence, especially in times of crisis.

Rumors spread and their promoters become active at “risk predicted times,” i.e. times of war, disasters and chaos, because people expect evil during these times. The dangerous thing is that rumors spread these days easily, not only due to the growing numbers of users of social networking,



but also because events and developments in the region provide a fertile environment for growth and reproduction of lies.

Rumors and their impact on the National Security of States and Communities

Rumors via social networks can be classified in terms of the objectives of their circulation into two parts: First, rumors directed at a specific target, like marketing or advertising. Second, rumors that have repercussions on the national security of the states and communities. These rumors have varied sources and targets and may be the product of persons, third parties or major companies.

Rumors are one of the tools of the fourth-generation wars. They are one of the tools of modern warfare. Certain entities that belong to some countries may circulate some rumors about the leaderships of a nation or the economic conditions in some country in order to achieve a set of objectives that serve the state promoting the rumor. The wars of the fourth generation involve a vital variable, i.e. that the threat comes from within through the employment of specific internal elements and factors that are agitated by rumors and other tools in order to achieve the objectives of these war and those who launch them. Hence come the importance of deepening the values of belonging and loyalty to the nation as well as rallying around the banner of the nation and its leadership.

Why the UAE is targeted by Rumors?

The United Arab Emirates, as previously noted represents a successful model in development, good governance and effective administration. Therefore, due to its wide openness and economic freedom that allows hundreds of international companies to work on its territory, it has been susceptible to rumors that attempt to affect this model.



دعا الله أن يديم أمن واستقرار الوطن ويشمل برعايته القيادة الحكيمة

محمد بن زايد: خليفة بخير

• ما تداولته مواقع التواصل شائعات وولاد من استخدام التقنية لخير الوطن
• ولي عهد أبوظبي يزور منزل مواطن ويتبادل مع أسرته التهاني برمضان

أبو ظبي (وام) - أكد الفريق أول سمو الشيخ محمد بن زايد آل نهيان ولي عهد أبوظبي نائب القائد الأعلى للقوات المسلحة أن صاحب السمو الشيخ خليفة بن زايد آل نهيان رئيس الدولة حفظه الله، باور وبأخيه وصيته وأنه الخليفة الجديد.

ويوسف سموه ما تداولته مواقع التواصل الاجتماعي من أخبار حول صحة صاحب السمو رئيس الدولة، مؤكداً بأنه غير صحيح.

من الصحة. ولا يبدو أن يكون شائعات متداولة. ودعا سموه الجميع إلى توخي الحذوق والتثبت في نقل المعلومات والأخبار. أكون استعداً للتقنية الحديثة ومواقع التواصل الاجتماعي لكل ما فيه خير مجتمعتنا ووطننا.

وأرجو الصبر حيث ذكرت أنه بديم صحة الأمن والاستقرار والتقدم والازدهار في زرع وطننا الطاهر. وأن يشمل برعايته وعنايته أفرادنا

الحكيمة. وجميع المواطنين والمقيمين على هذه الأرض العزيزة. وأن يحيى الجميع من ثمرات التنمية والطمح.

جاءت تصريحات سمو ولي عهد أبوظبي خلال زيارته سهيل شاهين المور في منزله بمدينة خليفة في أبوظبي.

والقى سموه أهداء الأسرة والأقارب والتطور والازدهار. منهم التهاني. بمعية طين شهور رمضان. (الطبع من ذا)

محمد بن زايد خلال زيارته سهيل شاهين المور في منزله بمدينة خليفة بن زايد (وام)

لا لحوم مسر في أسواق

أبو ظبي (الام) - 30

الوقاية الغذائية. أن

المأدبة الموزونة

سريعة وسهلة

والتي تشمل

في مختلف مراحل

التي تشمل

وجود أي نوع

أو موزونة

أبو ظبي. سواء كانت

أبو ظبي. بغاية أن

تدور الحياة أبو ظبي.

24 مليار درهم استثمارات المواطنين في عقارات دبي

أبو ظبي (وام) - 30

الاستثمار واستثمارات

في مشاريع استثمارات المواطنين في القطاع العقاري دبي خلال 12 شهراً

المساهمة. وأكد رؤساء شركات عقارية

بالإضافة إلى القطاع العقاري على الاستثمار العقاري. وأطلق

القطاع العقاري خارج الدولة.

دفع المواطنين إلى التركيز وإعادة توجيه

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دفع المواطنين إلى التركيز وإعادة توجيه

The impact of Rumors on the National Security of the United Arab Emirates

This kind of rumor that has recently targeted the UAE is a direct threat to its national security at the political, economic, social and food levels:

- 1 – Rumors provoke panic and dread in the hearts of members of the community.
- 2 – They affect the cohesion of the political regime, especially when related to the icons of the state, and the political leadership, their impact would be stronger. When

these icons are highly beloved by the various segments of people, like HH Sheikh Khalifa bin Zayed Al Nahyan, President of the State, may God protect him, rumors then aim to destabilize the country.

3 - They attempt to destabilize the economic security of the state, through disseminating misleading information about the financial markets and the stock market.

4 – They attempt to tarnish the image of the country to the outside world, through the broadcast of malicious rumors about the situation of foreign workers, human



rights and public freedoms in the country.

How to Deal with Rumors and Contain their Effects

Due to the danger of rumors to the national security of the UAE, there is an urgent need to deal quickly and effectively with them any and try to stop their circulation, and this requires action at the following levels:

1 - The official level, through the issuance of a statement from the competent authority, to clarify the nature of this rumor (honest / false). The initiative of His Highness Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the Armed Forces to deny rumors related to the health of the head of state during the past few days provides a good example of how to deal decisively with such rumors.

2 - At the grassroots level. Members of society should take care not to circulate any news that comes to them through social networks or their smart phones before they check the official sources of the news in the country.

3 - At the security level. The concerned authorities should prosecute purveyors of these rumors through social networks and bring them to trial.

4 - At the legislative and legal level, through the strict application of the maximum penalties prescribed by the law of the UAE for rumor purveyors, whether intentionally or unintentionally, to be receive just punishment.

5 - At the religious and moral Level, through more religious awareness to members of the community, on the grounds that rumor is contrary to the teachings of Islam, because religion is keen on the safety of the community from all that affects its members, including bad ethics, false beliefs or negative behavior. The Qur'an and Sunnah have warned against rumors in many verses and traditions. The Prophet, peace be upon him, said: "A Muslim is one who keeps other Muslims safe from his tongue and hand."

6 - At the media level, especially because some media outlets have recently turned inadvertently into promoters of rumors, by circulating unverified. It is also necessary

to adopt a positive approach to a positive proactive media approach, as was done by H.H. the Crown Prince of Abu Dhabi, when he denied the rumors immediately in clear and explicit words since H.H. realizes the danger of leaving such rumors affect the public.



The UAE and the GCC are facing a rapidly changing security environment. After three years, the Arab world is still struggling with the effects of the political instability and violent extremism that was triggered by the protest wave of 2011.

By:

Dr. Anwar Mohammed

Gargash

Minister of State for Foreign Affairs

.....



THE UAE'S APPROACH

Internal and external foes are seeking to exploit this instability to further their own dangerous goals. These dynamics are posing a serious challenge to regional peace and risk undermining the established regional balance of power.

At the same time, the global balance of power is being transformed by the rise of new actors that are willing to challenge the status quo. This is causing conflict and tension from Eastern Europe to the South China Sea. While posing no direct challenge to the UAE, these global power shifts and the instability they beget are generating powerful spillover effects that are affecting the region.

These dangerous regional and global changes are reinforcing each other. By deepening uncertainty amongst regional and global actors, they are encouraging brinkmanship behavior and increasing the risk of miscalculations. The UAE and the GCC are profoundly affected by these changes, which foster the need to continuously recalibrate the regional security architecture.

Pillars of Regional Stability

The UAE's approach to regional security rests on six well-defined pillars that are fostering regional stability and prosperity and provide the basis for amicable relations with our neighbors. These pillars provide the foundation for our common security and help to foster growth and development across the region.

•**Domestic Strength:** To play an active and constructive role on regional security issues requires above all strength and cohesion at home. To this end, the UAE needs to maintain its economic strength and dynamism, which are crucial drivers of domestic cohesions and regional stability. Our economic dynamism is key to

our security. It also requires the UAE to maintain capable military forces with the ability to respond rapidly to a variety of security contingencies. While the UAE can rely on strong allies to safeguard regional security, it needs to maintain the ability to respond forcefully to all local threats.

•**Moderation:** The UAE champions a moderate agenda at home and abroad that fosters reconciliation and opposes extremism in all of its forms. At home, the UAE's tolerant society is based on respect for other religions and people and opposes all forms of discrimination. The UAE's acknowledged leadership on women's right in the region is testimony to this culture of moderation. Abroad, the UAE seeks to foster moderation by working with moderate forces and supporting international efforts to counter violent extremism.

•**Non-interference:** The UAE embraces the principle of non-interference in domestic affairs as enshrined by the UN Charter and the Charter of the Arab League and respects the sovereignty and territorial integrity of other countries. This principally means that the UAE considers Arab Affairs to be first and foremost a matter for the Arab League and opposes undue outside meddling in the Arab world. Arab problems should be solved by Arabs. It also means that Arab countries should refrain from uninvited interference in the domestic affairs of their fellow Arab countries. This is key to amicable regional relations.

•**Regional Balance of Power:** The UAE seeks a regional balance of power in the Arabian Gulf that enables friendly and reciprocal relations between all countries. The UAE considers all attempts to challenge this balance, whether by internal or

TO REGIONAL SECURITY

external actors, as damaging to its interests and to the interests of the region. The UAE therefore seeks a balanced relationship between all powers in the region and opposes any bids to regional hegemony that would inevitably pose a challenge to its freedom and independence.

•**External Balancers:** The UAE maintains close ties with a number of countries with which it shares a history of friendship and a common interest in maintaining an open and stable regional environment. In addition, the UAE is always open to consider partnerships with countries that have not been previously active in the region, or are otherwise emerging as responsible international actors. The UAE cooperates closely with these countries, including on security issues, in pursuit of common interests and based on shared values, with the aim of ensuring a stable regional balance of power.

•**Multilateral Structures:** Effective multilateralism is key to ensuring peaceful relations amongst nations and upholding common international legal norms. To ensure an effective multilateral system, the UAE plays an active role in several multilateral organizations, including the Arab League, the GCC, and the UN. The UAE seeks to strengthen the ability of these organizations to play an effective role in conflict management and resolution and participates actively in their work on regional crises, such as the ongoing conflict in Syria.

New Challenges to Regional Security

At present, the Gulf region is facing a number of prominent challenges that are threatening regional security and cooperation. These challenges are a direct con-

The global balance of power is being transformed by the rise of new actors that are willing to challenge the status quo

The UAE embraces the principle of non-interference in domestic affairs as enshrined by the UN Charter and the Charter of the Arab League

Arab problems should be solved by Arabs

sequence of complex regional and global changes we witnessed in recent years.

Most severe amongst these challenges has been the emergence of a new wave of extremism. Extremist actors have been able to exploit changes in the regional and global environment and are threatening the status quo in several countries in the region. These events are fuelling sectarianism across the region and serve as a magnet for extremists. This has also encouraged dangerous extremist forces in the UAE and other Gulf states. To ward against these dangers it is necessary for all countries in the region to unite behind a common agenda that clearly denounces extremism and sectarianism in all of its forms. Arab countries need to rally behind moderate forces that provide the best hope for the future.

Competition for hegemony amongst regional powers remains another important security challenge for the region. The use of conflicts in the region as a proxy for the rivalry amongst major powers remains an important source of regional instability and conflict. Therefore, for the UAE, Iran's occupation of the islands, Abu Musa, Greater Tunb and Lesser Tunb, remains a major point of contention. The UAE seeks a peaceful resolution of this conflict through either direct negotiations or international arbitration. To this end, the more conciliatory language of the current Iranian government is encouraging, but needs to be followed by concrete action.

The withdrawal of international troops from Iraq and Afghanistan and the emergence of alternatives to oil and gas from the Arabian Gulf have led to speculations that the region might witness a rollback of the presence of the US in the region. Talk of an American pivot to Asia has

further underpinned the misconception of an American withdrawal from the region. These speculations embolden possible challengers and might lead to dangerous miscalculations that threaten regional peace. The UAE is confident of the commitment of the US and its other international partners in the region and continues to maintain close and confident relations with them concerning regional security issues.

Israel's occupation of Palestine continues to be another important driver for extremism, conflict, and instability across the region. The UAE is deeply concerned about the recent breakdown in the US-led peace talks and will do all it can to help bring the talks back on track. The main impediment remains the issue of Israeli settlements, which are illegal under international law. Israel needs to

recognize that it is in its own interest to come to a just and stable solution to the crisis. Failure to resolve this long-standing problem peacefully and amicably will only provide an opening to extremists on both sides and spawn further conflict.

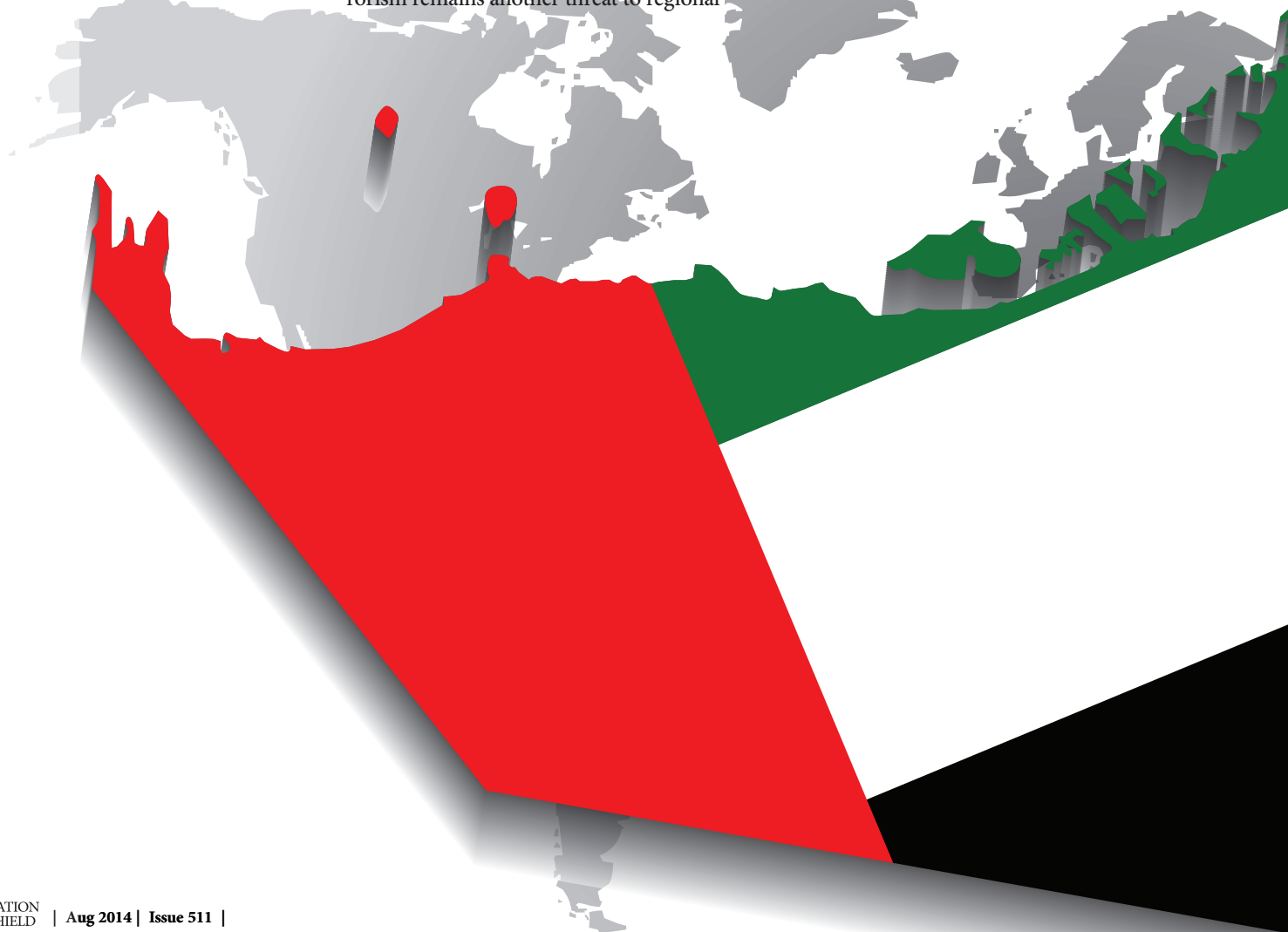
On top of these traditional challenges to regional security, the region faces also a number of non-traditional security challenges that threaten our economic wellbeing and the stability of our societies. The proliferation of WMD, in particular, is a key danger for regional and international security. In this respect, the UAE welcomes the talks between the P5+1 and Iran that seek to address the concerns of the international community over Iran's nuclear weapons program. An airtight, sustainable solution to this issue is important to avoid the dangers of a potential regional arms race. International terrorism remains another threat to regional

security. To ward against this threat it is important for Arab countries to adopt common guidelines on how to tackle terrorism in all of its forms, as called for at the recent Arab League summit in Kuwait this year and to deny safe haven to wanted individuals and provocateurs. Transnational crime is a challenge to our social and economic wellbeing. Non-state actors, such as pirates at sea and criminal syndicates, represent a new and growing challenge to regional security.

The UAE's Response to Emerging Threats

In order to check these challenges to security and ensure a stable system in the region, the UAE is leading the regional and international response on three levels.

First, the UAE, together with its part-



ners, seeks to strengthen the ability of the region to respond collectively to security challenges. The UAE is also playing a leading role in the creation of a GCC Security Academy able to foster a common security culture in the region. The UAE considers it crucial for all GCC coun-

tries to step up their preparedness against common security challenges.

Second, the UAE is seeking to bolster multilateral partnerships that are key to

ensuring regional and global security. Relations with NATO represent an important vector for the UAE's multilateral engagement on security issues. By taking an active and constructive role in the UN and within the Arab League, the UAE seeks to bolster the ability of these organizations to act effectively and with legitimacy on international security issues.

Finally, bilateral security partnerships with key global powers continue to provide a cornerstone of our common security. With power increasingly dispersed internationally, the UAE has sought to deepen and widen the range of its security partnerships.

Conclusion

By uniting around our common values and principles, the UAE can ensure that it remains an island of stability in the current regional turmoil. The guarantee of stability, of economic prosperity, and of an open and international outlook, allows the UAE to maintain the confidence and trust of its closest neighbors and partners, and of the wider international community. This puts the UAE in a position where it can continue to play an active and effective role on regional security issues in the region and the wider world, which is valued and appreciated by all our partners. Above all, this serves the interests of all UAE citizens who benefit from a secure and stable regional environment and prepares the UAE for the rapid changes the regional and global security environment is currently experiencing.



Raytheon EKV ballistic missile destroys

First successful intercept for latest variant

A ground-based interceptor roars into the sky carrying a Raytheon-built Exoatmospheric Kill Vehicle on June 22, 2014 ... the kill vehicle destroyed a simulated ballistic missile high over the Pacific Ocean.



Raytheon's EKV destroyed an intercontinental ballistic missile target in space, marking the first successful intercept for the latest variant of the EKV and the ninth for the overall program.

The intercontinental ballistic missile target used in the test was launched from the Ronald Reagan Ballistic Missile Defense Test Site on Kwajalein Atoll in the Pacific Ocean, while the Ground-based Interceptor was fired from Vandenberg Air Force Base in California.

Once in space, the interceptor released the EKV, which identified the target, tracked it and destroyed it. EKV's carry no warheads and eliminate targets by force of impact alone.

"This is an important moment for our nation (US)," said Dr. Taylor W. Lawrence, president of Raytheon Missile Systems. "The successful test reflects the tireless systems-engineering work by a joint government-industry team to ensure the US is protected from long-range ballistic

missiles."

The intercept took place during a Missile Defense Agency test of Boeing's Ground-based Midcourse Defence System, which is designed to protect the US against long-range ballistic missile attack by destroying incoming threats in space.

Partner

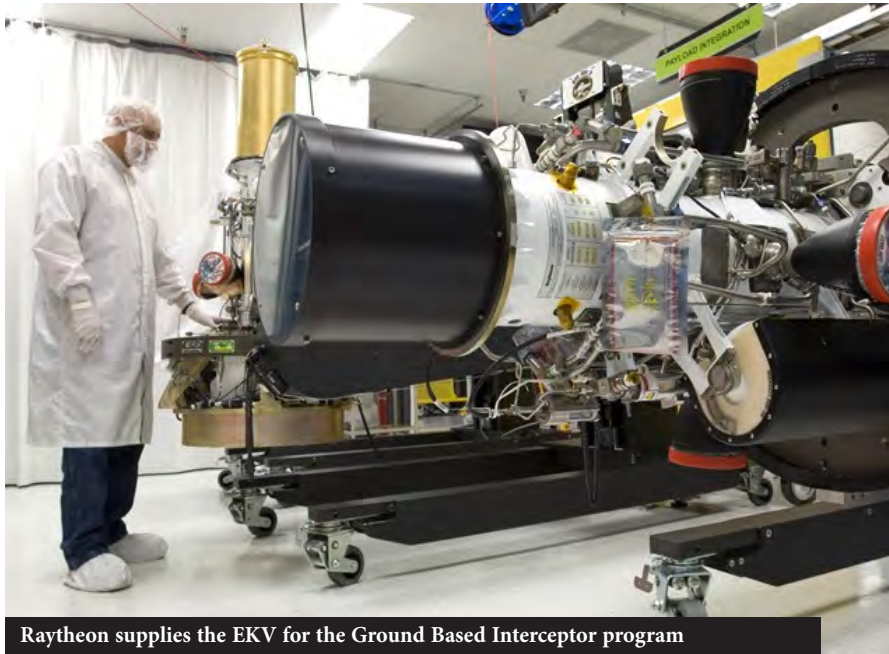
As prime contractor since 1998, Boeing has partnered with the US Missile Defense Agency in the design, development, integration, test and sustainment of all GMD components.

Key subcontractors include:

- Northrop Grumman (strategic partner) - fire control and communications products as well as support to systems engineering, systems testing and operations and sustainment
- Raytheon - GBI Exoatmospheric Kill vehicles (EKVs)
- Orbital ATK - GBI booster vehicles

Boeing continues to lead the industry team for GMD development, integration, testing, operations and sustainment activities under the Development and Sustainment Contract, which was awarded in December 2011. The company will con-

target in space



Raytheon supplies the EKV for the Ground Based Interceptor program

continue to build on its experience of supporting the Missile Defense Agency as prime contractor for the program.

Under rigorous testing, the GMD system has demonstrated impressive capabilities, including the ability to shoot down an incoming ballistic missile. The system has achieved a total of eight successful intercept tests, including three successful intercept tests with operationally-configured interceptors. Flight testing is scheduled to continue.

In addition, Boeing continues development of the two-stage interceptor in order to provide a hedge against the long range ballistic missile threat. Boeing and MDA have executed a successful two-stage launch, fly-out and data collection mission.

Latest design

The performance of the EKV in this test builds on last year's successful non-intercept flight test and validates the latest de-

sign, known as the "CE II" variant.

The EKV locks on and eliminates high-speed ballistic missile warheads in space using nothing more than the sheer force of impact, known as a "hit-to-kill" defense.

"Raytheon is 100 per cent committed and invested in providing innovative, reliable kill vehicles for the protection of the US," said Wes Kremer, vice president of Air and Missile Defense Systems.

"Today is proof that we have fully resolved the issues discovered in previous tests, and I am confident in the system deployed today."

Kremer said Raytheon supports the need for a redesign to the current EKV, which was originally deployed by presidential decree in prototype status in 2004.

"Today's test allowed us to challenge the EKV in a series of realistic outer-space environments, which gives us a broad range of data prior to moving toward an intercept scenario," said Wes Kremer,

Raytheon's vice president of Air and Missile Defense Systems.

Confidence

A target missile launch was not planned for this flight test. After performing fly out maneuvers, the three-stage booster deployed the Exoatmospheric Kill Vehicle to a designated point in space. After separating from the booster, the Exoatmospheric Kill Vehicle executed a variety of pre-planned maneuvers to collect performance data in space.

"This is the most complex missile defense mission in the world, and it requires the most advanced kill vehicle in the world," said Steve Nicholls, Raytheon's EKV program director. "The EKV performed extremely well today, and I have great confidence that we'll be able to move toward an intercept flight test this year."

The EKV leverages more than two decades of expertise in kill vehicle technology. It has an advanced, multi-color sensor that detects and discriminates incoming warheads from other objects. The vehicle also carries its own propulsion, communications link, guidance and control system, as well as computers to support target selection and intercept.

"Raytheon supports a robust EKV redesign that further increases reliability, testability and maintainability of the fleet," Kremer said. "We know exactly what it will take to mature the EKV from its prototype status into a mature, consistently performing program, and we can do it while significantly reducing costs."

Space factory

That sentiment was echoed by Sharon Walk, director of Raytheon's Space Sys-

tems Operations, who oversees the Space Factory where the EKV and Standard Missile-3 kill vehicles are made.

On the outskirts of Tucson, Arizona, one of the cleanest factories in the world runs a one-of-a-kind operation: creating rocket-propelled “kill vehicles” that hunt down and destroy ballistic missiles in space.

Here, workers in clean-room suits assemble optics and sensors so sensitive that they can pick out warheads against the blackness of space from hundreds of miles away. Others install tiny thrusters so accurate they can steer into the path of a missile moving at 17,000 mph.

This is Raytheon’s Space Factory, a workshop that is like no other in the world. Cleaning crews constantly clean the floors and scrub surfaces with alcohol wipes. Pumps replace the air in some labs

every 27 seconds.

“We have some very key people here and key infrastructure that doesn’t exist anywhere else,” said Walk.

The Space Factory and its clean room technologies have helped make Raytheon the world leader in space-based kill vehicles. The company has decades of experience building interceptors for the Ground-Based Midcourse Defense system and the Standard Missile-3, and it is now expanding the Space Factory to develop the next generation of kill vehicles.

In the factory, stainless steel is the metal of choice for the myriad of test chambers used to simulate the chill of space. Sensors throughout the building constantly measure air pressure, humidity and microscopic particles of dirt.

Even the dirtiest areas are cleaner than an operating room, and technicians use

tools that go through a special rinsing process. Workers with colds aren’t even allowed in the clean rooms for fear they might sneeze and cause contamination.

Raytheon opened the factory in 2002 after the US government tasked the company with building a system to counter the rising threat of long-range ballistic missiles. It designed and rapidly deployed an exoatmospheric kill vehicle prototype two years later.

The prototype model is now flying on the ground-based interceptor missiles used by the Ground-Based Midcourse Defense system. The company has continued to refine its designs, and the kill vehicle now used on the Standard Missile-3 incorporates these advances.

Expertise

“Over time, we were able to leverage



knowledge from the prototype and expand that into the SM-3 product line, producing three variants,” Walk said. The latest SM-3 variant achieved five-for-five intercepts last year.

Cleanliness is key to Raytheon’s success because a kill vehicle’s optics and sensors have to be absolutely clear to pick out fast-moving targets against a field of stars, said Vic Wagner, director of advanced kill vehicles for Raytheon Air and Missile Defense Systems.

“We’re measuring photons. That’s how tight we are,” he said.

Makers of computer chips only have to protect flat wafers, but the Space Factory has to keep three-dimensional objects clean – a far more difficult task, Wagner said.

“A clean room in the semiconductor industry is not designed to build kill vehi-

cles,” Wagner said. “We’ve built the infrastructure of air handling and test equipment that’s second to none.”

The factory is divided into three cleanliness classes. Only four to five people are allowed in the most restrictive zone.

But machinery and cleanliness aren’t the only unique things about the Space Factory. The people who work in the labs have spent decades perfecting interceptor technology, a specialty shared by no other company in the world. In Tucson they rub elbows with the world’s foremost missile designers as well.

“It truly is a fertile ground and springboard for sharing knowledge,” Walk said.

To prepare for the next-generation kill vehicle, the company is expanding the factory by almost 6,500 square feet and adding an even cleaner “microenvironments” area. The new addition will include more

automation and is expected to be finished by year-end.

“We invented the business of building kill vehicles to defend the free world, and we’re now ready to employ our collective knowledge, expertise and infrastructure to take it to the next level,” Walk said.

Raytheon kill vehicles are built by the same engineers using the same equipment, and the lessons learned on the highly successful SM-3 program will be applied to future generations of EKV, according to Walk.

“We have the talent, technology and manufacturing equipment to not only support current designs, but also to stay ahead of future ones,” Walk said.

Credit: www.raytheon.com

AQS-24 UNMANNED MINEHUNTING

قيمة صياغة مسار جديد في حرب الألغام

مقارنةً بتكلفة الأنظمة المنافسة، فإن مستشعر الألغام AQS-24 من نورثروب غرومان المدعم بسفينة كاسحة للألغام ذاتية القيادة (USV) يُعد النظام الأكثر فاعلياً والأقل تكلفةً ضمن أنظمة كشف الألغام التي تم ابتكارها حتى الآن. يستخدم AQS-24/USV التقنية الآلية والنظم الغير مأهولة للعثور وتحديد المخاطر والتهديدات المحتملة في أعماق البحار ومن ثم التعرف عليها مما يؤمن المداخل البحرية الحساسة لحلفائنا. كل ذلك لأننا نعلم بأن الأنسب للمهمة أحياناً هو أن لا يكون هناك عناصر بشرية في منطقة العمليات. لذلك نُعد رُواد الأنظمة الآلية والنظم الغير مأهولة.

قيمة الأداء

NORTHROP GRUMMAN

www.northropgrumman.com/minehunter

Drones the future?

Unmanned combat aerial vehicles may decide outcome of wars

The prevalence and use of unmanned systems continue to grow rapidly. The past decade of conflict has seen the greatest increase in unmanned aircraft systems, primarily performing ISR missions. Their use of unmanned systems in the other domains is growing as well.



Global Hawk Block 30- A combat-proven HALE UAS

Unmanned systems have proven they can enhance situational awareness, reduce human workload, improve mission performance, and minimize overall risk to both civilian and military personnel, and all at a reduced cost. The capabilities of unmanned systems are not unique over manned systems. Weapon systems produce same effects in nearly all domains, independent of being manned or unmanned.

Survivability

Unmanned systems provide persistence,

versatility, survivability, and reduced risk to human life, and in many cases are the preferred alternatives especially for missions that are characterized as dull, dirty, or dangerous. Training an ordinary military pilot takes many years and millions of dollars, while creating a drone takes far less time and money. Furthermore, personnel operating them are based well behind their troop positions and will never get hurt in fighting.

According to Col Robert E. Chapman II, USAF, UCAVs employing direct-attack munitions could reduce costs per kill

well below that of current standoff systems- cruise missiles, for example. During Operation Desert Fox, a 70-hour joint military operation in December 1998 to destroy military and security targets in Iraq, Navy ships fired more than 325 Tomahawk cruise missiles, and Air Force B-52s launched more than 90 AGM-86C conventional air launched cruise missiles (CALCM).

UCAV proponents contend that removing the operator from the weapons-delivery vehicle confers design advantages over manned aircraft. Firstly, since



SHADOW unmanned vehicle from Textron



Dassault formation Flight - nEUROn & Rafale

vehicle loss does not pose an inherent risk to human life, design margins can be reduced below the traditional 150 per cent design load factor traditionally used for manned aircraft. Lower design margins lead to reductions in structural weight. Secondly, the elimination of pilot-support systems, such as egress mechanisms and environmental controls, also reduces weight and complexity. Collectively, these savings can result in smaller vehicle sizes.

Operational advantages

UCAV supporters also cite several potential operational advantages over manned systems, pointing out that smaller vehicle sizes yield greater range and endurance. Additionally, smaller vehicles possess inherent survivability advantages because radar cross-section and infrared signatures are reduced.

They argue that the absence of the cockpit, typically a large area of radar re-

flectivity and a significant contributor to radar signature, would further enhance UCAV survivability. UCAV advocates assert that smaller vehicle sizes may have even greater survivability implications in the future as new detection and tracking technologies mature.

Finally, without the risk of aircrew loss, vehicle attrition becomes less onerous from both a moral and a political standpoint. One could task UCAVs for high-risk, high-payoff missions without attendant risk to human life. As a result, UCAVs could expand the range of coercive options available to both civilian and military leaders.

It's also stressed that a fleet of low observable (LO) UCAVs could contribute to the success of an air campaign in a number of ways. UCAVs could provide a powerful "day one" force enabler by conducting destruction of enemy air defenses (DEAD) and suppression of enemy air defenses (SEAD) missions.

UCAVs could also be used to supplement deep-penetration strike aircraft, such as the B-2 and F-117, by conducting conventional attacks against strategic



The X-47B Unmanned Combat Air System (UCAS) demonstrator taxis on the flight deck of the aircraft carrier USS Harry S. Truman-2

fixed targets and enemy centers of gravity. Although the Air Force currently operates LO platforms capable of conducting this mission, the Navy does not. A carrier-based LO UCAV could provide naval aviators with a long-sought, survivable, day-one, deep-strike capability.

Time-critical targets

And operating as part of a general air campaign, long-loiter UCAVs could provide a persistent presence to rapidly strike time-critical targets such as mobile surface-to-surface missile systems or armored vehicles out of garrison. Besides carrying missiles and cameras, many UAVs also have lasers that can pinpoint targets to manned pilots.

UCAVs might also play an important role in low intensity conflict or contingency operations. Low observability, long endurance, and the absence of pilot support are ideal attributes for long-duration missions in hostile or contested airspace. Proponents envision UCAVs conducting armed-reconnaissance missions, patrolling the skies over hostile territory, and holding enemy targets at risk in a manner similar to missions currently ongoing over Iraq as part of Operations Southern

Watch and Northern Watch.

Additionally, UCAVs might reduce demands on support assets such as combat search and rescue (CSAR) forces. These scarce resources, characterized as high-demand/low-density assets, are tasked with the hazardous mission of recovering downed aircrew members.

In the event of a UCAV loss, CSAR efforts would be unnecessary. Reducing rescue requirements directly lowers the risk of CSAR force attrition. Lastly, UCAVs could enhance a theatre commander's ability to maintain a robust air campaign in the presence of chemical or biological agents because these vehicles would obviate the inefficiencies imposed by aircrew physiological-support requirements in such an environment.

Interestingly, it is on the very cusp of this global upswing that the US – the leading developer and employer of UCAVs – is taking a step back from further large-scale investment into the capability. At the height of the boom in unmanned systems, the UCAV was seen as a game-changer, but with a pivot in the operational landscape and the reality of constrained budgets, justifying the same levels of expense is difficult.

Like many allied countries, the US Government is in a process of restructuring its armed forces to account for both the budget deficit and the requirements of future conflict. It currently has around 11,000 UAVs in its stocks.

Shopping trip

While cost always seems to be the tallest hurdle when it comes to equipping militaries, the price tag of acquiring basic unmanned platforms continues to fall, and is a chief reason for the shopping trip that the rest of the world is planning to take. Access to either technological expertise or development, or indeed the ability to manufacture in lieu of expertise, is already proving a worry to western governments.

Iran recently unveiled what it claimed to be a successful copy of the US RQ-170 it captured in 2011. Iranian officials announced that it had decoded and reverse-engineered the aircraft. Photos that emerged from China in 2013 also seemed to show replicated RQ-170s.

Of course, in either case there is no solid evidence that the internal systems have been successfully reproduced, but speculation suggests that the two nations may

have teamed up in efforts to build something that is at least close enough to the original model to have a wider impact on strategic planning. Several weeks before the Iranian announcement, tensions in Southeast Asia were done no favours by the discovery of rudimentary reconnaissance UAVs in South Korea, later determined to have been launched by North Korea and built with Chinese parts.

Armed variants are almost inevitable. Adding to the issue is the willingness of some advanced nations to begin exporting their products for profit to countries that are otherwise unable – or legally restricted – from developing the capability, then sharing access to that technology to third parties.

The biggest question mark remains in the validity of the unmanned system in tomorrow's operational environment. Afghanistan presented a scenario in which the adversary was without an air force or major air defence capability, and UCAVs could operate largely without resistance. By the latter stages of the campaign, insurgents were acquiring electronic jammers to try to combat the systems, hinting at the efforts being done by other nations to readdress the balance.

Now, there is less likelihood of western forces re-engaging in a large-scale counterinsurgency campaign on the ground, and perhaps more likelihood that the next major conflict will take place in a contested environment. As previously explored, the notion of replacing all manned aircraft with a pilotless or remote alternative is currently impractical for a host of reasons.

Alongside the rise of any new weapon comes the rise of a countermeasure, and for UCAVs, electronic warfare systems and offensive cyber weapons are making it much less probable that these aircraft will be able to operate without interference, especially when pitted against a technologically advanced enemy.

Russian UCAVs

The Russian Air Force is to receive its first unmanned combat air vehicles (UCAVs) into service by 2020, with testing provisionally scheduled for 2017. Successful US operations using drone aircraft in Pakistan and Afghanistan spurred Russia to revive its development program.

According to Deputy Defense Minister Yuri Borisov, research and development work for this project is now nearly complete. Drone fighters are able to tackle strategic tasks because they are difficult to detect and have better combat sustainability than manned aircraft.

There are over 600 types of unmanned aerial vehicles produced in the world today, including 25 in Russia. A mere 20 years ago, Moscow was an undisputed leader in this field. In the 1980s, it manufactured 950 Tu-143 reconnaissance UAVs alone. However, the Defense Ministry then wound up drone production.

It was the Americans who prompted the Russian military to revive the program. Successful US operations with the use of UAVs in Afghanistan and Pakistan have shown that no war of the future can be conducted without drones. Another impulse behind Russia's drive to develop its own UCAVs may be the 2008 war in South Ossetia. When the Russian Defense Ministry saw that the Georgian side was using drones, it concluded that this type of aircraft was essential for the new century. That same year, the first tender for developing UCAVs was announced. It was awarded to several design bureaus.

The Yakovlev design bureau presented drafts of an unmanned combat air vehicle called Skad which won the first position. The second winner was the Sukhoi design bureau with a project named the X-40. There is very little information about the development of both systems. In mid-February 2014, Russian Defense Minister announced that the ministry in-

Drone fighters are able to tackle strategic tasks because they are difficult to detect and have better combat sustainability than manned aircraft

tended to spend 320 billion rubles (about \$8.8 billion) by 2020 on a program of supplying the Russian armed forces with unmanned aerial vehicles. It is not clear which specific UAVs this money will be used to purchase.

UCAVs may therefore be an area that the US and its allies are perfectly right to lower down the priority list for military spending. This strategy does not however imply that funding will dry up altogether since countries like Russia are investing in the technology. Indeed, the unmanned system continues to provide invaluable influence in campaigns, and in a support role for both national and partnered forces.

The revolt in Libya, the ongoing struggle in Nigeria, and the fight against the illicit drug trade in Latin America are just a few examples in which unmanned systems have been proving their worth outside of conventional warfare in recent years.

Credit Text & Photo: Defence IQ
www.airpower.maxwell.af.mil
www.rbth.com



ULTIMATE ARMORED VEHICLE

TITUS offers exceptional mobility

From infantry transport to combat support and combat service support functions, from peace keeping operations to counter insurgency, TITUS brings the technology and the Nexter touch into the heart of the action.



Tactical Infantry Transport and Utility System (TITUS) is a new modular armored wheeled vehicle unveiled by Nexter Systems at the Defence Security and Equipment International exhibition (DSEI) in September 2013 and displayed at the recent Eurosatory 2014.

TITUS is the ultimate armored vehicle designed by Nexter in order to meet all the constraints of modern hybrid warfare.

The modular vehicle is capable of carrying out missions such as transport of infantry troops, combat, combat support and combat service support functions including medical evacuation, cargo transport, peacekeeping and counter-insurgency.

The low cost vehicle took about two years to develop. It combines the experience and technology of Nexter's innovations over the years, including the Leclerc main battle tank (MBT), VBCI Infantry fighting vehicle, self-propelled CAESAR gun, and ARAVIS multipurpose heavily protected armored vehicle.

Versatile

Continuing a famous long lineage, including Leclerc MBT, VBCI and Aravis, all combat proven in many theatres of operation, Nexter combined the best of its

experience and technology in TITUS. The tactical commander disposes now of a 6x6 vehicle customizable for an evolving environment. TITUS is the versatile armored vehicle of the 21st century.

TITUS is mounted on a Tatra six-by-six chassis, coupled with an engine of 440Hp (500Hp in option) offering an exceptional mobility. Wrapped with an armored skin of last generation, from level two to level four, TITUS is also protected against mines and IED blasts (up to 150kg), by the original Nexter Safeapro design - hanged floor, energy absorbing seats and so on.

Safeapro protects the lower limbs with the foot-rest, the pelvis and the spine with the patented seat system and the nape and the head with the head-rest and four-point harness. The Safeapro seat limits shocks suffered by the infantryman in case of explosion of blast-effect mines or IEDs.

The units can be committed into the battlefield quickly and safely. Furthermore, to allow the crew (driver, gunner and tactical commander) and the embarked squad to last a long time on the terrain, an exceptional effort of habitability has been done by Nexter in the hull.

Nexter Battlefield Management System FINDERS provides a situational awareness, enhanced by a perimetric camera system, and reconnaissance robot, allow-

ing a safe dismounting.

Remote control

The vehicle can be equipped with any kind of remote control weapon station from 7.62mm to 20mm, and grenade launchers of 40mm, depending on the level of threat and type of mission.

The armaments are paired with thermal sensors and laser range finders. Two light machine guns can be optionally fitted on the rear top. The vehicle is also fully integrated within the C4I network through last generation vetronics.

The vehicle can be equipped with Nexter's patented PG Guard rocket propelled grenade protection system, which is capable of withstanding two to four firings per square metre.

The layout of the Nexter TITUS is similar to MRAP category vehicle with the engine at the front, the crew compartment in the middle and the troops' area at the rear. The front part of the vehicle and the windows provide a protection against small arms firing and shell splinters.

The front part of the hull is equipped with a large windscreen which enables the crew to have a wide forward visibility towards. One single door is available on each side at the front of the hull. Each side of the troops' compartment is equipped with three small bulletproof windows and firing ports, which are covered when the add-on armour is fitted on the vehicle.

The infantrymen enter and leave the Nexter TITUS via a hydraulic rear door which opens downwards.

The Nexter TITUS offers an exceptional mobility through its Tatra 6x6 chassis coupled with a Cummins 440Hp engine. The vehicle has front and rear wheeled steering with Allison automatic transmission offering 6x4 drives on roads with full 6x6 drives over difficult terrain.

Speed

The TITUS can run at a maximum road



speed of 110 kmh with a maximum cruising range of 700 km. The TITUS can cross a vertical step of 650 mm and fording depth of 1.2m without preparation. The vehicle is able to negotiate slopes up to 60 per cent and side slope to 30 per cent.

The armoured wheeled vehicle is mounted on a Tatra 6x6 chassis. The vehicle has a length of 7.55m, width of 2.55m and height of 2.73m.

The combat weight of the TITUS is 23t, which can be optionally increased to 27t by substituting the baggage space of 4t. The internal volume of the vehicle is more than 14m³ including 4m³ of storage space.

The troops can leave the vehicle using a power-operated ramp, with a minimal ground step of about 280mm located at the rear of the hull, which facilitates both egress and ingress. The driver and gunner can leave through side doors provided towards the front.

The vehicle is designed with two rear roof hatches. A tank is fitted inside the vehicle to provide potable water.

Technical specifications

Weight

23,000 kg combat weight

Speed

110 kmh

Range

700 km

Dimensions

Length: 7.55 m; Width: 2.55 m;

Height: 2.73 m

Armament

APC version: one 20mm automatic cannon, one 7.62mm coaxial machine gun, two 5.56 machine guns.

Manufacturer

Nexter

Accessories

NBC protection, four cameras, Battlefield Management System

Crew

3 + 10 soldiers

Features

The TITUS can be configured to suit a variety of military missions based on the mission intensity. It can be customised to accommodate 7.62mm RCWS, protection level two, forward crowd fence, dozer blade and non-lethal weapons for less intensive environments.

It can be customised to accommodate 12.7mm or 20mm RCWS, 40mm grenade launchers, protection level three, jammers and shoot detectors for conventional warfare.

The vehicle can also be customised to accommodate additional light machine guns on the back, protection level four, bar armour to protect against RPGs, add-on armour on windows and cable cutters for counter insurgency and military operation in urban terrain.

Other variants of Nexter TITUS include a target acquisition vehicle, command post, ambulance, and self-propelled 120mm mortar vehicle with other variants such as urban area, mobility support and recovery and re-supply vehicles available on request.