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**Hearing secrets**

"Talking In Your Sleep" was a new-wave hit released in the mid-80's by The Romantics, a pop band from Detroit. And it was starting like this:

- When you close your eyes and you go to sleep
- And it's down to the sound of a heartbeat
- I can hear the things that you're dreaming about
- When you open up your heart and the truth comes out?

Strange as it may seems, many Defense & aerospace companies seem still half-asleep when it comes to hacking and corporate espionage. Let's take just a few very recent examples. Earlier this month Swiss defense authorities acknowledged that A&D company RUAG has suffering a major breach since 2014, through a Russian-origin malware. The company is minimizing the damage, and insists no secret data was stolen or compromised... Meanwhile, KBS radio reported on Wednesday that South Korean defense shipbuilder Hanjin Heavy Industries & Construction was hit by a major cyber attack aiming at stealing military secrets. Last November, South Korean authorities also suspected a hacking attempt, at LIG Nex1, which was developing the AESA (Active Electronically Scanned Array) radar for the KFX project. And in 2014, some computers at the Korean Agency for Defense Development were infected with a new type of malicious code. According to a recent report of the Financial Times, Airbus discovered last year spyware within its IT system "programmed to intercept emails about the delivery of 50 helicopters to Poland". Indeed, the company suffers thousands of attacks each year, but among them, a mere dozen are judged really critical. Airbus IT security manager Stéphane Lenco told La Dépêche du Midi. However, according to a recent study by Mandiant, an IT security consultancy, the Aerospace & Defense industry only accounted for 5% or all attacks detected in 2016, meaning in fact that other apparently less sensitive and less protected sectors like intellectual services, retail and energy are becoming more attractive to hackers and spies...

- When I hold you in my arms at night
- Don't you know you're sleeping in the spotlight
- And all your dreams that you keep inside
- You're telling me the secrets that you just can't hide?

Apart from specific threats, the Aerospace and defense industry, just like everyone else, is vulnerable to global cyber-security challenges. Once again, two very recent examples. First: the U.S. Department of Homeland Security has alerted the public last week to a security gap in certain outdated SAP business software platforms, a vulnerability that has apparently been targeted by cyberattackers attempting to penetrate three dozen companies worldwide, the DHS adds. No reason why other ERP and widely used production software would not be also vulnerable...Indeed, with a major impact on production, this is a tempting entry point for ransomwares... Second: following a spectacular on-line theft from the Bangladesh’s Central Bank, Reuters reveal that preliminary investigations point not only at cheap networking and insider complicity, but also at potential loopholes inside the well-known international financial transactions system SWIFT. Interestingly, as Reuters adds, this loophole was revealed earlier by experts from BAE Systems. A team from the British Defense giant had published some of its findings, saying that it found malware that was designed to intercept and silently rewrite certain transactions sent via the SWIFT system. How this malware was introduced remains unknown. Or, as the Romantics used to repeat in their chorus:

- I hear the secrets that you keep
- When you're talking in your sleep.
In a note released to clients last week, Financial analyst Roman Schweizer gives an interesting overview of US foreign military sales, more than halfway through the U.S. government’s fiscal year 2016, which appear “on track to equal or top last year’s $43 bn”, since they have already reached $29bn through the end of April. “And there are a number of pending U.S. fighter aircraft orders that could bump that number up significantly if they are approved by the White House” Schweizer adds; In terms of companies, “Lockheed Martin leads the pack of defense primes, with $17.6B (which includes the $11.25B Saudi ship package). Raytheon (RTN, BUY, $126.35) is second with $8.28, and Northrop Grumman (NOC, BUY, $206.26) is third with $4.68” Schweizer writes. Regionally speaking, “Middle East is tops with $17.6B in pending orders, followed by Asia with $5.6B and Europe with $5.3B.” As for the future, Schweizer sees four main issues which may have a major impact on FMS this year, namely: 1) How the new 10-year foreign military financing package will be renegotiated with Israel 2) How the sale of 73 F-15Es to Qatar and 40 F/A-18E/Fs to Kuwait will be eventually unlocked. 3) How Australia’s Future Submarine program will move forward with Lockheed Martin and Raytheon competing to supply the new combat systems and, 4) How Saudi Arabia will succeed or not in developing its own domestic defense industrial base under its Vision 2030 long-term economic program.

Program

ISRAEL: Alpha Design to Assemble Hermes UAVs in India

Late last month, Israeli reporter Tamir Eshel broke an exclusive story on one interesting UAV deal in India.

Elbit Systems and Alpha Design and Adani Aero Defense companies of India announced today (March 30, 2016) they are working towards an agreement to build Hermes 900 and Hermes 450 unmanned aerial vehicles (UAVs) in India, for domestic customers, and export. “The companies intend to create a tiered vendor base for supporting, indigenization and localization requirements and seek to set up a final assembly and integration line including maintenance, repair, and overhaul (MRO) facilities” the announcement said.

The two companies are likely to offer the Israeli UAV solution for the Indian Army requirement for tactical drones.

Elbit Systems’ business philosophy encourages partnerships with local industries and the utilization of regional capabilities. The Company has already established alliances with some leading Indian companies, including Hindustan Aircraft, Bharat Electronics and Bharat Forge.

The two companies have a long record of successful projects in India, some are displayed this week at Defexpo, including an upgrading project for T-72 tanks and BMP-2 armored fighting vehicles, that includes a number of venetronic and electro-optical systems, as well as subcontracting work for Lizard guided weapons, both processed under the Indian offset program.

Following the changes in policy that the Indian market is undergoing due to the “Make in India” program, the regulatory environment is now more open to cooperation, and cooperation is part of Elbit Systems’ DNA. “As a high technology company Elbit Systems’ vision is to achieve operational excellence in its target markets, India being one of them,” said Bezhalel Butzi Machlis, President & CEO of Elbit Systems. “We see the “Make in India” program as a unique opportunity to contribute to making India a global manufacturing center,” Machlis added that Elbit Systems is determined to establish a strong leadership position in the Indian market in each of its core businesses. Hermes 900 and Hermes 450 share many common attributes, both on the platform and ground operations & support infrastructure. The fleet of Hermes drones has a track record of over 500,000 accumulated flight hours. Among the key capabilities offered by the Hermes 900 are longer endurance, flight altitude of 30,000 ft and a large payload capacity (up to 350kg).

A unique 2.5-meter long internal payload bay is provided, capable of accommodating up to 250 kg and allowing quick modular payload installation and replacement, as well as additional payload installation capacity including four hard points under the wings. The UAS includes innovative avionics and electronic systems, a low noise engine, as well as solutions that can be offered for sense and avoid capabilities and safe integration of the UAS into the relevant airspace.

(With permission of Defense-Update.com , 2016/04/29)
**Industry**

**FRANCE: Airbus Safran Launchers: Europe closing ranks against the SpaceX threat**

The European group Airbus and French company Safran signed on May 2 the second and final agreement regarding their space joint venture, Airbus Safran Launchers (ASL). The move will see the integration of several assets of both companies into one entity of more than 8,000 employees (of which 6,500 in France), responsible for developing and producing civilian as well military launcher capabilities. The deal is expected to close by the end of June this year.

Because the value of its space business would have granted Airbus with a 70% stake, Safran agreed to pay €800mn to its partner, allowing a 50-50 equal ownership structure in ASL. This, explained Airbus chief strategy officer Marwan Lahoud, reflected a rare case of “strategic shareholdings,” only shared by MBDA. It also means that the joint-venture’s future value will amount to €4bn. The French State initially wanted to tax – heavily – the future value will amount to €4bn.

“At the beginning they asked us up to €1bn in taxes, but this is the agreement of two companies that wants to move forward together by regrouping their space activities,” said Mr. Lahoud. The strategy paid off, and ASL avoided the penalty. Airbus and Safran will jointly collaborate on space programmes, bringing industrials assets into the joint venture as well as keeping their respective specializations. Safran notably brings its Herakles solid rocket motor subsidiary into the deal. But the particularity of ASL’s organization is the way working with space agencies, contractors and suppliers has been thought. In the Airbus’ facility where Ariane 5 rockets are assembled, a hundred engineers of companies like Sabac, Ruag or MT Aerospace are working directly with ASL and the ESA, bringing customers and suppliers in one integrated place. “They have access to all the documents. They both challenge us on our propositions, and help us find solutions. In the space sector, it’s a completely new way of working,” explains Patrick Bouguet, Ariane 6 program director for ASL.

In August last year, ASL already received a €2.4bn contract to lead the development of the Ariane 6 program, the next generation of the Ariane launcher series and European reply to competition from SpaceX. The US company, with is reusable rockets, prompted ASL to commit for drastic cost reductions: the joint-venture recently announced to the European Commission (EC) a €70mn target price for its new rocket launches, a 40% reduction compared to Ariane 5. A necessary move since the SpaceX’s Falcon 9 is roughly twice cheaper than the current Ariane rocket. This time, it seems that reliability won’t be sufficient to secure contracts. In collaboration with the French space agency (CNES), ASL is already working on its own low-cost reusable engine as part of the Promethé (Precursor Reusable Oxygen METHan cost Effective Engine) project, which could be tested by 2019, allowing a reusable Ariane by 2030 ... 10 years after the planned 1st flight of Ariane 6.

But in order to counter the threat posed by SpaceX and other space start-ups like Virgin Galactic or Rocket Lab, Airbus is also planning to develop a commercial launcher to send mini-satellites into orbit – ranging from less than a kilo to a few dozen kilos – with the hope to capture a slice of this emerging mass market. Arianespace already estimates that 600 very small satellites could be sent annually by 2030 from 400 expected this year and up from the 200 in 2014. “Without an ultra-competitive, ultra-accessible launching solution, it won’t have the scale needed. It may not replace our current market, but it may stimulate major innovations in launching solutions that we could offer over the next decade,” explained Arianespace’s CEO Stéphane Israël. This proposed new rocket fits perfectly in ASL’s goal to develop a complete range of launchers, only composed of Ariane and Vega for the moment, as well as the strategic missile M51 regarding military applications.

In the same time, the European space community is increasingly asking for support and protection from the European Union (EU), seen as a rather free-trade idealist. Quoting U.S. practices in the mater (tenders closed to foreign competition, generously subsidized agencies’ launches, etc.), even the very federalist Johann-Dietrich Wörner, head of the ESA, recently called for a “European preference,” asking that the Commission guarantee 5 to 6 launches a year to Ariane 6. That would represent half of the rocket’s annual forecasted flights.

(Sud Ouest, L’Usine Nouvelle, La Tribune, Les Échos, Defense News, Bloomberg)

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**Fashionista AK-47**

The iconic rifle manufacturer Kalashnikov has announced plans to conquer new markets and to diversify its product portfolio, especially following the imposition of western sanctions. Consequently, the producer will release a new branded line of clothes and accessories by the end of 2016. A way to restore growth through by export sales. But we have no clue on the role of Steven Segal, the potential brand ambassador picked by Rostec (see The Bulletin #222).

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**Meanwhile...**

**I shot the Sheriff!**

Norwegian defense officials are investigating how one of their F-16 fighter jets fired with a six-barrel 20 mm Gatling gun on a control tower during exercises over an island off the country’s west coast this month. An investigation to determine how this event took place, or how the tower was (fortunately) missed?

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**My head is a jungle!**

A strategic French industry assets, Laulhère, the sole beret-maker from the South of France, just won an important contract by the French Army for 60,000 berets made in France. A success against aggressive foreign bidders during a fierce competition, and a guaranty to retain 45 employees risking layoffs... French authorities played the domestic card head-on! This was the second and last fashion news for The Bulletin this week...
FAA is in the process of regulating small unmanned cargo aircraft operations, and in a short note, experts from the CRS are assessing legal consequences of such regulation. Hans Heerkens, a Netherlands-based specialist in unmanned cargo aircraft activities gave the Bulletin his assessment on US regulations, as wrapped up by the CRS.

On 19 April, the U.S. Senate passed the 2017 FAA re-authorization bill, in which the FAA is required, within two years, to establish rules for commercial transportation of goods by means of small unmanned aircraft (UAV’s), also known as package delivery drones.

This is an important milestone, for the bill recognizes the specific characteristic of unmanned cargo aircraft (UCA) operations, which may differ considerably from operations of, for example, surveillance UAV’s. An obvious difference is that surveillance UAV’s can take off and land far from airfields used by manned aircraft and from population centers, whereas UCA almost by definition operate near centers of economic activity. It is fortunate that the differences of various types of UAV are recognized before ‘one size fits all’ rules are adopted that may be detrimental to certain types of UAV operations.

But the above-mentioned bill also shows the many uncertainties and dilemma’s that present themselves to those responsible for UAV rulemaking. A publication by CRS, for example, poses the question whether, and under which circumstances, house owners and other interested parties can legally prevent UCA to fly over property under their jurisdiction. Can they bar overflights of package delivery drones on their way to their neighbors, can they merely bar UCA landing on their property? Which authority do local government bodies have over the airspace above their cities or states?

The CRS publication provides no definite answers. In the coming years, regulations on UCA and other types of UAV’s should evolve, both in the U.S. and elsewhere. In order to guard its interests, the emerging UCA community should not wait for whatever regulators have in store. Rather, it should proactively pursue the following issues:

1: It should be clear to regulators that small UCA like the ones that are addressed in the FAA bill are not the only UCA that need a regulatory regime. The Lockheed Martin K-Max helicopter and the Singular Aircraft FlyOx amphibian that are currently being test-flown have payloads of hundreds of kilograms and ranges of hundreds of miles. These large UCA will fly trans- or intercontinental routes and require multinational regulation. They may one day connect large industries and economic regions. Unlike package delivery drones, they will fly in the same airspace as manned commercial aircraft. If each country or trade bloc makes its own regulations, harmonization will quickly become a challenge.

2: Apart from airspace access, UCA provide other challenges. For example, how can air traffic control (ATC) safely and effectively be executed when large numbers of UCA fly between an increasing number of landing grounds, some of which, like industrial parks, will not fall under the traditional definition or regulatory regime of airports? What is the division of liability between the UCA owner, the operator (who is not physically present in the UCA) and the shipper of the cargo?

3: Operators of UCA (and other UAV’s) should waste no time in devising and implementing introduction strategies for these aircraft. Care should be taken that the general public, administrators and politicians do not get the feeling that unmanned aircraft are ‘invading their personal space’. Questions about, for example, safety hazards, should be addressed before accidents happen. And accidents will happen, just as they happen to manned aircraft. It will be years before there is sufficient statistical evidence to show how safe unmanned aircraft actually are, and the specter of fleets of ‘robot’ aircraft with minds of their own flying over people’s houses with loads of lithium-ion batteries is not everybody’s idea of a peaceful environment. People’s concerns, legitimate or otherwise, have to be addressed before they become uncontrollable.

There are undoubtedly other issues that need to be addressed, but the above three seem like a good start. Anyway, the FAA bill should serve as a wake-up call for the UCA community that the introduction of UCA into society is perhaps a more difficult task than getting them into the air.

Dr. H. Heerkens is assistant professor at the University of Twente (Netherlands) and chairman of the Platform Unmanned Cargo Aircraft (www.platformuca.org).

Civil Aviation

✦ USA: Boeing’s new interest in a potentially larger version of the 737 Max presents a “great opportunity” for a geared turbofan engine, Pratt & Whitney told FlightGlobal

✦ USA: Honeywell. on Thursday outlined plans to spin off its $1.3bn resins and chemicals business, a move that comes two months after the New Jersey-based aircraft supplier dropped a $90.3bn bid for rival United Technologies

✦ USA: The Federal Aviation Administration (FAA) announced the expansion of the part of its Pathfinder Program that focuses on detecting and identifying unmanned aircraft systems (UAS) flying too close to airports. A cooperative Research and Development Agreements (CRDAs) with Gryphon Sensors, Liteye Systems Inc. and Sensofusion was signed with the FAA which will evaluate procedures
and technologies designed to identify unauthorized UAS operations.

**USA:** In an investor presentation, Boeing declared this week its outlook for FY 2016 revenues of $93bn-$95bn and cash flow of ~$10bn. According to BCA head, Ray Conner, the first 737 Max would be delivered to Southwest Airlines ahead of schedule in H1 2017, vs. the previously targeted Q3 2017. The company did not provide details sought by analysts about modifying existing planes, Reuters reports. Meanwhile, some analysts say Boeing’s $19bn spent on stock buybacks over the past 3 years raises their concerns that the company is unwisely borrowing from the future if the airplane buying cycle is near its peak, Dow Jones reports. According to Goldman Sachs, Boeing will need to cut production of its 777 again. The company which has already moved to a rate of seven per month in 2017 will slip to five per month in 2018 and four in 2019 analyst Noah Poponak declared in a financial report. “The firm is concerned that the bull case on Boeing viewed the rate cut to seven as de-risking the 777X transition, and the stock price does not discount more 777 reductions and their large impact to EBIT and cash” Seeking alpha announced.

**USA:** In a deal that will double the size of the tech & retail giant’s emerging air force, Amazon announced the leasing of 20 cargo planes from Atlas Air Worldwide Holdings. This second deal, which comes just after a similar agreement with Air Cargo Transport Services Group (ATSG), confirms Amazon’s intention to develop its transportations capabilities and penetrate durably the cargo market. Amazon CFO Brian Olsavsky told The Seattle times that the reason for the company’s logistic forays is to “serve our customers faster and faster delivery speeds.”

**USA:** CFM International received simultaneous FAA/EASA type certification for LEAP-1B. The entry into commercial service is planned in 2017. The engine flew for the first time on the Boeing 737 MAX on January 29, 2016 CFM said.

**USA:** The Pratt & Whitney’s PurePower PW1400G-JM engine which power Irkut’s MC-21 aircraft was certified by the Federal Aviation Administration. The company now has three certified PurePower Geared Turbofan (GTF) engine variants.

**USA:** The General Aviation Manufacturers Association’s First Quarter 2016 Shipment Report announced last month that Business jet deliveries for the first quarter of 2016 were 4.7% lower than the same period in 2015. The general aviation industry shipped 614 aircraft in Q1/16 for a total value of $4.5bn. This dip represents a difference of just six aircraft between years according to Corporate jet investor. In the quarter, Bombardier shipped 31 jets compared with 45 in the first quarter of 2015. At Textron Aviation, the total number of business jets shipped in the period was 34 compared with 35 a year ago. The GAMA data excludes deliveries by French manufacturer Dassault, who report shipments on a six month basis, rather than quarterly.

**CANADA:** Despite reports to the contrary, Bombardier has no immediate interest in developing a larger version of the CSeries family, often called the CS500. “There is no CS500 in sight,” says Colin Bole, senior vice-president of sales and marketing for Bombardier Commercial Aircraft, told Flightglobal in an interview. Meanwhile, Embraer is considering a new move to the WTO against alleged distorting subsidies...

**COLOMBIA:** AVIANCA reached agreement with Airbus to cancel/defer undisclosed number of aircraft scheduled for 2016-2019.

**JAPAN:** In agreement with Japanese and US authorities, Mitsubishi Aircraft announced its intention to move the start of MRJ flight testing in the US from the end of this year to this summer. The company will ferry 5 MRJ regional jet test aircraft to US for flight tests and expects that to happen by the end of the year. The head of strategic marketing Hideyuki Kamiya declared Mitsubishi Aircraft want to bring MRJ flight test aircraft to the US ahead of schedule to create a “schedule buffer” in case “unexpected things” are encountered in the flight test program, Air transport world reports.

**UAE:** Tim Clark, Emirates’s president declared that the company will buy more of existing A380 models if Airbus decides not to press ahead with a version with new engines, The airliner has ordered has ordered 142 A380s, of which 77 are now in operation. “If they decide not to bring the Neo into play, we will buy more of the current A380,”

**$522 million.** Such is the amount saved by Boeing for a two-year state’s aerospace tax breaks. ([Seattle Times, 2016/05/02].)

**$25 Billion.** Such is the of sales targeted by Bombardier in 2020 according to Alain Bellemare. ([Info Aero Quebec, 2016/05/01].

**30% to 50%.** Such is the minimum part of military equipment Saudi Arabia wants to procure from local sources in the future. ([La Tribune, 2016/05/01])

**1000+.** That’s the number of jets delivered by Brazilian manufacturer Embraer. The 1,000th aircraft was a Legacy 500 mid-sized jet delivered to Flexjet. ([Embraer, 2016/05/05].)

**100 000.** Such is the total number of flight hours in operation achieved by the 17 end-users of the 270 NH90 in service today. ([NH Industries, 2016/04/28])

They said/wrote...

“**Our partners do not want to develop, so either we convince them to invest or we convince them to strike a deal that will give us control**” said Mauro Moretti, the CEO of ATR, joint venture between Finmeccanica and Airbus, urging them in order to know who will take over the company. ([Reuters, 2016/04/28])

“**It has been both a scandal and a tragedy with respect to cost, schedule and performance**” said Sen. John McCain about the history of the Air Force’s F-35 Joint Strike Fighter program. ([CNN, 2016/04/26])

“**A quarter-century of shrinking is over. It is time for the military to grow again**” said German Defense Minister Ursula von der Leyen. ([Wall Street Journal, 2016/05/11]).

“**We’ve been there with the company in the past, we’ve continued to remain engaged with the company and we want to be part of a solution going forward**” said Canada’s Innovation Minister Navdeep Bains about a possible help of the government to Bombardier. ([Reuters, 2016/05/02])
The unlikely link

**MEXICO / AUSTRIA**

To Anschluss ...and beyond!

The new Austrian ambassador in Mexico Alicia Buenrostro Massieu has paid a visit to the Mexican Space Agency (AEM) in order to discuss a joint spatial agenda between the two countries. During the visit, the ambassador reaffirmed its interest in multilateral space cooperation and greeted Mexico’s commitment to the matter – the Central American country is set to host this year’s International Astronautical Congress (IAC 2016), which will take place in Guadalajara next September. For its part, the AEM underlined in a statement the strategic role of Austria for space cooperation, as Vienna hosts the headquarters of the United Nation’s Committee on the Peaceful Uses of Outer Space (COPUOS) and the European Space Policy Institute (ESPI). The scope of Mexico and Austria's relationship doesn’t sit in the area of space cooperation and dates right back to 1842, when a bilateral treaty of Friendship, Navigation and Commerce was signed. In terms of aerospace products, Mexico tested and bought last year several Israeli-made Dominator UAV, based on an Austrian Diamond DA-42 twin star commercial plane.

By way of anecdote, between 1864 and 1867, the Emperor of Mexico, enthroned by the French, was an Austrian. But that’s not an episode the two countries might enjoy to reminisce. They’d rather talk about Mexico being the sole state officially condemning the Anschluss in 1938. The contemporary bilateral relationship knew a boost in 1997 with the signature of a free trade agreement. In 2005, Austrian President Heinz Fischer became the first Austrian head of state to pay an official visit to Mexico, and the two countries signed a MoU initiating cooperation on sustainable development. In 2014, the bilateral trade turnover amounted $1.32bn.

(Infoespacial, Observatory of Economic Complexity, Instituto Nacional de Ecología)

Clark told reporters on the sidelines of an Emirates news conference at which the airline announced a 56 percent rise in annual profit, Reuters said.

- **UAE:** Rolls-Royce has delivered the first Trent 900 engines that will power Airbus A380s for Emirates Airline. The deliveries are part of a $9.2bn order signed in April last year. According to the company, the Trent 900 powered the first commercial A380 in 2007 and is now used by eight operators on more than 70 aircraft, having logged nearly five million in-service flight hours. The engine which is assembled in both Derby and Singapore is focused on the lowest lifetime fuel burn with new technology developed for the Trent XWB and Trent 1000 engines.

- **SAUDI ARABIA:** Speaking to Reuters, chief executive Paul Byrne said Saudi Arabia’s Flynas did not want to be the CS300’s “launch customer” adding that attention was now on Airbus Industrie and Boeing products. The company has ruled out the out Bombardier’s C Series from the list of contenders for its upcoming narrowbody fleet order.

- **SOUTH AFRICA:** Emirates will lease four Airbus A380-800 aircraft – two 2013 models and two new models that will be delivered to the airline this year – Investec said. According to Local newspaper The National, the South African financier and asset manager Investec Bank has raised US$1 billion to finance aircraft leases for Emirates.

- **TANZANIA:** according to African Aerospace Weekly, Russian government representatives see Air Tanzania as a prospective customer for the Sukhoi Superjet 100.

- **CHINA:** An investment of $1.19bn by the end of this year to expand aviation infrastructure was announced by Chinese officials, AvWeb said. According to local press agency Xinhua, the budget will be allocated to airport construction, with 11 key new projects planned and 52 upgrades to existing facilities. “The general aviation sector, especially aircraft research and manufacturing, has become a hot spot of both industrial upgrading and social concern,” said Feng Zhenglin, head of the Civil Aviation Administration of China. Last year the Chinese administration identified 193 projects for $80bn.

- **SWITZERLAND:** AMAC Aerospace Switzerland has sold three Pilatus PC-12 NGs to customers in the Middle East - two to the UAE and another to Turkey. The first of the two PC-12s was delivered in March 2016 in the UAE while the second one will be delivered in the fourth quarter of 2016. The third one for AMAC’s second client in Turkey will be delivered in September 2016, Fly corporate reports

- **SWEDEN:** Saab has signed a new agreement with Airbus concerning the A321 Airbus Cabin Flex programme. The project to meet exit and evacuation criteria comprises the design, development and manufacture of the Over Wing Door component. The development is part of a revised design for the twinjet which will enable it to increase accommodation to 240 passengers Flight reports. The Swedish company Saab will carry out the development at its Indian venture Saab-Mahindra in Hyderabad, while assembly will partly be performed at another Indian division, Saab-Aequus in Belgum

- **UK:** the British leisure operator Monarch Airlines declared this week that is looking to acquire other carriers and is not itself looking to be acquired. According to Reuters, while chief executive Andrew Swaffield did confirm interest from several undisclosed third parties, he dispelled any notion of a sale.

- **FRANCE:** French oil giant Total plans to buy battery manufacturer Saft, extending its push into new energy technologies. “The combination of Saft and Total will enable Saft to become the group’s spearhead in electricity storage,” Total CEO Patrick Pouyanné said. The acquisition of the French battery maker by Total valued at slightly more than $1bn. On his part Saft that makes batteries for industrial use by telecommunications, railway and aerospace companies, said its supervisory board unanimously approved the proposed takeover which it considers “to be in line with the interests of the company, its shareholders and its employees.” the WSJ reports.

**Military Aviation**

- **USA:** DOD asked to the congress the permission to reconfigure and buy one Gulfstream G550 aircraft per year into a new electronic warfare platform, designated EC-37B. Produced by Israel
Aerospace Industries the active electronically scanned array-integrated conformal airborne early warning (CAEW) type which was launched in 2008 at the Farnborough Airshow, has since been adopted by Singapore and Italy. The deal is estimated at about $165.7mn to get the programme underway, FlightGlobal reports.

- USA: Textron Systems opened an expanded center for UAV training & maintenance in Southern Virginia, officials announced May 9. The manufacturer of military UAVs such as the Shadow, said its training and global service facility from Fort Pickett, Virginia will move to Blackstone known as the Unmanned Systems Service & Support Center, the National defense Magazine reports.

- USA: Chosen in January 2015 to replace the current head of state fleet, which is comprised of two 747-200-based VC-25As, Boeing’s four-engine 747-8 wide-body jet received this week the RFP by USAF to start designs proposals for the next version of Air Force One.

- USA: Subsidiaries of Lockheed Martin and Raytheon signed a combined $649.7mn modification contract for Paveway II laser-guided bombs, DOD said on Monday.

- USA: Air-to-air refueling testing of the P-8A Poseidon started this week and new test multi-static active coherent (MAC) anti-sub search system and High Altitude ASW (antisubmarine warfare) Weapons Concept Mk are underway, Aviation Week reports.

- USA: The F-35 Joint Program Office (JPO) announced that the development of the software called Block 3i is now complete clearing the way for the US Air Force’s first Lightning II combat squadron to declare initial operational capability (IOC) between August and December Flight said “The software provides F-35s with initial warfighting capability on upgraded computer hardware” and more than 100 flight hours have been clocked since May 1 using the Block 3i software, Lockheed Martin added.

- INDIA: After their 33 years of service to the nation, the Indian Navy de-inducted its Sea Harrier fighter and induct a new squadron of MiG 29K planes at a formal ceremony at its naval station in Goa on May 11.

- INDIA: According to one senior Ministry of Defence (MoD) official interviewed by Defense News, the acquisition of Five units of the Russian-made S-400 Triumph systems is postponed between 2017 and 2022 due to a lack of fund, citing other short term priorities like buying 36 Rafales, very short range air defense (VSHORAD) man-portable systems and short-range surface-to-air missile (SRSAM) systems..

- INDIA: According to the Economic Times quoting officials involved in the negotiations, Dassault Aviation submitted a new & final price offer to New Delhi for the acquisition of 36 Rafale estimated at $8.56bn. The weapon package will be negotiated separately; as well as a support solution which was initially a 10-year package, but has now been reduced to 5-years.

- INDONESIA: Defense Minister Ryamizard Ryacudu told Reuters that the country will purchase some Airbus A400M military transport aircraft. “I have a plan to buy A400s from Europe ... but just a small number. There is no need to buy many,” Minister Ryamizard Ryacudu said without elaborating. Today Malaysia remains the only export customer for the aircraft after South Africa canceled its order in 2009, Reuters adds.

- IRAN: According to Middle East sources, the country has proposed a major increase of 15% in the defense budget for 2016. Iran’s total defense budget was said to exceed $8bn,

- DENMARK: The Defense Ministry on Thursday recommended the purchase of 27 Lockheed Martin F-35A to replace the Danish air force’s aging F-16 jets, which have recently been used in the Middle East as part of the coalition striking Islamic State targets. Following a debate in Parliament, the government still has to sign-off the deal valued at around $3bn, WSJ said.

- INDIA: According to the Financial Express, the Swedish government will to formally place an offer to India to promote the Gripen-NG fighter jet, built by Saab, which is also keen to develop production processes in India.

- USA: USA: According to Flight International, Sikorsky will roll out its first optionally piloted UH-60A Black Hawk later this year ahead of a full flight campaign that will commence in 2017. Unlike the fly-by-wire UH-60MU demonstrator aircraft that is currently loaded with the Lockheed Martin-owned helicopter manufacturer’s Matrix autonomy software, the vintage A-model has a mechanical mixer that must be swapped with an electrically controlled mechanism, among several other flight control changes. The company has been discussing possible roadmaps for the integration of optionally piloted roto craft with various communities within the DOD, but there’s also significant pull from the commercial sector, particularly regarding the S-92. “It’s been fascinating that the commercial interest has been just as intense as the military interest, so we’re running the two in parallel,” said vice-president of Sikorsky Innovations Chris Van Buiten to FlightGlobal.

- USA: On May 6, Robinson Helicopter Company received FAA certification for its two-place R44 Cadet helicopter. The Cadet’s airframe, rotor system, and power plant (Lycoming O-540-F1B5) are the same as the proven R44 Raven I. Where the Cadet differs is the rear seats have been removed providing ample cargo space, the maximum gross weight has been reduced to 2200 lb, and the engine power has been derated to 210 hp takeoff and 185 hp continuous.

- USA: The Marine Corps’ first two Kaman K-MAX Helicopters arrived at Marine Corps Air Station Yuma, Ariz. May 7. The K-MAX will utilize MCAS Yuma’s training ranges in both Arizona and California, and will soon have an integral part in testing and operations reported Helihub.

- USA: A U.S. bankruptcy court has approved CHC’s request to reject immediately leases on 16 Airbus Helicopters, 12 Leonardo-Finmeccanica and 10 Sikorsky aircraft as part the company’s planned reorganization under Chapter 11 protection from creditors, according to the company.

- USA: According to FlightGlobal, the US Army is in no hurry to replace Boeing CH-47 Chinook that has carried its soldiers into battle since the Vietnam War, but when it does finally decide to move on, AVX Aircraft would offer up a 27.2t (60,000lb) tiltrotor replacement.
with 13.4m (44ft) propellers. Troy Gaffey tells FlightGlobal “We believe for Capability Set 4, which is really a CH-47 replacement, approximately, it’s probably logically a tiltrotor. Most of us at AVX were deeply involved in the V-22.” AVX team has responded to the service’s request for information on potential mid-sized Future Vertical Lift types with a 11.3t (25,000lb) light/medium compound coaxial design.

USA: FlightGlobal reported that Honeywell is investigating the potential of using ceramic matrix composites (CMC) in its military helicopter engines, as it looks to follow the lead of GE Aviation, which pioneered use of the material. Chief technology officer Bob Smith, speaking during a Honeywell media event, said potential applications were “mostly in the military helicopter business” on “high-cycle engines”.

ARGENTINA: According to Janes, Argentina is interested in purchasing new medium helicopters, in particular for the Prefectura Naval Argentina (Argentine Coast Guard), the Ministry of Security announced on May 9. In 2015 the Coast Guard received its first EC 225 Super Pumas to replace legacy SA 330 Pumas. No decision has yet been made whether the new helicopters should be of the same model, but sources told IHS Jane’s that leadership within the Coast Guard are interested in increasing the Super Puma fleet.

ASIA: Bell Helicopter has announced plans to showcase the versatile capabilities of the Bell 412EPI through a series of customer demonstration flights in Asia Pacific. Sameer A. Rehman, Bell Helicopter’s managing director for Asia Pacific said: “We are delighted to showcase the versatility of this aircraft to our Asia Pacific customers. The new Bell 412EPI offers more powerful engine performance with a state-of-the-art integrated glass avionics suite that improves situational awareness and reduces pilot workload. We are eager for our customers to experience the power of this aircraft first-hand.”

SINGAPORE: Singapore has a US$1 bn requirement to replace its ageing Super Puma helicopters that have been in service since the mid-1980s. Neither company would comment to Reuters on the disclosure, but Airbus Helicopters could offer its recently relaunched H215/H215M (Super Puma/Cougar), H225/H225M (Caracal), or NH90 (Airbus Helicopters is the major stakeholder in the multinational program); while Leonardo-Finmeccanica’s chief medium-twin offering is the AgustaWestland AW149. Indeed, even if the company’s AW159 Lynx Wildcat is available in both land- and sea-based configurations, it is probably too light to be considered for this particular requirement. At last, Sikorsky could offer its S-92.

TUNISIA: The State Department has made a determination approving a possible Foreign Military Sale to Tunisia for 24 OH-58D Kiowa Warrior Aircraft equipment, training, and support. The estimated cost is $101 mn.

ALGERIA: On May 12, Helihub detailed the Leonardo-Finmeccanica deliveries in Algeria in the last five years. According to the newspaper, AW fleet in Algeria is about 78 helicopters for a value of around $1.3 bn which included 8 AW101, 20 AW139, 10 Lynx and 8 Sokol.

RUSSIA: According to Janes, Kazan Helicopters is about to switch to the four-day working week due to Russian helicopter crisis, according to Russian Helicopter representatives. The four-day working week is supposed to last only through the summer and to affect 40% of the workers, the latter standing at 6,700 at present. According to the management, the reduced working week will apply only to auxiliary shops and administrative staff. Russian Helicopters has produced 77 helicopters in 2015 compared with 107 in 2014,103 in 2013,98 in 2012 and 93 in 2011.

RUSSIA: The flying testbed used under the Future High-Speed Helicopter(PSV) development program will fly in June at a speed of 450 km/h, Andrei Shubitov, deputy director general for production and innovation, Russian Helicopters, told journalists on May 10. The PSV flying laboratory is an experimental craft created on the basis of Mi-24 helicopter. It has new main rotor blades made of all-composite materials. Some elements of the fuselage have been upgraded to decrease air drag and improve aerodynamics of the helicopter at high speeds. The serial production is planned in 2022 and the craft will be able to fly at a speed of up to 500 km per hour.

RUSSIA: According to Sputink, the Russian Helicopters manufacturer is designing a new shipborne helicopter for the Russian Navy to replace the Ka-27 Helix anti-submarine aircraft. Deputy CEO for Production and Innovations Andrey Shubitov said “We have advocated repeatedly with the Defense Ministry to renew considering a plan to create a next generation machine for the Navy. And I am glad that we have been heard and that the Defense Ministry came to the conclusion that a new vehicle is needed”.

CZECH REPUBLIC: Bell Helicopter has announced that its Prague location officially opened a new paint facility and delivery center — providing full aircraft completion and delivery capabilities to its European customers. “Bell Helicopter’s continued investment in the region reinforces our commitment to our European customers to provide an in-region facility that offers the industry-leading service and support we are known for worldwide,” said Glenn Isbell, executive vice president of customer support and services for Bell Helicopter.

EUROPE: Helihub reported that without any announcement, Leonardo-Finmeccanica took an AW169 on a demo tour in Europe, with visits to both UK and Swiss potential customers.

ITALIA: Leonardo - Finmeccanica announced that the third prototype (A/C3) of the AgustaWestland AW609 TiltRotor has completed its first ground run at the company’s facilities in Cascina Costa, Italy, marking a critical milestone as the program advances its testing and plans a resumption of flight testing activities. Defense Aerospace reported Aircraft AW609 A/C3 began restrained ground run testing with all engines and systems operating. These tests prepare the prototype for FAA certification flight testing this summer at the company’s Philadelphia facility, where it will demonstrate that its capabilities satisfy a stringent set of airworthiness standards. Testing plans for the A/C3 also include icing trials in the winter of 2016 to demonstrate its capabilities in known icing conditions.

FRANCE: Airbus Helicopters has been awarded a contract by the French Defence Procurement Agency (DGA) to
retrofit the avionics suite of the 35 EC145 helicopters operated by the Sécurité Civile, an agency of the French Ministry of Interior that performs critical search and rescue and medical evacuation services throughout the French territory. As part of this retrofit, all aircraft will be equipped with an improved avionics suite allowing them to retain their ability to perform missions in all weather conditions with the highest levels of safety, while at the same time complying with the latest Performance Based Navigation regulations.

**Naval Systems**

- **USA**: USA: ERAPSCO a joint venture between Ultra Electronics Holdings plc and Sparton Corporation wins subcontracts valued at $101.1 mn, for the manufacture of sonobuoys for the US Navy.
- **USA**: The US Navy plans to install the Naval Strike Missile (NSM) from Kongsberg on the LCS which will be deployed in Singapore by the end of the year.
- **USA**: On April 25, Lockheed Martin and Daewoo Shipbuilding and Marine Engineering signed a strategic agreement in order to market together the Multi-mission Combat Ship (MCM) designed by the Korean shipyard. The aim of this agreement is to conquer new markets.
- **PERU**: On May 7, the Portuguese shipyard Freire, launched the hydrographic vessel BAP Carrasco ordered by the Peruvian Navy.
- **AUSTRALIA**: The government and Spanish Shipyard Navantia have signed a contract to supply two AORs (auxiliary oiler replenishment) to the Australian Navy. The contract is valued at $ 640 mn amongst it, more than $130 mn will go to Australian industry. Furthermore, an initial $250 mn, five-year sustainment contract also signed with Navantia will be executed in Australia.
- **AUSTRALIA**: The Anti-Ship Missile Defence (ASMD) upgrade will be applied to the last Anzac Class frigate, HMAS Stuart. Meanwhile, the government signed a contract with DMS Maritime, a wholly owned subsidiary of Serco, for the delivery, operation and maintenance of an Antarctic Supply Research Vessel (ASRV) with icebreaking capabilities. The vessel will be built by Damen Shipyards Group. It will be part of the Australian Antarctic Division (AAD) programme.
- **AUSTRALIA**: According to media sources, the Japanese offer for the future submarine was rejected because the government wants to be free to choose to change the conventional propulsion plant into nuclear propulsion. This allegation could not be considered as serious due to the traditional antinuclear position of Canberra.
- **AUSTRALIA**: Austal signed the contract for the construction of 21 patrol vessels designed to renew the Pacific Maritime Security Program.
- **PHILIPPINE**: The first of two new strategic sealift vessels ordered by the Philippine Navy, the BRP Tarlac, leaved PT PAL, where she was built, on May 8, setting sail for Manila.
- **THAILAND**: The Royal Thai Navy selected Thales in order to supply underwater solutions for its two Bang Rachan Class minehunters, including design provision, integration, training and support.
- **BANGLADESH**: Two Italian corvettes, ITS Danaide and ITS Urania, decommissioned early this year will be upgrade for new life as Bangladesh Coast Guard vessels. The will join Minerva and Sibilla already transformed for the Bangladesh Coast Guard.
- **INDIA**: Indian Navy started on 1st of May the sea trials of its first Scorpene class submarine built by Mazagon Dock Ltd, INS Kalvari. Meanwhile, Berlin offers to Delhi a government to government bid for 6 Type 214 submarine for the Project-75I. According to an official : "The offer has certain assurances that the product will meet Indian requirements".
- **EGYPT**: On May 6, the Gamal Abdel Nasser amphibious vessel took the sea for the first time with its new Egyptian crew. The vessel will be delivered in June.
- **MOROCCO**: The Navy orders a hydrographic vessel o the French shipyard Piriou. The design of the vessel will be inspired by the B2M French class ordered by the French Navy for its oversea patrol missions
- **TURKEY**: On April 30, Sedef starts the building phase of the first amphibious landing platform dock (LPD) warship for the Turkish Naval Forces. The vessel will be built locally with the help of Navantia who sold the design of the vessel.
- **RUSSIA**: Russian MoD orders two new Project 23550 corvettes with ice-breaking capacities in order to cruise through the Arctic area.
- **UK**: Royal Navy patrol vessel HMS Tyne has successfully completed her Operational Sea Training (OST) and will join operation soon. Meanwhile, BAE Systems has awarded Rolls-Royce a contract for the propulsion systems of the Type 26 frigates. This contract is the first manufacturing contract allowed by BAE Systems this contract, Rolls-Royce will furnished 12 MTU 20V 4000 M538 diesel generator.
- **SPAIN**: The Royal Navy fired a warning shot at a Spanish patrol boat which sailed too close to a US nuclear-powered submarine as it sailed in waters off Gibraltar.
- **PORTUGAL**: According to Jane’s, the first coastal patrol vessel, Type STANFLEX 300, christened NRP Tejo.

**Land and Ground-based Systems**

- **USA**: Raytheon is developing a new launcher for its tube-launched, optically tracked, wireless-guided (TOW) missiles, the TOW Eagle Fire launcher with a low-cost/low-tech version of the Integrated Targeting System (ITAS) launcher, with more accuracy for shots by night.
- **USA**: ArmorSource has been awarded an order by the US Marine Corps (USMC) to deliver 10,000 Lightweight Helmets, the company announced on 3 May. The helmets are scheduled for delivery during 2017.
- **USA**: CACI International Inc announced it has been awarded a multi-million dollar task order to continue its Development, Engineering, and Protection Services (DEPS) support for the U.S. Army Intelligence and Information Warfare Directorate (I2WD) for the electronic warfare domain.
- **USA**: General Dynamics Land Systems was awarded a $329mn modification
to precedent contract for production, logistics product development, and test support for the Stryker Infantry Carrier Vehicle (ICV) 30mm lethality upgrade.

- INDIA: The Defense Acquisition Council has approved the purchase of five S-400 Triumf (NATO reporting name: SA-21 Growler) air defense missile systems from Russia, Defense Minister Manohar Parrikar said.

- UAE: BAE Systems and Emirates Defense Technology (EDT) have signed a memorandum of understanding to pursue opportunities for the towed M777 155mm Lightweight Howitzer with EDT’s Enigma 8x8 armored vehicle, BAE Systems announced on 9 May.

- JORDAN: Raytheon will supply tube-launched, optically tracked, wire-guided (TOW) missiles for Jordan’s armed forces under an agreement between Jordan’s MoD and the US DoD announced on 10 May. Meanwhile, the King Abdullah II Design and Development Bureau (KADDB) of Jordan has developed a new light all-terrain vehicle (ATV) called the Al Washaq.

- IRAN: Iranian Defense Minister announced that the Russian S-300 (missile defense system delivered to Iran has been brought to Khatam al-Anbia Air Defense Base, adding that the Iranian version of the defense shield called ‘Bavar (Belief) 373’ will be produced soon.

- EGYPT: Egypt has received the first of 762 surplus mine-resistant ambush-protected vehicles (MRAPs) type RG-33 or Caiman from the United States, the US Embassy in Cairo announced.

- SOUTH AFRICA: Paramount Group announced on 10 May that it has begun local production on the Mbombe 6x6 infantry fighting vehicle with Jordan’s King Abdullah II Design Development Bureau (KADDB) and Jordan Manufacturing Service Solutions (JMS).

- MOROCCO: Harris Corp. was awarded a $405mn contract as foreign military sales (FMS) for the Single Channel Ground and Airborne Radio Systems (SINGARS) including ancillary items, spare parts, installation kits, training and fielding support services.

- UKRAINE: Ukrainian Defense Industry has developed a Duplet Combat Module armed with two 30 mm ZTM-2 dual-feed cannon, two KT 7.62 mm machine guns, one KBA 117 30 mm grenade launcher and four ATGW in two banks. It can be installed on a variety of vehicles or for naval applications. Ukrainian industry has also developed and placed in production the BTR-3M2 120 mm self-propelled mortar (SPM) based on a modified 8x8 BTR-3E1 amphibious armored personnel carrier (APC).

- ROMANIA: The Aegis Ashore at Deveselu Operating Base is now active after the United States Navy certified the operational status of the system. This milestone completes Phase II of the European Phased Adaptive Approach project, which will provide ballistic missile protection to Europe and the US forces deployed there. Russian officials called this initiative “a threat to Russia and European stability in general”.

- POLAND: MoD has signed a contract to acquire 64 self-propelled 120mm RAK (Cancer) mortar vehicles and 32 artillery command vehicles. The vehicles will come from a consortium led by local manufacturer Huta Stalowa Wola S.A. (HSW). The deal was worth more than $252mn.

- CZECH REPUBLIC: BAE Systems and VOP CZ have teamed up to pursue the Czech Republic’s BMP-2 Infantry Fighting Vehicle replacement programme. The two companies will combine efforts to deliver the CV90 vehicle for the Czech Land Forces.

- GERMANY/NORWAY: Rheinmetall, in partnership with Saab, is currently working on a new fire control system (FCS) for shoulder launched weapons, the Vingmate SL 1000, according to Shepard News. The SL 1000 is being developed with funding from the Norwegian Army.

- GERMANY: According to Der Spiegel German weekly news magazine, Germany plans to give Tunisia and Jordan funds to buy tracked armored vehicles Marder to help defend their frontiers against Islamic State. The German funds come from a €100mn fund to strengthen partner states south of the European Union with crisis prevention, Der Spiegel said.

- FRANCE: SAGEM is producing its Paseo modular advanced stabilised sighting (MASS) system for an undisclosed export customer. The Paseo MASS has already been shown installed on the Nexter Systems T40M two-man turret armed with a 40 mm CTAI Case Telescoped Weapon System installed on a Nexter Systems VBCI 8x8 platform for firepower trials.

### Space

- USA: On Monday, SpaceX successfully put into orbit the Space Systems Loral-built JCSAT-14 communication satellite on behalf of the Japanese operator Sky Perfect JSAT. After the launch aboard a Falcon 9 rocket, the 1st stage made its 2nd landing on an offshore barge in a row.

- USA: Space Systems Loral (SSL) delivered on Wednesday the SSL 1300-derived BRIsat communication satellite, to be launched aboard an Ariane 5 rocket by Arianespace. Built for the Bank Rakyat Indonesia (BRI), it will be the world’s 1st satellite dedicated to financial institutions, covering Indonesia and South East Asia.

- USA: Last week the USAF Space and Missile Systems Centre awarded Boeing, Lockheed Martin, and Northrop Grumman $5mn phase-one production readiness feasibility contracts for the 11th GPS III space vehicle.

- USA: Orbital ATK and the NASA installed the 2nd Space Launch System (SLS) booster qualification motor (QM-2) in a specialised test stand ahead of a static-fire test to be conducted next month. The 1st qualification motor, QM-1, completed a successful test last year.

- USA: Global Eagle Entertainment (GEE) announced on Monday the acquisition of satellite connectivity provider Expanding Mobile Connectivity (EMC) for $550mn. The latter operates 21 satellite teleport sites, 52 global support centres, and more than 20 proprietary compression and bandwidth optimization technologies.

- COLOMBIA: The Colombian Space
Commission (CSC) said last week it will relaunch its Colombian Earth Observation Satellite Project (SotCol) suspended in 2014, potentially through a public-private partnership with Eurosat, Airbus, IAI, Sener or Lockheed Martin. The partnership could be signed in Q1 2017.

RUSSIA: Local media reported last week that all companies of the Roscosmos consortium will have to prepare for recertification, following the delays and failures with the Vostochny cosmodrome (or “Baikonur East”) 1st launch. The positions of Deputy heads of quality will also be introduced, while NPO Automatics’ Director – the company producing the faulty component – has resigned. Meanwhile, local media reported on Tuesday that the 2nd Angara-5 heavy rocket launcher delivery has been delayed again, following manufacturing and testing problems experienced by Polyot Production Corp., a subsidiary of GKNPZ Khrunichev responsible for the rocket integration.

IRAN: The ISA said on Tuesday it will launch its $4mn “indigenous” (built in collaboration with Carlo Gavazzi Space) Mesbah research satellite in the near future. The 75kg satellite has been seized by Italy in 2003 due to the international sanctions, and talks are currently held for its return. A new version of the satellite, Mesbah-2, is under construction.

EGYPT: Thales Alenia Space (TAS) and Airbus Space Systems signed on Tuesday an estimated €600mn contract to provide a military communication satellite to the Egyptian MoD. Two satellites were initially offered, but the deal was reduced for budgetary constraints.

AFRICA: UAE-based satellite operator, Yahsat, signed a Memorandum of Understanding (MoU) with regional broadcast and internet service provider, Tele10 Group, to discuss collaboration on improving internet connectivity in Rwanda, Burundi and East Democratic Republic of the Congo.; African Aerospace Weekly reports

EUROPE: Airbus D&S won last week a $260mn contract from the ESA to construct the Biomass satellite, its next 5-year Earth Explorer mission to be launched in 2021.

FRANCE: Airbus D&S and Safran signed the final agreement for Airbus Safran Launchers (ASL), their 50-50 space joint-venture. Safran agreed to pay €800mn to Airbus to acquire an equal holding in the company, reflecting a planned valuation of €4bn for ASL. The 8,000-employee new entity will notably integrate civil as well military rocket launcher technology, with the aim to reduce cost by 40-50% with the new Ariane 6.