November 14, Dubai Airshow 2017

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Russia Proposes Joint MC-21 Production Project with UAE

Russia has begun preliminary talks with the United Arab Emirates about civil aircraft production.

In a surprise statement from the Russian state aerospace and defense company, Rostec, the company said it was talking with the Emirati government about joint production of a new version of its MC-21 single-aisle airliner, the -400 version of which could seat up to 256 passengers.

Rostec CEO Sergey Chemezov said production of the aircraft could take place in the UAE.

“We will create a working group to discuss it further,” said Chemezov.

Rostec says the idea was proposed during a meeting between a Russian delegation and Sheikh Mohammed bin Zayed al-Nahyan, Crown Prince of Abu Dhabi and deputy supreme commander of the UAE Armed Forces, on the first day of the Dubai Airshow.
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Gulf Air Leases Five Dreamliners From Dubai Aerospace Enterprises

Khalifa Al Daboos, managing director of DAE, and Capt. Waleed Abdulhameed Al Alawi, deputy chief executive officer of Gulf Air (right), signed a lease agreement here at the show yesterday for five Boeing 787-9 Dreamliners.

FlyDubai Mulls Large Order

FlyDubai is in talks about another large order, but the commitment may not be announced at the current Dubai Airshow.

“I personally think we don’t have enough time to do a deal at the show,” FlyDubai CEO Gaith Al Gaith said on the sidelines of the event. The airline already has 75 Boeing 737 MAX aircraft arriving between now and 2023 from a previous order securing further growth. But reports say the carrier could place another order of the same or higher magnitude. “We always work with the manufacturers for more aircraft,” Al Gaith said, without going into more details.

FlyDubai took delivery of the first MAX in August.

Its further expansion hinges on several factors, most importantly more liberalized air service agreements in the regions.

“The other important variable for FlyDubai’s business model is the newly launched cooperation with Emirates. Dubai’s two airlines have launched their first code-sharing services and more initiatives are nearing.”

—Jens Flottau

UAE Purchases Additional Reconnaissance Pods

THE UAE MILITARY has concluded contracts worth more than AED3 billion ($890 million) as it continues its spending spree here at the Dubai Airshow.

UAE-based companies were main beneficiaries of the contracts inked on the second day of the show, with a US$395 million maintenance and support contract awarded to Global Aerospace Logistics to support the helicopters operated by the UAE Joint Aviation Command. Tawazun Dynamics was awarded a US$120 million contract for locally developed bombs for the Dassault Mirage 2000, while air cargo company Maximus Air was awarded a US$100 million contract for airlift services over the next two years.

The UAE Air Force has also ordered $140 million worth of MS-110 multi-spectral reconnaissance pods for its F-16 Desert Falcon fleet.

The new contracts add to the AED6.515 billion worth of contracts announced on the first day of the show.
**Eye in the Sky: UTAS Equips Orbis Flying Eye Hospital With Simulation Center**

UTC Aerospace Systems has donated US$1 million to establish the world’s first mobile simulation center aboard Orbis International’s Flying Eye Hospital, the company announced Nov. 12 at the Dubai Airshow.

Expert volunteers on the Flying Eye travel around the world training local health care teams to treat eye diseases and perform sight-saving surgeries in a modular hospital suite onboard an MD-10 aircraft, built in 1973 as a DC-10 and donated by FedEx in 2011.

In 2016, Orbis volunteers helped doctors complete 1,961 training courses, conduct 3.53 million eye screenings and exams, and perform 83,176 surgeries at partner institutes and aboard the Flying Eye Hospital, according to the company.

By simulating surgical eye procedures onboard the aircraft, the new simulation center will increase the number of expert volunteers in the field, as well as decreasing training costs by 40%. The center and associated training curricula is being developed by Orbis in conjunction with several leaders in aviation training.

“Everywhere in this airplane is about training,” said Bruce Johnson, Orbis director of aircraft operations and maintenance. “That’s what we do here, we really don’t do service, we train so they can help themselves.”

The faculty perform five to eight surgeries a day, during which they explain the procedures to students in the onboard classroom via a 3-D television. Johnson said. They also teach local hospital staff to use new equipment.

The Flying Eye Hospital is entirely funded by donations, from UTAS, FedEx and others in the aviation industry.

“I think aviation has looked at it and said, it’s sort of the way they can give back,” Johnson said. “So it’s sort of a cool marriage between the two.”

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**ATR Launches New Freighter Variant**

ATR has launched its first all-new freighter program backed by a large FedEx Express order for up to 50 aircraft. FedEx placed a firm order for 30 of the ATR 72-600Fs and secured an additional 20 options. The first aircraft is due to be delivered to the cargo airline in 2020. The ATR 72-600F is based on the -600 passenger version but differs in some important aspects. It has a windowless fuselage and a forward large cargo door (LCD) and rear upper-hinged cargo door. ATR so far has never delivered freighters off the final assembly line but retrofitted former passenger aircraft.

**CFM Gets US$4B for LEAP Engines**

CFM International has snagged a combined US$4 billion in orders for LEAP engines and associated support, the company announced Nov. 13. China’s ICBC Financial Leasing Co. Ltd., a subsidiary of International and Commercial Bank of China, signed an agreement for the purchase of 80 LEAP-1B engines to power 40 Boeing 737 MAX aircraft. The order is valued at nearly US$1.1 billion and deliveries are expected to start in 2018. Meanwhile, SilkAir has a 15-year Rate Per Flight Hour maintenance agreement with CFM to support the LEAP-1B engines that will power its new fleet of Boeing 737 MAX 8 aircraft, valued at US$1 billion. Finally, Gulf Air signed an agreement with CFM to purchase 58 LEAP-1A engines to power 17 Airbus A321neo and 12 A320neo aircraft. The order is valued at approximately US$1.9 billion.

**Emirates Wants A380 Production Guarantees**

Emirates is demanding guarantees from Airbus that A380 production will continue in the long term before committing to another major order for the aircraft. Emirates Airline President Tim Clark told Reuters that “The ownership here is concerned about continuation.” He added that “They need some copper-bottom guarantees that if we do buy some more, then the line will be continued for a minimum period of years and that they are fully aware of the consequences of cancellation and leaving us high and dry.” Emirates later confirmed the statements.

**AFI KLM Cements Maintenance Contracts**

Air France Industries and KLM Engineering & Maintenance (AFI KLM E&M) won a support contract to perform maintenance on Kuwait Airways’ fleet of GC90-115B engines, which equip the 10 777-300ER aircraft recently integrated into the fleet. The contract covers engine removal management, shop visits and logistics/AOG support. Meanwhile, AFI KLM E&M also cemented an agreement with Gulf Air, the Kingdom of Bahrain’s national carrier, for maintenance of the APS5000 auxiliary power units (APUs) equipping the airline’s 10 new, incoming Boeing 787-9 Dreamliner aircraft. The long-term contract includes a guarantee covering APU replacement.

**Falcon Aviation Orders Leonardo AW169s**

Falcon Aviation, an aviation services company based in Abu Dhabi, confirmed an order for three additional new Leonardo AW169 helicopters, bolstering the fleet to five AW169s in total, the company announced Nov. 13. The order comes ahead of an effort to start a “significant” new offshore contract from early 2018. Falcon Aviation has been flying the twin-engine, 10-seat, multi-role helicopter since 2016. Falcon is featuring three aircraft here in the static park: the AW169 in VIP configuration and one of its two-multi-role 19-seat AW189 helicopters, as well as a Bombardier Q400 NG.
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One, all gone. Regional tensions have transformed Qatar Airways into the missing man in the “missing man formation.”

Today, it is the likes of Etihad Airways that dominates the Airshow and provides the static’s backdrop. The UAE’s national airline is displaying three aircraft this year: an Airbus A380, Airbus A320 “flying testbed” and an Embraer Phenom 100EV from the Etihad Flight College (EFC).

Placing the royal seal of approval on this presence, the aircraft were toured on the first day of the show by Lt. Gen. His Highness Sheikh Saif bin Zayed Al Nahyan, deputy prime minister and minister of interior, and His Highness Sheikh Hazza bin Zayed Al Nahyan, vice chairman of the Abu Dhabi Executive Council.

“We were delighted to welcome Royal guests who visited our aircraft on the opening day of the Dubai Airshow,” said Peter Baumgartner, Etihad Airways CEO. “We presented our groundbreaking interiors aboard the A380; innovation and technical excellence on our A320 testbed aircraft; and our Emirati cadets from the Etihad Flight College, whose engagement with visitors is a great source of national pride.”

It has been a busy time for Etihad.

The static display A380 is the same aircraft that took part in the spectacular low fly-by over the Louvre Abu Dhabi at the museum’s official opening last week.

The Airbus A320 flying testbed in the static show has been converted to test and demonstrate WI-FLY+, the new, superfast inflight connectivity developed by Yahsat, the UAE-based satellite operator.

Also at the Airshow this week is Etihad Flight College’s Embraer Phenom 100E light jet. EFC was the first flight college in the world to conduct ab initio flight training on the aircraft.

And, if your interest lies elsewhere than in aviation, the static display also includes an F1 racing car promoting the forthcoming Formula 1 Etihad Airways Abu Dhabi Grand Prix.

—Paul Jackson
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Boom Is Busting Out All Over

Despite Emirates Airline recently declining to show an interest in supersonic air travel, the founder and CEO of Colorado-based Boom, Blake Scholl, remains convinced that Dubai could become a hub for Mach 2 air travel if the company’s 55-seater design enters production as both a business jet and a small airliner.

Speaking at the Airshow yesterday, Scholl was able to point to progress along the long and tortuous road toward planned 2023 service entry, with launching of the process of selecting a production site; and recent hiring of aerospace experts to handle relations with the U.S. certification authorities.

These appointments herald the start of the program’s second stage: design and manufacture of the full-size aircraft. But meanwhile, the third-scale XB-1 (dubbed “Baby Boom”) is progressing toward a maiden flight at the end of next year, following which it will deploy to the Mojave test center to conduct supersonic proving flights in the Edwards Air Force Base trials corridor.

Scholl concedes that the Baby Boom is necessary to demonstrate, to regulators and investors alike, that the company is progressing along the right track. Having retired the Anglo-French Concorde, the world has “no off-the-street design team available,” meaning that skills have to be re-acquired.

In a hectic year so far, Boom (Stand 1676) has secured enough funding to take the project to the flight demonstration phase, including wind tunnel tests at Wichita University; and accepted 76 “pre-orders” from airlines, including Virgin.

Discussions are progressing with 20 more potential operators, toward satisfying predictions that the world will need between 1,000 and 2,000 supersonic airliners over the next decade – a small, but significant, share of the air transport market.

Still to be decided is the full-size Boom’s engine. Scholl has ruled out a military derivative as being too fraught with security concerns, but notes, otherwise, that “all engine options are open – including a clean-sheet design.”

He expresses bafflement that, during his lifetime, there has been “progress in almost every area of human achievement, except airliner speeds.” This is more curious since, “there are zero scientific barriers to supersonic flight.”

And one more thing needs to be decided: the name of the airplane. Scholl has one epithet firmly in mind, but that is not due to be revealed until next year.

—Paul Jackson

Sukhoi Unveils Longer-Range Business Jet

RUSSIA’S UNITED AIRCRAFT Corp. is using the Dubai Airshow to announce a long-range version of its Sukhoi Business Jet, a VIP variant of the Sukhoi Superjet 100 regional aircraft. The aircraft on show at the static display is operated by the Russian business aviation operator RusJet. It can carry 18 passengers in a three-section VIP cabin, and has a range of up to 4,420 km.

But SBJ customers can now enjoy much longer flights. UAC President Yury Slyusar confirmed to ShowNews that the Russian authorities certified additional fuel tanks for the SBJ this summer that can carry 3,100 kg of additional fuel. “Their installation will allow the customers to use SBJ for flights up to 6,000 km,” he said.

Out of about 120 SSJ100s in operation, nine aircraft are in VIP configuration. They are used in Russia, Kazakhstan and Thailand.

Slyusar said that the Middle East is one of the priority markets for promotion of the SSJ100 business jet variants. “We see the demand for 10-12 SBJ aircraft in the next five years all over the world and expect to sell some of these aircraft in particular to the customers from the Middle East,” he said.

The demand for the regional jets with capacity from 60 to 140 seats is estimated by UAC at about 300 aircraft over the next 20 years, including from Iranian carriers that need to renew their fleets. Russia has nothing to offer Iran in mid- and long-range segments, but hopes to catch up with the regional aircraft.

“We plan to compete for this demand,” he said.

—Maxim Pyadushkin
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Russian Helicopters Will Leverage Middle East Backers

Russian helicopters are well-known in the Middle East. These relations became stronger last year when a pool of Middle East investors and the Russian Direct Investment Fund (RDIF) agreed to co-invest in Russian Helicopters. The parties will invest up to US$600 million in the company, and eventually will hold up to 25% of the share capital of the US$2.35 billion-revenue company. Russian Helicopters CEO Andrey Boginsky told ShowNews’ Maxim Pyadushkin about plans for the Middle East.

Do you think that the new investors can help promote Russian helicopters in this region?
The pool of international investors definitely helps us to expand our presence. I’m sure that the efforts by our Middle East partners will help increase our activities in this region, where we have significant potential for the growth.

How important are the markets of the Middle East, North Africa and Central Asia for Russian Helicopters?
These are very promising markets for us as we have large programs in a number of countries there. Russian attack helicopters are traditionally in demand in North Africa and the Middle East. For example, our Kamov Ka-52K was selected this year by the Egyptian navy. Besides, we constantly work to expand our sales geography. We have already signed a first contract with Turkey for delivery of Kamov Ka-32 utility helicopters. We are in talks with Iran on deliveries of light rotocraft.

In Central Asia we actively work with Russia’s partners in the Collective Security Treaty Organization (besides Russia, it includes the Central Asian countries of Kazakhstan, Kyrgyzstan and Tajikistan, as well as Armenia and Belarus). In October we inked a letter of intent with our Kazakh partners to launch the semi-knocked-down assembly of Mil Mi-8AMT/Mi-171 transport helicopters in that country.

Some countries of the region operate Russian combat helicopters. What deliveries can you emphasize this year? Has the combat experience in Syria increased the demand for these rotocraft?
We made a first delivery of Mi-28NE attack helicopters with an onboard defense suite this year. It significantly increases tolerance to battle damage and protection from surface-to-air missiles with infrared seekers. These helicopters also have ungraded communication equipment. Russia’s operation in Syria has definitely encouraged interest among potential customers, because they are always keen to purchase an aircraft that proved itself with real combat experience.

What is the progress in promoting Kamov Ka-226T light helicopters to Iran. What quantities do you negotiate?
The Ka-226T successfully completed the series of trials in Iran at extremely high temperatures. After the end of the trials, we ran a conference in Tehran together with our partner, Iran Helicopter Support and Renewal Company (IHSRC), for potential operators of this type.

We are now in talks for delivery of Ka-226T for the newly founded aviation medevac service of the Ministry of Health and Medical Education of Iran. The program for creation of this service calls for up to eight light helicopters.

What new commercial and combat helicopter programs does your company work on now?
Russian Helicopters does research and development on a constant basis, and that allows us to hold leading positions in the global helicopter market.

In August we signed a contract with the Russian Defense Ministry to work out the concept for a high-speed combat helicopter. After this two-years’ effort we should define the aircraft’s configuration and technical requirements. The company’s design bureaus are using the experience gained during the trials of the high-speed helicopter demonstrator with the new main rotor.

As for commercial programs, I would like to mention the light single-engine multirole VRT500 helicopter, developed by our subsidiary VR-Technologies design bureau in cooperation with foreign partners. It will be available in multirole, passenger, transport, training, medevac and VIP configurations. It will be a light single-engine helicopter with coaxial main rotors. Takeoff weight will be around 1.6 tons. The first prototype is expected to be assembled by the end of 2019. We plan certification by mid-2021.

Egypt is the first export customer for the Kamov Ka-52 attack helicopter. Deliveries of the first of 46 are underway.

Iran will likely buy the Ka-226T utility helicopter.
Satcom Direct: Military Cybersecurity for Private Aviation

With digital threats to air traffic on the rise, the aviation-connectivity specialist Satcom Direct has unveiled a series of linked cybersecurity offerings for aviation customers. The 20-year-old American-headquartered firm, which has an office in Dubai South, leverages its expertise in securing military and government networks to protect its business aviation clients, who now make up around 70% of its client base.

“Exposure to the military market has meant we’ve gone through the whole exercise of becoming experts, and can funnel that back down to our product-development team, to make sure that the product offering we come out with is based on all the experience we have had on these networks,” says Michale Skou Christensen, the company’s vice president for international business. “There is a direct line between much of what we are learning, and have learned, in the military market, and what we bring to the private-aviation market.”

At the company’s Stand 1526 in the Airshow exhibition this week, SD is highlighting its three-pronged approach to providing digital security for aviation users – be they private or government entities. The company’s free Cyber Smart Kit helps educate users on the risks, and offers advice to help mitigate them.

Its Cyber Security Solutions product includes an on-site risk assessment, from which a tailored set of applications can be deployed. All users have access to the SD Private Network – a secure, monitored data backbone that keeps users’ systems off the public internet.

A key differentiator of the SD offering is that the company seeks not to secure the devices on board the aircraft but to extend the protective bubble to the aircraft itself. “The biggest problem the corporate aviation market is facing – and we see this internationally, including in the Middle East – is that the IT department sees the airplane as a black box,” Christensen says. “The traditional way of defending was on a device level. That meant you tried to secure every device that people brought onto the airplane – but with private aviation you will never be 100% guaranteed who walks on, and what they walk on with.

“We can extend your private network onto the airplane, and apply threat monitoring and threat avoidance at an airplane level – which, up until we did it, was never really offered. So our approach is to secure the airplane, not the devices – because once you have a secure airplane, whatever’s inside it, we will control that.”

—Angus Batey

A HAPPY CONVERGENCE between need and available capability seems to be taking place in the UAE. That it is happening in one of the globe’s most demanding and most-needed sectors – cybersecurity – can only be encouraging for the region’s governments, and its populations.

According to a survey conducted by Zogby Analytics and published by Raytheon, Forcepoint and the U.S. National Cyber Security Alliance (NCSA), young adults in the UAE are more likely to consider a cybersecurity career than their peers elsewhere in the world.

Over 3,000 young people aged between 18 and 26 from nine countries were surveyed, 815 of whom were from four Middle East nations (Jordan, Qatar, Saudi Arabia and the UAE). Some 67% of Emiratis said they consider themselves more likely to consider a cybersecurity job than a year ago, and the same proportion were aware of what cybersecurity professionals do, compared to 51% in the U.S., 45% in Europe and 44% in Asia-Pacific.

This enthusiasm for the sector comes at a critical time, with networked connectivity spreading far beyond computers and smartphones. If an error in the software in a device such as a domestic electricity meter could potentially allow an intruder to access the electricity customer’s bank details, that becomes a problem not just for the meter manufacturer, the electricity provider and the customer, but for the bank and potentially the government as well.

The requirement in the region is growing at least as fast – if not faster – than in the rest of the world. As the UAE continues to cement its reputation as a hub for advanced technologies, so the need for homegrown cybersecurity specialists intensifies.

“The only difference between what we do and what we’ve done in Raytheon’s information, intelligence and services division. “Everyone’s at a different maturation point, but they’re all excited about wanting to have the talent in place to make it an enduring part of their infrastructure.”

—Angus Batey
Sunday’s unveiling of the Calidus B-250 light attack turboprop answered a few of the many obvious questions concerning the specification and future of this Brazilian-designed machine, including the fact that, as suspected, it is earmarked for manufacture at Al Ain, in Abu Dhabi.

That, of course, is dependent upon orders, on the topic of which, Calidus spokesman Handan Abdulla Al Shkeili remains tight lipped. The UAE national markings on the aircraft shown here are to reflect the aircraft’s parentage and not its customers, he says.

The prototype B250 flew in Brazil during July and is now making daily performances in the flying display; the second machine is shown statically, adjacent to its predecessor, the four-seat Novaer T-Xc. That aircraft is here to demonstrate Calidus’ close relationship with Novaer, and not as a declaration of intent to build. However, if a potential buyer’s offer is good enough, “we are open to customer needs,” declares Al Shkeili.

It was Calidus (Pavilion A34 and 35) that commissioned Novaer and laid down the specification for a carbon-fiber light attack and trainer aircraft in 2015. The company is proud to be showing the result in flight at an international aerospace event a mere two years later. Inevitably, the B-250 has a resemblance to the Embraer Tucano, which was also produced by Novaer’s chief designer, Joseph Kovacs. However, with a span of 12.08 meters (39.65 ft.) and length of 10.98 meters (36.01 ft.), it is slightly larger. Power comes from a 1,600-shp Pratt & Whitney PT6A-68 turboprop with four-blade Hartzell propeller; and Pro Line Fusion avionics are by Rockwell Collins.

Other key features include dual zero-zero ejection seats; rugged landing gear for rough airfields; seven weapons pylons (one on the centerline); and an electro-optical/infrared turret under the forward fuselage.

With four GBU-58 Paveway II 250-lb. laser-guided bombs, two self-defense Sidewinder AAMs and a drop tank, the B-250 is able to attack a target 560 nm (1,037 km) distant, flying at 250 kt. For surveillance only, with turret and three tanks, that increases to 1,180 nm (2,185 km) at 280 kt.

Ferry range is 2,400 nm (4,445 km); endurance, 12 hr.; maximum level speed, 301 kt. (557 km/hr.); and payload, 3,960 lb. (1,796 kg). Operational cost is said to be less than US$1,200 per flight hour.

Calidus has complete ownership of the B-250’s intellectual property, so the scene is now set for production of the UAE’s first manned combat aircraft. The next Dubai Airshow starts on Nov. 17, 2019; we may see more of the B-250 then.

—Paul Jackson

Sudan’s aviation aspirations extend to the four-seat SAFAT 04 with an eight-seat twin to follow.
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China’s August 1st Team Makes Dubai Debut

Among the highlights of the flying display at the Dubai Airshow this year is a first chance for western audiences to see the People’s Liberation Army Air Force’s August 1st aerobatic team. Named after the date of the founding of the PLAAF, the team is equipped with Chengdu J-10 fighters, and their appearance at the Airshow marks their first display outside China since 2015, when they flew at the Langkawi International Maritime and Aerospace event in Malaysia.

Footage on social media from Nov. 6 shows several J-10s taking off, presumably from the team’s home station of Yangcung Air Force Base, near Tianjin, though Chinese media reports of the departure were datelined Urumqi, suggesting a route to Dubai through Pakistan.

The same footage also shows two PLAAF Ilyushin Il-76 transport aircraft taking off at around the same time. The type has been modified to carry out a tanker role, and supported the seven J-10s en route to Dubai. Both the tankers are set to “participate in” the Airshow, according to a brief news item carried on the Chinese military’s official English-language website.

In 2014, the PLAAF announced that four members of the August 1st team were women. The first display conducted with female pilots on board was given during the Zuhai airshow that year, though, at least initially, the women were flown in the rear seat of the J-10. The force began allowing women to pilot fast jets in 2005. The first female August 1st member was killed in 2016 following a collision between two J-10s during a training sortie over Hebei province, to the north of the country. Captain Yu Xu was in the rear seat of the aircraft when it clipped wings with another J-10; she ejected successfully but was hit by the wing of the other aircraft.

The August 1st team is scheduled to appear in Pakistan following their Dubai displays on Nov. 20.

Diamond to Sparkle in New Surveillance Roles

Following in the footsteps of its predecessor, the DA42, Diamond’s new DA62 is displayed at Dubai in its latest incarnation, the MPP variant, which will shortly be available as a Multi-Purpose Platform for a wide spectrum of roles.

General features include a Garmin G1000 cockpit with synthetic vision technology, GFC700 autopilot and piston engines operating on jet fuel for worldwide availability. All DA62s have top-mounted exhausts for both low noise and diminished IR signatures. Inside, a modular cabin can be configured for one or two systems operators in addition to the pilot(s).

For intelligence, surveillance and reconnaissance duties, the DA62 MPP can be fitted with a spine-mounted satellite communications antenna to relay data acquired by one of a variety of nose antennas and receive data from the ground. Up to 100 kg (220 lb.) of kit is carried here, options including weather radar and an electro-optical turret.

As a survey aircraft, the DA62 MPP can augment a nose array such as a laser scanner with an underfloor tray carrying up to 150 kg (331 lb.) of large-format survey cameras and similar sensors.

Over the years, the DA42 MPP has sported a bewildering variety of noses for diverse special applications; the DA62 would seem to be close behind.

—Paul Jackson

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Extended-Range Falco Evo Lands in Middle East

Leonardo has begun deliveries of its Falco Evo remotely piloted air system, with an announcement to be made today at the Airshow that one of two customers for the type in the Gulf and Middle East received their first system last month.

The first Evo came off the production line at Leonardo’s facility in Ronchi dei Legionary, Italy, in August. The acceptance flight took place at the same location.

The Falco Evo is a derivative of the original Falco, with a longer wingspan and tail booms. A Leonardo-supplied kit enables a basic Falco to be converted to Evo configuration. This increases range, persistence and payload capacity: The Evo can fly a payload of up to 100 kg for 20 hr.

Leonardo (Pavilion P8 and $18) has not disclosed the identities of its two Falco Evo customers, though the company has a long-standing partnership with Pakistan, which has a Falco production line established in that country. According to media reports, Saudi Arabia also operates Falco systems.

There are a total of five international Falco customers, one of which is the United Nations’ MONUSCO mission. Leonardo owns and operates the aircraft, and provides data to the UN as a managed service. —Angus Batey

The Russian Who Went Out Into the Cold

SUSPENDED FROM THE ceiling above Stand 890, in a menacing posture, a bat-like aircraft surveys the indoor exhibits, seeming to hover in exactly the way that bricks don’t.

SKAT Systems, the Russian UAV specialist, is promoting several surveillance and monitoring projects, including this, the vertical takeoff X-27 Avatar, which, equipped with a tractor propeller and four lifting rotors, offers 300 km (286 mi.) range and 7,000 meters (23,000 ft.) altitude.

SKAT is proud to remind visitors that it claims the world flight altitude record for light aircraft weighing less than 1 tonne. The claim refers to a flight on May 7, of a 640 4G TERRA, when the craft overflew the highest mountain on Earth, Everest, actually achieving an altitude of 9,333 meters (30,620 ft.).

Launched from the village of Tengboche in northeast Nepal, 3,867 meters above sea level, the electric-powered 640 reached Everest in less than an hour, while flight duration amounted to an hour and a half. It had to battle harsh flight conditions, including thin air, an increased level of radiation background and sub-zero temperatures, as well as wind gusts of up to 27 meters per second (60 mph).

Essential details of the sortie were confirmed by two Nepalese government agencies, and this verification has been sent to the Guinness Book of Records to claim a new drone record.

Dmitry Sharov, chief designer at SKAT Systems, says the flight demonstrates the opportunities for use of the 640 by alpinists, land surveyors and rescue teams, as well as the military.

Typically, mountaineers can now quickly conduct weather, ice and glacier reconnaissance at any time, while rescue services in mountainous regions can monitor the situation in avalanche-prone areas and plan rescue operations on the basis of real-time monitoring under any weather conditions.

It must be admitted, however, that none of these facilities is a priority in the desert Dubai.

(And the first flight over Everest? April 3, 1933, by two Westland aircraft of the Houston Expedition.) —Paul Jackson

Hong Kong UAV Sparkles in Iraq

In an era where it often looks like as much time and money has been spent on sophisticated marketing presentations as on developing the product in the first place, the approach SparkleTech has taken to designing one of its two stands at the Airshow is refreshingly unpretentious.

The Hong Kong-based UAV house has brought an obviously well-used model of its Eagle Hero aircraft to Dubai, and has hung it on the back wall of the smaller of its two Stands (1773; the company’s main presence is at 1885). A pair of hand-written notices have been taped to it, one in Arabic on the right wing and one in English on the left, stating that the company will be flying the aircraft in Dubai between Nov. 16 and 19.

Details of a venue for the flight have not yet been confirmed, but anyone interested in seeing the aircraft in action is advised to provide their contact information and the company will confirm time and place.

There are two models of aircraft on the company’s stand, both combining a single propeller for forward flight with four rotors to enable a vertical takeoff and landing capability. The firm markets several different designs, some requiring catapult launch systems; these, and flight-control systems, all appear to be produced in-house. According to company staff, at least one system has been sold to the Iraqi military, and is used for surveillance in that country. —Angus Batey

Like an extract from a 1930s film portraying the future, SKAT’s X-27 Avatar VTOL air vehicle radiates menace over the exhibition hall.
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CAE, UAE Look to New Training Business Models

From unmanned aircraft to fifth-generation fighters, the training challenges facing the world’s air forces are legion. As the United Arab Emirates begins to stand up a training system for its Predator XP operators, the issues are coming into focus in the Gulf region. But this changing marketplace is demanding new ways of thinking from suppliers, too. For CAE, the Canadian company synonymous with simulation-technology provision, the transition is significant.

“Half of our business is still in building flight and training devices of all types and providing upgrades, maintenance and spares,” says Gene Colabatistto, president of CAE’s defense and security group. “That’s very much our legacy business, and a lot of our brand equity is tied up with that. But the other half of our business is more what I would call a TSI—a Training Systems Integrator.”

To give an example of what being a TSI means, Colabatistto describes the company’s contract with the U.S. Army to provide fixed-wing air training.

“The program was delivered and financed by CAE,” he says. “Our solution included us buying the land, building the facility, buying the airplanes and simulators. We hired the instructors, built the courseware, and we did everything, in exchange for a long-term contract.

“Of course, it’s a win-win,” he continues. “It gives the customer access to an absolutely state-of-the-art training capability with no capital being expended, and we’re obligated to keep it state-of-the-art.”

Clearly, this would not work if there were not benefits for the company, too. “For CAE it’s a good, efficient way to deploy capital in our core market,” Colabatistto says. “What we get is a long-term customer relationship, rather than just providing a simulator and departing.”

This has provoked some interesting responses internally, as the company has to rethink how it responds to customer needs.

A largely reactive process is now proactive. “In the past, if somebody were to come and buy a simulator, they would normally give us a specification,” Colabatistto says. “We would go into that specification and deliver it, and to all practical purposes, we’re done with that engagement. And then we would separately negotiate a maintenance contract. Today, when we provide the simulator as part of a total solution, on day one our team has to plan for the whole life cycle of the simulator, whereas in the past we’d only plan for the delivery.”

The company still works on the equipment-supply basis as well—and can deliver similar capabilities simultaneously to different customers under different business models. For example, its contract to deliver a first-of-type fully certified MQ1/MQ9 simulator to the Italian Air Force—enabling them to, in theory, train unmanned aircraft pilots from ab initio to combat-ready without flying the real aircraft—is for the equipment, with through-life support added on.

CAE’s contract with the UAE to provide a UAV training system, by contrast, is along similar lines to the U.S. Army fixed-wing deal, with CAE building and operating the entire facility.

“At the moment we deliver [the Italians’ simulator], it will be the first of its kind, and therefore it’ll be the most advanced simulator of its type ever delivered,” Colabatistto says. “One or two days later, it starts to become more obsolete, because technology moves on. We will maintain it, and I would expect, over time, they will request us to provide upgrades and changes, which will trigger other contract actions.

“On the UAE side, they’re paying us for the whole training center,” he continues. “We’re obligated to do the obsolescence management. On the day we deliver them, they’ll have the most modern simulators in the world—then on days two, three and four, it’s up to us to make sure it never becomes obsolete. I’d like to think they’re always going to get the best-in-breed technology from CAE, and we will keep it that way.”

The differences from the industry perspective need to be mirrored on the customer side. As companies like CAE move away from traditional equipment-supply business models and into service-provider and systems-integrator roles, the militaries they serve need to adapt, too.

“It’s not a training-systems issue, it’s an integration issue,” Colabatistto says. “One of the roles of the integrator is to do program management, obsolescence management and sustainment. This is the role that we take in the case of the UAE, and the government takes in the case of the Italian Air Force.”

Meanwhile, at the Airshow yesterday CAE (Stand 1335) announced a partnership with Saudi National Company of Aviation to create a CAE Authorized Training Center at King Fahad International Airport, Dammam. It will be the first flight academy in Saudi Arabia to train both men and women, of both Saudi and non-Saudi origin.

—Angus Batey
AVIC Showcases Full-Service Military UAV Portfolio

While the appearance of a mock-up of the Cloud Shadow UAV on the outdoor static display has grabbed a lot of attention at the Airshow, just as fascinating is a PowerPoint presentation that has been playing on AVIC’s Stand 894. In it, the Chinese manufacturer is presenting an end-to-end unmanned aircraft capability set, encompassing a range of airframes and payloads with complementary capabilities and a ground-control station (GCS).

These are all integrated into a holistic concept of operations that will look very familiar to anyone who has seen a presentation by western militaries on layered ISTAR (intelligence, surveillance, target acquisition and reconnaissance) capabilities. The company calls this the AVIC Total UAS Solution: All parts of it are made in China and are available for export.

At the tactical end of the Solution are two small RPAS, the A-Hawk I and A-Hawk II. Models of both are on display at the stand.

The A-Hawk I is an octocopter with a claimed 65-kg payload that can be used for package delivery and surveillance. It has a 30-min. flight time and a ceiling of 3,000 meters. The larger A-Hawk II has four belt-driven ducted rotors with a claimed endurance of up to 4 hr., with flight possible up to 5,000 meters and a payload limit of 120 kg. The system has its own, company-developed, flight control software and GCS.

AVIC is positioning the A-Hawk II as a weapons platform. The model is fitted with two small missiles and a product card lists “Anti terrorism: attacking terrorists and their bases” and “Military attacking” as its primary missions, with firefighting and cargo transportation roles also touted.

The next layer of ISTAR is provided by the Wing Loong family of aircraft, which perform a function similar to the General Atomics Predator and Reaper.

The long-established Wing Loong I, which has been sold to countries including the UAE and Saudi Arabia, can carry two laser-guided missiles as well as a range of ISTAR payloads (AVIC literature includes mention of an AIS (Automatic Identification System) payload, as well as ELINT, COMINT and radar jammer options). The presentation gives a first-flight date for the Wing Loong I of Oct. 30, 2007 – the date had previously been reported as two years later.

The larger Wing Loong II, which first flew on Feb. 27 this year, is shown carrying 12 weapons on six hardpoints. These include the 50-kg BA-7 guided missile and LS-6 precision-guided glide bomb. Videos showed apparently successful engagement of ground targets.

The platform carries a SAR/ GMTI (synthetic aperture radar/ground moving target indicator) radar. According to the presentation, the platform’s EO sensor is slaved by the SAR, which would enable the system to automatically assist an operator to positively identify a target.

At the higher altitude part of the Total UAS Solution portfolio sits the Cloud Shadow family of aircraft. AVIC says the type first flew on May 16, 2016, but does not specify which variant. There are three configurations of the platform currently promoted: imagery reconnaissance (designated CS-1), electronic reconnaissance (CS-2) and reconnaissance-strike (CS-3). Each is based around the WP-11C turbojet engine.

The first two have an internal 200-kg payload capacity while the CS-3 boasts an external payload of double that, spread across four pylons. According to the presentation, a full load-out would consist of a single FT-7A – perhaps a variant of the FT-7 100-kg range-extended, precision-guided bomb – and a pair of LS-6/50s, the 50-kg version of the LS-6 bomb that Australian defense think-tank Air Power Australia described, in a 2009 report, as analogous to the U.S.’s small diameter bomb.

The CS-2 features a pair of ELINT and COMINT panel sensors in a fairing below the nose. AVIC claims a frequency range of 0.8-18 GHz at up to 400 km for the former and 0.1-2 GHz at up to 200 km for the latter. The CS-1 carries SAR and LOROP (long range oblique photographic) sensors. An operational concept image in the presentation shows the aircraft flying 12-18 km inside the boundary with hostile airspace, and with effective ranges for the LOROP of 68 km beyond the line, and 70 km for the SAR.

The stand also features a full-size demonstrator version of AVIC’s GCS. This can be provided in fixed, vehicle-mounted or portable configurations, and features six user-defined touchscreen displays, a QWERTY keyboard with separate numerical keypad, and two joysticks. This can be used to control both the Wing Loong and Cloud Shadow aircraft.

The company also provides data links. These include a C/ UHF-band line-of-sight link, Ku-, Ka- and S-band satellite links, an L-band miniature link for the A-Hawks, and all associated ground terminals.

—Angus Batey

AVIC is showing an integrated holistic display of UAV operations.
Bail Out! UTAS Pitches Safer Next-Gen Ejection Seat

As the U.S. Air Force looks to replace legacy escape systems across its fleet of bomber, fighter and trainer aircraft, UTC Aerospace Systems is pitching a solution that the company says will not only save pilots’ lives but also prevent serious injury in the event of an ejection.

UTAS’s ACES 5 ejection seat, which has already been selected to replace the ACES II seat in the B-2 stealth bomber, is on display here at the Dubai Airshow. The company believes ACES 5 is the best solution not only to equip the Air Force’s new T-X advanced pilot trainer and the next-generation fighter, but also to replace legacy escape systems in Boeing’s F-15, Lockheed Martin’s F-16 and F-22, the A-10 Warthog and B-1 bomber.

Those aircraft, as well as the F-117 Nighthawk, are already equipped with the ACES II seat, said UTAS ACES 5 program manager Jim Patch in an interview here.

The Air Force’s need for a new ejection seat is driven in large part by the prevalence of heavy helmet-mounted devices (HMD) and night-vision goggles in modern fighter aircraft, which have increased the risk of dangerous head and neck injury during ejection, Patch said.

ACES II has a 91.4% success rate and has saved 654 lives to date, but almost as important as saving lives is preventing serious injury, he stressed. Both the ACES 5 and ACES II seats significantly reduce the risk of spinal injury by using a catapult rocket that senses the weight of the occupant and adjusts the rate – slower for a lightweight pilot, faster for a heavier occupant – so that aircrew across the 103-245 lb. weight range can safely escape.

ACES 5 improves on ACES II in several significant ways, Patch explained. The new ACES 5 seat has a passive head and neck protection system, a simple but reliable mechanical design. Another safety feature of the ACES 5 is a passive arm-restraint system, a net that deploys on either side of the seat and cradles the pilot’s arms and hands to prevent limb flailing. In addition, the leg restraints hold the pilot’s legs in position throughout the sequence. The new seat also has an improved parachute, the GR7000, which provides a slower rate of descent and reduced oscillation rate, and allows better steering.

The company is also working on “enhancements” to the ACES 5 seat that will be relevant for future aircraft, for instance the Air Force’s next-generation Penetrating CounterAir, and some classified programs, Patch said. He declined to give additional details.

UK ejection seat maker Martin-Baker, which produces the F-35 escape system, is also vying for these programs.

—Lara Seligman

ACES 5 program manager Jim Patch points out major features on the new ACES 5 ejection seat to Aviation Week Pentagon Editor Lara Seligman.
Airships Will Race to Dubai in 2018

Airship technology dates back at least the start of the 20th century, yet there has never been one flown in the Gulf region. Next year, though, not one but two are due to fly in the UAE. Two pioneering companies are bringing airships to Dubai, and both have longer-term plans that will follow on from their initial concept-proving flights in 2018.

At the Airshow yesterday, Airships Arabia announced three contracts. One will see the firm bring a Skyship 600 to the UAE by the end of the first quarter of 2018. The firm will partner with Aircraft Support Industries to design and build a 270x150x38 meter hangar at a site still to be determined in the UAE.

Underpinning those projects, the company has closed its seed funding round: Saeed Al Ghaith, vice chairman of the Arsa Group, is investing an undisclosed sum as part of a long-term partnership.

“This is a deep partnership that will start with baby steps and grow over time,” says Geoffrey Gottlieb, Airships Arabia’s managing director. “The aim is to grow quite big, but to take our time doing it. The first step is to bring the Skyship 600 to the UAE as soon as we are able to.”

Al Ghaith is particularly well-connected. His uncle is Ghaith Al Ghaith, the CEO of FlyDubai, and his wife is the grand-daughter of Obaid Khaleefa Jaber Al Murri, chairman of the Al Jaber Group, the Abu Dhabi-based diversified construction firm.

“I am a very visionary person,” Al Ghaith tells ShowNews. “My aim is not just to create revenue – my aim is to change the world.”

The initial tasks possible with the Skyship 600 will be limited: Gottlieb says the year-round operations will focus on advertising opportunities, passenger carriage and some surveillance. But he and Al Ghaith are looking further into the future, to the advent of hybrid airship technologies, and the greater capabilities they will bring.

“Contracting company trucks create accidents, create dust,” Al Ghaith says. “It can cost millions of dollars just to build the road to get to a project site. Imagine moving construction materials with hybrids: It will be safer and faster.”

Humanitarian aid missions are also on the agenda, with the payload capacity of a large hybrid airship offering options to ensure food aid reaches the places where it is needed, not just the nearest airport. Al Ghaith also runs a horse-racing team in the UK and is excited by the potential application of hybrid airships to the Sport of Kings. The large, unpressurised, low-noise cabin offers distinct advantages over road transport.

“It’s very calm,” he says. “You can move horses from Newbury to Newmarket with this.”

The Skyship 600 will be operated in the UAE by Skyship Services Inc., the manufacturer of the aircraft. Airships Arabia says that discussions with both the UAE’s and Dubai’s airspace regulators are ongoing, but the company says the FAA- and EASA-certified aircraft can be operated within the GCC while regulations are developed that would allow AA to apply for its own Air Operators Certificate. At present, there is no locally available AOC for airships.

Meanwhile, Spirit of the Emirates, a company founded by Khalid Al Ansari in 2015, plans to bring a Zeppelin NT to the emirate next year, for the first of three annual 100-day flying seasons. These will pave the way toward the long-term goal of headquartering the aircraft in the city-state for tourist-oriented pleasure flights. Al Ansari has also established Spirit of the Emirates as the exclusive distributor and sales outlet for Zeppelins in the GCC.

“We launched this in 2015 as an idea,” says Al Ansari. “We are delighted today to say to people that in 2018, we are bringing the real thing. It will be a very luxurious trip. You can open the window and touch the clouds; you can celebrate your anniversary, meet with friends or your company, launch news, broadcast with radio.”

Concerns over temperature limits for the Zeppelin NT are overblown, he argues.

“There are three Goodyear Zeppelins in Florida,” he says. “It’s hot. They fly.”

Al Ansari says he intends the Zeppelin, which will carry up to 12 passengers, will fly 18 times per day, for flights of 20-, 30- and 45-min. duration. Booking has not yet opened, and pricing has yet to be confirmed: But he says it will be “definitely cheaper than a room at the Burj Al Arab, but not like flying with a low-cost airline.”

—Angus Batey

Announcing their partnership on airships were (l to r) Sharif Fahmy, strategic director, Airships Arabia; Geoffrey Gottlieb, managing director Airships Arabia; Saeed Al Ghaith, vice chairman of the Arsa Group; and Pete Wallace, commercial director, Airships Arabia.
Syrian Operation Boosts Demand for Russia’s Weapons

The successful use of Russian-made defense weapons during the counter-terrorism operation of Russia’s Aerospace Forces (VKS) in Syria is driving the growth of demand for them on the global arms market, Director of the Federal Service for Military-Technical Cooperation (FSVTS) Dmitry Shugayev told ShowNews.

"The countries of the Middle East and North Africa altogether make up almost 50% of Russian total defense exports, which is a considerable share. As for specific types of equipment that are popular with our partners in the Middle East and North Africa, one must mention armor materiel, air defense, anti-tank missile systems and small arms," Shugayev said.

He emphasized that the successful use of Russian-made defense hardware during the operation in Syria has boosted demand for it on the global arms market. "Since the very start of the VKS counterterrorist operation in Syria, the demand among foreign customers for Russian military-purpose products has significantly increased," he said. "At the same time, one has to realize that signing a contract is a time-consuming multi-phased process with lots of preparatory work to be accomplished before a deal can materialize.

"We are having a busy time marketing the systems that are successfully used in Syria, with S-300 and S-400 air defense systems, Pantsyr S-1 surface-to-air missiles and anti-aircraft artillery weapon systems, the Kornet-E antitank guided missile system and air-launched weapons on the top of the list. Of course, the increased popularity of these weapons is to an extent due to their successful performance in Syria," Shugayev said.

Upgrades to previously delivered weapons systems are also highly sought on the market. “Modernization of arms and military equipment produced in Russia is a full-fledged area of military-technical cooperation of our country with its foreign partners,” Shugayev said. “While competition with Eastern Europe, the CIS and China has recently become rather tense, countries that use our equipment should well understand that high-quality work on improving performance and ensuring safety of defense equipment can be only carried out by certified enterprises, and under the supervision of Russian experts in those relevant fields.”

At present, Su-24 and MiG-29 aircraft, Mi-8 and Mi-24 helicopters, T-72 tanks and BMP-1 infantry combat vehicles are being successfully overhauled and modernized in the region, he noted.

According to Shugayev, Russia also promotes security hardware intended for various law enforcement agencies. “Defense Ministries and their various agencies remain major customers of Russian military equipment in the region. And that is no surprise since they require our state-of-the-art systems to successfully carry out their basic function, which is to protect their countries’ sovereignty and territorial integrity. At the same time, there is growing interest in military-purpose products from the Ministries of Internal Affairs and other security agencies. Despite the fact that so far it has been limited to procurement of small arms we hope that our cooperation with these agencies can prove mutually beneficial and fruitful.”

The issue of manufacturing Russian-originated hardware under license and establishing joint ventures is also of interest for key players on the market. “Many countries of the Middle East and North Africa are seeking to advance their defense industry, and they consider Russia a qualified and reliable partner that can help them do it,” he said. And taking into account the volumes of equipment supplied to the armed forces of the region, Russia is interested in launching service centers there.

“At present, we are exploring a number of projects on aviation and armor materiel, as well as air defense systems maintenance centers. Hopefully we will soon come up with some mutually beneficial solutions. 

“As for license production of Russian military equipment, we proceed from the premise that at first partners have to procure large consignments of finished products. Only after that can we start a reasonable discussion of production under license,” Shugayev said.

He noted that Russia and Saudi Arabia have agreed supplies of defense hardware, including S-400, TOS-1A, Kornet-EM systems, and AGS-30 and AK-103. “At present, we are discussing the practical implementation of the agreements reached. Talks are proceeding in an utterly constructive and open manner,” Shugayev said.

—Nikolai Novichkov
Ahmad Abu Ghazaleh

Orolia Wins ELT Order for SpiceJet’s 737 MAX

Orolia, through its Kannad brand, has won a contract to supply India’s SpiceJet with emergency locator transmitters for the airline’s 150 new Boeing 737 MAX aircraft, set to begin delivery in 2018. The Kannad 406 Survival ELT features a three-frequency transmitter - 406, 243 and 121.5 MHz - providing a direct connection to global search and rescue (SAR) services should an emergency occur. The Kannad 406 Survival ELT is TSO/ETSO certified and includes a water switch sensor allowing automatic activation when in contact with water, with audible as well as visual activation indicators (buzzer and LED). Orolia is at Stand 840D.

Russian Mi-171A2 to India’s Vectra Group

Russian Helicopters has cemented a contract with Indian company Vectra Group for export of the medium multi-role civil helicopter Mi-171A2, the company announced Nov. 13 at the Dubai Airshow. The agreement includes an option for purchasing one additional helicopter. The aircraft will be delivered to the customer in 2018, according to the company. “A wide range of potential customers from all over the world are keeping a close eye on the development of this project and I’m sure that certification and successful operation of Mi-171A2 in India will allow them to translate their interest into new contracts,” said Russian Helicopters CEO Andrey Boginsky after signing the contract.

P&W Signs With Turkish Airlines and Satair

Pratt & Whitney (Stand 1280) signed two widely differing MRO agreements earlier this month. In the first, Turkish Airlines has selected the Pratt & Whitney Turkish Engine Center for a service agreement covering all of the airline’s V2500 and CFM56-7b engine overhaul requirements for up to five years. The agreement calls for MRO services branded under Pratt & Whitney’s Engine-Wise brand. The other MRO deal is its agreement with Airbus aftermarket subsidiary Satair Group for Satair to become the exclusive distributor worldwide of engine-nacelle exhaust system parts for 100-in. fan-diameter models of the PW4000 turbofan engine.

UAE Banning Drone Imports

The UAE is stopping the importation of drones that fail to match the new specifications for UAVs. The new standards, which went into effect in mid-September, include a surveillance system for detecting unmanned aerial vehicles. According to Essa Al Hashmi, director of the conformity department at the Emirates Authority for Standardization and Metrology, all drones will need to have a unique serial number. “Therefore, no drones will be allowed to enter the country that don’t meet our specification.” Drones for research and development as well as security purposes are exempted from the new specifications.

Shell to Operate Fueling Facilities at Salalah

Shell Aviation has signed a fueling concession agreement to operate the new into-plane and fuel farm facilities as the sole jet fuel supplier at Salalah International Airport in Oman. Shell now supplies jet fuel at the two largest airports in the country – Muscat (MCT) and Salalah (SLL). “We see significant potential in Salalah and we aim to support its growth by providing our extensive expertise in fuel supply,” said Anne Anderson, vice president of Shell Aviation. “We are pleased to add Salalah to our global network as we also mark 55 years of operations in Oman.”
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