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WORLD AIR NEWS

AFRICA'S OLDEST AVIATION MAGAZINE

MILITARY HELICOPTERS ACROSS AFRICA

MUSKET SOFTWARE SOLUTIONS

MARSHALL AEROSPACE C-130 UPGRADE

TEXTRON FOR TUNISIA

EXCLUSIVE CONTENT AND PREMIUM AFRICAN AVIATION NEWS

EX-LUFTWAFFE

Wieland Aviation Group PTY Ltd, based in Warnervale, New South Wales acquired three ex-Luftwaffe C160D Transall in September last year. The first, registered VH-RPR was seen transiting through Malta recently flying in from Kiel (EHDK) and continuing to Hurghada (HEGN) the following day. The other two C160 will be registered VH-RFW and VH-TIT. The company intends to convert these aircraft as water bombers for much needed firefighting duties. Big Up and thanks to Mario Caruana from MAviO News.

And on our front cover thanks to our photographer Pieter Cronje for this shot of an Aerospatiale Puma SA 330 taken at the Swartkops Air show held recently in South Africa.

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WORLD AIRNEWS

MILITARY HELICOPTERS IN THE MODERN WORLD

By Heidi Gibson

More and more the role played by modern military helicopters in the game of war cannot be under-estimated.

Used to transport both troops and material, helicopters can be used to carry troops, resources. Their operational range, refueling capacity and many more variables come into play when on the battle field.

This month we explore more about this topic and identify the more common types on the continent and in the Middle East. In the current geopolitical storm – this topic article couldn't come at a more relevant time.

It is a wellknown fact that helicopters really came into the fore during the Vietnam War when the US used the iconic Bell UH-1 Iroquois or the Huey. Those machines were fitted with turret mounted automatic 40-mm grenade launchers, skid-mounted rocket pads and remotely trainable machine guns.

Today things look very different. Everything is geared towards avionics, electronics, range, speed, propulsion, survivability and high-altitude performance.

The philosophy is to improve on the present limitations by examining emerging technologies within the realm of the possible, with speeds in excess of 170 knots, combat range of 800 km, hover with full combat load under high/hot conditions and with a degree of autonomous flight capability.

More and more there is a need to harness technological innovation by looking beyond current force technology and identifying possible next-generation solutions in areas such as propulsion, airframe materials, rotor systems, engine technology, survivability equipment and mission systems, among others.

I could go on and on as the big OEMs push the limits, governments allocate more spend and the world battle field evolve.

While the US remains the world's largest purchaser and developer of military helicopters, other major aviation giants like Sikorsky, Boeing and Bell taking the lead in the design, development and manufacture of state-of-art military helicopters.

Not forgetting the role played by Russia and the Moscow-based Russian Helicopters and other European contenders such as Airbus and Leonardo.

Space and time do not allow us to fully emerge ourselves in this focus feature. We hope that you find our little taster type articles enough to inform and educate on the latest news and developments.

Enjoy the read and let me have your comments, feedback and criticism.Email me at heidi@airnews.co.za

AFRICAN HELICOPTER FORCES

By World Airnews correspondent Helmoed Römer Heitman

The relative lack of interest by many African armed forces in helicopters is remarkable, given the utility of helicopters in so many roles.

One factor is probably the sheer size of many African countries, resulting in deployment distances well beyond what most helicopters can manage.

Unable to afford large numbers to have several units around the country they then prefer to stick to fixed wing types.

Another factor, inevitably, is cost and yet another complexity, helicopters not always being the simplest aircraft to maintain.

The major helicopter operators are Algeria and Egypt in North Africa and Angola Ethiopia, Kenya, Nigeria and Sudan, all of which have fairly balanced helicopter forces comprising attack, transport and utility types.

Some of the smaller helicopter forces are nevertheless quite well-balanced fleets of medium transport and attack types, making them tactically useful despite the small size of the fleet. Examples include Chad, Rwanda, South Sudan, Uganda, Zambia and Zimbabwe.

Many others, however, have what can only be termed demonstration model tactical helicopter forces, for instance comprising just two M-24 attack and two Mi-8 transport helicopters; too small to be really useful other than for show.

The Military Mi-24 is a large helicopter gunship, attack helicopter and low-capacity troop transport with room for eight passengers.

Many African countries operate small but useful fleets of utility helicopters, although often too mixed a fleet to make maintenance easy, let alone efficient. In addition, many of these are older types that will become difficult to sustain in service.

Russian attack helicopters are by far the most prevalent of the kind in Africa.

Most prevalent among them are the Mi-24 and Mi-35 in their several variants, both in terms of simple numbers and in terms of how many countries operate them with some 178 on hand, including 30 converted to Super Hind standard by the former ATE in South Africa.

Then there are 42 Mi-28s in Algeria and 46 Ka-52s in Egypt, bought to operate from the two Mistral class landing ships. Other attack types are the AH-64 Apache (45 in Egypt), the South African Rooivalk (11) and some ex-Jordanian Cobras in Kenya.

In addition, Kenya operates some 37 MD500 Defenders, ten of them armed with TOW anti-tank missiles and some armed Z-9s. Several other forces operate armed Gazelles, some with HOT anti-tank missiles.

Naval combat helicopters are few, with Algeria (6 for surface action, plus 4 in search and rescue configuration) and South Africa (4) operating the Super Lynx and Egypt 10 Super Sea Sprites.

The primary heavy lift helicopter in Africa is the CH-47, with 35 in Egypt and 30 in Morocco. The other heavy lift type is the Mi-26 of which Algeria has 14.

The most prevalent medium transport type is the Mi-7/Mi-17 family in its several variants, with some 230 on hand. The next most prevalent type is the Puma/Super Puma/Cougar family, with some 93 on hand, counting the 36 Oryx of the SA Air Force that are a further developed variant.

The there are some 42 Blackhawks in service in Egypt and Morocco, 38 Bell-412 and 212s operated by several forces and 24 S-61 Commando transport helicopters still on hand in Egypt. The AW139 and AW149 are beginning to make inroads with some three in service around the continent.

The utility/light helicopter is dominated by various Aerospatiale/Eurocopter and Bell types, while the AW109 is making steady inroads with some 55 in service.

With many of the helicopters held by African air forces becoming elderly, particularly many of the Russian types and the older Aerospatiale and Bell aircraft, there is clearly going to be a market to refurbish those aircraft and perhaps to modernize or upgrade some.

Some, of course, will have to be replaced. The challenge will be to find the funding in notoriously tight African defence budgets.

AP 64 Apache Longbow

Although it looks like an entirely new machine, the Rooivalk is based on the South African Oryx utility helicopter, which in turn is a reverse-engineered and upgraded version of the French Aerospatiale Puma.

MILITARISED AW139

This Leonardo (AugustaWestland) AW139 military version has an edge over its competitors in terms of technical characteristics and operational capabilities. It is flown all over the southern Mediterranean areas of Egypt, Cyprus, Croatia and Malta – not to mention Italy where it is flown both by the Air Force and the Coast Guard. The militarized version has sold over 1, 100 units in 90 countries worldwide.

Photocredit: MAvio News/ Chris Cauchi

MILITARY HELICOPTERS MARKET ANALYSIS

Airbus C295

Five companies seem to dominate the Middle East and Africa military helicopters market and these are, in no particular order, Airbus SE, Leonardo, Lockheed Martin, Robinson and Turkish Aerospace Industries.

But, according to the Modor Intelligence website, the compound annual growth rate or CAGR of this market is not expected to be great with a predicted -8.69% rate. This between the years 2022- 2028.

There are currently 3,118 combat helicopters in operation in Middle East & Africa, with Turkey recording the highest number - a 474-helicopter operational force – in the Middle East region.

In Africa Egypt and Algeria follow with active fleets of 313 and 276 respectively.

These same three countries are anticipated to purchase most of the multi-mission helicopters in the coming years.

The website records that Egypt plans to buy 24 EW-149 multi-mission helicopters, Algeria plans to purchase 42 Mi-28 attack helicopters and Turkey is poised to purchase around 160 helicopters, including 109 S-70 utility helicopters. All of these are expected to be delivered by 2026.

The United Arab Emirates is expected to take delivery of 17 Apache AH-64E attack helicopters having signed a (US) $242 million contract with The Boeing Company for the procurement of these. And it is a well-known fact that Turkey is currently developing a new T629 attack helicopter, with a total displacement of six tons, lighter than its T129 Atak predecessor.

The same website stated that spending in the Middle East was going to decline about 8.6% from the (US) $157 billion spent in 2021. The good news is in Africa, this is said to be the opposite, with an increase in spending of 6% from 2020.

During the 2016-2021 period, the active rotorcraft fleet grew by around 8% in the Middle East and 10% in Africa. This was driven by the overt intervention of regional powers and ongoing conflicts.

Apart from the major countries, small countries such as Morocco and Nigeria are also increasing their defence budgets due to the ongoing tensions with Algeria. All such factors are expected to drive the spending on various types of military rotorcraft in the region during the forecast period.

Here is a brief round-up of some of the latest developments in different African countries.

The Democratic Republic of Congo continues to build its military capabilities – its latest acquisition being four MI-24s.

In Gabon president, Ali Bongo Ondimba, has apparently given his approval for a loan of (CFA) 31 billion or (US)$52 million to be obtained in order to purchase an Airbus C295 military transport aircraft for the country's Air Force. According to the website defenceWeb, the decision to secure the loan from Spain's Santander Bank was made during a recent cabinet meeting chaired by the president in June. The meeting endorsed a draft legal document from the executive requesting authorisation to proceed with the plan.

Mali's military leader has handed over nearly a dozen aircraft to the country's air force after receiving them from Russia, which continues to forge close ties with the West African nation.

Transitional President Colonel Assimi Goita handed the aircraft over in the presence of Russian ambassador Igor Gromyko at President Modibo Keita International Airport earlier this year.

Amongst the aircraft on display were five L-39 jets (TZ-18C, TZ-19C, TZ-30C, TZ-32C, and TZ-35C), two Mi-8 helicopters (TZ-94H and TZ-95H), and a single Su-25 strike aircraft (TZ-25C).

Reports are that Nigeria to set to replace its AW109 E with a Turkish Aerospace Industries TAI-T-129 Atak helicopter manufacturer by Turkish Aerospace Industries. Somalia has received a shipment of Bell 412 helicopters, and other weapons in an effort to boost its counter-insurgency fight against the Al-Shabaab terrorist group.

Two Bell 412 helicopters arrived in Mogadishu recently, while a further three are to be delivered soon.

The Bell 412 is a twin-engine helicopter that is used for a variety of purposes, including troop transport, medical evacuation, and search and rescue. It is considered to be a versatile and reliable aircraft that is well-suited for operations in Somalia's harsh environment.

The helicopters will allow the government to quickly deploy troops and supplies to remote areas, and they will also be able to provide medical evacuation for wounded soldiers. It is not clear if Somalia paid for the helicopters directly, or they were gifted to them. Military sources have put the numbers at about five in total.

The military's pilots, technicians and Special Forces have completed training in Turkey on the Bell 412s.

The Somali government has also received a significant arsenal of new weapons in recent months. This includes 120mm mortars, Zu-23 anti-aircraft guns, and other heavy weaponry. These were donated by allied nations.

The African Union Transitional Mission in Somalia (ATMIS) withdrew about 2,000 troops earlier this year in June and another 3,000 are expected to be withdrawn this month in compliance with the United Nations Security Council Resolutions 2628 and 2670, which mandates ATMIS to also hand over security responsibilities in agreed areas to Somali security forces.

Uganda recently received the first of six Mi-28 Night Hunter helicopters after the commissioning of a new helicopter maintenance, repair and overhaul (MRO) facility at Nakasongala Airbase by Ugandan President Yoweri Museveni. The facility is expected to refurbish the Ugandan Air Force's existing Mi-24 helicopters, and will support the new aircraft.

The facility is a joint venture by the Ugandan People's Defense Force's commercial arm, the National Enterprise Corporation (NEC), and Pro-heli International, a Russian company.

The first three Mi-28s, wearing Ugandan markings, were seen at Entebbe Airbase last year during a visit by the president.

The Mi-28N Night Hunter is a night-attack derivative of the original Mi-28, armed with up to 16 Shturm and Ataka radio-command-guided and radar-guided anti-tank missiles.

The new helicopter is expected to augment Uganda's five or so surviving Mil Mi-24 Hind gunships, as well as a number of Mi-8/Mi-17s, several AB 206 Jet Rangers, half-a-dozen Bell 205s, and a couple of Bell 212 helicopters. Five refurbished Huey II helicopters were delivered from 2017.

With thanks to the Modor Intelligence website for some of the information : https://www.mordorintelligence.com/industry-reports/middle-east-and-africa-military-helicopters-market

Turkish T-129 attack

A SOFTWARE SOLUTION

Musketeer Software solutions is a South African start-up company that is offering aviation operators – across the world – an all-in-one application that will streamline and integrate all their processes and procedures. World Airnews editor Heidi Gibson spoke to COO Henno Furstenburg.

Daniël Hoffman

Lynette Furstenburg

Henno Furstenburg

WAN: We met at the AEROSA event in Wonderboom, South Africa. Thanks for that very impressive demonstration. Can you jump right in and tell our readers – exactly what is Musket FMS?

Henno: Musket FMS, or Musket Flight Management System, is a comprehensive software solution designed to empower aviation operators with streamlined operations, enhanced efficiency, and elevated safety standards.

It offers a user-friendly interface that integrates various functionalities, enabling operators to manage flights, crew, aircraft, documents, audits, safety incidents, and more all within a single cloud-based platform.

WAN: Surely there are lots of other Flight Management software systems in the market. What is Musket FMS's USP or unique selling point? What sets you apart from others? Why should anyone purchase it?

Henno : Musket FMS stands out with its holistic approach. Unlike other solutions, Musket FMS offers an all-in-one platform that seamlessly combines diverse aviation management functions. Our unique selling points include a cloud-based system accessible on any device, personalised support, scalability, custom development options and a commitment to helping operators reduce operational costs while ensuring quality, safety, and compliance.

WAN: Can you describe some of the key features of this software? And how do they integrate?

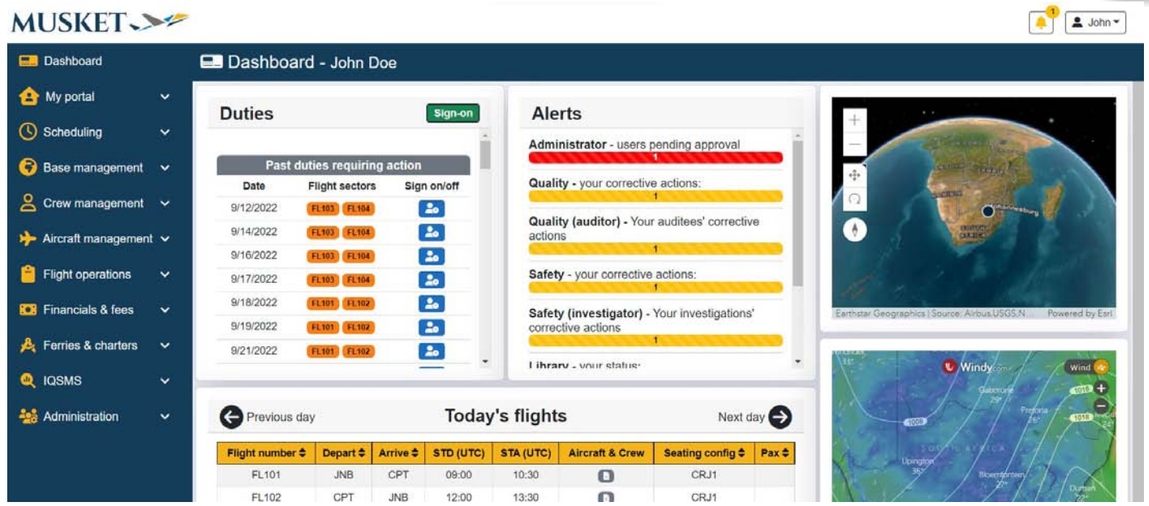
Henno: Musket FMS integrates flight scheduling, crew management, safety reporting, document storage, audits, corrective actions, flight dispatch and following, capture 90-day records, and much more.

Our interconnected features ensure data consistency across modules, creating a unified environment for data-driven decision-making. For instance, the flight schedule seamlessly syncs with crew assignments and operational documents, ensuring real-time collaboration and information flow.

WAN: Is it possible for a client to purchase or use only one aspect or must they buy the whole package?

Henno: Flexibility is at the core of Musket FMS. Clients can choose to implement specific modules according to their needs, ensuring a tailored solution. Whether a client requires individual features or the full suite, Musket FMS adapts to suit their operational demands, promoting efficiency and cost-effectiveness. We also provide a no-obligation free demo period for two months, where potential clients can explore all the Musket FMS features on their own time and propose any custom development they might require.

WAN: What type of clients are you looking for in the aviation sector? Commercial, charter, general aviation - what size of operation can this software cover?



Henno: Musket FMS caters to a wide range of aviation sectors, including commercial airlines, charter operators, and general aviation. Our software's scalability makes it suitable for operations of all sizes - from small operators with a handful of aircraft to large commercial fleets. It's about enhancing operations regardless of the scale.

WAN: Now let's back up a bit. Can you tell me a bit about the company? When was it formed, by whom and what was the motivation behind it?

Henno: Musketeer Software Solutions was founded with a shared passion for aviation and technology. The three co-founders, Henno Furstenburg and Daniël Hoffman and Lynette Furstenburg, launched the company in 2020 with a vision to revolutionise aviation management. They aimed to bridge the gap between advanced technology and operational challenges, offering an innovative, integrated platform - Musket FMS - to enable operators to excel.

WAN: Can you currently describe what is the present situation with flight management systems in aviation? Do most operations have them? Or are they still using paper or some kind of outdated system?

Henno: Many aviation operations recognise the importance of digitising operations for efficiency and safety. While some still use outdated methods, the industry is steadily moving towards digital systems. Musket FMS aims to accelerate this transition by providing a modern, adaptable solution that simplifies tasks, enhances safety, and improves overall performance.

WAN: Can you describe your position in the company? And tell us a little bit about the other role players?

Henno: As the COO and co-founder of Musketeer Software Solutions, I oversee the company's strategic direction and operational excellence. Our team comprises aviation and technology experts who collaborate to develop and refine Musket FMS.

Our CTO Daniël Hoffman, has a commercial pilot licence and has quite a bit of experience in the aviation operations sector, and Lynette Furstenburg, a specialist in IT Management, also brings years of data management experience to the team. Together, we share a commitment to empowering aviation operators with cutting-edge solutions.

WAN: Can you mention any of your clients and describe to our readers how you changed things for them and what types of cost savings or benefits Musket FMS has brought to the operation?

Henno: (We cannot publicly disclose our clients, but can confirm that we work with several operators across South Africa, Zambia and Kenya).) Musket FMS transformed our client's operations by streamlining processes, enhancing crew coordination, and ensuring regulatory compliance. Clients reported reduced administrative workload, optimised resource utilisation, improved safety reporting, and noteworthy cost savings due to enhanced operation l efficiency.

WAN: What is your long-term business strategy going forward? Are you aiming to take this to the African market or America or Europe?

Henno: While Musket FMS already benefits operators in Africa, we're actively expanding our reach. Our long-term strategy involves catering to aviation markets worldwide, ensuring that operators across Africa, the Americas, Europe, Asia, and beyond can experience the transformative power of Musket FMS.

WAN How should anyone interested in knowing more about Musket FMS make contact? Website? Email and contact numbers?

Henno: Interested parties can reach out through our website, musket-fms.com, or contact us directly at henno@musketeer-ss.com and +2773 504 6556.

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AIR TEC GLOBAL

FIRST AIRBUS US-MADE AH-125

Airbus Helicopters is busy introducing the first US-built H125 military configurations, known as AH-125 and MH-125 Ares, to the Airbus range of military helicopters.

These combat-capable aircraft will feature militarised options that meet the needs of military and parapublic allies and partners around the world.

The AH-125 Ares will be configured as the armed variant of the helicopter, while the MH-125 Ares will be configured as a multi-role helicopter capable of a wide range of operations.

The new offerings complement the extensive line of military helicopters already produced by Airbus, including the H125M.

"The AH-125 and MH-125 Ares helicopters will offer the capability, reliability and flexibility needed by America's allies and partners as they perform an array of rotary wing missions, ranging from light attack to disaster response and other parapublic missions," said Scott Tumpak, vice president of military line of business for Airbus US Space and Defence.

"They represent the latest evolution of Airbus' H125 family of helicopters, and will be produced in the US at Airbus Helicopters in Columbus, Mississippi."

Globally, the H125 family accounts for almost 80% of the single-engine market and has the highest number of certified modifications (supplemental type certificates) available.

With the new addition of a flexible weapons capability, the H125 helicopter will easily be re-configured between multiple mission sets in less than 30 minutes, ranging between light attack, air assault, search and rescue, casualty evacuation, and disaster response, as well as other combat and parapublic operations.

MAG Aerospace will perform the weapons installation design, engineering, certification and manufacturing.

The helicopter will accommodate a wide range of weapons such as a .50 cal (12.7 mm) gun and unguided rockets, and precision-guided weapons as a growth option. The installation allows for doors-on flight throughout the mission.

"MAG Aerospace is thrilled to team with Airbus to combine our unique platform engineering and modification capabilities with the world-class leader in the single-engine helicopter market. It's an honour to work with Airbus and expand our ability to serve our partners in the U.S. and around the world," said Matt Bartlett, president MAG Aerospace.

The H125 is the world's top-selling helicopter with a long history of use by US law enforcement and government agencies. Currently, the H125 is the light enforcement helicopter used by US customs and border protection, with more than 100 H125 family aircraft in service, making the US government the single largest customer and operator of the aircraft.

Airbus provides a range of reliable and versatile helicopters to the US government and military, enabling them to perform a wide variety of missions. More than 480 UH-72A and UH-72B Lakota helicopters have been delivered to the US army and national guard since the programme began in 2006.

BATTLE TESTED WEAPONS IN DEMAND

Mi-28NE round-the-clock helicopter (Night Hunter) employs all types of smart weaponry including Vikhr missile (HPW).

The ARMY-2023 International Military-Technical Forum was held at the Patriot Exhibition and Convention Centre of the Armed Forces of the Russian Federation.

Here the Russian Ministry of Defence signed and handed over 400 billion Rubles worth of state contracts to defence industries at the Army-2023 forum.

Lieutenant General Anatoly Gulyaev, head of the Main Armaments Directorate of the Russian Armed Forces said that under these state contracts the Russian Armed Forces would receive more than 2.5 thousand of newly produced weapons and special equipment, as well as more than 1.8 million different types of ammunition (missiles, projectiles, mines etc.).

In addition Rosoboronexport signed a number of contracts with unspecified foreign customers for the amount of about (US) $600 million. Last year at the Army forum, Rosoboronexport signed contracts worth (US) $400 million. In all the previous years', while participating in the Army forum, Rosoboronexport has signed contracts worth more than (US) $3 billion also creating serious groundwork for concluding new contracts.

At the Army-2023 forum Russia's state-controlled special exporter conducted presentations for more than 30 foreign delegations and reached agreements on industrial cooperation which includes joint production of Kalashnikov assault rifles, armoured vehicles, guided missiles on the territory of customers, as well as the installation of Russian unmanned combat modules of various calibres on the partners' chassis

Alexander Mikheev, Director General of Rosoboronexport during his report to the Ministry of Defence Sergei Shoigu said the special exporter's orderbook reached about (US) $50 billion - 75% of which is occupied by products for the air force and defence.

The first days of the Forum demonstrated that participants and professional visitors had shown keen interest in battle-proven weapons.

Mikheev said that Russian weapons displayed at the Army Forum have a successful track record on the battlefield.

"In 2023, as part of its exhibit, Rosoboronexport has allocated a separate place for displaying such weapons. We have shown our partners aircraft, air defence and electronic warfare systems, armoured vehicles and tanks, artillery, unmanned aerial vehicles and counter-UAV systems, small arms and combat gear and telling them in detail about the experience of their use in combat within information provided by the Ministry of Defence of the Russian Federation. The products have undergone necessary upgrades and have been retrofitted taking into account feedback from the zone of the special military operation", he said.

The Army Forum is a tri-service event, that is why a special attention has been paid to the army aviation and the air defence systems. One saw the latest rotorcraft and UAV being tested recently, including a Kamov Ka-52 and Mil Mi-28 combat helicopter that have round-the-clock operational ability. The sensational kamikaze Lancet UAV was also on display.

Other products included the Pantsir S1 gun-missile ADS which has proved itself as the most efficient weapon against various drones. The system was developed by the KBP design bureau n.a.Academician Shipunov, the High Precision Weapons (HPW) subsidiary.

During the ARMY-2023 forum the representatives of HPW holding told the media on the final stage of testing a new modification of the Pantsir-S complex - Pantsir-SM-SV specially intended for ground and airborne troops.

"The complex will have two types of anti-aircraft guided missiles and have an enlarged kill zone," head of the tactical air defence of the Russian Armed Forces Alexander Leonov said earlier in an interview with the Russian Defence Ministry newspaper Krasnaya Zvezda.

The head of Rosoboronexport made it clear that the Army forum plays a huge role in the development of military-technical co-operation of Russia with foreign states thanks to the opportunity to demonstrate new models of Russian weapons and defence equipment to partners.

By 2030 the share of new samples of Russian products is expected to prevail over currently produced items in the proportion of 90% to 10%.

"Among the growth leaders in the short and medium term, we expect to see the 5th generation Su-57E fighter, the Il-76MD-90A(E) military transport aircraft, the Ka-52E reconnaissance and attack helicopter, the Vityaz air defence system, the Pantsir-S1M air defence missile system, frigate pr.22356, TOS-2 and others", Mikheev said.

According to Mikheev, in the coming years Rosoboronexport plans to introduce to the international market up to 50 new items, including products upgraded on the basis of their combat experience. "These will be fundamentally new solutions that have shown their high efficiency on the battlefield," he said on the sidelines of the Forum.

Every year Rosoboronexport expands its exposition at Army forums. This year more than 200 samples were demonstrated at the indoor pavilion and 16 items at the outdoor display.

Some of them were showcased for the first time, like elements of the artillery unit's reconnaissance and fire control complex based on the Planshet-A system which is a product of VNII Signal, subsidiary of the High Precision Weapons holding.

The Russian defence industry has been well presented on the African continent since the Soviet times. That is why a number of top-ranking delegations from the Black Continent were at the Forum.

It looks like the Russians will be again at full strength at AAD planned for 2024.

AIRWORTHY AND READY TO FLY AGAIN

By World Airnews Correspondent Given Chikeu

WITH its headquarters in Ndola, Zambia's Copperbelt province, the Zambia Flying Doctors Service has managed to overhaul and bring back to life its aircraft registered 9J-AGC – this after it had been grounded for nearly seven years due to pilot error.

The Zambia Civil Aviation Authority (ZCAA) issued a Certificate of Airworthiness to the Zambia Flying Doctors Service or ZFDS at a recent meeting after its engine was overhauled by engineers from Transvaal Aircraft of South Africa.

The aircraft was grounded in 2017 after its engine seized. It was since overhauled in June at a total cost of (US) $9 million.

The Zambia Flying Doctors Service now has two 12-seater Cessna Grand Caravan aircraft in service.

Handing over the Aircraft Worthness Certificate (ZCAA) Chief Inspector of Operations Mbanga Stewart Yeta said the certificate which the authority issued was to ensure compliance regarding maintenance requirements.

"The inspection were done in period of two days which included compliance and flight tests of 35 minutes which the Authority witnessed and we are satisfied with its findings and we have since issued the service with the certificate," he said.

ZFDS CEO George Ng'uni received the Airworthiness Certificate from ZCAA chief inspection operations officer Stewart Yeta

Yeta said the mandate of the ZCAA is to conduct surveillance which is safety oversight of the aviation industry to ensure compliance with the laws and regulatory requirements that conforms to international aviation standards.

ZFDS CEO George Ng'uni said that the ZFDS is determined to ensure that the large population in rural Zambia receive the much-desired primary health care delivered in line with its mandate.

In 1965, Dr James Lawless thought of the concept of an aviation-based medical service and Zambia's founding President Dr Kenneth Kaunda made the ZFDS a state-run institution by an Act of Parliament two years later.

Today, the ZFDS uses aircrafts which can cover long distances in a short period of time, landing on air strips which it has also been mandated to construct.

REACH FOR A DREAM 35TH ANNIVERSARY

Reach for a Dream has been providing dreams to children all around the country for 35 years.

This foundation seeks to alleviate the strain that life-threatening illnesses place on sick children and their families by providing these dreamers with the opportunity to believe in their greatest wish.

One of the moments in the raising of money for the foundation was Dennis Jankelow's unique and wonderful idea of raffling an aircraft as a prise.

I was at Virginia Airport when the ticket for the first aircraft to be raffled was drawn. The excitement overwhelming and air electric.

Here are Dennis's recollections from that day.

WHAT A RIDE!

It began in 1997 at EAA Oshkosh, when I bought a ticket to win a Cessna 140, being raffled by some company, I can't remember who unfortunately. Mine was ticket number 98,888 (8 is my lucky number) and was feeling lucky. Well maybe the 9 killed it, but I didn't win. Nor have I won anything else ever for that matter.

Back in my office a week later insuring airplanes, I convinced myself that raffling an airplane would be not only a good marketing opportunity but could also do some good for the community. And so, the ride began.

Initially, the plan was to sponsor an applicant, who passed the most stringent aptitude tests, for training from ab-initio to a full commercial licence with an instrument rating. The ride became very bumpy, as the four external appointed selectors could not agree the criteria for selection.

The alternative was to find a beneficiary that was worthy, with very few paid officials, and which "moved my soul". Reach for a Dream (RFAD) met those needs. I visited the late Brian Miller (who sported a ponytail, which bothered me!), who was the (then) chairman of RFAD, and made my pitch. The result was twofold: I convinced him of our best intentions, and I met one of the most selfless, decent men ever, who never missed a raffle in the 20 years we ran it, despite his personal ill-health.

We bought a beautiful freshly-restored a Piper J3 Cub and optimistically believed we could sell 1,000 tickets at R250 each. The draw was to take place at the Durban Airshow, Virginia Airport, after the flying display.

Debra Myburgh was DJA's PR, Marketing, Advertising, and anything else I could throw at her. She was a "legend" before I tossed this ball into her court. She was an unstoppable dynamo: showing everyone what to do, how to call people, and what to say to sell another ticket. Bear in mind RFAD was not well known at that time and, furthermore, very few people out there believed we would genuinely give an airplane away, let alone give the proceeds to RFAD.

Piper J3 Cub Image by sethos from Pixabay

We despondently flew the aircraft to Virginia with only 685 tickets sold, 315 to go, and for us success was selling all 1,000 tickets! On the airshow day we painfully sold one ticket at a time and, five minutes before the draw, we still had 68 tickets left. At that moment, Gerry Wyss, a client and now friend, walked past and enquired how we were doing? My face obviously displayed my despair, so he immediately said he'd buy all the remaining tickets.

When I finished choking, and pointed out that was a mere R17,000, he sauntered off saying that I should collect a cheque from his office the next morning. We achieved our goal! And what made it even better was that the winner was at the Airshow to collect the prize in person.

Reach For a Dream received an unbudgeted donation that was put to good use, doing what they did so well - making kids' dreams a reality.

The cheque was waiting for us at Gerry's office the next morning. I'll never forget his act of generosity!

Brian Miller (the mensch) came for coffee a week later to say thank you, and asked what I was going to raffle next year? Perplexed, I asked what he meant, as the thought of doing it again didn't really cross my mind - once was enough! It was expensive, time-consuming and stressful and I didn't know if Gerry Wyss would be there the next time! I called Debra into the office and asked her for an opinion, her response was a typically blunt: "get me an airplane"!

So began twenty years of the DJA Aircraft raffles, raising funds for Reach for a Dream. Every year was another epic ride but we made it, without needing Gerry to bail us out, increasing the number of tickets sold every year until finally it was 12,000.

During this time, and I don't know the exact amount we raised, but at a guess RFAD were the beneficiary of well in excess of R10 million, which presumably put smiles on many deserving kids' faces.

DJA's involvement in running the raffle unfortunately came to an end when the Lotteries Board ruled that RFAD (which held the license) could not use a third party (DJA) to manage it. And so, after 20 years the DJA Aircraft Raffle unfortunately ended.

On a much more positive and touching note, I have a story that ought to be told, about one of the many dreams that were realised.

A little girl, Nicole Padayachee (9 years old) wanted to meet Mickey Mouse, and RFAD sent her family to Walt Disney World to realise her dream. I was totally unaware of this, as our role was just to make funds available.

Some eighteen months later, at the next airshow, a guy approached me and introduced himself as Jay Padayachee, and asked me if I wouldn't mind coming over to meet his beautiful but frail young daughter sitting at the back of the crowd in a wheelchair. She beamingly told me of her trip and what it meant to her, with which she produced a plastic Mickey Mouse keyring, on which she had written "to Dennis, love Nicole".

According to Jay (her father) she had kept it in her pocket since they arrived back over a year ago, on the off-chance that she would meet me one day and, just for the record, it is the only keyring I have used it ever since. And even better news, she is more beautiful today and qualifies as an attorney next year.

To commemorate the Reach for a Dream 35th anniversary, the organisation has released an inspiring read called "The Dreamers".

The Dreamers by visual artist Marc-Gregory pays tribute to the courage and resilience of 35 dreamers who have faced tremendous adversities yet never gave up on their dreams. From a young artist painting the world in vibrant hues to a passionate musician aspiring to perform on grand stages, each story is a testament to the enduring power of dreams and the human spirit.

These stories will remind you of the importance of staying committed to your goals, believing in your potential, and never letting go of your dreams.

Priced at just R350, this book is more than an engaging read; it's an investment in hope. Every purchase helps us bring more dreams to life for our brave children fighting life-threatening illnesses.

For more information contact : marketing@reachforadream.org.za

EAA AIRVENTURE OSHKOSH 2023 - ANOTHER RECORD-SETTING YEAR

The annual EAA AirVenture Oshkosh is over with another record-setting event bringing an estimated (US) $170 million in associate revenue for the five counties in the Oshkosh region (Winnebago, Outagamie, Fond du Lac, Calumet, and Brown).

These estimates are based on 2017 University of Wisconsin Oshkosh economic impact study and believe it or not planning for next year's even has already begun.

"We are already looking at a number of big activities, including the 100th anniversary of the Royal Canadian Air Force," said EAA Chairman and CEO Jack J. Pelton.

"Plenty of ideas have also been forwarded to us from EAA members and others that will be part of the planning for 2024."

Referring back to July's event, he said, "There was so much going on during that week that encompassed the entire world of flight, from the presence of the US Air Force training command and NASA, to magnificent aircraft restorations and exciting new flying technology."

"Oshkosh was again the place that brought the aviation world together," he said.

Attendance figures were reported to be approximately 677,000, up from the previous record of 650,000 last year. But attendance numbers weren't the only record broken.

"We had record-setting totals of campers, exhibitors, volunteers and more," said Pelton.

"It was also a challenging year at times with weather, logistics, and other factors, which makes me even more proud of the efforts by our volunteers and staff to organise an outstanding event."

Some additional details from this year's fly-in reveal: Total aircraft: More than 10,000 aircraft arrived at Wittman Regional Airport in Oshkosh and other airports in east-central Wisconsin. At Wittman alone, there were 21,883 aircraft operations in the 11-day period from July 20-30, which is an average of approximately 148 takeoffs/landings per hour when the airport is open.

Total showplanes: 3,365 including a record 1,497 registered in vintage aircraft parking, plus 1,067 homebuilt aircraft, 380 warbirds (up three percent from 2022), 194 ultralights, 134 seaplanes and amphibians, 52 aerobatic aircraft, and 41 rotorcraft.

Camping: More than 13,000 sites in aircraft and drive-in camping accounted for an estimated 40,000 visitors. Volunteers: More than 5,500 contributing in excess of 250,000 hours.

Commercial exhibitors: 848 (another record number).

Forums, Workshops, and Presentations: More than 1,400 sessions hosted throughout the week.

International guests: International visitors returned in a big way in 2023, with 2,372 attendees registering the International Visitors Tent from a record-tying 93 countries outside the US. Adding a significant number of international visitors who do not register at the tent when they arrive, the actual total is much higher.

LEONARDO GAINS NEW CONTRACTS

Leonardo has confirmed new contracts in Latin America announced during the official ceremonies held at the LABACE 2023 recently.

Gruppomodena S.A. has been appointed official distributor of Leonardo helicopter types including the AW119Kx, AW109 legacy, AW169 and AW139 for the civil markets in Uruguay and Argentina.

The distributor has also signed a contract for two AW119Kx single engine helicopters. A major player in Latin America for helicopter services, this partner is also an established operator of AW109 and AW139 helicopters for a range of roles including passenger transport, offshore transport, and rescue as well as an authorised service centre for the reference market.

In addition, another private operator has placed an order for one AW109 GrandNew light twin engine helicopter, which will be operated in Brazil. All of these light helicopters announced at LABACE will feature customised VIP interiors and will be used for private/corporate transport in the relevant locations.

Furthermore, Leonardo's distributor for the latest generation AW09 single engine model in Brazil, Gualter Helicopters (Aero Service Representação) has signed contracts for three aircraft for executive transport with three different end-users in the country.

These latest achievements for the AW09 in Brazil come two months after the appointment of Gualter Helicopters, which had signed preliminary sales contracts for 20 units in March, providing evidence of the already anticipated strong interest from potential operators in acquiring the new type.

Acquired three years ago by Leonardo, the AW09 perfectly complements Leonardo's product range in the Long Light Single segment, introducing an all-new design aircraft to sustain long-term competitive positioning in this weight category.

With a 45% share over the last ten years, Leonardo is the world leader in the twin-engine VIP/corporate helicopter market including private, charter and VVIP/Government transport services.

More than 900 Leonardo VIP/corporate helicopters are flying today globally, approximately 25% are based in Latin America.

A TINGE OF RED

This Boeing 767-333(BDSF) flew into Malta recently direct from Belgrade as it gets prepared to be inducted in the fleet of Challenge Airlines Malta.

This is the first Boeing 767 cargo conversion to be completed in Europe. Engineers from IAI supervised the whole process which was executed at JAT Tehnika, thus opening the road for other IAI conversions at the Belgrade facilities.

The aircraft has a tinge of red on nacelles, winglets and tail having previously been flown by Air Canada Rouge. Photo credit Mario Caruana / MAviO News.

BEECHCRAFT TRAINING SYSTEM FOR TUNISIAN AIR FORCE PILOTS

Textron aviation defence has received the eighth Beechcraft T-6C Texan II aircraft in support of Tunisian Air Force pilot production at No. 13 Squadron at Sfax Air Base in Tunisia.

Textron aviation defence was previously awarded a Foreign Military Sales (FMS) contract for eight T-6C Texan II advanced military training aircraft, in-country field service and logistics support representatives, programme management support, interim contractor support for the first year, training for pilots and maintenance professionals, spare engines, spare parts and aircraft support equipment.
The Beechcraft T-6C Texan II is designed and manufactured by Textron Aviation Defense.

"It's an honour to celebrate the induction of the Beechcraft T-6C into Tunisian Air Force pilot production," said Brett Pierson, president and CEO of Textron Aviation defence. "The world's most advanced global air forces and pilots trust us to deliver a great aircraft that enables them to make the world a better, more secure place. Our world-class workforce goes above and beyond to design, manufacture, deliver and support the world's premier military flight trainer. It is an honour that partner nations continue to put their confidence in the Beechcraft T-6 Texan II as the gold standard in training capabilities."
Speaking at a recent event marking the arrival of the first four T-6C aircraft, US ambassador to the Republic of Tunisia Joey R. Hood said, "Tunisia plays an important role in ensuring not only its own national security but also that of northern Africa and the continent as a whole," and re-iterated the United States' commitment to supporting Tunisia's efforts to strengthen the Tunisian Air Force's capacity to respond both to security and humanitarian needs.

ABOUT THE BEECHCRAFT T-6 TEXAN II
The Beechcraft T-6 Texan II is the world's premier military flight trainer. To date, the global fleet of more than 1,000 Beechcraft T-6 Texan II aircraft has surpassed five million flight hours across 13 nations and two NATO flight schools.
Backed by more than 90 years of experience delivering more than 250,000 aircraft worldwide, the Beechcraft T-6 Texan II's low acquisition, operating and sustainment costs enable global air forces to fast-track pilot production.

FIJI FLIES

This Fiji Airways, Airbus A350-941 was seen conducting a recent test flight. The aircraft arrived in Malta a month earlier to receive attention at one of the MRO providers present at Malta International Airport. The test flight lasted just under two and a half hours. Photo credit Mario Caruana / MAviO News

FLYSAFAIR START ZIMBABWE ROUTE

A South African airline FlySafair will start flights into Harare and Victoria Falls from Johannesburg in October this year after obtaining all the requisite regulatory approvals.

FlySafair made the announcement after getting the necessary approvals from the International Air Service Council and the Civil Aviation Authority of Zimbabwe (CAAZ).

The development provides further endorsement of the country's 'Open Skies Policy', as more airlines are already flying into Zimbabwe or have made indications to start flights into the country.

Just three foreign airlines were flying into Zimbabwe when President Mnangagwa's Government came into power in September 2017. The number has grown to over 23 presently. The regulators approved applications from FlySafair and its South African counterpart Cemair to start flying into Harare and Victoria Falls on August 1, 2023.

"Plans for these routes have been in the pipeline for several months now," said FlySafair chief marketing officer Kirby Gordon.

"We are so pleased to finally be able to announce the addition of these routes and more importantly begin operations just in time for the festive season."

The South African airliner will operate daily Boeing 737 flights with the inaugural flight departing Johannesburg on October 2.

FlySafair continues to grow its network with the addition of four new regional routes. The newest additions include Harare, Livingstone, Victoria Falls, and Maputo. The first batch of new routes will be launched on October 2 and entail flights between Johannesburg and Harare and Johannesburg and Livingstone routes.

The Harare flights will operate daily while flights between Johannesburg and Livingstone are scheduled for four times weekly on Monday, Wednesday, Friday, and Sunday. The next batch of routes will take off on October 3 and 5, 2023.

Respectively, these include Johannesburg to Victoria Falls which will operate three times per week, and Johannesburg to Maputo which will operate four times per week.

CAAZ director general Elijah Chingosho said, "As the aviation regulator, we are fully committed to the growth of the aviation industry, positioning our economy for more trade, investment, and tourism.

"Granting FOPs (flight operations planning schedule) to these airlines will provide substantial benefits to the passenger, such as fare savings, increased connectivity, and more frequencies resulting in greater convenience and time savings."

"We are happy to offer customers our low fares and on-time services on these additional routes. Tourism in Africa is definitely on the road to recovery. We hope to help play our part in growing the tourism industry both at home and abroad by connecting people through our passion for aviation, " said Gordon.

The airline has undergone a period of rapid growth over the past 11 months, adding a number of new aircraft to its operating fleet and hiring many new staff members to accommodate this expansion.

The airline added three aircraft to its schedule in the first quarter and these will ultimately be used to operate these new routes.

FlySafair will join a host of other flights plying these routes which include Air Zimbabwe, Fastjet, Airlink, Cemair, FlySafair, South African Airways, Ethiopian Airlines, Kenya Airways, and Eurowings Discover.

SOARING TO NEW HEIGHTS

Fireblade Aviation hosted a successful Girls in Aviation Day event recently in partnership with the Netherlands Airport Consultants (NACO), a division of international consulting engineers, Royal HaskoningDHV, with the aim of promoting aviation as a viable and exciting profession for young female students.

Aviation offers a vibrant landscape of interesting careers, from becoming an engineer, aircraft maintenance technician, pilot, dispatcher, and air traffic controller to pursuing roles as airport designers and numerous other professions within the aviation realm.

These outreach events are meticulously crafted to ignite inspiration in the upcoming generation of women in aviation, said Renee Smith, an airport designer at NACO and an alumnus of McAuley House School.

"Our vision is for young girls to be able to engage with positive role models and consider aviation as they navigate decisions regarding university and career paths." NACO has spearheaded a training programme, which has a clear and specific purpose - to inspire and introduce young females to the vast array of career possibilities within the aviation industry.

In sharing the organisation's vision for GIAD, Sharlenee Naidoo, marketing manager at Fireblade Aviation, said the central focus is to inspire and upskill the next generation of aviation industry professionals while actively fostering diversity within the sector. "Aviation has historically been male-dominated, and it's high time for a change. Establishing a more inclusive and diverse workforce is not only the right thing to do, but it's also a key differentiator for any successful business. Embracing a diversity of ideas and people leads to innovative and improved solutions," she said.

Thilisha Moodley, a passionate aeronautical engineering student at the University of Witwatersrand, said the significance of this initiative is tremendous.

"I cannot stress enough how crucial such an event is. When I began my journey in university, I realised the importance of having exposure and a clear understanding of aeronautical engineering – which I was initially not privy to. This event provides the perfect platform to inspire and guide young girls, fostering their interest in this field and empowering their future pursuits."

Marcel Langeslag, aviation Africa director at NACO, said "Sustainability in aviation will rely heavily on the ingenuity and creativity of the next generation. Young minds will play a pivotal role in developing cutting-edge solutions, pushing the boundaries of aviation technology, and shaping a more sustainable and environmentally-conscious industry."

Naidoo agreed and added that the commitment to innovation presents a tremendous platform for aspiring aviation professionals, irrespective of gender, to contribute their unique perspectives and ideas in making aviation a key player in building a greener future.

Meanwhile, both Smith and Naidoo said that to open the door to numerous new career opportunities for girls and youth in general in the aviation industry, collaboration remained critical, mentioning the partnership between the two organisations.

"Supporting an awareness campaign like the GIAD not only showcases the possibilities to young girls but also sends a powerful message to the entire aviation industry, urging a shift towards greater inclusivity," Smith said.

"As the aviation industry strives for progress and inclusivity, Fireblade Aviation is dedicated to playing a leading role in empowering girls to pursue their dreams and aspirations in aviation in collaboration with key industry partners such as NACO. The second GIAD event hosted at Fireblade Aviation was a transformative event, inspiring a new, future generation of talented and diverse professionals to take flight in the world of aviation," said Naidoo.

The team behind the Girls in Aviation Day from Fireblade Aviation and Netherlands Airport Consultants.

MARSHALL AEROSPACE
SECURED SAAF HERCULES UPGRADE

This RAF C-130J – a slightly more modern version of the BZ type that the SAAF has sent to Marshall Aerospace for a much-needed upgrade.

Marshall Aerospace in the United Kingdom has secured a contract to perform two crucial modifications and extensive servicing on the South African Air Force's (SAAF) C-130 fleet, as well as supporting subsequent in-country modification work.

The first SAAF C-130BZ Hercules (409) left the Waterkloof Airforce, in South Africa base last month amid chaos due to the Niger coup and associated airspace closure. After clearance was obtained the Hercules was in the air and later landed at Cambridge airport.

The country's department of defence was allocated an additional ring-fenced funding of R1 billion for the 2023/24 financial year in an effort to enhance the country's medium airlift transport capability.

Marshall previously led a comprehensive multi-year upgrade programme for the SAAF C-130 fleet roughly 20 years ago.

The programme entailed installation of a digital autopilot, flight displays, a navigation systems upgrade, communications and self-defence integration, and enhancements to the electrical generation system. Since the completion of these upgrades, in-country maintenance of the fleet has been performed by Denel - a state-owned maintenance, repair and overhaul facility.

Marshall will initially modify one aircraft, replacing the existing Secondary Flight Display (SFD) and implementing an Automatic Dependent Surveillance Broadcast – Out (ADSB-Out) – an internationally required system for determining and periodically broadcasting the aircraft's location without the use of ground-based interrogation signals.

Following testing and verification of these modifications on the first aircraft, Marshall will also supply Denel with service bulletin kits containing all parts, components and instructions needed to perform the same modifications on four additional C-130 aircraft in South Africa.

Marshall will also train Denel and SAAF technicians on the modification implementation processes.

Under the contract, Marshall will also perform depth maintenance, which will involve comprehensive inspections, repairs, and rectification.

"We are delighted to have been asked to support the SAAF and Denel with our unique technical capability and platform knowhow in order to extend the lifespan of these aircraft," said Marshall Aerospace managing director Neil McManus.

"Having yet another global operator flag in our hangars highlights our well-established leadership as a global C-130 support specialist and our reputation for quality work." on its way to the United Kingdom for maintenance and upgrades.

The entire upgrade of the SAAF six remaining C-130s is due to be complete by 2029 at a total cost of over R4 billion.

Previously the SAAF had nine serviceable C-130s - two had to be written off due to accidents and one has been cannibalised for spares.

The tail numbers of the C-130s that are to be kept flying are 401, 402, 405, 406, 408, and 409. Aircraft 404 suffered a nose gear collapse whilst performing a touch and go in 2010.

Marshall will complete the servicing and upgrading of 405 and 409 – with the next C-130 to be serviced (405) in mid-2024. It is estimated to take about 18 months.

The SAAF aims to have at least one or two C-130s operational at any time while the others undergo maintenance.

With only one Hercules servicing bay between the SAAF Air Servicing Unit (ASU) and Denel, servicing of additional aircraft requires an external party.

It is planned for Denel to build a second Hercules servicing bay. Although the exact details of the upgrade are uncertain, it is likely to involve the upgrade or replacement of radios, transponders, and other obsolete avionics.

Twin Cessna 401 – photo credit: Cory Watts

TWIN-ENGINE TROUBLES

By Peter Garrison

Twin trouble – While some argue that having a second engine should, in theory, make the aircraft safer – history has shown that this is not necessarily so.

It has often been said that a single-engine airplane is a better bet than a twin if an engine fails right after takeoff, because the chance of the pilot of a twin successfully handling the emergency is so small.

This paradox applies, to be sure, to recips, with their meager surplus power. Turbines have it easier. Still, the single-engine pilot has only one task: land. Twin-engine pilots have their hands full.

We generally don't hear about the successful engine-out emergencies unless in private conversations; most of them don't come to the attention of the authorities. Maybe there are more than we think.

We hear about enough unsuccessful ones, however, to suggest that the challenge can be overwhelming. Expectation plays a role.

Twin pilots expect to save both the airplane and themselves. Their object, consequently, is to execute the go-around correctly, not to find a smooth place to crash. If they make a mistake, their situation is worse than that of the single-engine pilot. The single-engine pilot begins the emergency landing in control; the main requirement is to avoid stalling.

The twin pilot does not even entertain the idea of an off-airport landing until things have gotten out of control. By then, it may be too late.

The crash of a Piper Twin Comanche in 2004 illustrates how quickly things can go wrong even when the pilot appears to be in a relatively good position as the engine failure occurs.

The airplane, manufactured in 1966, had a number of STC modifications, including tip tanks, 200-hp IO-360 engines in place of the stock 160-hp IO-320s ,and a STOL kit that increased its gross weight from 3,600 pounds to 3,800 and lowered its single-engine minimum control speed from 78 to 70 knots. Although only two people were aboard, baggage and fuel brought the airplane to just a few pounds under gross.

The National Transportation Safety Board, obliged to call attention to every discrepancy, noted that the tip tank STC required that any weight above 3,650 pounds be carried symmetrically in the tip tanks, but, in fact, the tip tanks were empty. Only if the crash had been due to a failure of the wing structure, however, would that fact have mattered. It had no bearing on the loss of control.

The weather was clear, the wind from 300 degrees at 16, gusting to 22. The pilot, who had a total time of around 600 hours and 150 hours in the Twin Comanche, took off from Runway 26. Witnesses reported that the airplane became airborne, climbed to 200 or 300 feet, and briefly banked left.

One witness reported a sputtering sound, similar to that of a power reduction to idle, just before the first left bank. The airplane then levelled out and appeared to be flying, stabilised before it again banked left and descended until it hit the ground, still within the confines of the airport, having turned more than 180 degrees.

Data retrieved from a recording engine monitor showed an abrupt EGT drop on all four cylinders of the left engine. The magnitude of the drop, vastly in excess of that observed in an engine tested at the Lycoming factory by suddenly shutting off both fuel and ignition, baffled the NTSB's technical analysts. (Whether the EGT thermocouples on the accident airplane were of the same type as those used in the Lycoming test is not revealed.)

The NTSB dwelt at length on the possibility of water or some other contamination in the fuel, but finally conceded that the reason for the loss of power could not be determined. In any case, the fact that the engine quit – dead - was never in doubt.

From the witness reports, it seems likely that the airplane was still on the runway heading when the engine failed. When it began its final left turn, its ground speed was 77 knots.

Assuming that the headwind component of the quartering 16-to-22-knot wind was at least 10 knots, the airplane would have been indicating 87 knots or more and had a margin of at least 17 knots over VMC, the single-engine minimum control speed. In theory, it should have been in good shape.

The good engine, on the right, was the "critical engine," that is, the one with the more powerful destabilising tendency. But that did not matter because the pilot failed to accomplish an essential step. He did not feather the left propeller.

The flight manual procedure for power loss involves several steps - the same steps as apply, with variations in detail, in all engine-out situations in reciprocating-engine airplanes.

The first was to fully open the throttle of the operating engine to maintain altitude and an airspeed of at least 84 kias, that being presumably the single-engine best rate of climb speed. The next steps were to close the throttle of the inoperative engine, pull the mixture to idle cutoff, and pull the prop control into the feather position. (Closing the throttle increases the drag of the windmilling propeller slightly, but if the prop is promptly feathered, it's not for long.)

When the airplane turned 180 degrees, its ground speed was 92 knots; it was 84 at the last recorded data point before impact. Subtracting rather than adding the wind component now, it appears the aircraft did not accelerate.

The windmilling propeller was the probable culprit, although it's possible, if the pilot failed to feather the prop, that he also failed to command full power from the good engine. The fact that he turned from upwind to downwind was not hazardous in itself, but close to the ground, it can produce a distracting sense of flying sideways at excessive speed.

Why does the pilot of a twin-engine airplane, when he has one good engine and the necessary airspeed, fail to cope successfully with the emergency? Lack of time is one reason.

At 200 or 300 feet, the whole sequence - identify the failed engine, correct yaw, control airspeed, feather, and bank into the good engine - must be executed swiftly and flawlessly.

Another could be mental or physical paralysis produced by the airplane's failure to respond to the controls. He wanted it to turn right, but it kept turning left. People freeze. Thought stops. Panic takes the reins.

When a twin with an engine out slows and cannot be controlled, there is still one life-saving strategy left to the pilot: to power down the good engine and land straight ahead. It is the potential for loss of control that Collins thought made a single safer than a twin. But rational thoughts are fleeting in an emergency, and it might be hard to remember that minimum control speed applies only when the good engine is developing power. Power is good, altitude and speed are good, but nothing is as good as control.

With thanks to the FLYING magazine https://www.flyingmag.com/twin-engine-troubles/

NOTE: This article is based on the National Transportation Safety Board's report of the accident and is intended to bring the issues raised to our readers' attention. It is not intended to judge or to reach any definitive conclusions about the ability or capacity of any person, living or dead, or any aircraft or accessory.

With thanks to the FLYING magazine https://www.flyingmag.com/twin-engine-troubles/This article was originally published in the FLYING Magazine

Twin Beechcraft Baron G58

WORLD'S FIRST COMPRESSOR FOR AVIATION FUEL CELL SYSTEMS

ZeroAvia has developed a world-first, high-performance compressor for fuel cell-based aviation propulsion systems, including the company's first ZA600 hydrogen-electric powertrain.

Hydrogen fuel cells promise to deliver true zero-emission flight by delivering electrification, but one key challenge is delivering the high flow of oxygen for the chemical reaction in the stacks to provide sufficient quantities of electricity to power the aircraft.

At higher altitudes, air compressors need to be powerful and efficient, while not adding undue weight to the propulsion system and thus impacting payload and range.

The compressor is a world first, designed and tested specifically to comply with all requirements pertaining to hydrogen fuel cell-powered aviation propulsion systems.

ZeroAvia's breakthrough enables the company to incorporate the technology as a core part of its first two hydrogen-electric engines namely: the ZA600 for 9-19 seat aircraft targeting entry-in-service by 2025, and the ZA2000 for 40-80 seat aircraft with EIS targeted for 2027.

Initial testing of the ZeroAvia compressor indicates that it offers highly stable performance across a large range of power and operating environment requirements. Supporting up to 900kW fuel cell systems, the compressor is many times more powerful than any existing fuel cell compressors and offers superior power density.

The ZeroAvia compressor has also been designed to operate with zero latency via an innovative flow management approach.

The compressor runs on the power provided by the core electric propulsion system, eliminating the additional inverter and electric motor normally required in fuel cell systems.

The resulting reduction in complexity will aid certification of ZeroAvia's powertrains, and fewer components means further reduced weight and greater reliability.

This weight efficient system coupled with stable performance across a wide range of parameters makes ZeroAvia's compressor technology an attractive solution for high-power and high-altitude transport applications.

The compressor has been designed to meet all environmental conditions and aerospace standards, and the company plans certification testing to begin over the course of the next year.

The performance to date is validation that ZeroAvia's overarching powertrain will be capable of delivering large commercial, as well as environmental, benefits to airline operators.

The company will also leverage the technology to enable enhanced testing of its HTPEM fuel cell stacks for ZA2000 and larger fixed wing and rotorcraft applications.

Rudolf Coertze, CTO Hydrogen ZeroAvia said, "The compressor technology we have designed is critical in delivering optimal performance in the final, certified ZA600 engine technology. Our compressor is an important component of our fuel cell power generation systems, and a world-leading technology advancement for clean aviation in its own right. This really is a major achievement for our turbomachinery engineers and another marquee moment for the company at large."

ZeroAvia's hydrogen-electric engines use hydrogen in fuel cells to generate electricity, which is then used to power electric motors to turn the aircraft's propellers, with only water vapor emissions.

ZeroAvia compressor for up to 900kW fuel cell systems shows step change in power density and stability of performance

AFRICA'S TECHNOLOGY CHALLENGES HAMPER CHINESE GROUP TOURS

While China's travel borders are open, its group tours segment are limited to travel to less than half of the countries before the pandemic.

That's according to Sienna Parulis-Cook, director of marketing and communications for Dragon Trail International, a marketing solutions company based in China.

She said Chinese groups can travel only to countries with an Approved Destination Status (ADS) agreement with China, as approved by the Chinese government.

In January 2019, some 130 countries and territories had these ADS agreements. During the pandemic, Chinese travel agencies were banned from selling outbound group or package travel.

Then in February 2023, travel agencies were again permitted to sell group and package travel, but only to a pilot list of 20 countries. An additional 40 countries were added in March.

"Currently, one-quarter of the 60 countries where Chinese group tours can travel to are in Africa," said Parulis-Cook.

As of March 2023, there were around 4,200 Chinese travel agencies licensed to sell outbound travel, down from 4,442 in April 2019, Parulis-Cook said.

"We anticipate that China might revert to the previous ADS system rather than the current list of 60 countries for group and package travel later this year, which will open up the market to cover the rest of the world. This will benefit many countries, including the US," said Parulis-Cook.

Currently Chinese citizens are free to travel to the US as tourists, and they can buy individual travel products, like a flight ticket or a hotel booking, from a Chinese travel agency, but Chinese travel agencies cannot sell any group tour products to the U.S.

GRADUAL RECOVERY, NORTH AFRICA DRAWCARD

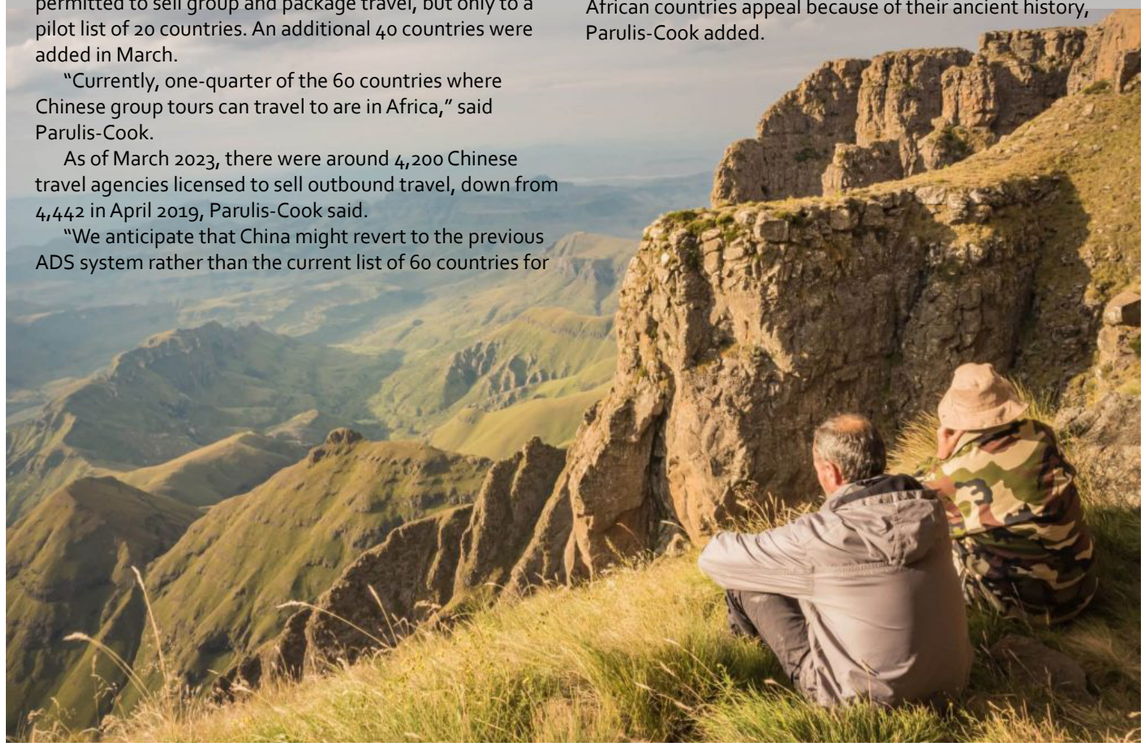
Africa is a small but growing beneficiary. Pre-pandemic data shared by CTrip for the first half of 2018 showed that 59% of Chinese travellers to Africa joined package tours, and the other 41% chose to travel as foreign independent travellers or used Ctrip's customised travel service.

Most Chinese travellers (96%) stayed in Africa for over seven days.

"The US will continue to be a top choice for Chinese travellers, particularly for leisure travel and visiting friends and relatives. Africa, meanwhile, is an emerging destination with particular appeal for experienced Chinese travellers looking for new experiences and adventures," said Parulis-Cook.

Dragon Trail's April 2023 Chinese Traveler Sentiment Survey showed Egypt as the top destination for travel to Africa. The North African country was also the most popular destination in Africa for Chinese tourism before the pandemic.

Africa appeals to Chinese travellers for cultural as well as natural destinations. Safari tourism is popular in destinations like Kenya and South Africa, whereas North African countries appeal because of their ancient history, Parulis-Cook added.



Many African countries have been proactive in reactivating in-person activities with the Chinese travel trade early.

For example, South African Tourism has been organizing in-person events for the travel trade in cities throughout China since February 2023, according to Michael Jones, Founder of Create Consulting, based in Beijing.

Jones added that South Africa and Kenya were a few of the African countries spending money to promote themselves in China.

His clients also saw a notable uptick in multi-generation travel and a push towards a more budget-centered group safari offering.

CHINA- MIDDLE EAST FLIGHT HUB

Parulis-Cook said that China's international flight capacity is continuing to improve, though this is uneven among different countries and regions, and it is notably lacking for the US.

ForwardKeys' flight data further showed that Africa and the Middle East had increased China's seat capacity to 75% of 2019 levels.

The market share, however, is small, as only 6% of total international capacity is from China. For the week of 5-11 June, 1.6% of flights from China were to destinations in Africa, and 4.6% were to the Middle East.

The United Arab Emirates is the best-connected destination in its region, with a 44% share.

At the same time, the number of seats between China and Kenya has doubled since 2019, driven by Kenya Airways. Egypt has also experienced a +10% growth, with Egypt Air and Sichuan Airlines significantly increasing seat numbers in China.

China's capacity to the Americas in quarter two had recovered to under 6% of pre-pandemic seat levels, as many airlines have yet to restore their capacity in the China-US market.

So far, there are only 24 weekly flights between China and the US. For the week of 5-11 June, 1.2% of international flights from China were to destinations in North America, according to ForwardKeys data.

The limits on flights are because China and the US have a reciprocal air traffic agreement in place, and as long as US carriers do not add flights, Chinese carriers cannot either, said Parulis-Cook.

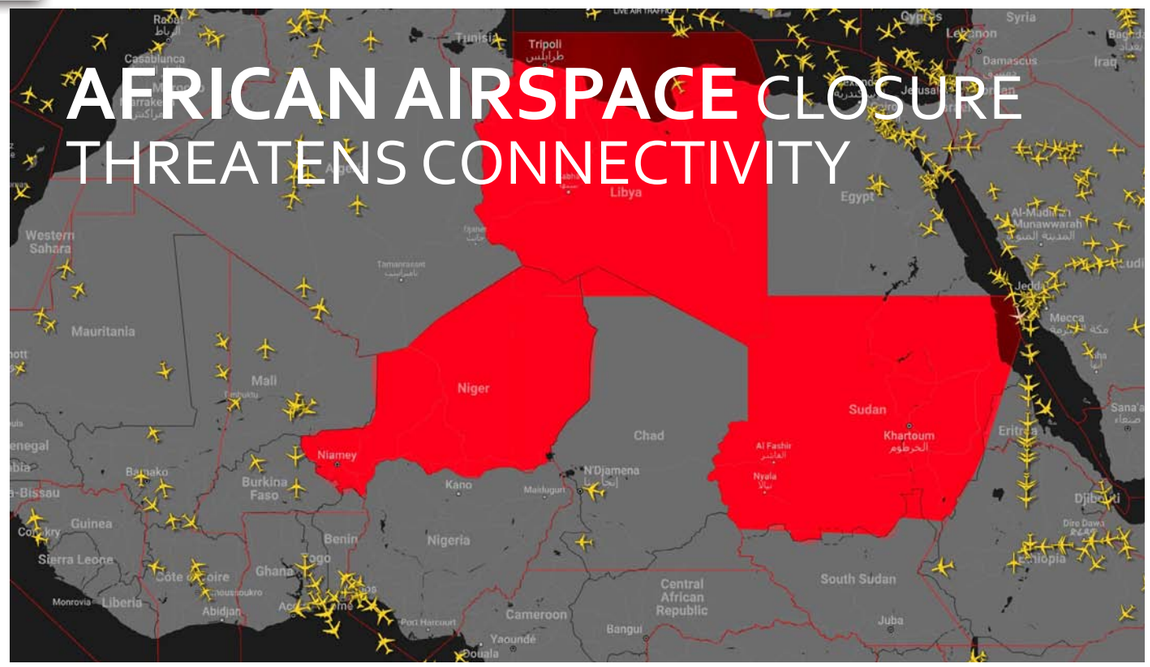
In Dragon Trail's Chinese Outbound Travel Trade Survey, released in July, 43% of surveyed travel agents said North America had a high potential for travel trade sales in 2024, compared to 24% choosing Africa. About 65% of the surveyed travel agents sell travel to North America, compared to 51% selling travel to Africa.

OBSTACLES TO RECOVERY

Chinese travel agents surveyed also identified visas as the biggest obstacle in selling outbound tourism in 2024.

"Chinese outbound tourism to the US is very constricted at present because of flight capacity (and its impact on flight prices), visa delays, and the fact that group and package tourism cannot be sold," said Parulis-Cook.

Visa policy varies throughout Africa, depending on the country. For example, Morocco and Zambia are visa-free, while Egypt and Kenya offer e-visas. South Africa's e-visa system is under severe strain, especially for China, with only an estimated 3% of applications granted, as staffing constraints and tech challenges all compound processing issues.



AFRICAN AIRSPACE CLOSURE THREATENS CONNECTIVITY

The Niger Republic shut down of its airspace last month adding to the growing list of African countries whose airspace have become inaccessible to commercial aviation – threatening connectivity between Africa and Europe.

In the short term, airlines flying between Europe and southern Africa will need to reroute and this will translate to extra kilometres to their flights, more fuel burn and flight time.

At present the West Africa sub-region aviation industry remains in a state of turmoil after Nigeria's neighbour, Niger Republic closed its airspace to flight operations based on a fear that external invasion by forces from the Economic Community of West African States (ECOWAS) would invade.

ECOWAS demanded that the military junta that overthrew President Mohamed Bazoum restore him to power of face military action from member states.

As a result of the closure there were diversions, U-turns and cancellations of flights from Europe and Nigeria to Europe. Air France-KLM and British Airways flights from South Africa, Kenya, Benin, Côte d'Ivoire, and the Democratic Republic of Congo to Europe that were already in the air, were forced to turn back home.

Niger's new no-fly zone adjoins existing ones over war-torn Libya and Sudan, and form a 2,600 km-long barrier between sub-Saharan Africa and the EU.

However, this month recent indications are that Libya is busy making efforts to open up its airspace after Italy lifted the ban and will allow flights from this African country.

Multiple European countries, including Germany, France, and the UK, as well as the US and Canada, prohibit their civil aircraft from operating in Libyan airspace, which is the Tripoli Flight Information Region (FIR).

African Airlines Association Communications Manager Maureen Kahonge said the closure of Niger airspace will negatively impact airline operations.

The shutdown means that the cost of traveling will increase as foreign airlines will burn more fuel.

A similar situation occurred during the Russia invasion of Ukraine and the Kremlin shutdown of its airspace and with 60 per cent of Europe bound flight from Asia going through Russia airspace, they had to find an alternative.

A spokesperson added that Air France expected longer flight times from sub-Saharan hub airports and that flights between Charles de Gaulle Airport in Paris and Accra in Ghana were set to operate non-stop.

President Association of Foreign Airlines and representatives in Nigeria, Kingsley Nwokeoma, said even when foreign airlines are still battling with trapped fund, the closure of Niger's airspace added to their miseries.
He said connecting flights to Europe and US will be more expensive as flight options will be limited.

Meanwhile another aviation analyst, Samuel Caulcrick, said airlines have the option of going through Chad to Tripoli before approaching Algeria.

"Since Mali and Burkina Faso are with them, that means you have to go all the way to Dakar before going up again. You can't go to Sudan because there is war. If you have to go through Dakar towards Guinea Bissau before going up again, you have to enter Senegal, from Senegal to Morocco that could take another one hour. Normally it takes us three hours to cross the desert, now it will take us four hours," he said.

Air France earlier suspended flights to and from Ouagadougou in Burkina Faso and Bamako in Mali

Sudan's current ban on flights went into effect in late July, but the airspace has been effectively closed since mid-April 2023, when two factions of the country's military government escalated to armed conflict.