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REPRISE POUR L'AFRIQUE »

**TIME TO STEP ON
THE ACCELERATOR,
SAYS ICAO BOSS**

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for SA's
ailing state
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supremacy
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Africa

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Africa
set to
strengthen
rotor fleets

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COVER:
Juan Carlos Salazar, secretary general of the International Civil Aviation Organization, discusses ways to accelerate African's air connectivity recovery.
PICTURE: ICAO

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IS US FIGHTING BACK OVER RUSSIAN SURGE?

There appears to be renewed vigour from the US to revive defence relationships in Africa. For close to a decade, Russia and China have shown increasing interest in influencing African nations, for either strategic or geopolitical advantages.

Russian President, Vladimir Putin, has been open about creating African dependencies on Moscow's military assets, targeting countries that have both fragile governments and raw materials, such as oil, gold, diamonds, and uranium.

The US had held up many military sales, including to Egypt. A report by the Stockholm International Peace Research Institute said that, despite the US being the largest exporter of arms in the world, Egypt has recently imported most of its weaponry from Russia (41%), France (21%) and Italy (15%).

But, the go-ahead of the Apache upgrade programme in Egypt and the likelihood that Cairo could soon be in receipt of F-15 fighters, possibly indicates a new focus by the Americans.

Other nations – such as Nigeria – have seen military orders stalled and are opening up competition to emerging exporters like Turkey.

Our two special features in this issue focus on

helicopters and uncrewed air vehicles (UAVs). They show just how important these industry segments are, both for defence and commercial aviation. China's good work in supporting the International Civil Aviation Organization (ICAO) safety efforts with Tanzania airspace received praise from the organisation's secretary general, Juan Carlos Salazar, in our cover story interview.

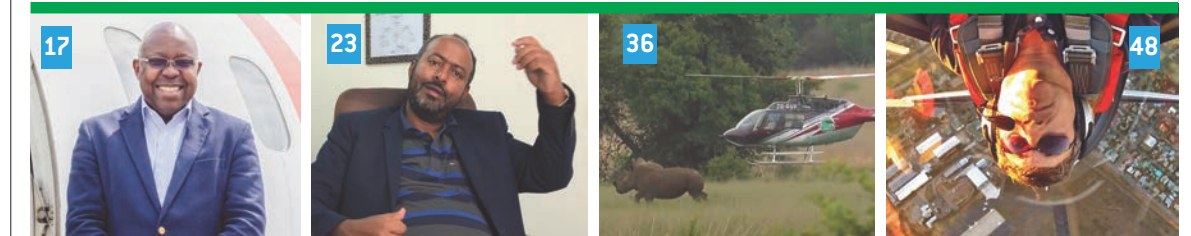
The Chinese-funded capacity-building project, launched in January, will strengthen Tanzania's aviation safety oversight system and spur its civil aviation system to benefit from workshops and on-the-job training to build human resource capacities, as well as procurement of safety hardware and software tools.

It is a fascinating message and offers the UN organisation's views on how Africa's aviation revival could be the start of a new dawn... but only if governments take a new approach on taxation and restrictions.

For many though, the fight for survival goes on – and nowhere more so than in South Africa. In this issue, Guy Leitch assesses the challenges that the famous names in the country's airline business face.

To paraphrase the Chinese saying: We live in interesting times.

Alan Peaford, editor-in-chief



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F REPORTAGE EN FRANÇAIS

Foundation supports mental health for cabin and crew in Rwanda

The scale of mental health problems in aviation is unknown, according to the International Civil Aviation Organization (ICAO). However, attention to wellbeing has drastically risen since the start of the coronavirus pandemic.

Now the AviAssist Foundation is starting ground-breaking research in Rwanda, which aims to improve the understanding and management of mental health issues for cabin and flight crew.

The research, based at AviAssist safety promotion centre (ASPC) in Rwanda, will be coupled with several training courses for Africa, hosted in Kigali in September in the week of the Times Aerospace-organised Aviation Africa event.

RwandAir will become the first airline to join this leading research project.

Tom Kok, director AviAssist, said: “Greater awareness of mental health issues and training in appropriate and effective responses to crisis situations should be part of our workplace. Peer support groups, training and awareness activities do not take place regularly across Africa. AviAssist aims to change that as part of a return to normal operations from Covid-19.



Historic moment: The first mental health workshop in Africa by AviAssist. PICTURE: AVIASIST FOUNDATION.

Healthy request

The African Airlines Association (AFRAA) is making a clarion call to governments and stakeholders to harmonise their health protocols, reconsider any bans, and adopt a risk-based approach.

AFRAA secretary general, Abdérahmane Berthé said: “The travel restrictions and blanket bans are a huge risk to the gains made in the recovery of the travel ecosystem. Furthermore, air transport connectivity and economic sustainability of airlines’ operations will be negatively impacted.”

Shared objectives

The African Airlines Association (AFRAA) and the African Civil Aviation Commission (AFCAC) have signed a memorandum of understanding (MoU) to work jointly on various areas.

These include: aviation safety, air transport liberalisation, efficiency of air navigation systems and technology advancement, aviation security and facilitation, the environment, human capital development and capacity building.

Ethiopian appoints Tasew as new CEO

Mesfin Tasew (pictured) has been appointed as the new Group CEO of Ethiopian Airlines following the sudden resignation of Tewolde GebreMariam for health reasons.

Former CEO, Girma Wake, has been announced as Ethiopian Airlines’ new president and board chairman.

GebreMariam, who served the airline for 37 years and took over the helm in January 2011, had been in the US for the past six months receiving medical treatment. He had been working remotely leading weekly management meetings.

In a statement, the airline wished GebreMariam well and hoped for a speedy recovery. It praised him for the magnificent work he had done in growing the airline group fourfold during his tenure.

Tasew has served Ethiopian Airlines for 38 years. He joined Ethiopian in 1984 as an associate engineer and progressed through the ranks, serving in supervisory and managerial positions in the technical areas.

In 1997 and 1999, he was appointed as director operations & technical systems support and chief information officer respectively. In 2006, he became vice president maintenance and engineering and, in November 2010, Ethiopian chief operating officer.

Since 2021 he has been CEO of Asky Airlines, the Togo-based airline managed by Ethiopian Airlines. He will soon hand over his current position to return to Addis Ababa.



PICTURE: DANIEL GETACHEW

Wake, meanwhile, was the CEO that began the transformation of Ethiopian and mentored GebreMariam to take on the key role when he retired.

He joined Ethiopian in 1960 but worked with other airlines, including Gulf Air, where he headed the cargo business, before being invited back to Addis in 2003, aged 60, to become Ethiopian CEO. It was a role he continued until 2011, when he handed over to GebreMariam, his deputy.

Wake also served as chairman to the ambitious and growing RwandAir until 2017.

infrastructure and regional integration, and aviation taxes/charges and traffic statistical data exchange.

A300-600 for sale

Sudan Airways has listed its only Airbus A300-600 for sale, with all bids due by April 10. The African airline will accept bids for the

entire aircraft or the major parts installed.

African accidents

Airlines based in sub-Saharan Africa experienced four accidents in 2021, all with turboprop aircraft, and three of which resulted in 18 fatalities.

None of the operators

was on the International Air Transport Association (IATA) operational safety audit (IOSA) registry (the global industry standard for airline operational safety audits and a requirement for IATA membership).

There were no jet hull loss accidents in 2021 or 2020.

Maintenance support

EgyptAir Maintenance and Engineering is now providing line maintenance services in Accra, Ghana.

Yehia Zakaria, chairman & CEO EgyptAir Maintenance and Engineering said: “Our station at Kotoka International Airport mainly serves the EgyptAir fleet, while the cooperation with Qatar Airways in Ghana is the first step towards providing our services to a third-party in Ghana. We aim to expand our presence in Africa and the Middle East by creating a new footprint in many locations to provide line maintenance support to our current and potential customers.”

New Nigerian routes

Qatar Airways launched four weekly flights to Kano, Nigeria on March 2, and three weekly flights to Port Harcourt, Nigeria a day later, both operating via the capital, Abuja.

Booking platform

Ethiopian Cargo and Logistics Services has launched a new feature that enables customers to make online reservations. Customers can check flight schedules, space availability, loadability of freight, and make a real-time booking.

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Bestfly lands a 505

Bell Textron has signed a deal to supply a Bell 505 to Angolan aviation company, Bestfly, with the intent to purchase a second aircraft within six months.

This is the first 505 sale in Angola and west Africa.

The first aircraft is expected to be delivered in October, with the second following a year later.

The aircraft will be used for corporate transportation around the country.

“The Bell 505 exceeded our expectations with the large, customisable cabin and fully integrated high-tech features,” said Nuno Pereira, managing director, Bestfly. “With the purchase of this aircraft, we are demonstrating our commitment toward enhancing the aviation industry in Angola.”

Dublin bound

EgyptAir is launching its first scheduled flights to Dublin, Ireland, from Cairo on June 3.

Power of the Sun

The Tunisian Civil Aviation and Airports Authority (OACA) is finalising a project to produce energy through a photovoltaic plant at Tozeur Nefta Airport, a sunny region located in the south of Tunisia.

The green energy will be injected into the Tunisian Electricity and Gas Company (STEG) network to supply the airports managed by the OACA.

During the first phase, the production capacity will meet 20% of overall needs.

Avionav set to take light aviation market by Storm

Tunisia-based Avionav has signed an agreement to acquire its main historical Italian partner, Storm Aircraft.

According to CEO, Foued El Kamel, the deal will position Avionav as a global industry leader in all areas of light aviation, while bringing greater efficiency and significantly increasing its market share.

Based at Borjine (gouvernorate of Sousse), Avionav produces the Rally, a full carbon fibre aircraft, and the Storm, an all-metal low-wing aircraft, which are involved in a wide range of missions, from pilot training, agriculture and mapping, to advertising banner towing and leisure flights.

Avionav intends to develop the Rally Observer, an aircraft dedicated to surveillance and mapping, incorporating state-of-the-art cameras and radar for enhanced accuracy.

El Kamel aims to build a 5-10% share in the global light aviation market, which represents \$600 million, and the company is projecting to expand its activities from its Borjine site by doubling its surface capacity to 3,000sqm and integrating new enterprise resource planning software.

Presently it has a production capacity of four aircraft over three months. The company targets 100 aircraft per year by 2028.

It will be extended during the final stage to meet OACA’s annual consumption.

Ethiopian freighters

Ethiopian Airlines has signed a memorandum of understanding (MoU) with Boeing for another five 777 freighters, adding to its existing nine-strong fleet.

According to Boeing, the deal for the five 777-8 variants will enable Ethiopian to meet expanding global cargo demand from its hub in Addis Ababa and position the carrier for long-term sustainable growth.

Ethiopian group chief executive, Tewolde GebreMariam said: “In our vision 2035, we are planning to expand our business to be one of the largest global multimodal logistics providers in all

continents. To this effect, we are increasing our dedicated freighter fleet with the latest technology, fuel-efficient and environment-friendly aircraft.”

SA airlines grounded

The South Africa Civil Aviation Authority (SACAA) has indefinitely grounded Comair and Kulula airlines, which, between them, are said to operate up to 40% of the country’s internal flights.

The SACAA announced it was extending the grounding of Comair following the failure or the airline to explain a series of technical and safety failures, which had led to a precautionary suspension in early March.

The airline, which operates under the British Airways flag in South

Africa under licence, was unable “to demonstrate to the regulator that the risk and safety management systems are effective in managing potential hazards”, according to SACAA.

The ban also affects low-cost carrier Kulula.

The SACAA said in the past month Comair had experienced safety problems ranging from “engine failures, engine malfunction, and landing gear malfunctions”.

Ugandan migration

BAR Aviation Uganda, which operates a range of domestic scheduled flights, and regional and international charter services using both fixed-wing aircraft and helicopters, has migrated its systems over to software as a service (SaaS) specialist AeroCRS.

Maldives link

Maldives airline, Manta Air, has entered a partnership with SriLankan Airlines to connect passengers from Gaafu Alifu Atoll of southern Maldives and Gan International Airport in Addu Atoll.

New councils backed

The Airlines Association of Southern Africa (AASA) has welcomed the appointment of South Africa’s new international air services council and its domestic counterpart, the air services licencing council.

Not operating since April 2021, the councils are required to consider applications and award or withdraw licences granted to South African-based airlines and operators of other commercial aviation services.

There is roughly a 12-month backlog of licence applications.



Foued El Kamel: Big ambitions. PICTURE: AVIONAV.



PICTURE: MALDIVIAN.

Maldivian orders first three ATR aircraft

Maldivian, the national airline of the Maldives, has ordered its first three ATR aircraft.

The order consists of two ATR 72-600s and one ATR 42-600. The aircraft will be delivered later this year.

The aircraft will have the new PW127XT engines, offering 3% reduction in fuel consumption and a 20% reduction in maintenance costs, along with the ability to use sustainable aviation fuels.

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One for the future: Wide-body aircraft are envisaged as forming around half of Nigeria Air's fleet five years after launch. The equipment to be used has not yet been announced.

PICTURE: NIGERIA AIR.

Below: Professor Tilmann Gabriel, major consultant to minister Sirika in setting up the

NIGERIA RESETS THE STANDARD

After some 20 years without a national carrier, Nigeria is scheduled to remedy that situation this summer. **Alan Dron** reports.

It seems inconceivable. The economic powerhouse of west Africa, with a population of 220 million, does not have a flag-carrying airline.

In fact, the country's civil aviation scene is distinctly threadbare, with a cluster of around 10 small airlines operating a patchwork of services across the nation.

Over the years, many Nigerian carriers have come and gone, usually launching with grand plans about schedules and passenger services, only to falter within a few years.

Indeed, the new national airline, to be known as Nigeria Air, also had a stuttering start. Announced at the 2018 Farnborough International Airshow in the UK, within two months the government in Abuja had taken the plan off the table, apparently because of disagreements within the administration over whether to use public funds to set it up.

The topic of a new national airline then became a casualty of Nigeria's 2019 election, when the project was suspended during the campaign. It then took nine months to install a new cabinet.

In early 2020, Covid brought aviation to a near halt. It then required four trips to the country's Federal Executive Council to get final approval to launch the airline.

One of the biggest problems among national

carriers in Africa is that governments typically hold the majority stake in the airlines and/or interfere in their running. Notably, one of the few state-owned airlines on the continent to make a consistent profit, Ethiopian Airlines, does so at least partly because the country's government does not involve itself in the company's day-to-day operations.

Nigeria aims for that same situation with its new national carrier. Aviation Minister, Hadi Sirika, said the government would source a strategic partner via a procurement process to take a 49% stake in the new carrier, while local entrepreneurs would hold a 46% stake, in an arrangement known as a public private partnership (PPP).

The just-published request for proposals (RFP) aims to select a consortium of a Nigerian investor group paired with an international airline. The Nigerian Government will retain 5% of the carrier.

The launch of Nigeria Air is managed by a team of seasoned aviation experts, to be replaced by the management team of the future owner consortium.

"We have many examples of PPP projects," said Professor Tilmann Gabriel, project leader of the new national carrier and the African Aviation & Aerospace University, who is the major

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CONTINUED FROM PAGE 8

consultant to minister Sirika in setting up the new airline.

“The government does it, then steps out. They are very keen to let industries develop.”

Bidders to become the strategic partner were slotted into the airline’s business case at the start of this year and a decision on the favoured candidate was anticipated to take a couple of months.

With Nigeria Air scheduled to take to the air by July 1, the identity of the strategic partner was anticipated as *African Aerospace* was going to press. The RFP for a partner received “a huge response”, Gabriel said.

He added that reports in March of a year’s delay in the company’s launch were wrong, the result of a misunderstanding between an official and a journalist during an interview.

At the time of writing, the airline’s initial fleet composition had not yet been detailed, although it is understood that operations will begin with three wet-leased aircraft. Subsequently, the airline’s business case is based on 14 single-aisle and 13 twin-aisle aircraft in the first five years.

Discussions with several manufacturers are ongoing. The initial wet-lease services will be conducted with A320s, but either Boeing or Airbus may be called on for the airline’s expansion. Talks have taken place with both OEMs over availabilities for a fast-track expansion.

The small initial fleet means that the airline will be “definitely only domestic at the moment”, said Gabriel. It will be based at Abuja Airport and its initial route will be Abuja-Lagos, linking the country’s two most important cities.

Abuja Airport will also play a role in developing a Nigerian aviation eco-system, an ‘aerotropolis’ with a free trade zone, including the new African Aviation & Aerospace University.

Gabriel credits Sirika with being the driving force behind the plan and in having a strict focus on the way ahead for the country’s wider aviation industry.

“The new owners, I would imagine, would want to expand the domestic operation, get an International Air Transport Association (IATA) operational safety audit (IOSA) added and then international flying could get started in year two or three,” Gabriel explained.

Domestic services will be followed by flights to neighbouring countries before long-haul services begin. Progress will depend on having “a

Two decades with no flag-carrier

Nigeria has been without a national carrier since 2003, when the former Nigeria Airways collapsed after a 45-year existence.

Over-staffed and mismanaged, with a history of several crashes, it closed with debts totalling a staggering \$528 million.

Since that date, there have been attempts to install new companies in the role of the country’s international aviation representative.

A deal between the Nigerian Government and UK-based Virgin Atlantic, which saw the creation of Virgin Nigeria, lasted only from 2005 to 2012 before the airline folded – although the UK company had pulled out of the agreement two years earlier, with Virgin boss, Sir Richard Branson, voicing frustration at what he described as interference from local politicians and regulators.

The airline also underwent two short-lived name changes – to Nigeria Eagle Airlines and Air Nigeria – before it finally halted operations.

significant single-aisle fleet” to fly internal and regional sectors.

The aim is to grow the airline slowly and steadily, said Gabriel. “It’s a very clear business case that’s built on facts and reality. You can’t start international flying unless you have domestic connections, an IOSA audit, and all the credibility. To go to Europe, you have to go to the European Aviation Safety Agency (EASA) and get approval.”

With this in mind, the Nigerian Civil Aviation Authority (CAA) regulatory agency and its director-general, Captain Musa Nuhu, have adopted EASA regulations, which has an effect on Nigerian airlines and their compliance with these international standards.

To improve the country’s aviation infrastructure, a new maintenance, repair and overhaul (MRO) organisation and an aircraft leasing company are two further PPP projects on Sirika’s target list. It is understood that preferred bidders for these have been chosen and will shortly be approved by the Federal Executive Council.

The Nigerian aviation sector has seen “significant improvements”, with Sirika instrumental in standardising institutions under his control, Gabriel said.

During his term as minister of aviation, the number of passengers grew from 8 to 18 million in 2019, before Covid brought this progress to a halt. However, this year the 18 million mark should be reached again.

Unsurprisingly, public sentiment towards a new national airline that Nigerians can rally round has been generally positive.

Also unsurprisingly, there has been some political opposition to the new company, but largely on the grounds that the government is too closely involved with it – a situation that will change imminently when the new strategic partner comes on board.


Gabriel said he assumed there would also be some nervousness among existing Nigerian airlines because the new flag-carrier would have a lot of support domestically, as well as internationally from its strategic partner. The fact that it would have a business plan, good governance and a long-term outlook was likely to increase that nervousness.

Domestic flying in Nigeria is growing, but some routes are currently served only once or twice a week.

Additionally, a lack of punctuality and reliability among existing carriers means that too many passengers currently spend too much time hanging around at airports or on board aircraft. The domestic passenger flows at both Lagos and Abuja need to be improved.

“Nigerians would like to see domestic and regional airlines that are punctual and reliable, are bookable by apps or website, and offer tickets payable online by credit cards,” said Gabriel.



Perhaps, two decades after Nigeria Airways closed its doors, Nigerians will have the opportunity to feel proud of their national carrier once again. ▲





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South Africa's state-owned airlines – SAA, Mango and SA Express – have three things in common. As **Guy Leitch** reports, they are all victims of a competitive trading market, mismanagement, and the Covid pandemic.

After 15 months, flag-carrier, South African Airways (SAA), emerged from the business rescue process in April 2021.

While many considered the airline too damaged to save, the stated objective of the South African Government was to semi-privatise it by finding a strategic equity partner (SEP).

In June 2021, it was announced that an SEP had been found in the form of the Takatso consortium, which consists of Global Airways and investment company, Harith.

Global Airways has a successful track record of international wet lease (ACMI) operations and was seen to be able to replenish SAA's lost operational skills. It also provides the aircraft operator certificate (AOC) for low-cost airline, Lift, headed by Gidon Novick, who had pioneered such carriers in South Africa by launching kulula.com airline for Comair.

Harith General Partners is a leading pan-African fund manager for infrastructure development across the continent. It committed to investing \$200 million (about R3 billion) in SAA over a three-year period. Its chairman, Tshepo Mahloele, said the consortium has the experience, expertise and capital to transform SAA into a substantial operating business.

Novick is the consortium's CEO. He is confident SAA can be built into "an efficient, customer-obsessed and innovative airline" that serves as a catalyst for growth in the South African economy, particularly tourism.

"Transformation will be core to SAA, including accelerated training and promotion of qualified black pilots and a broad-based employee incentive scheme," he said.

The Takatso consortium will own 51% of the airline and the Department of Public Enterprises 49%. The intention is to list the airline on the stock market.

When Public Enterprises Minister, Pravin Gordhan, announced the proposed deal in June 2021, he also said the idea was for government to retain a 'golden share' in SAA to ensure it remains domiciled in the country and transformation goals are prioritised.

A due diligence was undertaken by Takatso and, on November 29 last year, it was announced as being "substantially complete with no material issues identified".

Gordhan said at the time that the government



SAX APPEAL: The final liquidation hearing has been postponed once again, with the return date for the application now extended to July 4 2022.

PICTURE: WIKIMEDIA COMMONS, BOB ADAMS.



Fruitful: Mango has been profitable for most of its 15 years of operation.

PICTURE: MANGO AIRLINES, FRANS DELY - AVPIX.CO.ZA

FLAGGING FORTUNES...



Thomas Kgokolo: Believes it is unlikely that SAA will resume operating international routes this year.

expected to conclude the Takatso deal early in 2022, adding that there were "a few more regulatory hoops to jump through".

On emerging from business rescue, SAA restarted flying in April 2021 and, in February 2022, announced that it had operated more than 1,000 flights.

SAA interim CEO, Thomas Kgokolo, said the airline had been tracking against forecasts positively. "That was until the onset of the omicron variant," he added. "It negatively impacted our estimates for December overall. Our domestic load factor was slightly behind forecast, but this was offset by stronger-than-forecast regional loads."

Kgokolo went on to say that it was unlikely SAA would resume operating international routes this year. "It will be driven by trends and customer demand. Everything considered, it is likely to be in a year or so's time."

The airline is still far from an optimal size and is operating a small fraction of its pre-Covid route network. Further, its fleet is mismatched for its current routes and still contains inefficient and aging Airbus A340s.

In late February 2022, Gordhan announced that the airline would receive an additional R3.5 billion (\$227 million) from the state.

However, he is insistent this does not constitute a new bail-out, explaining: "The cash is the balance of R14bn the government has already agreed to in order to settle the airline's debts and bankroll its restructuring

costs before Takatso takes over and assumes operational responsibility."

The sale to the Takatso consortium appears to be in the closing stages. The budget speech delivered on February 23 revealed: "The sale and purchase process has now been concluded... The next step involves the approval of this transaction by various regulatory bodies."

Although SAA has not, as yet, restarted long-haul flying, it has been rebuilding its partnership and codeshare deals, including a partnership with Kenya Airways (KQ). In September 2021, SAA and KQ signed a memorandum of cooperation with a view to creating, a "pan-African airline group".

In a statement, the two airlines said they would work together to increase passenger traffic, cargo opportunities, and general trade in South Africa, Kenya, and the rest of Africa.

"It is also expected that the partnership will improve the financial viability of the two airlines, while, at the same time, offering competitive prices for both the passenger and cargo segments," they added.

SAEXPRESS

SA Express (SAX) was beset by management problems, corruption, and an inability to compete against rival, Airlink, on southern Africa's lucrative regional routes.

The South African Government made more than R1.2 billion (\$78m) in financial support available for the 2019/2020 financial year. However, after the business rescue process failed, it was placed into provisional liquidation in April 2020.

With all its fleet either returned to lessors or scrapped, the airline has almost no remaining

assets. However, its provisional liquidators say they are still searching for a buyer.

In January 2021, a court ruling postponed the date to determine if SAX must be placed in liquidation to April 29 2021, which was then pushed out to July 28 2021, and then extended to January 11 this year. The reason given was because two unions brought an application in the Constitutional Court to try to save the airline. The National Union of Metalworkers of SA and the SA Cabin Crew Association argued that a state-owned company cannot be finally liquidated by a court.

A bidder had emerged late in 2020 called FlySAX, consisting of a group of former SA Express employees. It was declared the preferred bidder for the airline, despite it saying that it would rely on crowdfunding to finance its offer.

The initial bid was unsuccessful. However, in May 2020, FlySAX submitted a revised offer to the provisional liquidators.

The final liquidation hearing has been postponed once again, with the return date for the application now extended to July 4 2022.

MANGO

While SAA and SA Express are sister companies, Mango Airlines is a subsidiary of SAA. As a low-cost carrier (LCC), and unlike SAA and SA Express, it has been profitable for most of its 15 years of operation.

Mango was formed in 2006 in response to the rise of LCCs in South Africa. Its role was largely to feed and de-feed SAA's domestic routes. Mango was, therefore, severely affected by the placing of its parent into business rescue.

After a long battle by the staff, who voluntarily took large pay cuts or missed paydays entirely, Mango was placed in business rescue, with the aim of looking for a buyer.

A call for expressions of interest was made by the business rescue practitioners (BRP) towards the end of 2021. They said: "There is a reasonable prospect of rescuing the company, or that the business rescue proceedings will result in a better outcome for creditors and the shareholder of the company than would otherwise be achieved should the company be placed in liquidation."

A January 2022 statement from the BRP said a number of expressions of interest (EOI) were received in December 2021. However, most did not have sufficient proof of funding. The BRP therefore granted a blanket extension of three weeks, to February 4, for the interested parties to submit their EOIs. Successful bidders will then be able to submit binding offers before the end of March 2022.

Key creditors are owed more than R2.8 billion (\$181m), which includes R175 million in unflown tickets. In the interim, the remaining assets of the airline have been steadily sold off with all but two of the fleet of Boeing 737-800s returned to lessors. Some of these aircraft are now being flown by arch rival, Flysafari.

With the pending finalisation of the sale of 51% of SAA to the Takatso consortium, it is considered possible that the SA Government is deliberately allowing Mango to fail and, thus, be liquidated. This is because the Takatso consortium partner, Global Airways, already operates Lift Airline, which will then be a direct competitor with Mango. ▲



Beoing 747-400F (110 TONS)



Beoing 767-200F (42 TONS)



Beoing 757-200F (25 TONS)



Beoing 727-200F (22 TONS)



DC-9-30F (14 TONS)



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UN PARTENARIAT NOVATEUR



Marc Gaffajoli,
directeur général
d'Afrijet, et
Christian Vernet,
président de La
Compagnie.

PICTURES: IDC MEDIA ET
LA COMPAGNIE.

Afrijet explore de nouveaux horizons grâce à un partenariat novateur avec La Compagnie, un opérateur 100% Smart Business Class. Vincent Chappard s'est entretenu avec Marc Gaffajoli, directeur général d'Afrijet et Christian Vernet, président de La Compagnie lors du vol inaugural sur la route Paris-Libreville.

La compagnie hybride gabonaise Afrijet s'est récemment associée avec La Compagnie pour lancer en seulement trois mois, une nouvelle route Paris-Libreville, 100% Business Class.

Pour Marc Gaffajoli et Christian Vernet, la singularité de cette opération est avant tout un partenariat d'entrepreneurs entre deux compagnies privées et dynamiques. Chacun y apporte sa valeur ajoutée. Côté La Compagnie, c'est la maîtrise technique avec un avion révolutionnaire 100% Business Class et la qualité du produit. Côté Afrijet, ce sont les droits de trafic, un profond d'ancrage dans le continent, ainsi qu'un réseau de distribution et commercial sur l'ensemble des pays de l'Afrique centrale.

Il s'agit donc d'un partenariat inédit et d'une manière différente d'aborder le marché.

« Notre stratégie est fondamentalement régionale, notre ADN est avant tout de rayonner sur l'ensemble des capitales de la région et des pôles économiques du Golfe de Guinée », assure Marc Gaffajoli. « Il faut savoir néanmoins tirer le meilleur parti de notre réseau et être capable ensuite d'agréger du trafic pour bénéficier d'une opération long-courrier. »

Afrijet a également commandé trois nouveaux ATR au dernier salon de Dubaï pour densifier et étendre son réseau.

« Il nous manque encore cinq nouvelles routes dans



notre réseau régional », souligne Marc Gaffajoli. « Nous souhaitons également créer davantage de connectivité et travailler sur des connexions entre les villes régionales à l'instar de notre ligne Douala-Sao Tomé. »

Ce partenariat à 50/50 en codeshare permettra d'acquérir une courbe d'expérience plus rapide et d'ouvrir de nouvelles perspectives avec un marché dédié aux passagers et aux entreprises notamment gazières et pétrolières.

Selon Christian Vernet, La Compagnie propose un produit plus compétitif avec une meilleure qualité de services par rapport à la concurrence. « C'est plus agréable de voyager à bord de notre avion 100% Business Class que dans un avion classique de plus de 300 places. »

La Compagnie et Afrijet sont deux compagnies à taille humaine plus réactives et avec moins de coût fixe. « Si vous avez un taux de remplissage de 70% avec un avion de 76 sièges en Business Class, vous pouvez faire davantage d'économies positives là où d'autres sont en difficulté », soutient Christian Vernet.

L'approche d'Afrijet et de La Compagnie reflète une volonté et une nécessité de faire bouger les lignes et de redonner de la souveraineté en Afrique.

Cette ouverture du transport aérien s'inscrit également dans la stratégie du Gabon de promouvoir un tourisme haut de gamme lié à la nature.

Le pays a décidé d'investir dans des lodges au cœur de la forêt.

SUMMARY

PARTNERSHIP IS A SMART MOVE FOR AFRIJET

Afrijet is exploring new business horizons thanks to an innovative partnership with La Compagnie.

The Gabon airline's new partner is part of the all-business class – and French-owned – DreamJet boutique airline operation, based at Paris' Orly Airport.

Afrijet CEO, Marc Gaffajoli, and La Compagnie president, Christian Vernet, were both aboard the inaugural flight on the Paris-Libreville route. They believe this new service is, above all, a partnership between two private and dynamic companies, with both bringing added value.

On the La Compagnie side, it is technical know-how with a revolutionary 100% business-class aircraft allied with product quality, while the Afrijet link provides traffic rights and a deep knowledge of the continent, along with an established distribution and commercial network throughout central Africa.

"Our strategy is fundamentally regional while our DNA is, above all, to focus on the capitals of the region and the economies of the Gulf of Guinea," explained Gaffajoli.

According to Vernet, La Compagnie offers a more competitive product with a better quality of service than its competitors.

"It's more pleasant to travel on board our 100% business-class aircraft than on a conventional aircraft with more than 300 seats," he said.

"If you have a 70% load factor with a 76-seat aircraft in business-class, you can make more positive savings where others are struggling."

This opening up of air transport is also part of Gabon's strategy to promote high-end eco-tourism in newly built forest lodges.

VINCENT CHAPPARD



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Julie Dickerson
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PICTURE: IBOM AIR

air transport

TRANSPORT AÉRIEN

Beyond Nigeria we're looking at expanding our connectivity across the continent. We want to reach the whole of Africa. ▲

GEORGE URIESI

in Uyo (the capital of Akwa Ibom state) is almost permanently at 100%. It's a popular destination for conferences and golfing, but it also offers an escape from the fast pace in cities like Lagos and Abuja."

Currently serving seven Nigerian destinations – Uyo, Lagos, Abuja, Enugu, Calabar, Port Harcourt, and Bayelsa (which was added to the airline's network in February 2022) – more routes are expected later this year.

"Beyond Nigeria we're looking at expanding our connectivity across the continent, initially keeping our focus on west Africa – Cameroon, Equatorial Guinea, Gabon, Ghana, Ivory Coast, Senegal, Gambia – and then we'll look to grow our network as far as Casablanca, Nairobi and Johannesburg," said Uriesi. "We want to reach the whole of Africa."

In line with its model for growth, Ibom Air began a codeshare agreement with fellow Nigerian carrier, Dana Air, in 2021. The purpose, revealed Uriesi, was to "reduce competition and encourage cooperation". He added that the airline is open to establishing similar agreements with other local carriers.

The Nigerian carrier placed an order for 10 Airbus A220 aircraft to enhance its fleet of CRJs during the 2021 Dubai Airshow. "Less than two years after launching, and five CRJs later, we had more demand than we could accommodate and needed to fast-track the introduction of larger-capacity aircraft," explained Uriesi. "We had already leased two A220s from EgyptAir, so we knew it was the right aircraft model for our expansion plans."

The first two new A220s are due for delivery before the end of this year, with the full order expected to be complete by 2026.

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While the airline is on track for continued growth, the question remains as to whether Nigeria's airport infrastructure is also ready to meet increased demand? "That's something we're really grappling with," agreed Uriesi. "It's already a squeeze with the current infrastructure at Lagos and Abuja. To avoid overcrowding at these hubs we plan to make more use of our base at Uyo."

Commenting on the wider lack of intra-African connectivity and weak airport infrastructure throughout the continent, Uriesi is optimistic that Ibom Air can be part of the narrative for change. "Our mission is to offer a reliable, on-time service and superior sales environment, enabling passengers to travel more efficiently between African countries. It's a model that's proven successful so far in Nigeria and we believe we can make it work across Africa."

Covid-19 invariably threw its fair share of challenges at an airline still in its infancy, but it has recovered well with passenger bookings on the up.

Other than that, the big challenge has simply been getting the airline up and running. "However tough it is anywhere else in the world to get an airline started, it's four times as tough in Nigeria," Uriesi concluded. ▲

Bouncing Ibom

Ibom Air chief operating officer, George Uriesi, talks to Chloë Greenbank about how his airline is taking the Nigerian air transport market by storm.

As Africa's most populous country, Nigeria is home to more than 200 million people and covers an area of 923,769sqkm.

Offering vast potential for leisure and business travel opportunities, in 2018 the United Nations World Tourism Organisation (UNWTO) declared that tourism is the future of Nigeria.

While the country has proven to be a tough market for airlines to operate in profitably, Nigeria's inadequate road and rail infrastructure mean flying is the default option for many domestic travellers.

Leveraging that opportunity is relative newcomer to the country's aviation market, Ibom Air. Having started operations in 2019, it has rapidly garnered a reputation as a reliable, on-time and friendly airline. Earlier this year it was ranked the best airline in Nigeria by the Travellers Awards and, at the end of last year, it marked a milestone, carrying it's one millionth passenger.

George Uriesi, Ibom Air's chief operating officer, attributes the initial success of the state-owned airline to Akwa Ibom's governor, Udom Emmanuel.

"He comes from a corporate background, so understands how to invest in a new venture. He was methodical about selecting experienced consultants to set the airline up and run it successfully," Uriesi said, explaining that, although the carrier is owned by the state, it essentially operates as a private airline.

"Our raison d'être, initially, was to boost regional growth and economic activities in Akwa Ibom and the airline has delivered on that front massively," said Uriesi. "Passenger traffic at Victor Attah International Airport has increased threefold since we started operations and hotel occupancy

QUAND L'A220 RIME AVEC LA COUPE D'AFRIQUE DES NATIONS

La compagnie aérienne Air Sénégal a mis en service le premier des huit Airbus A220 sur un vol charter dans le cadre de la Coupe d'Afrique des Nations de football. Un reportage de **Vincent Chappard**.

Reportée en raison de la crise du Covid-19, la livraison du premier A220-300 d'Air Sénégal était très attendue ! C'est en présence du président Macky Sall qu'elle a eu lieu à Dakar en décembre dernier. Il a souligné devant la presse que cet avion, baptisé « Niokolokoba », aura « la possibilité d'effectuer à la fois des vols courts et longs courriers, donnant à la compagnie une flexibilité opérationnelle adaptée aux besoins du marché ».

La compagnie nationale sénégalaise est le quatrième opérateur de cet avion en Afrique après Air Tanzania, Egyptair et Air Austral.

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La compagnie aérienne Air Sénégal a déployé son premier Airbus A220-300 le 6 février dernier entre Dakar et Yaoundé. Il s'agissait alors d'acheminer des supporters à la finale de la Coupe d'Afrique des Nations, remportée d'ailleurs par les Lions de la Téranga.

La compagnie nationale sénégalaise a signé un protocole d'accord pour 8 avions lors du salon de Dubaï 2019. Elle opérera ses A220-300 « pour relier Dakar à son réseau régional et



Water salute: Air Senegal A220-300.
PICTURE: PAPA MATAR DIOP PRÉSIDENCE
Inset: Air Senegal signs for eight A220 jetliners at the 2019 Dubai Airshow.
PICTURE: AIRBUS - MASTER FILMS - NEVILLE HOPWOOD

également européen. » Ils remplaceront également la flotte monocouloir de la compagnie. Selon son directeur général Ibrahima Kane, cet avion « va changer la donne dans le paysage ouest-africain. Il offrira à nos clients une expérience exceptionnelle en termes de confort et de connectivité ».

La compagnie avait entamé une phase de son développement « extrêmement rapide et accéléré » en 2019. Même si en 2020 Air Sénégal a dû fermer plusieurs routes de son réseau notamment en Afrique, elle a relancé plusieurs destinations en 2021 dont Cotonou, Libreville, Milan, Lyon et New York. Elle a repris ses vols vers Casablanca en février dernier.

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SUMMARY

AIR SENEGAL'S NEW A220 ENJOYS A CUP RUN

Air Senegal used the first of its eight Airbus A220s on a charter flight taking spectators to the final of this year's Africa Cup of Nations football match in Yaoundé, Cameroon.

The match was won by Senegal after Liverpool's Sadio Mane scored the winning penalty to defeat Egypt after extra-time.

Postponed due to the Covid-19 crisis, the delivery of Air Senegal's first A220-300 was in the presence of the country's president, Macky Sall, in Dakar in December 2021.

He stressed to the media that this aircraft, named 'Niokolokoba', would have the possibility of making both short and long-haul flights, giving the company enhanced operational flexibility.

The Senegalese national airline is the fourth operator of this aircraft type in Africa – after Air Tanzania, EgyptAir and Air Austral.

Air Senegal deployed its first Airbus A220-300 on February 6, between Dakar and Yaoundé, for

the soccer final. The Senegalese national company signed a memorandum of understanding with Airbus for eight aircraft at the 2019 Dubai Airshow and it intends to operate its A220-300s to connect Dakar with its regional and European network.

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According to CEO, Ibrahima Kane, this aircraft will be a game-changer in the west African skies as it "will provide our customers with an exceptional experience in terms of both comfort and connectivity".

He added: "Air Senegal was quite resilient during the Covid-19 crisis as we focused on the strong demand from the Senegalese diaspora, particularly in central Africa and Europe. The objective remains unchanged for Air Senegal: to reconnect west Africa to the rest of the world." ▲

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TRANSPORT AÉRIEN

Government funding fuels Air Zimbabwe revival



Venerable: Air Zimbabwe is one of the last scheduled airlines globally to use the Boeing 737-200. New equipment has been promised.

PICTURE: MAARTEN VISSER, VIA WIKIMEDIA COMMONS.

Now that the government has stepped in with financial backing, Alan Dron asks: Will this be the year that Air Zimbabwe starts to spread its wings again?

For years, Air Zimbabwe has been hampered by chronic debts, a shrunken fleet and cash shortages. Now, following the conclusion of a reconstruction plan, the management and the country's government hope the airline will be able to start to grow once again, with new destinations and aircraft.

In his national budget speech, finance and economic development minister, Mthuli Ncube, announced last December that the government was supporting the airline's turnaround plan to the tune of ZWD1.5 billion (\$4.1m).

This, he said, would be used for recapitalisation of the airline, operational costs and the acquisition of aircraft.

The company could certainly use some help.

Currently, its fleet consists of single examples of a Boeing 767-200ER for long-haul services, an Embraer 145 regional jet and a Boeing 737 – one of the few examples of the venerable -200 model still in scheduled airline service worldwide.

At present, Air Zimbabwe flies a truncated route network linking Harare, Bulawayo, Victoria Falls, Johannesburg and Dar-es-Salaam.

At the start of the year CEO, Tafadzwa Zaza, said that, barring any unforeseen flare-ups from the pandemic, the company planned to start flying to two regional destinations, as well as one intercontinental location. He added that frequencies on the current route network would be increased.

An Air Zimbabwe spokeswoman declined to go into details: "We know the routes we want to fly, but we need to keep them close to our chest," she said.

In autumn 2021 however, interim board chairperson, Andrew Bvumbe, was quoted by Zimbabwe Broadcasting Corporation as saying: "We have managed to clear a lot of legacy debts and we are now looking forward to expand our operations with the United Kingdom and China lined up as initial international flights."

Zaza also said that new equipment to bolster the small fleet would arrive "before the end of the first quarter. This will allow us flexibility to increase ad hoc passenger and charter operations to domestic, regional and intercontinental destinations."

The company spokeswoman also declined to give any

indication as to how the fleet might be renewed: "It's not information we would give out."

It is uncertain how far the government's cash infusion will stretch. ZWD1.5 billion equates to only \$4.1 million – small change by the standards of many airlines – and unlikely to pay for very much new metal, although leasing would eke out the funds.

There is no doubt that the airline plays a significant role in the country's economy. "Air Zimbabwe is a strategic enabler for trade, investment and, most importantly, tourism. Therefore, convenient, reliable and affordable connectivity is a must-have in our service catalogue," said the spokeswoman.

She admitted that, like almost every airline, inbound traffic had suffered in the last quarter of 2021 at the discovery of the Covid-19 Omicron variant, which led to a number of African countries, Zimbabwe included, being 'red zoned' by other nations.

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"We experienced cancellations by passengers inbound, mostly from South Africa and some with connections to Bulawayo and Victoria Falls. However, recent announcements by most European and Middle East countries have been a huge boost to inbound traffic from the region and beyond.

"The airline market in Zimbabwe and southern Africa has certainly opened up even more; hence our plan to increase frequencies on current schedules as well as adding more routes into the region this year," she said.

"The future certainly looks poised towards a growth trajectory, barring any unforeseen new Covid variants. As indicated in the New Year message by the acting CEO, there is scope for growth, sustainability and eventually profitability.

"The shareholder, the Government of Zimbabwe, has made huge commitments of recapitalisation support towards the resuscitation of full-scale operations by the national airline catering for acquisition of additional equipment."

Just how far the new money will go remains to be seen. ▲

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TNA'S GOLDEN OPPORTUNITY

From tiny beginnings Trans Nation Airways (TNA), a private charter flight company based in Addis Ababa, now has ambitions to become the operator of choice throughout east Africa. **Kaleyesus Bekele** reports.

Established in 2004, TNA operates two Dash8 aircraft and recently acquired a new King Air 360 from the Textron Beech Aircraft Company. Its parent company is MIDROC, the largest investment group in Ethiopia.

MIDROC used to have an aviation arm, which provided flight services to the organisation's executive management team, transported gold produced by its mining company, and also managed aircraft belonging to Sheik Mohammed Hussein Ali Alamoudi, the group chairman. When MIDROC decided to transform this into an airline providing charter flight services, TNA was born.

According to TNA general manager, Amir Abdulwahab, the airline was initially subsidised by MIDROC Gold. "Back then, as long as it transported gold and the management team, the company didn't worry much about profitability and they didn't try hard to access other markets," he said.

In 2018, however, MIDROC Gold suspended operation due to a nationwide public protest that brought about a political reform in Ethiopia.

The panicked TNA management dry-leased the two Dash-8s to operators in Kenya and even proposed liquidating the airline.

That was when Abdulwahab, who had served with Ethiopian Airlines for 14 years, jumped in. "I asked MIDROC Investment Group CEO, Jemal Ahmed, for six months to see if the airline could be turned around or needed to be shut down," he recalled.

Initially, he faced a fierce battle for the return of the two leased aircraft from Kenya. "One of them had a technical challenge and is still there, but we managed to bring back the second one, a Dash8-200 35-seater aircraft," he said.

Oppportunity knocked when a diplomatic feud broke out between Kenya and Somalia in 2020. Flights that used to transport kchat, a mild leaf stimulant, from Kenya to Somalia were banned. This opened the door for Ethiopian kchat exporters.

TNA was one of the first private airlines to start ferrying kchat from Dire Dawa town, in the eastern part of Ethiopia, to Mogadishu, Somalia. It then leased another Dash8 as business boomed and, in 2021, made a profit for the first time in its 17-year history. Staff received salary increases and bonus payments.

Other good news came last year when MIDROC Gold resumed operation. The airline has started operations from the mine to Addis Ababa.

TNA is now striving to expand its charter flight operation. "There is a growing demand in Ethiopia," Abdulwahab said. "We have corporate customers and individuals who want to visit their investment projects in remote areas and fly back to Addis Ababa the same day."



Amir Abdulwahab:
"We aspire to become the best charter flight operator in Ethiopia and the preferred operator in east Africa."

PICTURE KALEYESUS BEKELE.

Major investment:
TNA acquired its new \$6.5 million King Air 360 in January this year.

PICTURE: TNA.

Accordingly, TNA acquired the new \$6.5 million King Air 360 in January this year. The fuel-efficient aircraft can fly non-stop up to 5,000km and can cruise at more than 30,000ft. It has a nine VIP seat configuration but can be reconfigured with 13 regular passenger seats.

With its own stretcher, it can be used as an air

ambulance, or the seats can be removed for cargo flights.

In addition to the VIP flights, TNA is planning to launch an air ambulance service. "With the King Air 360, we can fly patients from remote areas to Addis Ababa or from Addis to overseas.

"We can cover the Middle East, South Africa and west Africa for an air ambulance and VIP flights," Abdulwahab said.

TNA is also now planning to acquire a helicopter. "We are looking at twin-engine aircraft that have 7-8 seats and can perform well at the high-altitude Addis Ababa Bole International Airport," Abdulwahab said.

TNA, in collaboration with its sister companies, which run hotels and car rentals, is also contemplating organising tourist package tours, while another possibility is UN contracts. "Currently, we are looking for aviation company management software. Once we deploy that and acquire a helicopter, we will go for UN contracts. We will be audited and certified by the UN and then we will be eligible for UN tenders," explained Abdulwahab.

"We aspire to become the best charter flight operator in Ethiopia and the preferred operator in east Africa. We want to provide a full-fledged service – VIP, air ambulance, and tour services in the region. The demand for charter flights in Ethiopia, Kenya, South Sudan, Sudan, Eritrea and Djibouti is huge."





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Mauritania beefs up air surveillance capabilities

Light work: The Mauritanian Air Force has received three G1 Aviation ultralight surveillance aircraft, which were donated by the EU.

PICTURES: THEMIS.

Three G1 Aviation ultralight aircraft were formally handed over to the Mauritanian Air Force by the European Union (EU) at Nouakchott Air Base in February.

Erwan de Cherisey reports.

The aircraft, procured via the French Management Institute for International Security (THEMIS), were provided to Mauritania under the aegis of the Ghawdat programme, part of the European Union-sponsored Mauritania security and development support project (PADSM).

According to Peer de Jong, THEMIS' senior vice president for development, the 2020 tender, which led to the selection of G1, saw three companies bidding.

G1 Aviation offered the best solution from a technical standpoint with a proven aircraft already in service with the Senegalese Gendarmerie, which fields three aircraft for air surveillance duties, he explained.

Among the key strongpoints of the G1 SPYL-XL are its ability to land in just 20 metres, a maximum speed of 200kph, an endurance of up to 10 hours, a strengthened undercarriage, and an integrated parachute, which can be used in an emergency to recover the aircraft.

In addition to the three G1 SPYL-XLs, two Toyota Land Cruiser pick-up trucks and trailers were also acquired. These can be used to move the aircraft by land with their wings folded.

Satellite phones, as well as day and thermal surveillance stabilised cameras, have also been installed on the aircraft. Training of the aircrews and ground support personnel took place at G1 Aviation's facilities in France last year.

Ultralights are a cost-effective intelligence, surveillance, and reconnaissance (ISR) tool and have enjoyed significant success in Africa owing to their low operating costs, ruggedness and ease of maintenance.

Several countries on the continent have either procured or been gifted ultralights for counter-poaching, training, and ISR. Aside from Mauritania, these include Botswana, Burkina Faso, Cameroon, Guinea, Madagascar, Mali, Niger, and Senegal.

As de Jong explained, the aircraft are intended to conduct light transport and surveillance duties in support of the Mauritanian National Guard and its nomadic group. The latter is a cavalry unit, comprised of two camel-mounted squadrons and a motorised squadron. Its mission is to provide a visible government presence across the remote reaches of the south-eastern Mauritanian hinterland, near the border with Mali.

This includes conducting long-range patrols, as well as providing medical assistance to the civilian population.

Infrastructure work is also part of the group's duties, which has included supporting THEMIS in the digging of 10 wells to provide watering points to the locals.

The national guard is a military force under the ministry of the interior, which is responsible for patrolling and policing eastern Mauritania's desert.

The Ghawdat programme's main purpose has been to rebuild the nomadic group and provide it with the camels, vehicles, and infrastructure to perform its duties. THEMIS has been acting as the lead contractor since 2019 and was notably tasked with procuring 300 camels and building a Mehari school, inaugurated in 2021, to train the unit's personnel.

While delivered to the Mauritanian Air Force, the new ultralights are intended to be operationally used by the nomadic group to extend the reach of its surveillance capabilities and allow for better focus of resources when planning and executing patrols.

One of the challenges that has yet to be resolved is how the new SPYL-XL aircraft will be deployed and sustained in the border region with Mali since their current location in Nouakchott is not practical to effectively support the nomadic group.

Ghawdat is now reaching the end of its first phase. According to de Jong, the project is considered a resounding success by both the EU and Mauritania, and the very positive and proactive cooperation dynamic between the former and the Mauritanian armed forces is driving plans for an extension and strengthening of the programme, with talks on the matter currently under way.



Cavalry back-up: The new ultralights are to provide air support to the Mauritanian National Guard Nomadic Group, which fields a large camel-mounted component used for long-range patrols and support to the civilian population living in the vast desert of eastern Mauritania.



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DÉFENSE



Powerful: The LDF fields three Airbus Helicopters H125s, which are its most modern aircraft and are well liked for their power and smooth operations in mountainous terrain and high temperatures.
PICTURE LDF.

Enclaved and surrounded by South Africa, the Kingdom of Lesotho has a small military corps, the Lesotho Defence Force (LDF), which is primarily tasked with border control and countering a variety of internal security issues, such as cattle rustling.

The LDF is also intended to defend the country against external aggressions and to take part in operations abroad, whether under the aegis of the Southern African Development Community (SADC), or the United Nations.

At present, a company-sized infantry force is deployed in Mozambique under the SADC Mission in Mozambique (SAMIM).

Lesotho's military aircraft are operated by the LDF Air Wing, which was established in 1978 as the Lesotho Police Mobile Unit (PMU) Air Wing. Its first aircraft were two Short Skyvan 3M transports and a Cessna 152, all of which were commissioned in 1979.

These were later joined by two Bo105 helicopters and a Soloy-Bell 47G, two Libyan-donated Mi-2s, a Dornier Do 27, and a Do 28.

□□□□□

In 1986, the PMU became the Royal Lesotho Defence Force (RDLF), a fully military corps, which took over the former air wing and its aircraft.

Additional deliveries followed, including a short-lived BK117, which was received in 1985 and sold a year later, two Agusta Bell 412s, and a Bell 412 in 1986, a Cessna 182Q in 1988, and two Casa C212-300s, which replaced the Skyvan 3Ms in 1989.

One of the former crashed in November of that year and was replaced, in 1991, by another example of the same type. Also in 1991, a Bo105 was acquired.

In 1993, the RDLF was reorganised into the current LDF. That same year, one of the Agusta Bell 412s crashed. A new Bell 412 was subsequently acquired and commissioned in 1994. However, it too crashed in 1998 and was replaced by a Bell 412SP.

In 2000, one of the C212-300s was written-off, leading to the purchase of a C212-400 as replacement, which was delivered in 2001, together with two new Bo105s. One of the latter was written-off two years later.

In 2004, a Bell 206 and a Gippsland GA8 Airvan single-engine transport were added to the fleet, the latter replacing

The recent purchase of four Airbus Helicopters H125 aircraft has reinvigorated the Lesotho Defence Force Air Wing's capabilities.

Erwan de Cherisey looks at a history littered with ups and downs.

the long-serving Cessna 182Q. The Bell 412 was lost in 2006 and a Bell 412EP was bought and pressed into service in 2007 to make-up for the loss.

By the end of the 2000s, the air wing's fleet was comprised of two C212s, one GA8, one Bo105, one Agusta Bell 412, one Bell 412SP, one Bell 412EP, and one Bell 206. In 2013, a single EC135T2+ was acquired to replace the last Bo105. However, it crashed in April 2017, with the loss of all on board, after hitting power lines.

The LDF decided to replace it with an H125, delivered in October 2017. A further three examples of the type have since been procured, two of which were commissioned in 2018, while the third was received in November 2019. This particular aircraft was bought to replace one of the other H125s, which had crashed in December 2018.

Meanwhile, the Bell 206 was sold on the South African civilian market.

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The LDF Air Wing is currently headquartered at Mejaletalana Air Base in the capital city of Maseru. Its commander is Brigadier Daemae Michael Matamane, who was appointed in 2018. Its primary role is to provide air support to the ground component of the LDF, conduct search-and-rescue operations, surveillance, reconnaissance, personnel and cargo transport.

LDF aircraft can also be occasionally chartered for commercial flights. This is notably the case with helicopters and allows some income to be generated for the force.

A limited offensive capability is provided by the Bell 412s and Agusta Bell 412, which can be armed with rocket launchers and machine-guns.

Since the beginning of the SADC military intervention in Mozambique, and the deployment of LDF troops there, which began in August 2021, the air wing has supported SAMIM with one of its C212s being used in the light transport and liaison role.

The LDF Air Wing has no pilot training capability of its own and most of its aircrews are sent to South Africa for training. The South African Air Force has trained numerous pilots from Lesotho, while others have received training at commercial flying schools.

It is thought unlikely that any future aircraft purchase should take place in the short term, although in a more distant future a replacement for the C212s may be sought. ▲

An arms race is developing in north Africa as both Algeria and Morocco make future fighter plans. **Angie Bee and Jon Lake** report.



Going nowhere: Algeria's plans to acquire the Su-35 appear to have been abandoned. PICTURE: UAC.



While Morocco will upgrade its existing F-16C/Ds to F-16V standards and acquire new-build Block 70 aircraft to replace its ageing Northrop F-5E/Fs, it also has a medium term requirement to replace its fleet of Mirage F1s. PICTURE: LOCKHEED MARTIN.

NEIGHBOURHOOD WATCH...

Relations between north African francophone neighbours, Morocco and Algeria, have been strained for decades, and have only worsened in recent years, with ongoing disagreement over the political status of Western Sahara and with Algeria condemning the signing of the Israel-Morocco normalisation agreement (part of Abraham Accords) in 2020.

On August 24 last year Algeria formally severed ties with Morocco.

The two countries have gone to war twice – first in 1963 with the so-called Sand War, and then during the long-running Western Sahara War of 1975-1991. Algeria continues to back the nationalist Polisario Front's claims on the territory.

In November 2020, Morocco launched a military operation in the United Nations-controlled buffer zone in Western Sahara, claiming that this was in response to weeks of 'provocations' from the Polisario Front. This incursion into the Guerguerat zone aggravated tensions and entrenched Algeria's view that the region has a right to self-determination, while US recognition of Moroccan sovereignty in Western Sahara led to a further deterioration in relations.

This has all led to something of an arms race between the two nations.

Algeria's military spending of \$9.7 billion in 2020 actually represented a slight (3.4%) reduction compared to 2019, but it remained by far the largest defence budget in Africa, while Morocco has progressively ramped up defence spending, allocating \$4.8 billion in 2020 (a 29%

increase on 2019 and a 54% increase compared to 2011).

Much of this spending has been devoted to the air domain, and the two nations are currently upgrading and recapitalising their fighter arms, and are seeking to acquire fifth-generation fighter aircraft.

Morocco's fighter arm currently consists of 15 Lockheed Martin Block 52 F-16Cs and eight two-seat F-16Ds, assigned to Escadrons de Chasse 'Viper', 'Falcon' and 'Spark' at Ben Guerir Air Base.

These are augmented by about 22 surviving F-5Es, and four two-seat F-5Fs with Escadrons de Chasse 'Chahine' and 'Borak' at Meknes-Bassatine, and about 26 Mirage F1CH, F1EH and probe-equipped F1EH-200s, upgraded to a common MF2000 configuration, serving with Escadrons de Chasse 'Assad' and 'Iguider' at Sidi Slimane.

Thus, around 75 aircraft serve with eight small squadrons.

In future, the Royal Moroccan Air Force fighter element will be built around advanced variants of the F-16.

The US approved the sale of 25 Block 72 F-16C/D aircraft to Morocco in March 2019, and the surviving Block 52s will be upgraded to the near-identical F-16V standard under the same contract. The expansion in F-16 numbers will allow the retirement of the now obsolescent F-5E/Fs.

In the slightly longer term, Morocco plans to acquire the Lockheed Martin F-35 Lightning II joint strike fighter to replace the Mirage F1s. It has been reported that Abdellatif Loudiyi, the

Moroccan Minister of Defence, has asked for Israel's help in 'convincing the Biden administration in the US to authorise the sale of the F-35 to Morocco and in obtaining more advanced weaponry'.

Algeria has always been able to field a bigger fighter arm than its neighbour, and currently has some 150 fast jets in service with about 12 squadrons, though its Soviet- and Russian-supplied aircraft are probably less serviceable and less available than Morocco's western types, leaving the two air forces more balanced than 'headline' numbers might suggest.

The backbone of the force is provided by 57 Su-30MKAs (with 16 more on order), parented by the 12ème Escadre de Defense Aérienne at Ouargla, but with individual escadrons operating from Ain Beida, Ouargla, Tamanrasset, and Reggan.

These are augmented by the 45-or-so MiG-29s of the 3ème Escadre de Défense Aérienne's 193ème Escadron de Chasse at Bou Sfer, with a detachment at Béchar.

Algeria's dwindling number of about a dozen MiG-25s may still include a handful of MiG-25PD interceptors, as well as MiG-25RB reconnaissance variants. These all serve with the 5ème Escadre de Reconnaissance et de Guerre Electronique at Ain Oussera, alongside the Su-24MPK and Su-24MRK.

Most of Algeria's 22-or-so Su-24 'Fencers' are Su-24MK2 interdictors assigned to three squadrons of the 4ème Escadre d'Appuis Pénétration at Laghouat.

Algeria reportedly signed a contract for 14 Sukhoi Su-35s (or 18, according to some sources) and 14 Su-34s in December 2019, with options on

14 more of each type. But these orders were subsequently cancelled, perhaps due to the Su-35's reliance on older PESA radar technology, or more likely due to concerns over the potential impact of US Countering America's Adversaries Through Sanctions Act (CAATSA) regulations.

Instead, Algeria now looks set to upgrade its Su-30MKAs with technologies from the Su-35, while waiting to acquire the more advanced Su-57, which, not withstanding current events, was expected to be available for export from the late 2020s.

Algeria announced its intention to order 14 Su-57s in November 2020, and since then has been identified as a potential customer for the T-75 Checkmate.

Some have suggested that Algeria could turn away from Russia for its next fighter – perhaps looking to Italy or France.

As well as fighters, both nations have sought to bolster their ground-based air defence (GBAD) capabilities.

Morocco has reportedly begun negotiations to acquire Israel's Iron Dome system.

Designed by Rafael Advanced Defense Systems and Israel Aerospace Industries (with some US support) Iron Dome uses radar to differentiate between targets that will hit built-up areas and non-built-up areas and prioritise accordingly. It has a claimed success rate of more than 90%.

Morocco has also received US approval to receive the Patriot air defence missile system.

Meanwhile, Algeria, already an operator of Russia's S-400 Triumph air defence system, had

reportedly expressed interest in Russia's new S-500 Prometheus long-range air defence system, which is designed to intercept and destroy a wide range of targets, including intercontinental ballistic missiles and hypersonic cruise missiles.

However, the new system will not be available to the export market until 2030, and Algeria may find itself having to wait behind India and Turkey for the weapon.

Algeria has also made efforts to improve its electronic attack capabilities, and has acquired a new Chinese electronic warfare system, receiving an undisclosed number of vehicle-mounted systems made by ELINC, a wholly owned subsidiary of China Electronics Corporation (CEC), and the China National Electronics Import & Export Corporation (CEIEC). These could be used to disrupt Moroccan communications and radar systems. ▲



Upping the ante: Algerian acquisition of the Su-57 would strengthen Morocco's determination to procure the F-35. PICTURE: LOCKHEED MARTIN.

SOMMAIRE

UNE BATAILLE POUR LA SUPRÉMATIE EN AFRIQUE DU NORD

Une course aux armements est en cours en Afrique du Nord alors que l'Algérie et le Maroc recherchent leurs futurs avions de combat. Un reportage d'Angie Bee et Jon Lake.

Les relations entre le Maroc et l'Algérie sont tendues depuis plusieurs décennies. Elles se sont même dégradées ces dernières années en raison du désaccord persistant sur le statut politique du Sahara occidental et la condamnation par l'Algérie de l'accord de normalisation signé entre Israël et le Maroc (faisant partie des Accords d'Abraham) en 2020. Ces tensions ont conduit à une course aux armements entre les deux pays.

Les dépenses militaires de l'Algérie s'élevaient à 9,7 milliards de dollars en 2020 soit une baisse de 3,4 % par rapport à 2019. Cela reste le budget de défense le plus important d'Afrique. Le Maroc a augmenté ses dépenses militaires de 29 % par rapport à 2019 pour atteindre 4,8 milliards de dollars en 2020. La majeure partie de ces dépenses a été consacrée aux forces aériennes. Les deux pays cherchent à acquérir des avions de combat de cinquième génération.

□□□□□

Le Maroc dispose aujourd'hui de 15 F-16C Block 52 et de huit F-16D biplaces. On trouve également environ 22 F-5E, quatre F-5F et 26 Mirage F1CH, F1EH et F1EH-200. Le Royaume envisage d'acquérir à long terme le F-35 Lightning II de Lockheed Martin pour remplacer ses Mirage F1.

L'Algérie dispose d'une flotte plus importante estimée à environ 150 avions. Ils proviennent de la Russie et seraient moins opérationnels que les avions du Maroc, laissant penser que les deux forces aériennes soient plus équilibrées qu'on ne le dise. La flotte des forces armées algériennes est constituée de 57 Su-30MKA avec 16 avions supplémentaires en commande. Le pays compte aussi 45 MiG-29, une douzaine de MiG-25 et des Su-24MPK et des Su-24MRK. Il semblerait que l'Algérie pourrait éventuellement se détourner de la Russie pour son prochain avion de combat. ▲

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Left: Niger is set to be the first export customer for the TAI Hürkus turboprop trainer and light-attack aircraft. PICTURE: TUSAS.

Bottom left: South Africa's Saab Gripens are still not flying because of a lack of funding, which led to maintenance and support contracts not being renewed. PICTURE: THALES.

Bottom right: Tunisian interest in Kuwait's soon-to-retire F/A-18C/D Hornets may be thwarted by timescales, or by US Marine Corps interest in the aircraft. PICTURE: BRUCE TROMBECKY, US NAVY.

Egypt pulls back from \$2bn Russian aircraft deal

Many air forces throughout Africa are looking to bolster their aircraft fleets. However, as Jon Lake and Angie Bee report, it's not always easy to do.

Egypt has reportedly cancelled the \$2 billion order for 24 Su-35 fighters that it placed in 2018 with Russian aircraft manufacturer Sukhoi.

Photos of the completed aircraft have appeared online, and delivery had been expected imminently. In August 2021, satellite photos showed 15 completed Su-35s in Egyptian camouflage at Komsomolsk na Amur, in the Russian Far East, and four were tested at Zhukhovskii, near Moscow.

The order cancellation could be the result of concerns about the US Countering America's Adversaries Through Sanctions Act (CAATSA), which covers Russia and could have risked Egypt's vital defence relationship with the USA.

There have also been reports that Egypt was concerned about the performance of the type's Irbis passive electronically scanned array (PESA) radar, which allegedly performed poorly by comparison with the Rafale's RBE2AA active electronically scanned array (AESA) radar, and which did badly when tested against Rafale's Spectra electronic countermeasures (ECM) system.

This may have reminded the Egyptian Air Force of Russia's failure to provide an AESA radar upgrade for its MiG-29M2s, a promise made when the MiG-29M2 was supplied instead of the Su-30 that the Egyptian's were said to have preferred.

The Su-35s may now, instead, be sold to Iran.

Meanwhile, Niger has become the first foreign customer for the Turkish Aerospace Industries (TAI) Hürkus trainer aircraft. The Hürkus is a turboprop-powered basic trainer being produced in three variants.

The Hürkus-A is intended for the civilian market and certificated by the European Aviation Safety Agency (EASA) and the Turkish Directorate General of Civil Aviation (DGCA).

The Hürkus-B is a military trainer version with integrated avionics, including a head-up display (HUD), multi-function displays, and a mission computer. The Turkish Army has ordered 15 of the aircraft and has an option for 40 more.

The Hürkus-C is an armed version intended for the close air support and counter-insurgency roles. Equipped with a

forward-looking infrared (FLIR) turret and capable of carrying a maximum weapons load of 3,300lb (1,500kg) the Hürkus-C is capable of operating from unprepared runways.

The variant selected by Niger and the number of aircraft have not been confirmed, though an interview with the head of TAI suggested that 12 Hürkus-C aircraft would be exported to an unnamed customer.

Turkish President Recep Tayyip Erdogan has said that the TB2 drones, Hürkus aircraft, and armoured vehicles that Niger is procuring from Turkey, will strengthen its military and security forces.

In north Africa, Tunisia is urgently seeking a replacement for its ageing F-5Es. It briefly looked as though the Tunisian Air Force could purchase Kuwait's fleet of 33 F/A-18C/D Hornets (27 single-seat F/A-18C Hornets, plus six F/A-18D trainers) that are now being replaced by Boeing F/A-18E/F Super Hornets and Eurofighter Typhoons, though some reports suggest that this plan has now been abandoned.

Malaysia was also interested in these aircraft, and the US Marine Corps is also reportedly considering purchasing the aircraft to recapitalise its own fleet.

Because the Covid-19 pandemic delayed infrastructure work at Kuwait's Ahmed Al Jaber Air Base, transfer of the Super Hornets to Kuwait will take longer than planned, and this may mean that the Kuwaiti 'heritage Hornets' will not be available in time to meet Tunisia's requirement.

Alternatively, there have been suggestions that the high operating costs of the twin-engined Hornet may have put it out of Tunisia's reach. This would seem to be borne out by reports that Tunisia is also looking at the Aero L-39NG jet trainer, and at Boeing's T-7 Red Hawk.

At the other end of the continent, South Africa is also experiencing fighter problems, with its fleet of Saab Gripens still grounded as a result of a lack of funding, which has led to maintenance and support contracts not being renewed.

The last Gripen flights were reportedly made in late November, and the situation looks set to continue until the new financial year.

HELO, GOOD BUY: AFRICA

Many air forces across Africa are in the process of strengthening their helicopter fleets.

Angie Bee and Jon Lake take a look at what's happening.

The US Department of Defense (DoD) has awarded Lockheed Martin a \$102 million contract to modernise 25 of Egypt's Boeing AH-64D Apache Longbow attack helicopters to AH-64E Apache Guardian standard.

The upgrade announcement comes 19 months after the US Defense Security Cooperation Agency (DSCA) approved a larger foreign military sales (FMS) deal, worth an estimated \$2.3 billion, to upgrade a total of 43 Egyptian Apache attack helicopters.

Thus, it appears a possibility that 18 of the aircraft may not be upgraded.

The Egyptian Air Force originally placed an order for 36 AH-64As in 1995, and these were delivered to the same standard as the US fleet, but with indigenously produced radios.

In September 2000, Boeing announced an order to remanufacture the 35 surviving Egyptian Apaches to AH-64D configuration, albeit without the type's Longbow radar, which was withheld by the US Government.

Egypt requested a further 12 Block II AH-64Ds with Longbow radar in 2009. Some 43 of the 47 D-models are understood to remain operational.

The US Department of State approved the sale of 10 new-build AH-64Es to Egypt in November 2018, at a reported cost of \$1 billion, and the latest upgrade will, thus, bring all but 18 of the AH-64Ds up to a common standard.

Formerly known as the AH-64D Block III, the new Apache variant was redesignated as AH-64E Guardian in 2012. It introduces more powerful T700-GE-701D engines with upgraded transmission, new composite main rotor blades, improved digital connectivity, and an uprated landing gear.

The upgrades will take place at Boeing's facilities in Mesa, Arizona, and are scheduled to be completed by July 2024.



They will include the installation of the Gen III target acquisition designation sight/pilot night vision sensor (TADS/PNVS) system with the Gen III day sensor assembly (DSA).

The DSCA said the upgraded Apaches would be used to counter "terrorist activities emanating from the Sinai Peninsula, which threaten Egyptian and Israeli security and undermine regional stability". It added that the deal would enhance interoperability between Egyptian, US, and allied forces.

Meanwhile, the Nigerian Air Force has been undergoing a major re-equipment programme aimed at improving counter-insurgency and close air support capabilities.

This has seen the introduction of the Embraer/Sierra Nevada A-29 Super Tucano, together with a greater emphasis on rotary-wing platforms.

Nigeria's existing attack helicopter force consists of about four armed Agusta AW109E Power helicopters, five Mi-17/171s and about a dozen Russian-built Mi-24/35 'Hinds'.

Nigerian 'Hind' purchases totalled about 31 aircraft, but attrition has been

Updating: Egypt is upgrading 25 of its 43 surviving AH-64D Apaches to the new AH-64E Apache Guardian standard.

PICTURE: US ARMY

heavy, and some aircraft have been withdrawn from use, while others have been reactivated. The best estimate is that about a dozen are active with the 97th Special Operations Group at Lagos/Murtala Muhammed Air Base.

However, further deliveries may be prevented by the threat of the Countering America's Adversaries Through Sanctions Act (CAATSA), a US federal law that imposes economic sanctions on Russia, Iran, and North Korea.

To complement the aircraft now in service, the Nigerian Air Force is looking for about a dozen new attack helicopters, and is currently understood to be conducting negotiations with Airbus Helicopters, India's Hindustan Aeronautics Limited (HAL), and Turkey's TAI, as the status of a long-planned procurement of Bell AH-1Z attack helicopters remains uncertain.

In 2014, the US Obama administration blocked the sale of older second-hand Israeli Cobras to Nigeria, citing human rights concerns, and charging that Nigeria was not doing enough to avoid civilian casualties in its fight against Boko Haram. There were even suggestions that the sale was blocked in retaliation for Nigeria's

BOOSTS FLEETS

passing of legislation criminalising same-sex relationships.

More recently, Nigeria's interest switched to new-build AH-1Zs. The US State Department informed Congress of an intended \$875 million sale of 12 AH-1Zs to Nigeria in January 2021. This triggered opposition by some members of the US Senate foreign relations committee, citing accusations of human rights violations committed by President Muhammad Buhari's government.

Nigeria's intention to procure the AH-1Z was, however, reiterated during a visit to Abuja by the US Secretary of State, Antony Blinken, in November 2021, though it may be 'on hold' in the US.

This may explain the flurry of reported activity surrounding possible negotiations for the Turkish TAI T129 ATAK, the HAL light combat helicopter (LCH), and with Airbus Helicopters for an attack helicopter capability. ▲

■ Availability and serviceability have been long-running problems for the National Air Force of Angola or FANA (Força Aérea Nacional de Angola), and recent reports suggest that almost a third of the country's combat helicopters are currently unserviceable.

In 2017, it was reported that the FANA was attempting to rebuild its shattered helicopter fleet by buying new and refurbished helicopters from Russia and Italy. However, it seems that serviceability remains a significant problem, and the FANA has reportedly sought solutions from a number of bidders, including the Russian arms export agency, Rosoboronexport, and South Africa's Paramount Group.

The backbone of the FANA helicopter arm is provided by some 66 Mil Mi-8/17/171 'Hip' support helicopters, augmented by about 15 Mil Mi-24/25/35 'Hind' attack helicopters.

The original 'Hips' and 'Hinds' were augmented by a batch of four (or eight, according to some sources) armed Mi-171Sh aircraft delivered to Angola by Russian Helicopters in 2015-2016, as well as a batch of refurbished Mi-24P attack helicopters.

The FANA also has about nine surviving Bell 212s, and 21 Alouette IIIs (some of them Romanian-built IAR 316s), and two more recently acquired AgustaWestland AW109E Powers (with four more on order) and four AgustaWestland AW139s. ▲



Super modernisation: South Africa's Paramount and Georgia's TAM Management (TAMM) offer overhauls and modernisation packages for the Mi-8 and Mi-17 under the designation Super 8 or Super 17, respectively. PICTURE: PARAMOUNT GROUP

The air force's SA342M Gazelles, SA 315B Lamas, SA-365M, AS-565AA, and AS-565UA Dauphins and Panthers have now almost certainly been permanently withdrawn from use.

Rosoboronexport is an obvious fit for providing upgrades and MRO services for Russian-built helicopters, but Paramount also has a very high level of experience and expertise. Historically the group upgraded Algerian Mi-24s to the advanced SuperHind configuration, and has years of experience supporting the 'Hip' and 'Hind'.

The company now offers Mil Mi-17 and Mi-24 composite main rotor and tail rotor blades as fully compatible replacements for the original metallic blades, and is promoting advanced upgrade configurations for both types. ▲

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PICTURE: AIRBUS HELICOPTERS

Morocco turns to Super power

The Royal Moroccan Air Force (RMAF) is reportedly negotiating with Airbus for the supply of around eight H225M Caracal helicopters. **Angie Bee reports.**

The H225M (originally designated as the EC725) was developed from the Eurocopter AS532 Cougar to meet a French Air Force requirement for a specialist combat search-and-rescue helicopter with more powerful engines, a five-blade composite main rotor, greater flight endurance and improved durability.

It is the most advanced member of Airbus Helicopters' military Super Puma/Cougar family and has achieved significant export success, as well as proving its reliability, versatility and operational effectiveness under combat

conditions, flying in the tactical transport, special operations support, medical evacuation and combat search-and-rescue roles.

The H225M has been delivered to Brazil, Indonesia, Kuwait, Malaysia, Mexico, Singapore, Thailand, Tanzania and the UAE, and ordered by Hungary and Kazakhstan.

Designed from the ground up for survivability, its airframe has reinforced structural main frames and is equipped with a high energy-absorbing landing gear.

The aircraft is also equipped with self-sealing and crashworthy fuel tanks, while the rotor blades are designed for a high degree of ballistic resistance.

Additional protection is provided by energy-absorbing armoured crew seats, and there is provision for armour plating in the floors and walls.

The H225M is equipped with radar and laser warning receivers, a missile approach warning system, and chaff/flare dispensers. The engine exhausts can be fitted with infrared suppressors, and the intakes incorporate protection against sand and ice ingestion.

Like the smaller H160M, H145M and H125M, the H225M can also be equipped with the Airbus HForce, modular armament system.

The RMAF helicopter fleet presently consists of three heavy-lift Boeing Vertol CH-47D Chinooks, 26 SA330 Pumas, five Bell 205s, three Bell 212s, and a single Bell 206. The Bell types are the survivors of 48 Bell 205s, 24 Bell 206Bs and five Bell 212s, and were originally licence-built by Agusta-Bell in Italy.

To replace many of these, Morocco is reportedly considering the purchase of 24-36 Bell 412 EPI helicopters.

The Bell 412 EPI is the latest and most capable variant of the Huey family. Introduced in 2013, it features a PT6T-9 twin pac engine upgrade with a digital electronic engine control system, and is fitted with a glass cockpit display system similar to that used by the Bell 429, including a Garmin touchscreen navigation system.

The aircraft is fitted with the distinctive BLR strake and fast fin upgrades for improved hover performance in hot and high conditions, and has a dual digital automatic flight control system.

It has already been ordered by the Moroccan Navy. Three are due for delivery, with AESA radar, forward-looking infrared (FLIR) and sonar. ▲

SAF JUMPS ABOARD THE STARLITE EXPRESS

France-based SAF group (French Air Service) has acquired South Africa's Starlite Aviation.

Vincent Chappard spoke to **Tristan Serretta**, CEO of SAF Aerogroup, about opportunities in Africa.

Last year SAF group recorded significant growth, including the acquisition of Starlite Aviation and the setting up of a new entity, SAF Aerogroup.

For Tristan Serretta, SAF and Starlite Aviation share the same DNA – rescue and protection as well as a total commitment to their mission in partnership with international organisations or nations.

"Our teams have known each other for a long time and show mutual respect," said Serretta.

SAF Aerogroup will provide multiple offers and new services to African customers. It operates in France (also in Reunion Island through the acquisition of Héliagon), Ireland, Belgium, Mali, Niger and now in South Africa.

According to Serretta, Africa needs to respond to various challenges, including economic growth while monitoring national resources, security issues, and global warming.

"SAF Aerogroup wants to be in the

best position to meet these challenges. We, therefore, need to develop African skills in aeronautics and helicopter sectors," he said. "We wish to forge partnerships with private or public African contractors to deploy health or parapublic capacities. Several projects are currently under discussion."

□□□□□

He added that this exponential growth was a source of satisfaction but offered a word of caution by calling for due diligence in terms of organisational choices or identity. The group has, thus, decided to keep the brand of its operators like SAF, Héliagon and Starlite Aviation.

SAF Aerogroup will pursue the external growth of its operations and the diversification of its activities. Serretta wants to carry out his business plan without diverting from the group's core values of safety, respecting people and commitments, and solidarity. ▲



Exponential growth: SAF group is looking for more opportunities throughout Africa. PICTURE: SAF

SOMMAIRE

VERS UN RENOUVELLEMENT DE LA FLOTTE DU MAROC?

L'Armée de l'air royale marocaine (RMAF) serait en négociation avec Airbus pour la livraison d'environ huit hélicoptères H225M Caracal. Un reportage d'Angie Bee.

Le H225M a été développé à partir de l'AS532 Cougar pour répondre aux demandes de l'Armée de l'air française et pour disposer également d'un hélicoptère dédié à la recherche et au sauvetage au combat.

C'est l'hélicoptère militaire le plus en pointe de la famille Super Puma/Cougar d'Airbus Helicopters. Il a remporté d'énormes succès à l'exportation. Le H225M a été livré au Brésil, à l'Indonésie, au Koweït, à la Malaisie, au Mexique, à Singapour, à la Thaïlande, au Tanzanie et aux Émirats arabes unis. La Hongrie et le Kazakhstan ont commandé des exemplaires. À l'instar des versions H160M, H145M et H125M, le H225M peut également être équipé du

système d'arme modulaire HForce d'Airbus Helicopters.

La flotte d'hélicoptères de la RMAF se compose à ce jour de trois Boeing Vertol CH-47D Chinook, de 26 Puma SA330, de cinq Bell 205, de trois Bell 212 et d'un Bell 206. Ses hélicoptères Bell sont issus de 48 Bell 205, 24 Bell 206B et cinq Bell 212. Ils ont été produits sous licence par Agusta-Bell en Italie.

Le Maroc envisagerait l'achat de 24 à 36 hélicoptères Bell 412 EPI pour renouveler sa flotte. La version Bell 412 EPI est la plus récente et la plus performante de la famille d'hélicoptères Huey. Il a déjà été commandé par la Marine marocaine. Trois exemplaires devraient être livrés. ▲

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In big demand: Tokkie Botes and his JetRanger.

PICTURE: FFFSA.

WILDLIFE RANGER

Helicopters are being used to fight both poaching and car hijacking in South Africa. **Guy Leitch** reports.

Tokkie Botes is passionate about both his Bell JetRanger and rhino conservation.

As the founder and driving force behind non-profit organisation, Flying For Freedom SA (FFFS), Botes has donated more than 1,000 hours of flying in his Bell 206 to the service of conservation in southern Africa.

He and his crew use the aircraft as a very effective tool in the ongoing war against the ravages of rhino poaching.

There is an insatiable demand for rhino horn as its value – \$70,000 per kilogram – is greater than for cocaine.

Botes makes his helicopter available at a moment's notice to assist ground forces in capturing poachers, who have been known to turn their rifles on approaching aircraft.

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Flying For Freedom also assists by ferrying veterinarians to snared animals; conducting aerial surveys of vultures; and defending the habitat of the nocturnal riverine rabbit, the most endangered mammal in South Africa.

It is not a glamorous wildlife job, especially as they frequently have to collect forensic evidence from carcasses. Botes said: "We find rhino carcasses from the air and then land and start work. It's a tough job, especially when animals are in an advanced stage of decay; the insects and the smell can be extremely unpleasant. But somebody has to do it and, hopefully, arrests will follow."

Such is the demand for his services that Botes patrols almost daily looking for signs of poachers, delivering vets to wounded animals, and sometimes flying

orphaned rhinos calves to safety.

He and his wife, Marina, manage to pay a large part of the huge operating costs of his service to conservation with the support of Skuurpoort Verspreiders, the fuel distribution company they own.

Botes believes his Bell JetRanger206 is ideally suited to the demanding flying of conservation work. He particularly recommends the Van Horn tail rotor blades he fitted. He said: "They make the helicopter much more manoeuvrable, so it feels like an old car that got power steering."

Botes is approved by the South African Parks Board to fly his helicopter throughout Kruger National Park to assist anti-poaching operations. He has been awarded the SANParks Kudu Award as the pilot and founder of FFFSA for his commitment to anti-poaching and environmental crime investigations in the park.

Meanwhile, George Tonking flies a Robinson R44 for a security company in a specialist role hunting for hijacked cars from the air.

Like Botes, Tonking must be on standby to be airborne in a moment's notice when the tracking device in a stolen car is activated.

"Contrary to Hollywood chopper chases, it is practically impossible to apprehend vehicles from the air, considering the risk of overhead lines, buildings, and other such obstacles," he revealed, adding: "This is where teamwork comes in. A ground team nearly always apprehends the suspects; our job is to spot the target and to follow any possible runners."

It's demanding flying in the high-density altitude of the South African

highveld, often with a burly policeman or two in the passenger seats.

The piston helicopter's performance limitations must always be kept in mind, as must fuel endurance. But, despite these considerations, both the piston-engine-powered R44 and the turbine R66 have been remarkably effective in crime-fighting.

Private security companies have embraced the Robinson helicopters for their low operating costs and reliability. Their success led the South African Police Service (SAPS) to relax its twin turbine engine requirement and purchase six R44 helicopters through National Airways, based at Lanseria Airport, outside Johannesburg.

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Each SAPS R44 helicopter is fitted with a forward-looking infrared (FLIR) Ultra 8000 thermal imaging system, a 15-20 million candlepower Spectrolab SX5 searchlight, moving map technology, and other essential law enforcement equipment.

The R44s provide police commanders with better situational awareness and, with the FLIR Ultra 8000 systems, the SAPS can expand their dusk-to-dawn operations and observe situations otherwise not visible at night. Moving map technology improves police response times by enabling flight crews to direct ground units to locations using the fastest routes.

A standard part of the SAPS pilot's training includes 100 hours in a Robinson R44, making the pilots familiar with the helicopter's flight characteristics and operations.

Their experience allows the SAPS to bring the new helicopters online quickly. ▲



Reliable: The Robinson R44 as used by George Tonking in a specialist role hunting for hijacked cars from the air.

PICTURE: GEORGE TONKING.

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AIRBUS

Juan Carlos Salazar, secretary general of the International Civil Aviation Organization (ICAO), met with regional stakeholders in Nairobi in December to discuss ways to accelerate the recovery of African air connectivity. He talks to **Keith Mwanalushi**.

CART'S TRACK

TASK FORCE STEERS AFRICA ON THE ROUTE TO RECOVERY

The ICAO has long recognised the importance of air connectivity to pan-African mobility, trade, and prosperity.

As a specialised agency of the United Nations, it regulates the principles and techniques of international air navigation, and fosters the planning and development of air transport to ensure safe and orderly growth.

When the Covid-19 pandemic struck, the ICAO council's aviation recovery task force (CART) issued advice designed to assist all member states in aligning their actions and priorities to ensure their systems remained global, even as countries became disconnected by public health-related restrictions.

"Our secretariat quickly responded to the

CART objectives by establishing coordination and monitoring tools for countries to make use of, and wide-ranging actions were taken to alleviate certain global standards temporarily to permit the humanitarian and medical supply flights, which still needed to operate," Salazar recalled.

He said equal attention and importance was given to the implementation of the collaborative arrangement for the prevention and management of public health events in civil aviation (CAPSCA) programme, which had been a useful platform in the successes achieved and lessons learnt from past communicable disease outbreaks on the continent.

Prior to the pandemic, air transport growth was increasing robustly in Africa and,

consequently, the recovery of aviation connectivity is now seen as essential.

Salazar stressed that this will be critical to the successful implementation of the African Continental Free Trade Area and the single African air transport market (SAATM), in addition to the freedom of movement goals set out in the African Union's Agenda 2063 blueprint, which aims to transform the continent into the global powerhouse of the future.

Salazar is aware that countries and airlines are facing significant financial challenges due to operation and business disruptions caused by the Covid mitigation measures.

"Financial stimulus for both aviation operators and regulators is critical at this time, not only here in Africa but all over the world," he said.

"We need to manage this recovery back to normal operations and traffic volumes without any negative impacts on system safety, security, and efficiency, and within a hugely challenging environment where industry, and the regulators who oversee it, face unparalleled economic and personnel hardships."

Salazar explained that the current focus was on the effective implementation of ICAO safety, capacity, efficiency, and security objectives. In addition, oversight systems remained a priority, and there was a need to ensure that African countries were attaining the targets as established in ICAO's global plans.

He said the ICAO was continuing its work in support of the comprehensive regional implementation plan for aviation safety in Africa (AFI plan), the African aviation security and facilitation (AFI SECFAL) plan projects, and activities established under the human resources development fund, which were helping to provide opportunities to the next generations of aviation professionals, managers, and leaders.

"It's critical, in this respect, to ensure attainment of the related Abuja and Windhoek Declaration targets, which were endorsed by the



PICTURE ICAO

▼ We need to manage this recovery back to normal operations and traffic volumes without any negative impacts on system safety, security, and efficiency. ▲

JUAN CARLOS SALAZAR

its council's long-term vision, the Antananarivo Declaration on the sustainable development of air transport in Africa, which ICAO helped to forge many years ago, or several other developments and commitments it has encouraged at regional events and ICAO assemblies.

"While the limited exchange of air traffic rights poses persisting challenges to connectivity here, the ability of aircraft to move more freely means little when passengers are obstructed by restrictive visa regimes, or when freight movements are being stymied by tariffs and trade barriers," Salazar stressed.

He also highlighted the issue of proliferating taxes and levies on aviation operations in many countries, despite the clear evidence that such approaches bring about a negative long-term impact for both operators and governments.

"This underscores why stable economic policies and air regulatory regimes need to be enabled by African states, and why increased air connectivity and liberalisation in Africa must be supported by a strategic vision of aligned national and regional policies, which fully encompass synergistic domains and policies for tourism, customs, immigration, economic planning, and trade and investment," he said.

Looking ahead to a post-Covid era, a key vision for Salazar and ICAO is to make the entire sector more resilient to future pandemic threats.

"Innovation, whether in terms of standards, technologies, procedures, or management approaches, will be an essential component of the solutions we determine in all of these areas," he said.

Prior to the pandemic, Africa accounted for only about 4% of global air transport services. "This was not equitable by any means from a global standpoint, considering the size and population of the continent, and post-pandemic we need to work better together to assure access to the benefits of air connectivity for all Africans," concluded Salazar. ▲

SOMMAIRE

ACCÉLÉRER LA CONNECTIVITÉ AÉRIENNE EN AFRIQUE

Juan Carlos Salazar, secrétaire général de l'Organisation de l'aviation civile internationale (OACI), a rencontré les parties prenantes régionales à Nairobi en décembre dernier pour discuter des moyens d'accélérer la reprise du transport aérien en Afrique. **Keith Mwanalushi** l'a rencontré.

Dès le début de la pandémie du Covid-19, le groupe de travail sur la reprise de l'aviation (CART) du conseil de l'OACI a publié des conseils pour aider les États membres à aligner leurs actions et leurs priorités pour garantir un système international, même si ces derniers étaient déconnectés en raison des restrictions sanitaires.

L'organisation a également veillé au déploiement du programme CAPSCA, une plateforme ayant fait ses preuves quand des maladies transmissibles ont sévi sur le continent précédemment.

Avant la pandémie, la croissance du transport aérien était en forte hausse en Afrique et, par conséquent, la reprise de la connectivité aérienne est considérée comme essentielle.

Juan Carlos Salazar souligne qu'il faut une mise en œuvre réussie de la zone de libre-échange continentale africaine et du SAATM soutenus fortement par l'OACI. Il déplore toutefois un processus douloureusement lent.

« Alors que l'échange limité des droits de trafic aérien pose des défis persistants à la connectivité, la capacité des avions à se déplacer plus librement

signifie peu lorsque les passagers sont gênés par des régimes de visas restrictifs, ou lorsque les mouvements de fret sont bloqués par les tarifs et les barrières commerciales », souligne-t-il.

Il est essentiel selon lui d'appliquer efficacement les objectifs en matière de sûreté, de capacité, d'efficacité et de sécurité de l'OACI malgré un environnement extrêmement difficile où l'industrie et les régulateurs sont confrontés à des difficultés économiques et humaines sans précédent.

L'organisation poursuit ses efforts pour soutenir le plan AFI, les projets du plan AFI SECFAL, les activités établies dans le cadre du fonds de développement des ressources humaines de même que les organisations régionales africaines comme la RSOO et la RAO.

Il a également souligné la question de la prolifération des taxes et des prélèvements sur les opérations aériennes dans de nombreux pays ainsi que la nécessité de travailler ensemble et d'inclure l'innovation et la technologie dans les stratégies de développement. ▲

Newly appointed Minister of Industry and Commerce, Ryad Mezzour, met representatives of the Group of Aeronautics and Space Industries of Morocco (GIMAS) to give new impetus to the sector. **Vincent Chappard** reports.

Morocco coiled and ready to spring back

Morocco’s aerospace industry and its supply chain are struggling hard to show resilience and responsiveness to the Covid-19 crisis. The Omicron variant once again brought air transport to a standstill from December 2021 to January 2022.

In the wake of the virus, the new minister held a meeting with industry representatives at the headquarters of the Institute of Aeronautical Trades (IMA) to discuss future development.

More than 140 companies have been established within the kingdom’s aerospace industry over the last 20 years, employing around 18,000 highly skilled workers.

But the aerospace ecosystem, which had been spearheading national growth prior to the pandemic, has been going through a crisis for the last two years.

According to Karim Cheikh, president of GIMAS, aviation activity has fallen by around 29% in Morocco compared to 50% worldwide. Job cuts remained limited to 10% (around 1,500 personnel) against 40% worldwide.

Now, however, the recovery prospects, well before 2023, are becoming clearer and more realistic.

“Morocco has kept all of its production sites operational and has made significant investments, despite the difficult context,” said the minister, who also stressed the importance of further developing R&D, engineering and collaborative programmes with universities and research centres.

“This sector has the capacity to double the number of jobs and its export capacity in the next two years.”

Despite the pandemic, since last year many aerospace groups have been strengthening their presence and activities in Morocco, which is constantly enhancing the attractiveness of its aerospace industry through investment incentives.

▼ The Moroccan aeronautical platform must position itself and be present today and tomorrow. ▲
Karim Cheikh

For example, KEP Technologies has set up in the Midparc aeronautical zone of Casablanca with four core activities – design and manufacture of metal assemblies, materials characterisation, industrial control, and radioactivity metrology.

According to CEO, Sandra Schindler, KEP Technologies plans to increase its production capacity and diversify its products in the aerospace, rail, and renewable energy sectors.

American company, Hexcel, will also double the surface area of its site in Casablanca at the start of 2023. Its workforce is expected to increase from 120 to more than 400.

Hexcel president, Thierry Merlot, has confirmed his company’s decision to continue its investment in Morocco alongside many players such as Stelia Aerospace, Safran and Spirit AeroSystems. The availability of a skilled workforce, state support, and proximity to customers guided Hexel’s thinking.



Furthermore, last year Pilatus signed a contract for the assembly of PC-12 aerostructures at Sabca’s facility in Morocco. The first fuselage and wing structure will be assembled at its new facility in Casablanca.

The first delivery to the final assembly line in Stans (Switzerland) is expected by the end of this year.

Sabca has also announced an investment of more than €17 million (\$19.35m) to build a new 16,000sqm facility, which will house the PC-12 aerostructure assembly line near Nouaceur. A close collaboration has been established with the IMA to train local skills for the PC-12 programme.

The Moroccan aeronautical platform remains attractive, competitive and recognised.

Cheikh said the sector is facing a technological evolution, which will help determine its future. “The Moroccan aeronautical platform must position itself and be present today and tomorrow,” he said.

Several technological programmes have been launched for zero emission aircraft, as well as hybrid and hydrogen propulsion. “We are working on these technological breakthroughs to be present on D-day in these areas,” said Cheikh.

GIMAS is relying on the decarbonisation of its activities, the evolution towards Industry 4.0 through advanced technologies, and research & development (R&D).

After the production of parts, sub-assembly, and the assembly of infrastructure, Mezzour estimates that, shortly, Morocco will have the capacity to undertake the final assembly of an aircraft.

Morocco has set itself a timeline of two years to achieve this goal. ▲

PICTURE: GIMAS

While African airports rely heavily on aviation charges and fees as their primary sources of income, new investment in travel retail and duty-free concessions is paving the way for growth in the sector. **Chloe Greenbank** reports.



Opportunity: Lagardère, alongside Bevco Limited, was awarded a concession at Julius Nyerere International Airport in Dar es Salaam in February. PICTURE: LAGARDÈRE.

GOOD PROSPECTS IN STORE FOR AFRICA’S TRAVEL RETAIL SECTOR...

According to a report by TR Business, retail concessions at Africa’s airports in 2019 accounted for 37% of total non-aeronautical revenue, outperforming the global average of 26.4%.

In December 2021, Lagardère Travel Retail opened an Aelia duty free store at Banjul Airport in The Gambia. The travel retail specialist also unveiled its new duty free store and food and beverage concept – Kepar Café – at Nouakchott-Oumtounsy International Airport in Mauritania.

Lagardère, alongside Bevco Limited, was also awarded a concession at Julius Nyerere International Airport in Dar es Salaam in February this year. The agreement, which was awarded by the Tanzanian Airports Authority, includes a concession to operate two duty free stores in the airport’s recently opened Terminal 3.

Frédéric Chevalier, COO EMEA at Lagardère Travel Retail, revealed his company has “significant growth ambitions” for its operations on the African continent.

Meanwhile, at Zanzibar Abeid Amani Karume International Airport, Emirates Leisure Retail (ELR)

will partner with Maritime Mercantile International (MMI) as master concessionaire for all food and beverage, duty free, and commercial outlets in Terminal 3.

“The airport has been identified by the government as a key investment and redevelopment pillar to support Zanzibar’s growing travel and tourism economy,” said Andrew Day, group CEO of ELR and MMI.

“As a key destination for international travellers, it is our ambition to contribute to shaping a long-term legacy for Zanzibar by creating an innovative, seamless and dynamic travel retail environment.”

While Zanzibar represents ELR’s first significant expansion into Africa, the company plans to build on this in the future.

“Every market has its own challenges and opportunities and the African market is one that particularly excites us,” Day said. “Many governments are keen to encourage the travel and tourism sector across the continent and the key challenge will be in developing solutions that best fit with the nuances of each country.” ▲



PICTURE: RAVINALA AIRPORTS

MADAGASCAR UNVEILS NEW AIRPORT TERMINAL

The Covid-delayed official opening of the new terminal at the Madagascar capital’s Ivato International Airport has been achieved. All regional and international flights have now transferred to the new 17,500sqm facility, which can accommodate up to 1.5 million passengers a year.

The airport, near the capital of Antananarivo, has been

operated by Ravinala Airports since 2016 and the building work focused on the construction of a new international terminal; the redevelopment of the old international terminal to handle domestic flights; the conversion of the old domestic terminal for general and private aviation; and the reinforcement of the runway and taxiways. ▲

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DE BONNES PERSPECTIVES POUR LE TRAVEL RETAIL

Alors que les aéroports africains dépendent fortement des redevances et des taxes aériennes comme principales sources de revenus, de nouveaux investissements dans le « travel retail » et les concessions hors taxes ouvrent la voie à la croissance du secteur.

Selon un rapport de TR Business, les concessions de vente au détail dans les aéroports africains en 2019 représentaient 37 % du total des revenus non aéronautiques, dépassant la moyenne mondiale de 26,4 %.

Depuis décembre 2021, Lagardère Travel Retail est présente à l’aéroport de Banjul en Gambie et à l’aéroport international de Nouakchott-Oumtounsy en Mauritanie.

Lagardère, aux côtés de Bevco Limited, a également obtenu une concession à l’aéroport international Julius Nyerere de Dar es Salaam en février.

Emirates Leisure Retail (ELR) lancera un projet au terminal 3 de l’aéroport international Abeid Amani Karume du Zanzibar en s’associant à Maritime Mercantile International (MMI) en tant que concessionnaire principal.

NOUVEAU TERMINAL

L’inauguration officielle du nouveau terminal de l’aéroport international de la capitale malgache a été retardée en raison de la pandémie du Covid-19. C’est aujourd’hui chose faite ! L’ensemble des vols régionaux et internationaux y sont désormais transférés. Il peut accueillir jusqu’à 1,5 million de passagers par an.

Depuis 2016, l’aéroport est exploité par la société concessionnaire Ravinala Airports. Les travaux se sont focalisés sur la construction d’un nouveau terminal international, le réaménagement de l’ancien terminal international en domestique et du terminal domestique pour l’aviation générale ou l’aviation privée, ainsi que le renforcement de la piste et du tarmac. ▲

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THE DELAIR FORCE

French uncrewed air vehicle (UAV) manufacturer, Delair, has become a household name in Africa following a string of successful sales in the past decade.

Erwan de Cherisey reports.

Delair's DT26 has found favour with several militaries and security forces in western and northern Africa over the past few years – notably the Burkina Faso Army and the Niger National Guard.

Despite the challenges presented by the Covid-19 epidemic, Delair also managed to add Morocco and Côte d'Ivoire to its customer portfolio in 2021.

The Moroccan deal covered the supply of seven DT26E UAV systems to the Royal Moroccan Gendarmerie, each comprised of one control station and two aircraft.

The French ministries of the armed forces, interior, and foreign affairs funded the purchase as part of an effort to strengthen Moroccan capabilities to counter the smuggling of illicit goods and drugs, as well as illegal immigration.

The Ministry of Foreign Affairs Defence Cooperation Directorate (DCSD) was tasked with leading the project on the French side, including selecting the provider and procuring the UAVs for Morocco.

The DT26E is the latest variant of Delair's highly successful DT26 series and features several enhancements including a lighter weight, increased endurance, a new sensor suite and new electric systems similar to those of the smaller UX11.

The drone has an endurance of up to 170



Popular: The DT26, seen here in Niger, has now been acquired by Morocco and Côte d'Ivoire.

PICTURE: DCSD.

minutes, a range of 50km and can be fitted with a gyro stabilised electro-optic/infrared (EO/IR) high-definition video camera. The footage from the sensors is relayed in real time to the ground control station, allowing optimum situation awareness.

The Moroccan contract was finalised in the first half of 2021 and was followed by an extensive testing phase, during which the aircraft was trialled to confirm its ability to operate in mountainous and closed environments under severe wind conditions.

Deliveries were completed in the last quarter of the year.

The ambitious delivery tempo was driven by a gendarmerie desire to reach operational capability with the new UAVs as quickly as possible.

The contract also included the training of operators, as well as maintenance personnel, with two sessions taking place throughout 2021.

Significant sustainment and maintenance support is also being provided by Delair.

The quick delivery and training allowed the gendarmerie to start flying operational sorties in the third quarter of 2021, with the aircraft proving satisfactory and performing well in adverse conditions.

Aside from the DT26s, the gendarmerie is also known to be

KENYA POWERS ON WITH MORE DRONE USE

Kenya Power (KPLC) has announced its intention to procure uncrewed air vehicles (UAVs) to inspect its power plants and high-voltage powerlines.

The company explained: "The services to be offered will include inspection of power lines and substations, vegetation management, corridor mapping, digital terrain modelling, and line construction."

The plan was first mooted in 2018 as part of the 'last mile' connectivity project, which was intended to ensure universal access to power for 100% of Kenya's population by 2020.

Kenya Power believes the use of a UAV platform will have a great impact on the company's business, reducing labour costs and improving response times for consumers in distress. It hopes that this will reduce the number of blackouts that presently cost the company billions of shillings a year.

The drones will be used in conjunction with the company's existing helicopter, a Bell 407, which will continue to perform aerial repairs and inspect the most critical infrastructure.

The new UAVs are able to fly extremely close to power lines, providing high-resolution images and pinpointing birds' nests, lightning strikes, corrosion and damaged bolts.

Kenya Power managing director, Jared Othieno, said: "Our use of UAVs will further prepare the company's utility business for the future and will result in lower energy costs and a better customer experience."

Kenya Power will join Kenya Electric Generating Company (KenGen), which has acquired two UAVs to inspect the plants at its Olkaria geothermal fields in Naivasha.

The Kenya Forest Service (KFS) is also planning to use drones to monitor deforestation as thousands of hectares disappear each year in some of the most biodiverse forests in the country.

UAV usage in Kenya is likely to increase further, following the removal of legal hurdles. The Kenyan aviation regulator confirmed that it had issued around 200 licences to UAV pilots during the last three months of 2021.

JON LAKE ▲

Continued
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flying small multirotor UAVs, which are primarily used in urban environments.

Côte d'Ivoire, meanwhile, has selected Delair to provide it with its first fixed-wing UAVs in nearly 20 years.

Indeed, in 2004, two Aeronautics Aerostar tactical UAVs were received by the Ivorian Air Force and used in air surveillance and reconnaissance missions against the Forces Nouvelles (new forces) combatants in the north of the country. However, following the Ivorian air strikes against the French military base of Bouaké, the French Armed Forces effectively destroyed or damaged most of the Ivorian Air Force's inventory, including the two Aerostars. Four DT26E systems, each with one control station and two aircraft, were ordered in the second quarter of 2021 and delivered at the end of the year. Two types of payloads were also supplied: an EO/IR gimbaled turret and an electronic intelligence sensor.

Training for operators and maintenance technicians took place in-country in January.

▼ The DT26Es are likely to be used to conduct road reconnaissance and pinpoint potential ambushes, and improvised explosive device sites. ▲

The aircraft are to be used by the Ivorian Army for surveillance and reconnaissance and will be deployed in the north, along the border with Mali and Burkina Faso.

There are growing concerns that armed terrorist groups active in both countries are trying to infiltrate into Côte d'Ivoire. Several attacks took place in 2020 and 2021, which resulted in the death of Ivorian Army and gendarmerie troops.

The DT26Es are likely to be used to conduct road reconnaissance and pinpoint potential ambushes, and improvised explosive device sites, ahead of the movement of Côte d'Ivoire troops, as well as to monitor known border crossings and the surroundings of military bases and critical infrastructure.

These recent sales are likely to lead to further exports of the DT26E throughout Africa, particularly across countries in the Sahel and the Gulf of Guinea, which are seeking to strengthen surveillance and intelligence-gathering capabilities to counter the expanding range of asymmetric threats facing them. ▲



Eye in the sky: The Seychelles Fishing Authority is using DJI Mavic Enterprise drones, like this one, to monitor illegal fishing in the archipelago. PICTURE: WIKIMEDIA COMMONS.

ISLANDS CAST DRONES TO HOOK THE FISHING CHEATS

Drone operations are now under way in the Seychelles helping to clamp down on illegal fishing activities. **Alan Dron reports.**

Africa is fast becoming a laboratory for the novel use of uncrewed aerial vehicles (UAVs). Already, drones, are being used to drop vital medical supplies in several African nations where surface transport infrastructure is poor, or to track endangered wildlife.

Now, the Seychelles is using the vehicles in the Indian Ocean to stop illegal, unreported and unregulated fishing (IUU) in the archipelago's huge 1.4 million sqkm exclusive economic zone (EEZ).

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Declining fish stocks have been a problem for the islands' fishermen for decades. The size of the nation's EEZ and its limited resources of just a few coastguard vessels and patrol aircraft mean that it has been a struggle to clamp down on IUU.

In mid-2021, the Seychelles Fishing Authority (SFA) bought two DJI Mavic Enterprise drones for the modest cost of less than SCR100,000 (\$7,000) to provide additional surveillance of the islands' waters.

The small UAVs have several advantages. They are easy to move, can be deployed quickly, and increase the reach and coverage of surveillance activities.

Johnny Louys, manager of the SFA's monitoring, control and surveillance section, said: "Up to now, most deployments have been from land, as our staff have not been trained yet on at-sea deployment." His officers have been coached by the country's air arm.

It had initially been hoped to have the drones operational by late 2020, but importation of the aircraft was delayed due to the initial wave of the Covid-19 pandemic, which also affected training schedules.

"Given that most of the programme has been slow due to Covid delays, it is premature to measure the impact the drones have had," said Louys. "We have, however, increased the amount of intelligence collected, which has ultimately informed our risk assessment process for deployment planning, with minimum cost. Some intel is also shared with other agencies as necessary," he concluded. ▲

Botswana, Malawi and Zambia are some of the few countries in the world which still regulate the price of aviation fuel. This has led to a fuel supply monopoly, which raises concerns that the sole supplier may be taking advantage of its position to overcharge – and perhaps under-supply. **Guy Leitch reports.**

Why playing monopoly can be good for aviation fuel prices

Before 2012, the supply of aviation fuel in many of the landlocked southern African states was largely left to the free market.

However, the market failed in 2012 when a perfect storm hit aviation fuel supply across the region. After the economic crisis of 2008, the price of oil had peaked and remained stubbornly high. And then, for southern Africa users, the main fuel pipeline from Durban had been contaminated.

These factors caused a spike in the fuel price and then a 'dry-out' at the pumps.

There was an outcry from the aviation industry and a number of governments, notably Botswana, Zambia and Malawi, (as well as India,) decided to regulate the supply and price of JetA and Avgas.

The result of regulation was that, for aviation fuel supply in these countries, a sole supplier, Puma Energy, was appointed, creating a monopoly.

Under the Puma deal there were complaints that the price of fuel was too high and that there was little incentive to invest in fuel supply infrastructure at remote airports, thus constraining the growth of aviation. Further, since 2012, the fuel markets have been more stable with no interruptions in supply, causing many to question the justification for a monopoly.

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Most countries regulating JetA supply have adopted a fixed price approach. However, evidence, particularly from India, shows that this increases the opportunities for government to extract revenue from levies and taxes. And, notably, Africa already has one of the most heavily taxed airline industries in the world.

Numerous studies, including by organisations such as the International Air Transport Association (IATA), have shown that a healthy African airline industry is essential for the growth of the continent's economies. However, high input costs limit air connectivity, which, in turn, inhibits trade in low-weight, high-value goods, as well as vital tourism and investment.

Many users called for aviation fuel supply to be de-regulated by opening it up to other suppliers. It was expected that a more open market would reduce prices by removing the opportunity for predatory pricing.

A formal study was commissioned to examine the effectiveness of the regulation to protect consumers. This assessed the regulations' effectiveness in controlling windfall profits and monopoly pricing.

In a finding that surprised many critics, the study found that the regulations actually benefited the consumers in that they protected them against opportunistic monopoly pricing. This was achieved by the regulator having a fuel cost

▼ It became apparent that the positive impacts of fuel price regulation outweighed the claimed negatives. ▲

'slate', which controls the profit margins of the supply chain by setting a maximum price 'ceiling' that they could charge, and then compensating for over or under-recovery.

The study also found that, before regulation, the airline industry had been harmed by the volatile fuel price and disruption of supply. However, after regulation, the industry had shown steady growth – up to the Covid-19 pandemic. The monopoly had not, therefore, provably inhibited economic growth.

It became apparent that the positive impacts of fuel price regulation – reduction in the high risk of predatory pricing, providing consumer protection, and stabilisation of the supply and retail price – outweighed the claimed negatives, which included an inflexible approach in price determination, a lack of transparency in deriving the fuel price 'slate', and a failure to reduce the barriers to entry.

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It was evident that deregulation would only be possible if more than one supplier could be attracted. This was, however, unlikely as the volumes were too small to justify the required investment by a second supplier in storage tanks and pumps, especially in remote locations.

Alternatively, it was proposed that the state should own the pumps and storage facilities at its airports and allow more than one fuel reseller to use the facilities. The fuel storage tanks and pumps are currently all owned by Puma Energy, which would be unlikely to share the facilities with other fuel retailers.

Given the low volumes and large distances involved in trucking fuel to these airports, plus the considerable cost of duplicating the tank and pump infrastructure, it was concluded that maintaining the monopoly was the best way to continue. ▲



Out on its own: Puma Energy has a monopoly on fuel supply in Botswana. PICTURE: PUMA ENERGY.

African aviation had a look-in at the recent MRO Middle East exhibition as deals were announced and post-pandemic plans floated.

Chuck Grieve reports.

Show deals boost travel recovery

Two years of the pandemic have stalled, rather than scuppered, plans for collaborative action to help develop the African MRO industry.

Mansoor Janahi, newly appointed chief executive of Abu Dhabi's Sanad Group, confirmed that his organisation remains committed to developing an MRO centre of excellence in Addis Ababa in partnership with Ethiopian Airlines.

He said that discussions "absolutely" would continue when the health situation was favourable. Although Abu Dhabi remains "the centre of the universe" for Sanad, the group sees potential in expanding through such strategic alliances.

Two announcements at the show underlined the determination of major operators to get on top of issues that tend to undermine the confidence of travellers.

Kenya Airways took a step to minimising disruption in the operation of its fleet of nine Boeing 787s by signing up for Boeing's landing gear exchange programme. Under terms of a memorandum of understanding (MoU) signed at the show, Boeing will supply nine landing gear shipsets wherever and whenever Kenya Airways needs them. The Seattle-based original equipment manufacturer (OEM) will also facilitate the loan of shipsets and parts in the event of unexpected aircraft-on-ground (AOG) situations.

A spokesman said the resource pooling programme, in which Ethiopian Airlines is already enrolled, is designed to simplify the contracting, scheduling and management of the landing gear overhaul process.

Evans Kihara, technical director at Kenya Airways, said a benefit of the programme is "bringing the much-desired predictability" to its passengers.

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Meanwhile, Embraer used the show to announce a comprehensive long-term services agreement with Nigeria's Air Peace, the African launch customer of its E195-E2 medium-range airliner.

The agreement covers Air Peace's E2 and ERJ 145 fleets, and includes access to the Brazilian OEM's component exchange and repair pool programme. The predictive maintenance and optimisation Ahead-Pro software will also be installed on Air Peace's E2s.

The airline has 13 firm orders and 17 options for the E195-E2. Five aircraft were delivered in 2021, with more expected to be delivered this year. The Nigerian carrier also operates eight ERJ 145s.



Mansoor Janahi: Sanad is committed to working with Ethiopian Airlines to create an MRO centre of excellence.

PICTURE: SANAD GROUP.



Yousef Wahby: EgyptAir is reaching out to help west Africa overcome its MRO problems.

PICTURE: AFRICAN AEROSPACE.

What was not announced at MRO Middle East was potentially more significant than what was.

Fraser Currie, chief executive of Joramco, told *African Aerospace* that his company was helping a start-up in Ghana develop MRO capabilities through the established Joramco academy in Amman, Jordan.

"We're going to provide all their training," he said. "Initially they will send students to us in Amman. Eventually we want to help them establish their own technical training facility in Accra, with us overseeing it from Jordan as the [EASA-approved Part] 147 organisation."

Currie said he would be very receptive if established airlines were interested in similar arrangements.

And Joramco is not alone. EgyptAir Maintenance and Engineering (EGME) is also reaching out to help Africa overcome its MRO problems.

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Nigeria, which had been an option for expansion into west Africa, is "still there" in terms of opportunity, said Engineer Yousef Wahby, sales, marketing and business development director, but his company's focus now is also on Ghana, where EgyptAir support for start-up Ghana Airways includes providing a number of B737-800s.

Wahby said a line maintenance base in Accra started operations in mid-February, serving the EgyptAir aircraft and the Qatar Airways fleet operating at Accra – its first third-party customer at the station.

Pre-Covid, the company had identified 13 airports across the region for line maintenance bases. "Hopefully we'll get back to them," he said.

"We want to go to them in their countries. It will be easier for them. We want to support them in whatever it takes."

Part of the long-term plan in Ghana is to train a qualified domestic workforce. "It will help them and lower the cost to us of sending Egyptians," he concluded. ▲

SENEGAL ACADEMY CAN PLUG SKILLS SHORTAGE

A new civil aviation academy has been launched in Senegal and is about to receive its first intake of students. Vincent Chappard reports.

Some 20 student pilots and 30 aeronautical maintenance technicians will make up the inaugural intake for the new Academy of Civil Aviation Professions (AIMAC).

The academy is being run by Air Senegal in collaboration with the air force and Blaise Diagne International Airport (AIBD).

Senegal President, Macky Sall, welcomed the new students at a ceremony in Dakar to mark the delivery of Air Senegal's first A220. He described it as "an excellent initiative to pool resources".

"They [the students] have all the potential to carry out the challenging tasks of civil aviation," he added.

The academy, which will integrate with the Air Force School, will respond to Air Senegal's need for pilots, engineers, and maintenance technicians, and is part of the emerging Senegal plan (PSE).



All set to start: Macky Sall welcomes the students of the new training academy.

PICTURE: PAPA MATAR DIOP PRÉSIDENCE.

Air Senegal CEO, Ibrahima Kane, said: "The objective of this partnership between the Air Force School and Air Senegal is to lay the foundations of the Senegal hub with the youth of the country."

Air Senegal and AIBD had signed an agreement in early 2021 for the creation of an MRO shop, which will be an essential component of the development of the Dakar hub.

The maintenance centre will accommodate aircraft from the Airbus family (A320, A330 and A340), Boeing 737s and engines (CFM56 and Trent 7000).

It aims for European Aviation Safety Agency (EASA) and Federal Aviation Administration (FAA) certification, and will not only answer to the needs of the national airline but also regional and international demands. Construction work will be completed in 2023. ▲

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▲ ALL IN A DAY

Jean Rossouw

Marcelle Nethersole

speaks to the executive chairman and president of the Test Flying Academy of South Africa (TFASA).

Can you tell me about TFASA?

TFASA was created in 2003 as a South African company, which could freely deal with foreign companies without unnecessary restrictions.

It benefits from being commercially independent and politically neutral, which enables us to provide our customers with tailored solutions.

Our capabilities include high-quality training, support, development, and operational solutions across all aircraft disciplines, as well as specialist consultancy services.

In 2003, TFASA presented the first helicopter test pilot course to a group of Chinese pilots at Cape Town International Airport. The following year, it expanded its services to China by presenting specialised test pilot and flight-test engineer courses, as well as flight-test consultation on many key projects inside China.

TFASA is a corporate member of the Society for Experimental Test Pilots (SETP) and also offers military pilot training from ab-initio to advanced tactical training for both fixed-wing and rotary-wing aircraft.

We have formed many associate companies, which provide a strong support system. One is the Avic-International Flight Training Academy (AIFA) with TFASA being a 30% shareholder. It is the biggest flight training academy in Africa with 260 students annually.

TFASA is also contracted by the South African Civil Aviation Authority (SACAA) to be its flight-test capability operator and to provide test pilot and flight-test engineering services.

How does TFASA stand out from other training companies?

Due to the specialised nature of our courses, especially the test pilot courses, which typically run for 9-12 months, all test pilot schools present these at their own facilities on a yearly fixed schedule and fixed syllabus.

We are happy to deliver these courses when it suits the client and can run them at our own facility or at the customer's base.

We tailor the courses to exactly meet the needs of

our various customers because, at TFASA, we do not believe in a one-size-fits-all approach.

TFASA also specialises in providing courses to students whose first language is not English and we have developed very good techniques to successfully deal with this problem, both in the aircraft and in lectures.

From where do you attract students?

Although we source students worldwide, the bulk are from the Far East, with China being the biggest customer. Our cooperation with DAS Aviation Services will see air traffic control (ATC) students also from Africa.

From our perspective, the market for pilots and ATCs in Africa will grow quickly as Covid subsides.



Are there any major challenges?

Our biggest challenges at the moment are driven by the Covid policies of our customer countries. These include exceptionally long quarantine periods, very difficult entry requirements, and also a reluctance to send students to South Africa due to Covid fears. Unfortunately these problems will only subside when the Covid restrictions relax.

Ultimately, our people determine the success of our business and I am thankful to have a highly motivated, professional leadership and operational team in place.

My CEO, Jurie van Wyngaard, supports me by overseeing the day-to-day company matters and adapting strategy to fit our dynamic circumstances so that we always stay on top of our game. For the South African operation, the same can be said for the general manager, Willem Marais.

What is next for TFASA?

TFASA is expanding into the Middle East and Africa. Out-of-region European Aviation Safety Agency (EASA) accreditation for the test pilot courses is also in process, as well as setting up a joint training academy in Italy with an Italian partner for test pilot and commercial pilot training.

What is your typical day?

Very few of my days are 'typical', as dealing with our unique projects and programmes are sure to spice up every day in a different flavour, with a six-hour time difference thrown in.

As president of the company I will typically deal with the corresponding position within our clients, discussing high-level problems and new opportunities, leading to the early contractual discussions.

I am an ex-South African Air Force pilot and still maintain my commercial pilot's licence and flying currency. I am also a graduate electronics engineer, flight-test engineer and a class 2 test pilot. The best toy to unwind with is my Extra 300 aerobatic aeroplane.

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- Business aviation operators
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- The ability to have peer to peer conversations
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MENTAL HEALTH IN AVIATION

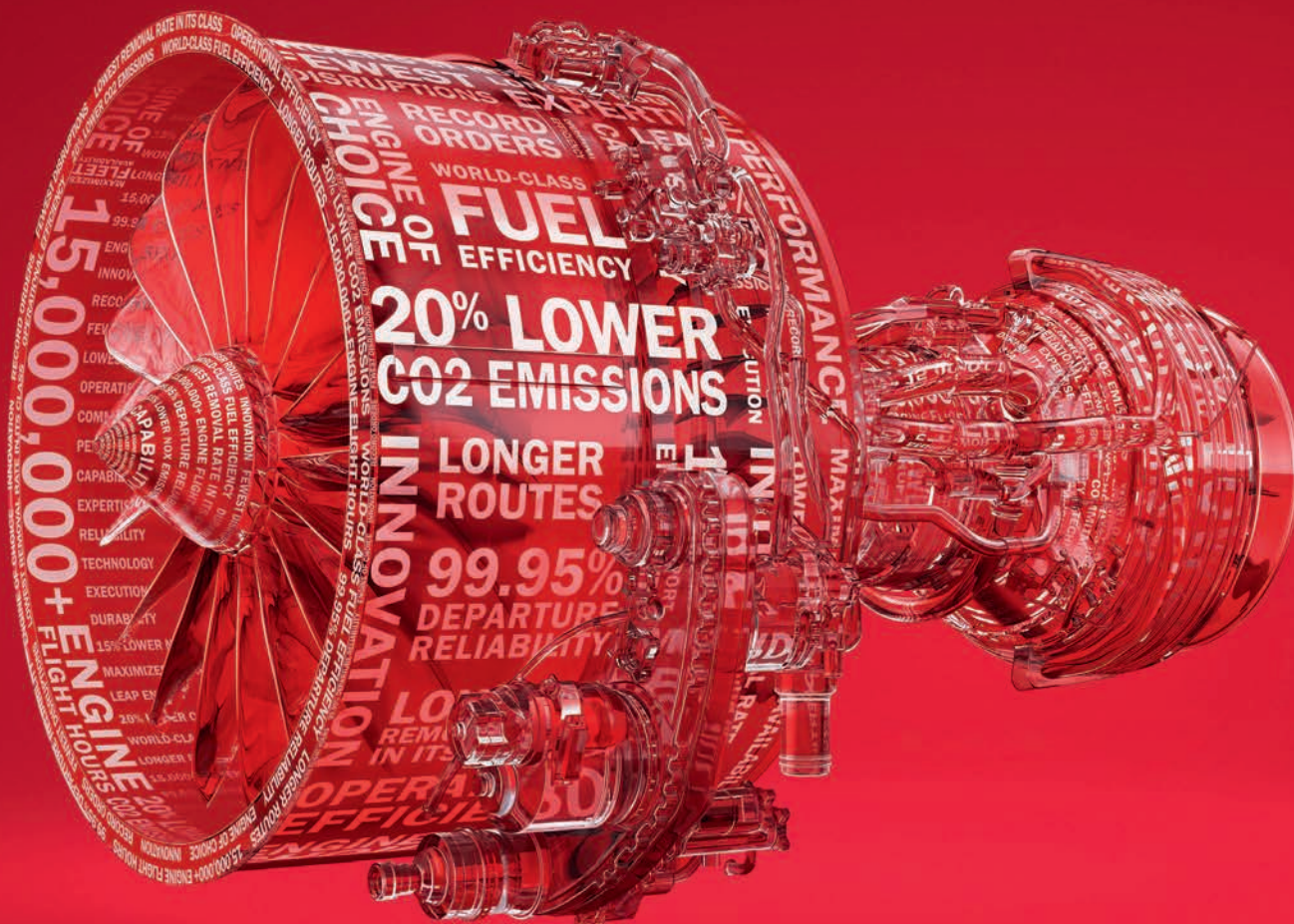
This 3 hour seminar will explore:

- Basics of aviation psychology
- Cockpit and cabin crew and mental health
- Management of wellbeing issue in the aviation workplace
- How (Pilot) Peer Assistance works

Who must attend?

- Mental health professionals
- Pilot Peer volunteers
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- National Aviation Authorities (NAA's) and Regulatory Bodies Subject Matter Experts on Peer Support
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